

# GM 67906

TECHNICAL REPORT, QUEBEC LITHIUM PROPERTY

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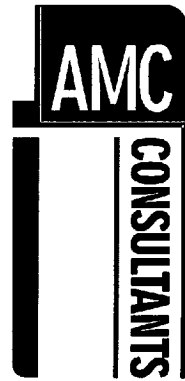
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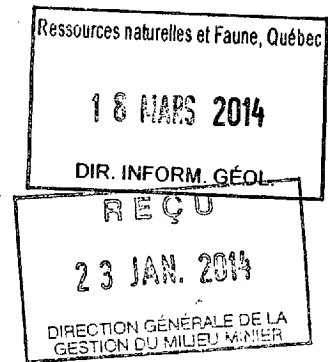
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**GM 67906**

**QUEBEC LITHIUM PROPERTY  
LA CORNE TOWNSHIP  
QUEBEC, CANADA  
TECHNICAL REPORT  
for  
CANADA LITHIUM CORP**



**Prepared by AMC Mining Consultants (Canada) Ltd  
In accordance with the requirements of National  
Instrument 43-101, "Standards of Disclosure for  
Mineral Projects", of the Canadian Securities  
Administrators**

**Qualified Persons:**

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**AMC 711013  
Effective date 3 June 2011**



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## 1 SUMMARY

This Technical Report on the Quebec Lithium Property (the Property) in La Corne Township, Quebec has been prepared by AMC Mining Consultants (Canada) Ltd (AMC) of Vancouver, Canada on behalf of Canada Lithium Corp (CLQ) of Toronto, Canada, and its wholly owned subsidiary Quebec Lithium Corp, (QLC). It has been prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101), "Standards of Disclosure for Mineral Projects", of the Canadian Securities Administrators (CSA) for lodgment on CSA's "System for Electronic Document Analysis and Retrieval" (SEDAR). This report is largely an update of a previously published Technical Report entitled "Technical Report Quebec Lithium Property La Corne Township, Quebec", prepared by: Mitchell E. Lavery and Michelle Stone and dated 22 November 2010. The November 2010 report included the results of a mineral resource estimate prepared by Dr Stone and published by CLQ on 28 October 2010. The current Technical Report results from a review of the previous resource estimate carried out by AMC and includes a new resource estimate prepared by AMC.

### History, Location and Ownership

Spodumene-bearing pegmatites were discovered on the Property in 1942, and it went through several ownership changes before being put into production as an underground mine by Quebec Lithium Corp in 1955. A refinery for lithium carbonate, monohydrate hydroxide and lithium chloride was constructed and operational by 1960. Production of lithium hydroxide began in June 1963. In October 1965, operations were suspended because of unfavourable market and price conditions, and lack of sales. Approximately one million tonnes were mined between 1955 and 1965.

The Property was explored intermittently after 1965. CLQ's involvement started in 2008 and exploration and evaluation work led to the completion of a feasibility study in early 2011. The project is currently in detailed engineering design stage.

The Property is located in the north-east corner of La Corne Township, approximately 38 km south-east of Amos, 15 km west of Barraute and 60 km north of Val-d'Or in the province of Quebec. The site is approximately 550 km north of Montreal and is serviced by road, rail and air. The Property is centred near coordinates 291,964m E and 5,365,763m N, Zone 18N as located on the NTS map sheet 32C5.

The Property consists of 19 contiguous claims covering 643.11 hectares. CLQ owns 100% through its subsidiary Quebec Lithium Inc. as per a Letter of Agreement with IAMGOLD Corporation (IAMGOLD) and subsequent transfer from Black Pearl Minerals Consolidated Inc (Black Pearl), and a Mining Claim Transfer and Easement Agreement with Schyan Exploration Inc. (Schyan).

A mining lease will have to be obtained before any full time mining can be undertaken. An application has been lodged for a mining lease which includes a Pre Feasibility Study (PFS) pit and a buffer zone of approximately 100m.

AMC is not aware of any environmental liabilities to which the Property is subject, other than the normal licensing and permitting requirements that must be met prior to undertaking certain operations, and environmental restrictions as set forth in the Provincial Mining Act and Regulations. As a legacy of the previous activity, 700,000-750,000 tonnes of tailings are stored within two dams located to the north of the mine area in a west-east trending valley between Lac Lortie and Lac Roy.

The site was fully rehabilitated between 1975 and 2001, including complete removal of all underground and surface plant and equipment, the mine's head frame, and all office buildings and structures. The railway spur connecting to the C.N.R was removed and the crown pillar was fenced off and all openings sealed to the satisfaction of the Ministère des Ressources Naturelles et de la Faune (MRNF) and in conformity with Provincial safety standards.

The Property is accessible by provincial highways and is traversed by an all-weather secondary road. Val-d'Or and Rouyn Noranda are serviced daily by regional air carriers. AMC understands that it is possible to re-establish the rail spur to the main trans-Canada C.N.R. railway line which runs through Barraute, approximately 11 km to the north of the Property.

The climate is such that mining operations can be conducted year round. As the Property is located in an active mining belt, there is a substantial professional work force nearby experienced in mining and related activities. A high tension hydro-electric line (120 kv) is located approximately 2 km to the west of the Property.

### **Geology and Mineralization**

The Property is situated on the northern flank of the Archean Preissac-Lacorne batholith, a syn- to post-tectonic intrusion that was emplaced in the Southern Volcanic Zone of the Abitibi Greenstone Belt of the Superior Province of Quebec. To the north the batholith is bounded by the Manneville Fault and to the south by the Cadillac Fault and the eastward extension of the Porcupine-Destor Fault. The batholith, which is a composite body has associated pegmatites and quartz veins.

The regional metamorphic grade is greenschist facies and close to the batholith is hornblende hornfels facies contact metamorphism.

The spodumene pegmatites on the Property are very poorly exposed and as a result most of the information on the spodumene dykes was initially obtained by diamond drilling. Mining on the Property which commenced in 1955, gave a good picture of the three-dimensional nature of the dykes. Over the whole property the rocks are split between granodiorite of the Lacorne Batholith, volcanics and some biotite schists and the pegmatite dykes which mainly intrude the granodiorite and the volcanics.

There are two orientations of spodumene dyke, termed Main and Oblique. The Oblique dyke, which is thought to be younger than the Main dykes, has less tonnage associated with it and a lower grade. There are three identified dyke types which form a co-linear bifurcating array in the centre of the Property. These are designated PEG1 and PEG2, which are both spodumene-bearing, and PEG3 which typically hosts <1% spodumene. Both Main and Oblique dyke sets dip south or southwest at about 70 - 75°.

### **Exploration and Data Management**

As the pegmatite dykes were known to exist prior to CLQ's acquisition of the Property, exploration by CLQ has mainly consisted of drilling the known targets and collecting metallurgical samples for testwork. After the first round of sample collection for metallurgical testwork, Caracle Creek International Consulting Inc. (CCIC) was engaged to compile all the historic data and to estimate a potential tonnage and grade for the property.

Two exploration drilling programs were carried out by CLQ in late 2009 (38 holes totaling 9,646m) and the second quarter of 2010 (45 holes totaling 6,938m). All holes were drilled NQ size and were oriented normal to the dyke orientation such that generally a true intersection width was attained. As part of the 2009 program, the historic data was validated by a twinning program which attempted to twin old holes. This turned out to be difficult due to the presence of old workings, but similar spodumene grades were found in similar locations in the new drillholes. Thus data from some of the old surface drilling is usable for resource estimation purposes. However none of the assays for the historic underground drilling could be located.

Sampling for metallurgical testwork was carried out by drilling in 2008, and by both drilling and blasting outcrops in late 2009 and early 2010 to obtain larger samples.

Down-hole surveys were carried out at approximately 50 m intervals down-hole. Casing was left in the majority of the holes which were capped, to allow for future down-hole testing and/or extension. GPS coordinates of all collar locations were recorded and tied into the exploration grid.

All drill core from both exploration programs was logged, split and stored in CLQ's core facility in Val-d'Or. The drill core was washed, photographed and logged prior to sampling. Core logging and sampling were carried out by CCIC Geologists, and the core was sawed, with a nominal sample length of 1.0m. Bulk density measurements were taken for the three main rock types.

The samples were sent to a primary laboratory and pulps then checked by a secondary laboratory. While the laboratories changed between 2009 and 2010, all laboratories involved are accredited for ISO/IEC17025:2005 and ISO 9001 by Standards Council of Canada. Assay QA/QC protocols were in force with standards and blanks being inserted and follow up generally carried out.

The data was logged into Coreview v. 5.0.0 software (Visidata Pty Ltd.), and the data is held in an Access database. Results were received electronically and merged. During a verification exercise however AMC found some discrepancies which suggests human interference in the process.

AMC believes that the work carried out by CLQ was of an appropriate standard for resource modelling and estimation.

### Mineral Resources

AMC's mineral resource has been estimated using a rebuilt mineralized domain model, but relies on the same data as the 2010 resource estimate, so includes data from CLQ's 2009 and 2010 drill programs as well as a certain amount of historical data. All the modelling and the estimation was carried out in Datamine software. The mineral resources are tabulated below in Table 1, rounded to the nearest 10,000 tonnes. These are gross mineral resources as no mineral reserves have yet been estimated based on AMC's model.

**Table 1 Mineral Resources as of May 2011**

Classification	Tonnes (M)	Grade (Li <sub>2</sub> O%)
Measured	6.10	1.16
Indicated	23.19	1.20
Measured and Indicated	29.30	1.19
Inferred	20.94	1.15

- Notes:
1. CIM definitions were used for mineral resources
  2. The cut offs applied are 0.80% Li<sub>2</sub>O for all classes
  3. The reported resources are rounded to nearest 10,000 tonnes and 0.01 % Li<sub>2</sub>O
  4. These resources have been depleted for historical mining.
  5. Material estimated to be remaining in stopes is accounted for.

AMC remodelled the dykes in more detail than in 2010, such that there are now 46 dyke domains. The mined-out areas from the earlier mining phase were treated by using the historic estimate to create point data by way of pseudo-holes, so that the whole model is now an estimated block model. Wireframes of the stopes were provided and these were reviewed and a block model was created. Cognizance was taken of the material remaining in the stopes. There are still some issues with the location and the number of stopes. This is not expected to impact materially on AMC's resource estimate but should be resolved.

A composite length of 1.0m was applied and no grade capping was employed. The parent block size was 5m X 5m X 5m, with sub blocking utilized.

There are two dyke orientations, Main and Oblique, so two different search ellipse orientations were used. The search parameters used were 20m X 70m X 70m, and the minimum number of samples utilised was 4 and maximum 20. A number of passes were

used to fill the blocks. Grades were estimated using an inverse distance squared interpolation method.

Classification was carried out in several ways, but involved a statistical review and also an independent manual review paying careful attention to the CIM resource definitions.

In order to report the resource, a pit shell was developed using mining costs supplied by CLQ (and checked at a high level by AMC) and a price of US\$ 7,100 /tonne  $\text{LiCO}_3$ . Of note is the fact that this shell trimmed a small portion of the Indicated Resource at depth. A regularized model was created for this exercise and to assist with the future reporting of mineral reserves.

The current Technical Report addresses only mineral resources. It does not address mineral reserves, which will be the subject of a later report by another party.

### **Conclusion and Recommendations**

CLQ's exploration programs have been conducted to generally good industry standards and the resulting data is appropriate as the basis for mineral resource estimation. Some historic exploration data, including information relating to old underground workings, was used for resource estimation purposes after validation, which included twinning of some drillholes.

The deposit is geologically robust and, from the current knowledge, is reasonably predictable.

AMC's review of the 2010 resource estimate indicated that there was room for improvement, particularly with respect to geological domaining and the treatment of unsampled dyke material. In addition, the 2010 estimate was not constrained within a pit shell.

AMC's resource estimate is based primarily on a more rigorous interpretation of pegmatite dykes and restriction of its mineralized domains to those dykes. In addition, where the dyke is unsampled, a zero grade was assumed, and the estimate only made within the mineralized domains. AMC also constrained its reported resources within a pit shell.

These changes from the 2010 procedure substantially reduced the volume of material estimated and therefore the tonnage of mineral resources. The grade was relatively unaffected.

AMC recommends the following:

A master exploration database should be reconstructed using the certified laboratory data as a start point in order to rectify certain errors detected within the assay database. The

assay QA/QC data should be part of this database, and all data issues should be under the control of a Database Manager.

Locational issues relating to the stopes and drilling of different vintages should be investigated and resolved before the next resource model is prepared.

CLQ should complete the current drilling program which is based, in part, on AMC's recommendations arising from its review of the 2010 resource estimate and its new resource estimate. The program is intended to address the following:

- Infill around the area of previous mining
- Upgrade near surface Inferred Mineral Resources to Indicated, to enhance the project economics
- Give better special definition within the pit area

A total of 43 drillholes for approximately 10,000 meters have been laid out for the program. The estimated all inclusive cost is \$1,100,000.

On completion of the current CLQ drilling program, a new resource estimate should be prepared incorporating all the new data with an updated geological interpretation and a clean database. The cost is estimated at around \$50,000.

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1 copy to      Mr Peter Secker, President and CEO Canada Lithium Corp  
1 copy to      AMC Vancouver office

## 2 INTRODUCTION

This Technical Report on the Quebec Lithium Property (the Property) in La Corne Township, Quebec has been prepared by AMC Mining Consultants (Canada) Ltd (AMC) of Vancouver, Canada on behalf of Canada Lithium Corp (CLQ) of Toronto, Canada, and its wholly owned subsidiary Quebec Lithium Corp, (QLC). It has been prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101), "Standards of Disclosure for Mineral Projects", of the Canadian Securities Administrators (CSA) for lodgment on CSA's "System for Electronic Document Analysis and Retrieval" (SEDAR). This report is largely an update of a previously published Technical Report entitled "Technical Report Quebec Lithium Property La Corne Township, Quebec", prepared by Mitchell E. Lavery and Michelle Stone and dated 22 November 2010. The November 2010 report included the results of a mineral resource estimate prepared by Dr Stone and published by CLQ on 28 October 2010. The current Technical Report results from a review of the previous resource estimate carried out by AMC and includes a new resource estimate prepared by AMC.

The names and details of persons who prepared, or on whom the Qualified Persons have relied in the preparation of this Technical Report are listed in Table 1.1. The Qualified Persons meet the requirements of independence as defined in NI 43-101.

**Table 2.1 Persons Who Prepared or Contributed to this Technical Report**

Qualified Persons responsible for the preparation of this Technical Report						
Qualified Person	Position	Employer	Independent of CLQ	Date of Last Site Visit	Professional Designation	Sections of Report
Ms Dinara Nussipakynova PGeo	Senior Geologist	AMC Mining Consultants (Canada) Ltd	Yes	21-23 March 2011	PGeo MSc, BSc MCIM	Section 17
Mr J M Shannon P Geo	Group Manager Principal Geologist	AMC Mining Consultants (Canada) Ltd	Yes	21-23 March 2011	PGeo, BA Mod, MA MCIM	All except Section 17
Other Experts upon whose contributions the Qualified Persons has relied						
Expert	Position	Employer	Independent of CLQ	Visited Site	Sections of Report	
Mr A Riles BSc (Hons) Grad Dipl Business Management MAusIMM	Principal Metallurgical Consultant	Riles Integrated Resource Management Ltd	Yes	No visit	Section 16 Metallurgical testwork	
Ms Cathy Pitman PGeo	Senior Geologist	AMC Mining Consultants (Canada) Ltd	Yes	No visit	Section 13.4 Assay QA/QC	
Mr Greg Hollett PEng	Senior Engineer	AMC Mining Consultants (Canada) Ltd	Yes	No visit	Section 17 Pit shell for Resource	
Mr Pat Stephenson PGeo	Principal Geologist	AMC Mining Consultants (Canada) Ltd	Yes	No visit	Peer Review for all	

An inspection of the property was undertaken by Qualified Persons J.M Shannon and D Nussipakynova, both geologists with AMC. The scope of the visit covered the data collection, geology and mining aspects of the project, and included inspections of drill core, data handling and sampling procedures. A visit to the project area was made by J.M.Shannon but no drilling was being carried out at time. Discussions were held with CLQ staff on the exploration activity and also the proposed site layout for the mining and processing operation.

A number of Technical Reports have been produced including the results of a Feasibility Study (FS) compiled by BBA Inc. The Technical Reports which are referenced in the text are listed separately in the Reference section and when referred to in the text, are shortened as follows:

- Stone M, and Selway, J, Technical Report of December 2009
- Stone M, and Ilieva T, Technical Report of April 2010
- Lavery M E and Stone, M, Technical Report of November 2010
- Hardie C, Stone M, Lavery ME, Lemieux M, Blanchet D, and Woodhouse P, Technical Report of January 2011

All costs in this report are in Canadian dollars (C\$), and \$s mean C\$s unless specified. The exchange rate used for conversion of any costs from US\$ is C\$1 equals US\$1.

Lithium is analysed as Lithium and converted to LiO<sub>2</sub>.

CLQ was provided with a draft of this report to review for factual content and conformity with the brief.

This report is effective 3 June 2011.

### **3 RELIANCE ON OTHER EXPERTS**

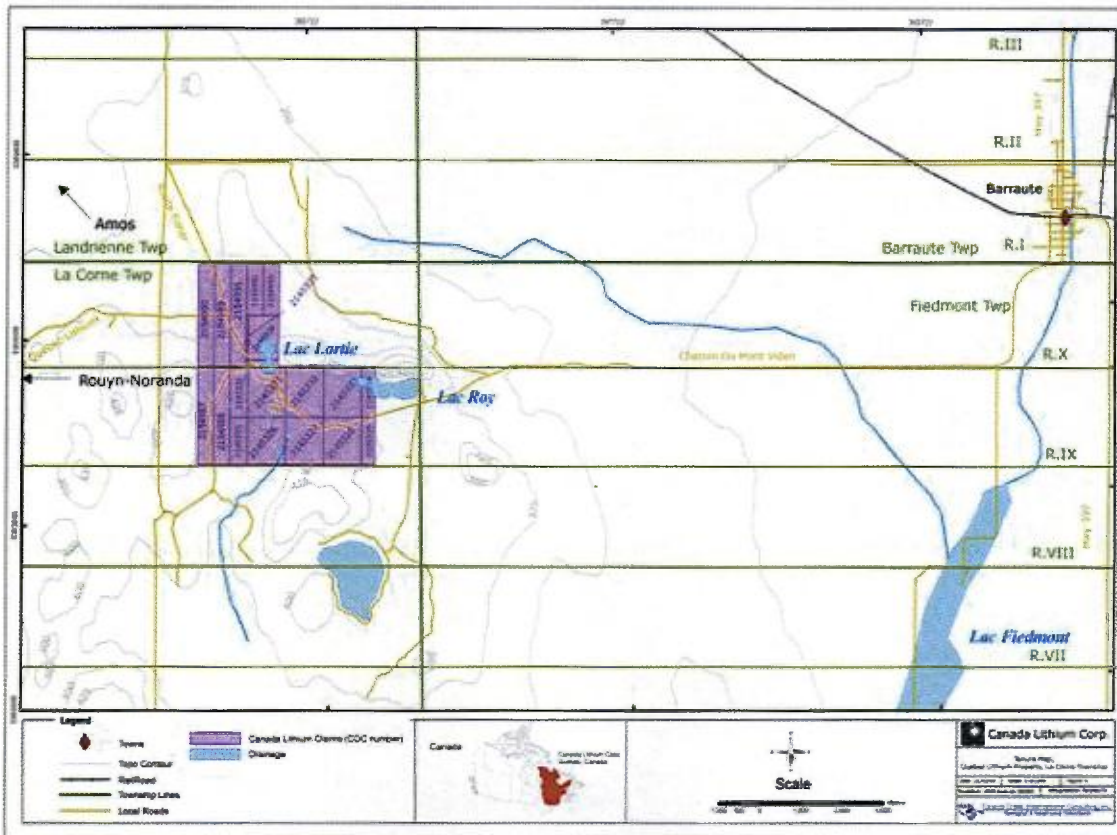
AMC has relied in the previous information on title and ownership provided in the Feasibility Study documentation. The title was checked by AMC on the Ministère des Ressources Naturelles et de la Faune (MRNF) website, and is discussed in Section 4.



included ceramic grade and chemical grade spodumene concentrates, lithium carbonate, lithium hydroxide monohydrate as well as a small quantity of lithium chloride and feldspar.

CLQ owns 100% of the Property through its subsidiary Quebec Lithium Inc. as per a Letter of Agreement with IAMGOLD Corporation (IAMGOLD) and subsequent transfer from Black Pearl Minerals Consolidated Inc (Black Pearl), and a Mining Claim Transfer and Easement Agreement with Schyan Exploration Inc. (Schyan).

**Figure 4.2 Map of the Property**



### 4.3 Land Tenure

The claims were electronically staked such that a Notice of Map Designation was filed with the MRNF. Therefore the claim boundaries do not have to be physically identified in the field. Title ownership and status of the claims were checked against information obtained from the MRNF claims website by AMC. The MRNF website indicates that claim ownership is consistent with the 2008 purchase agreement between IAMGOLD and Black Pearl, which was then transferred to CLQ. On March 2<sup>nd</sup>, 2010, these titles were transferred to the Company's wholly owned subsidiary, Quebec Lithium Inc. The claims listed in the 2010

Mining Title Transfer and Easement Agreement with Mitchell Lavery (executed on February 1<sup>st</sup>, 2010) were also transferred to Quebec Lithium Inc. on March 24<sup>th</sup>, 2010. The claims are all in good standing, however, they are currently listed on the MNRF website as suspended because the application for a mining lease over part of the Property has been submitted.

**Table 4.1 List of Claims for the Quebec Lithium Property**

Claim Number	Owner	Issued	Expires	Area (Ha)	Renewal Fee (\$)
CDC 2145325	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	22.40	26
CDC 2145326	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	48.31	52
CDC 2145327	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	48.29	52
CDC 2145328	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	48.28	52
CDC 2145329	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	16.76	26
CDC 2145330	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	23.81	26
CDC 2145331	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	55.97	52
CDC 2145332	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	50.76	52
CDC 2145333	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	18.29	52
CDC 2145334	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	17.59	26
CDC 2145335	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	1.53	26
CDC 2145336	Quebec Lithium Inc.	17-Mar-08	16-Mar-12	35.92	52
CDC 2154987	Quebec Lithium Inc.	26-May-08	25-May-12	42.15	52
CDC 2154988	Quebec Lithium Inc.	26-May-08	25-May-12	42.15	52
CDC 2154991	Quebec Lithium Inc.	26-May-08	25-May-12	42.67	52
CDC 2154989	Quebec Lithium Inc.	26-May-08	25-May-12	42.68	52
CDC 2154990	Quebec Lithium Inc.	26-May-08	25-May-12	42.65	52
CDC 2154992	Quebec Lithium Inc.	26-May-08	25-May-12	21.45	26
CDC 2154993	Quebec Lithium Inc.	26-May-08	25-May-12	21.45	26
			Total	643.11	806

The terms of the transaction with Black Pearl and IAMGOLD signed in March 2008 are outlined in Lavery M.E. and Stone M., Technical Report of November 2010.

There are no royalties on the Property.

#### **4.4 Surface Rights**

A mining lease will have to be obtained before any full time mining can be undertaken. An application has been lodged for a mining lease which includes the Pre Feasibility Study (PFS) pit and a buffer zone of approximately 100m.

#### 4.5 Existing Environmental Liabilities

AMC is not aware of any environmental liabilities to which the Property is subject, other than the normal licensing and permitting requirements that must be made prior to undertaking certain operations and environmental restrictions as set forth in the Provincial Mining Act and Regulations.

There is no liability on the old mining site as the previous owner of the claims (IAMGOLD Corp) had completed the full rehabilitation to the satisfaction of the MRNF and in conformity with Provincial safety standards and received a confirmation from the authorities for the completion of the work. Rehabilitation of the mine site including complete removal of all underground and surface plant and equipment, the mine's head frame, the railway spur connecting to the C.N.R., and all office buildings and other structures was completed from 1975 through 2001. The crown pillar was fenced off and all openings sealed. Old tailings are stored within two dams located to the north of the mine area in a west-east trending valley between Lac Lortie and Lac Roy. There is an estimated 700,000-750,000 tonnes of material (quartz and feldspar sand), stored there (Karpoff, 1993). Tailings rehabilitation included covering them with soil and vegetation.

An Environmental Impact Statement (EIS) will be completed before any production is undertaken. This is currently in progress by Genivar Inc. (Genivar) of Amos, Quebec and is expected to be submitted by the end of 2011. The EIS will outline all environmental concerns and constraints for CLQ's proposed development of a lithium mining operation.

An environmental baseline study for the project commenced in October 2009. This was as the first step towards obtaining the permits and authorizations by regulatory authorities.

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

### **5.1 Accessibility**

The Property is located approximately 60 km north of Val-d'Or, Quebec and is accessible by either provincial highway #111 connecting Val-d'Or and Amos or by provincial highway #397 connecting Val-d'Or and Barraute (Figure 4.1). An all-weather secondary road traverses the Property. This Range road joins the above mentioned highways.

Val-d'Or and Rouyn Noranda are serviced daily by regional air carriers and small craft landing areas are also located in these towns and nearby Amos. The closest all weather landing strip and heli-pad is located at Mont Vidéo, to the east of the property.

The main trans-Canada C.N.R. railway line runs through Barraute, a C.N.R. section town, and passes approximately 11 km to the north of the Property. A C.N.R. spur line serviced the Property during the period of historic production but the tracks were all removed after mining operations were shut down. The rail right of way has since become overgrown but the rail bed is still in excellent shape.

### **5.2 Climate**

Summer temperatures average 16 °C with an average rainfall of 103 mm for Amos (the nearest weather station to the Property). In the winter, the average daily temperature is -15 °C. Temperature extremes reported over the period of 1913 through 2000 are -53°C (1914) and +37°C (1921). The average snowfall is 157 cm with most falling in December and January. Snow accumulation is 52 cm on average for Amos. Drilling, most exploration activities, and potential mining operations can be conducted year round on the Property. Surface mapping is the main exploration activity that is limited by snow cover.

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

The Property is located in an active mining belt and as such the area offers a substantial professional work force experienced in mining and related activities in addition to most supplies and services. The current level of mining activity could affect immediate availability of skilled labour.

A high tension hydro-electric line (120 kv) is located approximately 2 km to the west of the Property and a 25 kV electric line along the Route Quebec Lithium services the Mont Vidéo Ski and Recreation area. An Astral Media Inc. radio tower is located atop of the hill immediately south of the old mine area. It is anticipated that it will be moved to a location on a hill, 200m north of the historic tailings, between July and November 2011.

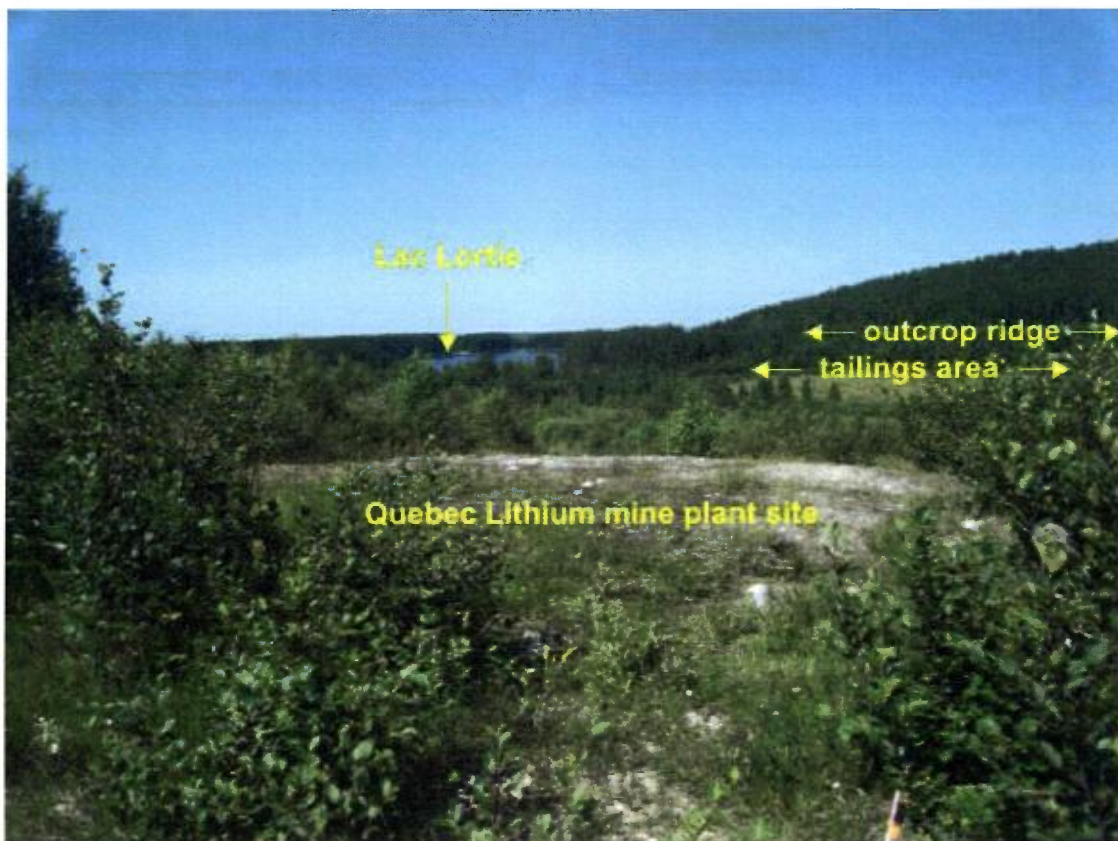
Lac Lortie has provided some water for drilling and was initially considered for use as a primary water source for the project. However, most of the water for use for production purposes is planned to be sourced (recycled) from the Tailings Management Facility once

production commences. Water for any pre-mining drilling, including preliminary grade control will continue to be sourced from Lac Lortie.

#### 5.4 Physiography and Vegetation

The area of the Property contains small hills but the topography of the general area is generally flat with swamp, sand plains and an esker on the edge of the property. The hill on which the radio tower resides is about 50m above the surrounding rolling countryside. Mount Video the local ski hill and resort is situated 2 km to the east of the site and faces to the north and is not seen. A photograph in Figure 5.1 shows the relief and vegetation of the property adjacent to the historic mine site.

**Figure 5.1 View North across Old Plant Site**



As it is a recently reclaimed site and also all timber has been cut earlier, vegetation is limited to spruce with jack pine and alders in regrowth.

## 6 HISTORY

There is a large amount of information relating to the historic exploration and mining activities on the Property which has been summarized in the following reports:

- Stone, M and Selway, J, Technical Report of December 2009
- Stone, M and Ilieva, T, Technical Report of April 2010
- Lavery ME and Stone, M, Technical Report of November 2010

The compilation work was assisted by published reports, internal reports, drill logs and available assessment files from the MRNF. Historic annual mine reports are missing for the period of 1958 to 1962. Drilling information for all underground and some surface holes are incomplete or missing.

### 6.1 Ownership and Activities

The original discovery of spodumene-bearing pegmatite on the Property was made in 1942 when three main spodumene dykes were intersected, along with several thinner ones. The owner at that time was Sullivan Mining Group, and the property went through several owners before being acquired by Quebec Lithium Corp. in 1954, and being put into production in 1955. This was after sinking a three-compartment shaft and establishing three working levels established at 150, 275 and 400 ft. (approximately 46, 84 and 121m). At the end of 1955, two stopes were in operation which contained approximately 136,000t of ore grading 1.2% Li<sub>2</sub>O. The production profile for the mine life is seen in Section 5.4.

In mid-1959, the contract for the sale of spodumene concentrate by Quebec Lithium Corp. to Lithium Corporation of America Inc. was terminated and a refinery for lithium carbonate, monohydrate hydroxide and lithium chloride was constructed and operational by 1960. Production of lithium hydroxide (LiOH·H<sub>2</sub>O) began in June 1963. In October 1965, operations were suspended because of unfavourable market and price conditions, and lack of sales. Table 6.1 summarizes ownership and historic exploration completed on the Property.

**Table 6.1 Summary of Ownership and Historic Activities**

Year	Company	Activity	Results <sup>1</sup>
1942	Sullivan	prospecting	discovery of spodumene pegmatite
1942-1943	Dumont	diamond drilling	17 holes (3,598.9 ft)
1946	Nepheline Products Ltd. and Great Lakes Carbon Corporation	prospecting, trenching, diamond drilling bulk sampling	sufficient material discovered for mining, 6 holes (2,088 ft) Results encouraging
1947	La Corne Lithium Mines Ltd.	company was established	
1950	Lakefield Research Ltd.	Nepheline Products Ltd. changed name to Lakefield Research Ltd.	
1952-1953	La Corne Lithium Mines Ltd.	diamond drilling	+30,000 ft drilled; several spodumene pegmatites intersected

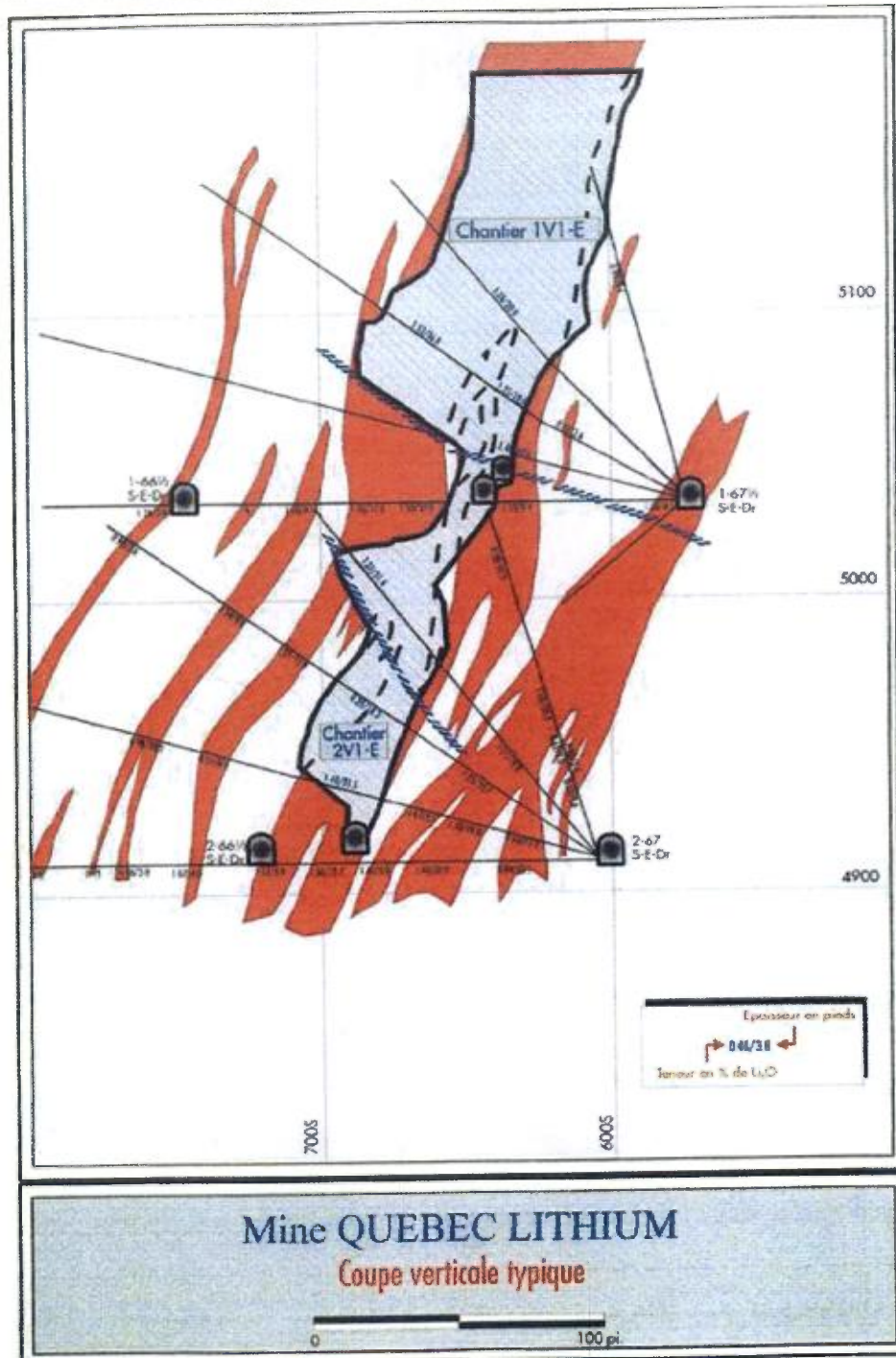
**CANADA LITHIUM CORPORATION**  
**Quebec Lithium Property**

Year	Company	Activity	Results <sup>1</sup>
1954	Quebec Lithium Corp.	acquired the Property, surface diamond drilling, shaft sinking mine and mill development	
1955	Quebec Lithium Corp.	mine and mill development	shaft completed to 560 ft depth
		3 underground level (150, 275 and 400 ft)	
		underground drilling	118 drill holes (+22,000 ft)
1956	Quebec Lithium Corp.	mining, underground drilling	1,100 tons of ore/day; 325 drill holes totalling +53,000 ft
1957	Quebec Lithium Corp.	mining, surface diamond drilling totaling 58,920 ft	1,250 tons of ore/day, total 513,403 tons
1959	Quebec Lithium Corp.	construction of lithium refinery commences	
1960	Quebec Lithium Corp.	refinery operational	
1963	Quebec Lithium Corp.	production of lithium hydroxide begins	
1963-1964	Quebec Lithium Corp.	mining and refining	76,856 tons of ore hoisted; yearend reserves of broken ore were 198,998t
1965-1966	Quebec Lithium Corp.	mining and refining	62,479 tons of ore hoisted; yearend reserves of broken ore were 249,842t
1974	Sullivan Mining Group	feasibility study on the re-opening of the Quebec Lithium mine prepared, mining, processing, historic resource estimate	life of mine is 2 1/2 years at 1,000 t/day, 2,100 ft of cross cutting and 3,500 ft of drifting, 17,347,000 tons of ore estimated at 1.14% Li <sub>2</sub> O
1977	Sullivan Mining Group	1974 resource confirmed	
1979	Sullivan Mining Group	diamond drilling	7 holes (5,320.1 ft)
1985	Sullivan Mining Group	diamond drilling	2 holes (504 ft)
1987	Cambior	acquired the Property	
1990-1991	Cambior	mining facilities sold	site rehabilitated
1993	Cambior	report summarizing historic mining activities (Karpoff, 1993)	
2000	Cambior	report approving the rehabilitation	
2001	Cambior	grab samples	

<sup>1</sup> Historic resources and reserves are not current, have not been verified and should not be relied upon.

A more complete text on the above activities is contained in the previously published Technical Reports. There are some example plans and sections in the earlier reports and a typical cross section from Karpoff's report is included below as Figure 6.1 This shows the shape of the dykes in detail.

Figure 6.1 Cross Sectional View of Stopes in Dyke V



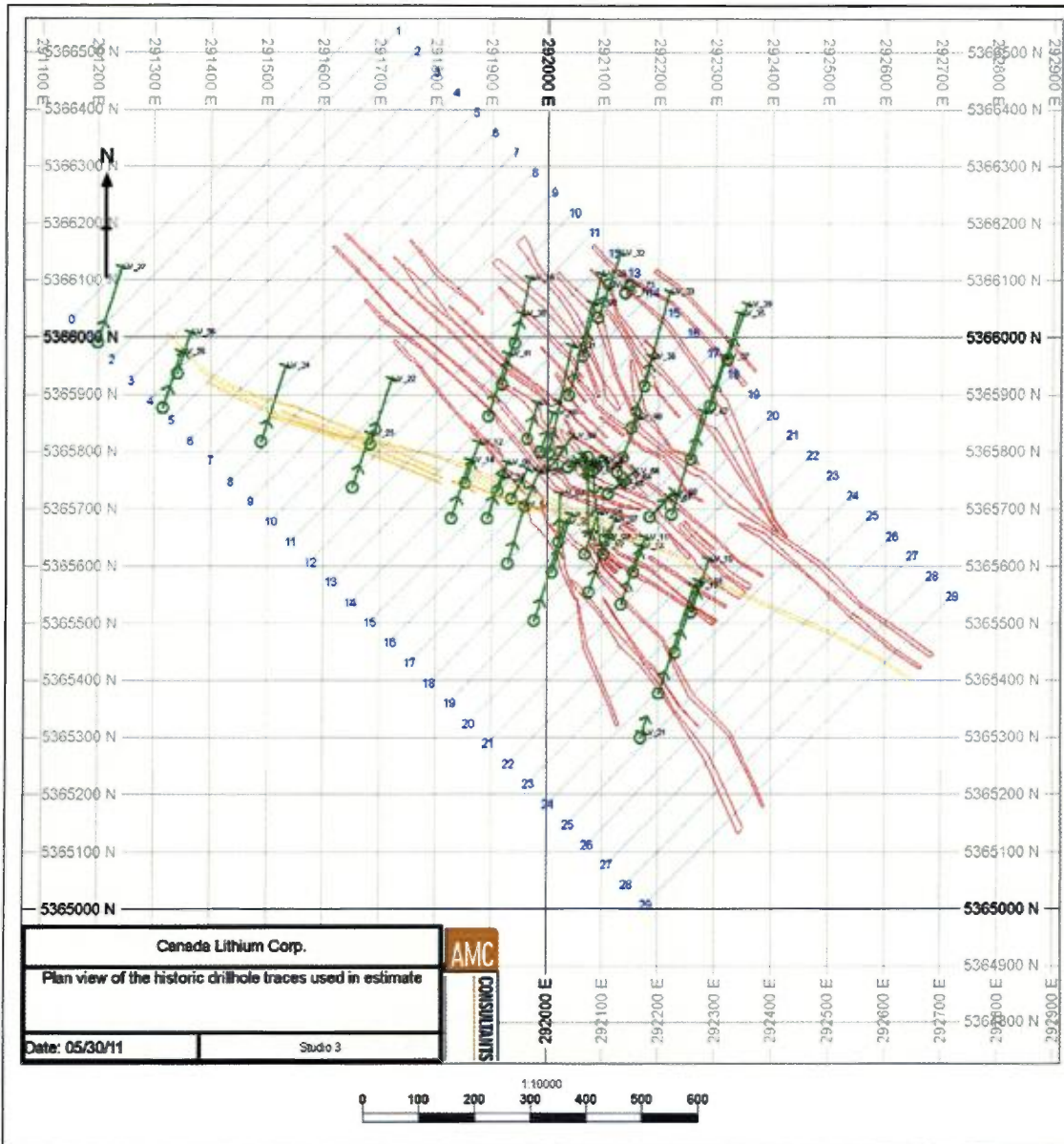
Diamond drilling was carried out by a variety of operators over time as shown in Table 6.2. This activity has also been summarized in the earlier Technical Reports and is reproduced below in Table 6.2 with the total meters shown.

**Table 6.2 Details of Historic Drilling**

Year	Company	Holes	Hole Name	Meters
<b>Surface Diamond Drill Holes</b>				
1942/43	Dumont	17	S-1 to S-14	1,097.1
1946	Nepheline Products Ltd. and Great Lakes Carbon Corporation	6	1 to 6	636.4
1952	Lithium Exploration Company Ltd.	5	SB-15 to SB-19	151.6
1952	Quebec Lithium Corp.	60	LV1 to LV-60	8,964
1952	Quebec Lithium Corp.	14	SB-20 to SB-30, SB-32 to SB-34	1,096.0
1953	Quebec Lithium Corp.	40	SB-47 to SB-86	5,323.1
1953	Quebec Lithium Corp.	8	LB-1 to LB-8	1,181.6
1955	Tide Lake Lithium Mining Corp. Ltd.	18	T-1 to T-18	3,484.6
1956	Quebec Lithium Corp.	10	LV61 to LV-70	645.6
1958	Quebec Lithium Corp.	3	LV-71 to LV-73	46.3
1979	Sullivan Mining Group	7	LV74 to LV-LV-81	1,621.6
1985	Sullivan Mining Group	2	QL-85-1 and QL-85-2	153.6
<b>Underground Diamond Drill Holes</b>				
<b>Level 1</b>				
1955	Quebec Lithium Corp.	52	1-1 to 1-12, 1-14 to 1-20, 1-23 to 1-58	2,885.1
1956	Quebec Lithium Corp.	190	1-58 to 1-246	8,611.6
1957	Quebec Lithium Corp.	145	1-245 to 1-389	6,398.1
<b>Level 2</b>				
1955	Quebec Lithium Corp.	64	2-1 to 2-19, 2-21 to 2-26, 2-28 to 2-38, 2-44 to 2-72	3,580.1
1956	Quebec Lithium Corp.	135	2-72 to 2-206	7,603.9
1957	Quebec Lithium Corp.	71	2-204, 2-207 to 2-276	2,943.7
<b>Level 3</b>				
1955	Quebec Lithium Corp.	2	3-1 and 3-2	267.1

Of the above holes only 37 of the LV series holes can be used in a resource estimate due to either incomplete collar or assay information. The underground drill hole are missing assay data, and other drill data is destroyed or lost. In Figure 6.2 the location of the historical drillholes used in the estimate are shown. Note the majority of these were drilled on an 018° azimuth, which is the orientation of what is now termed the Oblique Dyke.

Figure 6.2 Plan of Historic Drillholes used in Estimate



In 1974, Surveyer, Nenniger et Chênevert Inc. (SNC), an engineering consulting firm, was contracted by Sullivan Mining Group (SMG) to write a feasibility report on the rehabilitation of the Quebec Lithium mine. It investigated market conditions, alternative mining methods and metallurgical processes. It also re-estimated the mining and property  $\text{Li}_2\text{O}$  reserves which are summarized in Table 6.3 below.

In October 1987, Cambior Inc. (Cambior) acquired all assets of Quebec Lithium Corp., including the mining property Karpoff, 1993). The mining facilities were sold, infrastructure was demolished and the site reclaimed. The mine openings to the surface consisting of one shaft and three raises are protected in accordance with the requirements of the MEF.

## 6.2 Historic Resources

The reserves, as they are termed in the SNC report, consist of material within the Mine area and Surface Diamond Drilling Area which are quoted separately.

The Mine area consists of two contiguous blocks within which underground mining operations were carried out and these were adjusted for 85% recovery and 7% dilution with the exception of the broken ore. Over a period of 10 years of operation, the ore hoisted from underground works averaged a grade of 1.25% Li<sub>2</sub>O against the estimated 1.13% Li<sub>2</sub>O derived from geological sections.

The Surface Diamond Drilling Area extends from the Mine area approximately 2,000 feet (approximately 610m) to the west and 6,000 feet (approximately 1,829m) to the east.

**Table 6.3 Historic Ore Reserves<sup>1</sup> from the SNC Report**

Mine area	Tonnes	Li <sub>2</sub> O (%)
Proven ore	3,301,246	1.13
Probable ore	889,041	1.14
Possible ore	2,267,963	1.13
Subtotal	6,458,250	<b>1.13</b>
<b>Surface diamond drilling area</b>		
Well drill indicated <sup>1</sup>	733,005	0.99
Drill indicated <sup>2</sup>	8,545,683	1.16
Subtotal	9,278,688	1.15
Total reserves	15,736,938	<b>1.14</b>

<sup>1</sup> These historical reserves are not NI 43-101 compliant, have not been verified by a Qualified Person, are not current and should not be relied upon  
Well drill indicated reserves refer to Dykes 3, 4 and 5  
Drill indicated reserves refer to Dykes B, F, E, X, 1 and 2

The reserves were re-estimated using diamond drilling records, vertical geological sections and information from mining operations in 20 stopes. This data was supplied to SNC by SMG. SNC did not conduct a site visit or examine any drill core, as the drill core no longer existed.

## 6.3 Production

Mine production peaked at 247,000 tonnes hoisted in 1957. However production was intermittent after 1959 when the contract for the sale of spodumene concentrate to Lithium Corporation of America Inc. was terminated.

**Table 6.4 Mine Production Statistics**

Year	Tonnes of ore hoisted	Tonnes of ore milled
1955	10,537	9,570
1956	240,732	216,190
1957	246,946	205,816
1958	170,739	142,511
1959	183,769	150,858
1960	4,765	3,351
1961 <sup>1</sup>	21,237	23,013
1962	16,566	12,825
1963	63,044	60,710
1964	69,723	63,614
1965	56,680	49,834
Total	1,084,738	938,392

<sup>1</sup>Beginning in 1961, the fiscal year ends August 31<sup>st</sup>

While it is not known if there were some tonnage reconciliation adjustments contributing to the numbers above, AMC notes that a hand sorting activity was employed to remove non-dyke material and upgrade the mill feed. The total figures above shows a difference of 13.5% but the impression was given that sorting removed about 10% of the hoisted material.

AMC notes that the mine was not closed for lack of mineral resources and it was the previous work that laid the foundation for the 2009 drilling program undertaken by CLQ.

## 7 GEOLOGICAL SETTING

This has been adapted from Lavery ME and Stone M, Technical Report of November 2010.R

### 7.1 Regional Geology

The Archean Preissac-Lacorne batholith is a syn- to post-tectonic intrusion that was emplaced in the Southern Volcanic Zone of the Abitibi Greenstone Belt of the Superior Province of Quebec. The batholith intruded along the La Pause anticline into the ultramafic to basic lavas of the Kinojevis (2,718 Ma; Corfu 1993) and Malartic groups, and biotite schist of the Kewagama Group. To the north the batholith is bounded by the Manneville Fault and to the south by the Cadillac Fault and the eastward extension of the Porcupine-Destor Fault. The batholith is a composite body comprising early metaluminous gabbro, diorite, monzonite and granodiorite (ca. 2,650-2,760 Ma: Steiger and Wasserburg 1969, Feng and Kerrich 1991) and four late peraluminous monzogranitic plutons (Preissac, Moly Hill, Lamotte and Lacorne) and associated pegmatites and quartz veins (ca. 2,621-2,655: Gariépy and Allègre 1985, Feng and Kerrich 1991). The final intrusive activity in the area was the Proterozoic diabase dykes. The regional metamorphic grade is greenschist facies and close to the batholith is hornblende hornfels facies contact metamorphism.

A more detailed discussion of the geology of the peraluminous plutons and the associated pegmatite dykes, albitite dykes and quartz veins can be found in the earlier report.

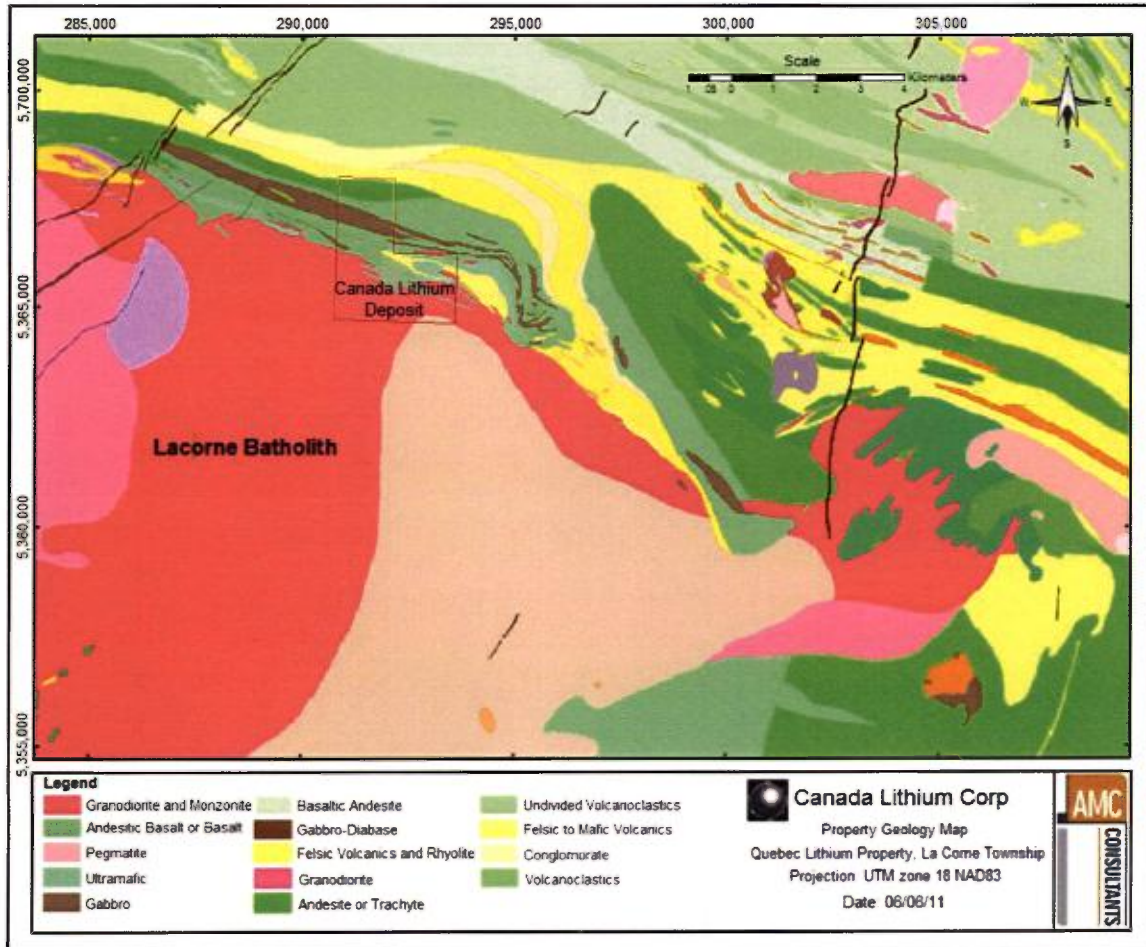
### 7.2 Local Geology

The geology of La Corne and Fiedmont Townships has been discussed in reports by Tremblay 1950, Dawson 1966 and Mulja *et al.*, 1995a and is shown on the Geological Survey of Canada (GSC) map 999A (Tremblay 1950) and GSC map 1179A (Dawson 1966). The stratigraphic units and the regional structure are discussed below. The stratigraphy is discussed from oldest to youngest, and a map of the local geology is shown in Figure 7.1.

#### 7.2.1 Malartic and Kinojevis Groups – Basaltic Lavas

The volcanic rocks are generally fine-grained and medium- to dark-green on fresh surfaces. They are massive or locally exhibit structures such as pillows, flow-breccia or amygdules. Under the microscope, the volcanic rocks are mainly green hornblende, plagioclase with minor amounts of quartz, epidote, biotite and chlorite. The accessory minerals include titanite, apatite, magnetite, pyrite and leucosene (alteration product of ilmenite). The abundant green hornblende shows incipient alteration to chlorite or partial replacement by Holmquistite.

Figure 7.1 Local Geology Map



### 7.2.2 Kewagama Group – Biotite Schist

The biotite schists are conformably interbedded with the basaltic lavas. The schists are mainly sedimentary in origin derived from greywacke, sandstone and conglomerate. The biotite schist beds are up to 40 cm thick, fine-grained and are grey to black on fresh surfaces. They are foliated with the foliation parallel with either the contact or the foliation in the outcrops of the Preissac-Lacorne batholith. Under the microscope, the biotite schist consists mainly of quartz, plagioclase and biotite, Hornblende and chlorite are major components in a few beds. The common accessory minerals are apatite, epidote, tourmaline, pyrite and magnetite.

### 7.2.3 Metaperidotite

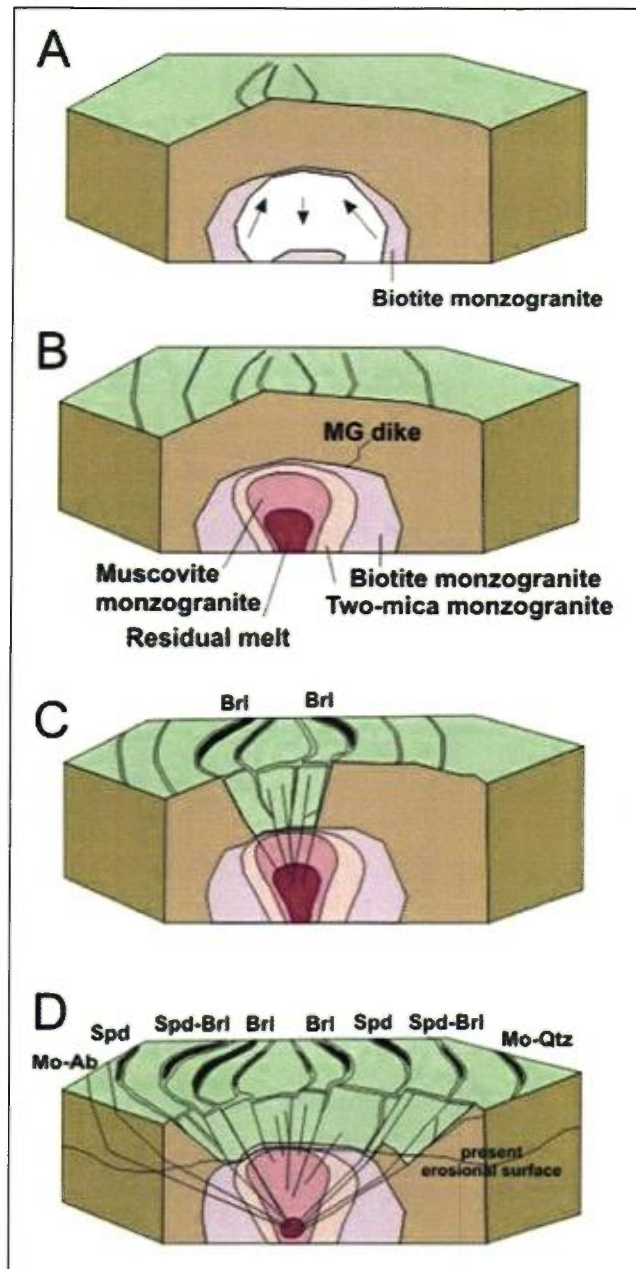
The metaperidotite is interbedded with basaltic lavas, and less commonly with biotite schists. Metaperidotite is fine-grained and black or dark green in colour. The weathered surface is typically brown and exhibits a variety of including polygonal fracture systems, pseudo-pillow structures and a "platy structure" (likely komatiite). The metaperidotite consists mainly of felted aggregates of chlorite flakes, acicular to prismatic actinolite, fibrous serpentine and talc flakes with accessory magnetite, carbonate and pyrite. The "platy structure" consists of planar concentrations of chlorite + serpentine alternating with similarly shaped concentrations of actinolite + magnetite. Primary olivine and/or pyroxene relicts are pseudomorphed by aggregates of chlorite, serpentine, talc, magnetite and carbonate.

### 7.2.4 Lacorne Pluton

The Lacorne pluton has been described by Mulja *et al.*, 1995a. It is dominated by biotite monzogranite which gives way inward to two-mica and muscovite monzogranite. The geology of the Lacorne pluton is similar to that of the rest of the Preissac-Lacorne batholith and shown diagrammatically in Figure 7.2, and explained briefly below.

1. Early side-wall crystallization produces marginal biotite monzogranite and less dense crystal-layer melts which ascend to the roof of the magma chamber.
2. Fractional crystallization continues to form successive two-mica and muscovite monzogranite layers and more differentiated melts.
3. Expulsion of pegmatite-forming volatile-rich magma from the chamber due to fluid overpressure results in the emplacement of the beryl pegmatite in the overlying monzogranite.
4. Later contraction of the pluton on cooling, reactivates fractures in the country rock and produces new fractures, into which the more evolved melts are intruded. This gives rise to the spodumene-beryl and spodumene pegmatites.

Figure 7.2 History of Lamotte and Lacorne Plutons



### 7.2.5 Proterozoic gabbro/diabase dykes

There are post-batholithic gabbro/diabase dykes which outcrop in the batholith and nearby as tabular bodies up to 60 m wide and several kilometres long, striking either N25° E or

N40° E and dipping vertically. The gabbro is fine-to medium-grained and tends to be ophitic.

### **7.2.6 Manneville Fault**

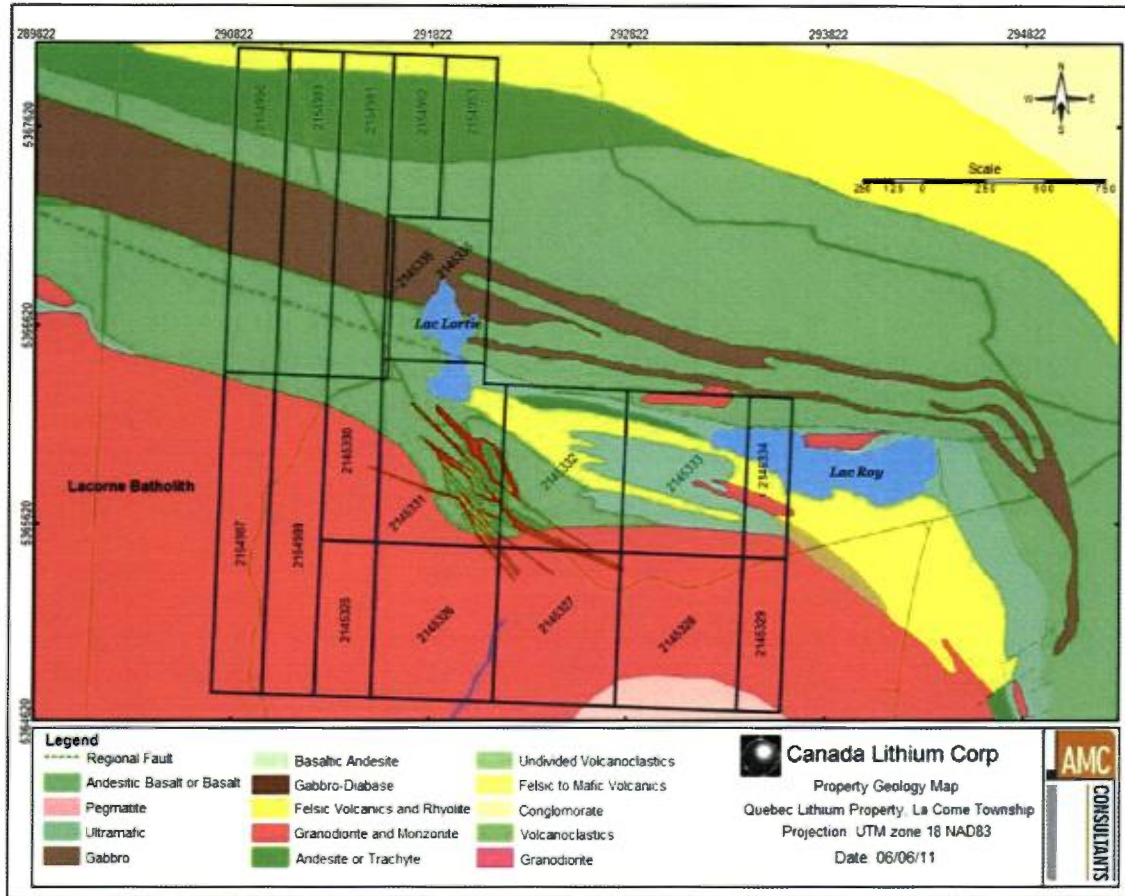
In addition to the units above the Manneville Fault, which is a major strike fault, is occasionally exposed in the basaltic lava outcrops along the north side of the batholith. As a result of the strike of N80° W, the distance between the fault and the batholith varies from approximately 3.2 km north of Preissac to less than 1.6 km at Lac Roy. It locally contains some base-metal sulphides. The Manneville fault is believed to be a dip-slip fault because the biotite schist band east of Lac Roy shows slight evidence of strike-slip displacement. Many of the lithium-bearing dykes occur less than 2.5 km SW of and roughly parallel with the Manneville Fault zone.

## **7.3 Property Geology**

### **7.3.1 General Description**

The spodumene pegmatites on the Property are very poorly exposed and as a result most of the information on the spodumene dykes was initially obtained by diamond drilling and subsequent separation tests on diamond drill core. Two spodumene dykes are exposed in the trenches on the hill south of the old mine and they are considered as the original mineralized showing on the Property. Mining on the Property commenced in 1955 and although the three-dimensional nature of the dykes became more evident, the characteristics identified in exploration remained more or less the same. On the whole property the rocks are split between granodiorite of the Lacorne Batholith, volcanics and some biotite schists as well as the pegmatite dykes which mainly intrude the granodiorite and the volcanics. The principal units will be discussed below but a more complete description can be seen in Lavery ME and Stone M, Technical Report of November 2010. Figure 7.3 shows the property geology showing the surface projection of spodumene bearing dykes as interpreted in that report.

Figure 7.3 Property Geology Map



### 7.3.2 Volcanics

Volcanic rocks on the Property are represented by dark green mafic metavolcanics and medium grey silicified intermediate volcanics. The mafic metavolcanic rocks are medium grey to dark grey-green colour and cryptocrystalline to very fine-grained. The metavolcanic rocks are predominantly massive, but locally exhibit compositional banding in which the amphibole is slightly coarser grained. Some mafic volcanic rocks are weakly to moderately foliated with minor dark green amphibole-dominant bands and irregular patches mainly following the foliation. Overall the mafic volcanic rocks are very hard to scratch, and locally magnetic.

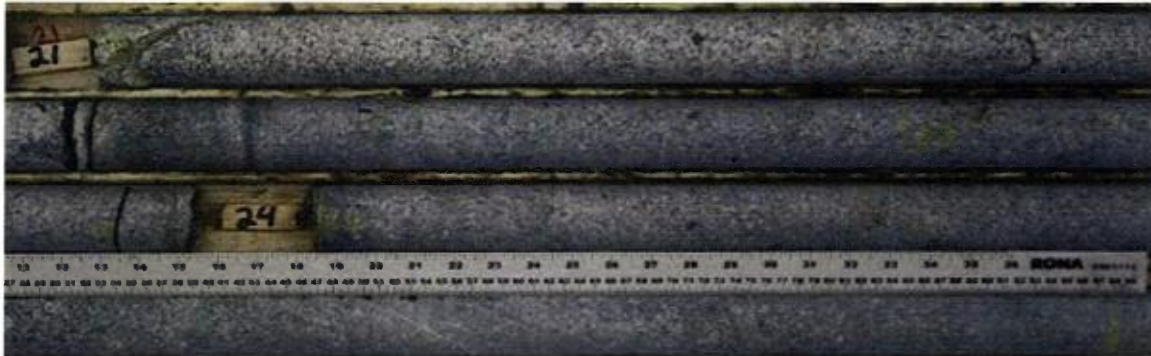
Both mafic and intermediate volcanic rocks are affected by moderate to strong pervasive silicification, minor chloritization and patchy to pervasive lithium alteration. There is alteration of the green hornblende in proximity to the spodumene pegmatite.

There are also amphibolites which are fine-grained, weakly foliated and dark green. A salt-and-pepper appearance occurs locally where plagioclase is more dominant. Amphibolite is hard to scratch. Amphibolites are affected by strong pervasive potassic alteration, visible as biotitization and pervasive or patchy lithium alteration.

### 7.3.3 Granodiorite

The granodiorite is medium grey to greenish grey, massive, coarse grained to porphyritic, and exhibits a “salt-and-pepper” appearance. Figure 7.4 shows a fresh, massive, coarse-grained porphyritic granodiorite, in drill hole QL-S09-028. Granodiorite locally contains fragments of the same composition or that are slightly enriched in muscovite. The main mineral constituents of granodiorite are light grey to greenish white plagioclase (40-45 volume %), dark green to black amphibole (most likely hornblende; 15-20 volume %), mica (20 volume %) - represented by biotite and muscovite, grey quartz (10-15 volume %) and minor epidote, chlorite and disseminated sulfides. The grain size ranges from 0.5 to 5 mm. Granodiorite has patchy to pervasive lithium and / or chlorite alteration, weak epidote alteration and locally pervasive potassic alteration.

**Figure 7.4** Massive, Coarse-grained Porphyritic Granodiorite



### 7.3.4 Pegmatite Dykes

Three different types of pegmatite dykes have been identified based on mineralogy and textures: PEG1, PEG2 and PEG3. They are described below. The main differences between the three types of pegmatite dykes are the amount of spodumene in the dyke, the feldspar and quartz content, the texture of the pegmatite and presence or absence of zoning.

PEG1 dykes are zoned. Three mineralogical/textural zones have been identified and are described as intersected in drill core from stratigraphic top to bottom:

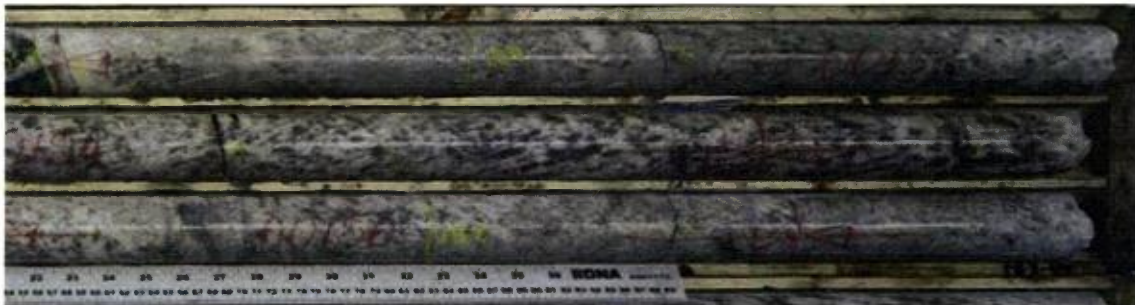
1. Border zone. 2-10 cm of medium grained white to pale grey pegmatite, mainly composed of plagioclase and quartz without spodumene, see Figure 7.5.
2. Spodumene zone. Medium- to coarse-grained pegmatite (35-40 volume % quartz, 40-45 volume % plagioclase) and white to pale yellowish-green interstitial crystals of

spodumene (5-20 volume %). Spodumene crystals are typically perpendicular to the dyke walls, but can be randomly oriented. Spodumene content increases towards the center of the dyke. The width of the zone varies from several cm up to 25m. Rocks with a medium grained, more aplitic appearance are included in this spodumene bearing zone. However, this aplitic rock could be a different generation of vein.

3. Quartz core. 5 to 50 cm zone of massive, medium- to coarse-grained grey quartz with very rare plagioclase or spodumene crystals. Spodumene near the quartz core is white, elongated and crystals up to 10 cm long and 1cm wide were observed in outcrop, Figures 7.5.
4. Spodumene zone. Medium to coarse-grained pegmatite (35-40 volume % quartz, 40-50 volume % plagioclase) with white euhedral and pale yellowish-green interstitial crystals of spodumene (5-20 volume %) and rare aggregates of mica (biotite). The size of the spodumene crystals is from 0.2 cm to 14 cm.
5. 1-10 cm border zone (fine-grained aplitic zone). Distinct change in grain size and colour. The pegmatite becomes fine-grained and uniformly grey, mainly composed of quartz-plagioclase -K-feldspar. Very similar to the border zone at the stratigraphic top of PEG1.

Spodumene grain size can be highly variable within a zone and overall through the entire intersection.

**Figure 7.5 PEG1 Pegmatite Dyke with Zoning**



PEG2 dykes are not zoned and are coarse to medium-grained, light grey and with pale yellowish-green crystals of spodumene (5-15 volume %), grey quartz (35-40 volume %), white megacrystals of plagioclase and K-feldspar (40-50 volume % and most likely albite and orthoclase), occasional mm-sized garnets, light coloured mica (lepidolite?), flakes of biotite, specks of molybdenite, very rare chalcopyrite surrounded by brownish anhedral mineral with resinous lustre (possibly sphalerite). The spodumene mineralization occurs from contact to contact with no apparent zonation. Concentration varies from 2-3 volume % to approximately 20 volume %.

Spodumene crystals can be both tabular and needle-shaped within the same intersection. Euhedral crystals are common. Tabular crystals tend to coarser grained ranging up to 7 cm in length as shown in Figure 7.5. Preferred orientations are exhibited by some spodumene crystals (typically more with tabular crystals) and can form both the matrix or fill the

interstices between larger quartz, plagioclase and K-feldspar grains. PEG2 is very similar to zones 2 and 4 of PEG1-type dykes, but PEG2 has higher contents of K-feldspar, epidote and mica.

**Figure 7.6 PEG2 Coarse Grained Pegmatite**



PEG3 dykes are quartz dominant and contain less than 1% spodumene. They are medium to coarse grained, light pink-grey to medium grey creamy pink colour, with black or grey patches of mica (biotite and muscovite). Megacrystals of mica form up to 40% of the rock locally. PEG3 dykes are variable in width from 0.4 to 8.0 m, contain small vugs and are very hard to scratch and cut.

**Figure 7.7 Coarse-grained PEG3**



## 8 DEPOSIT TYPES

This has been adapted and abridged from Lavery ME and Stone M, Technical Report of November 2010.

### 8.1 Rare-element Pegmatites of the Superior Province

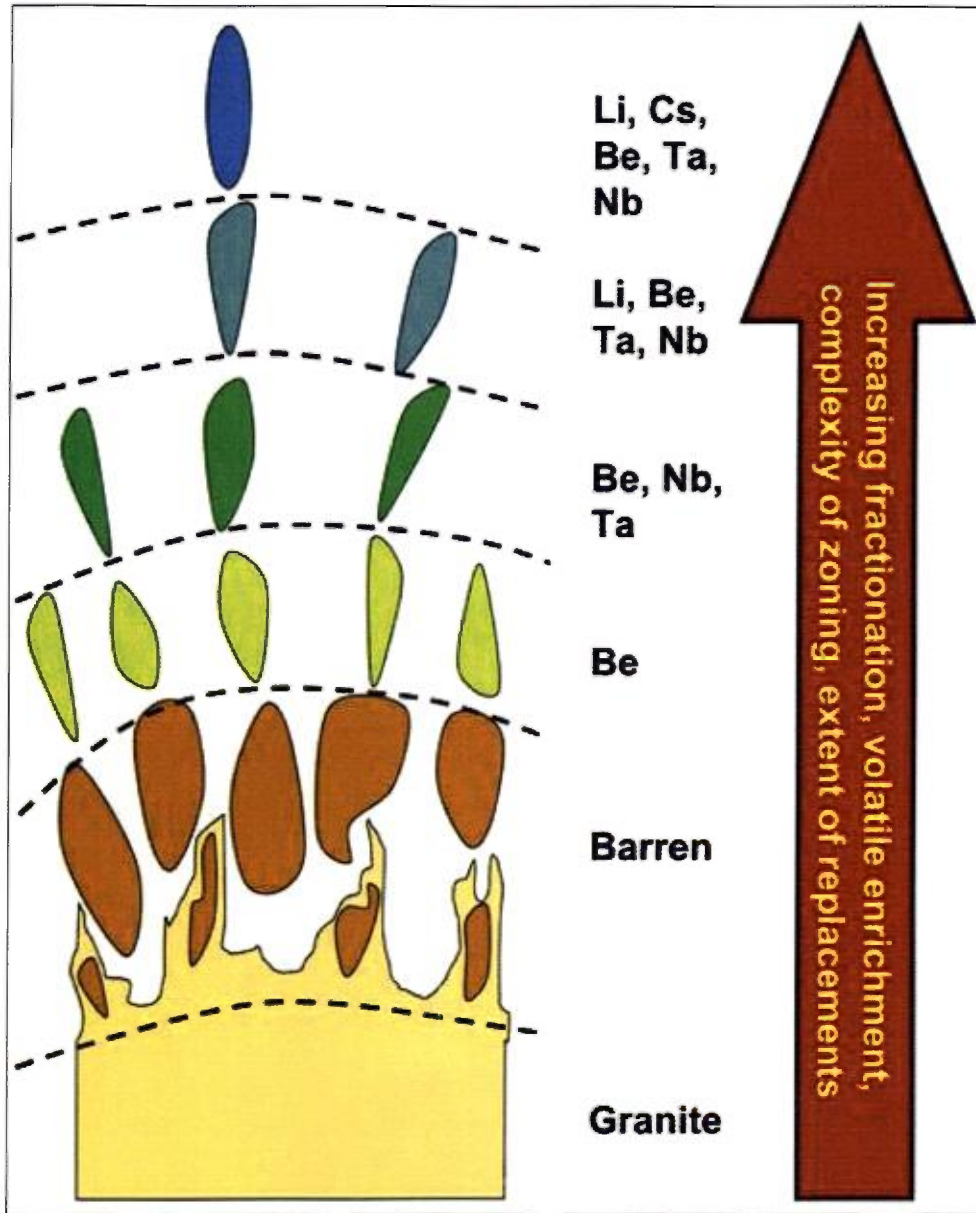
Rare-element pegmatites may host several economic commodities, such as tantalum (Ta-oxide minerals), tin (Sn) (cassiterite), lithium (Li) (ceramic-grade spodumene and petalite), rubidium (Rb) (lepidolite and K-feldspar), and cesium (Cs) (pollucite) collectively known as rare elements, and ceramic-grade feldspar and quartz (Selway *et al.*, 2005). Two families of rare-element pegmatites are common in the Superior Province, Canada: Li-Cs-Ta enriched (LCT) and niobium-yttrium-fluorine (Nb-Y-F or NY). LCT pegmatites are associated with S-type, peraluminous (aluminium-rich), quartz-rich granites. S-type granites crystallize from a magma produced by partial melting of preexisting sedimentary source rock. They are characterized by the presence of biotite and muscovite, and the absence of hornblende. NYF pegmatites are enriched in rare earth elements (REE), uranium, and thorium in addition to Nb, Y, F, and are associated with A-type, subaluminous to metaluminous (aluminium-poor), quartz-poor granites or syenites (Černý, 1991).

Rare-element pegmatites derived from a fertile granite intrusion are typically distributed over a 10 to 20 km<sup>2</sup> area within 10 km of the fertile granite (Breaks and Tindle, 1997). A fertile granite is the parental granite to rare-element pegmatite dykes. The granitic melt first crystallizes several different granitic units (e.g., biotite granite to two mica granite to muscovite granite), due to an evolving melt composition, within a single parental fertile granite pluton. The residual melt enriched in incompatible elements (e.g., Rb, Cs, Nb, Ta, Sn) and volatiles (e.g., H<sub>2</sub>O, Li, F, BO<sub>3</sub>, and PO<sub>4</sub>) from such a pluton can then migrate into the host rock and crystallize pegmatite dykes (Figure 8.1). Volatiles promote the crystallization of a few large crystals from a melt and increase the ability of the melt to travel greater distances. This results in pegmatite dykes with coarse-grained crystals occurring in country rocks considerable distances from their parent granite intrusions. Figure 8.1 shows the chemical evolution of lithium-rich pegmatites with distance from the granitic source (London, 2008).

### 8.2 Lacorne Pluton Rare-Element Pegmatites

The rare-element pegmatites associated with the Lacorne pluton are LCT pegmatites because they are enriched in Li and Ta and they are associated with the S-type Lacorne pluton (biotite to two-mica to muscovite monzogranite). The Lacorne pluton is the fertile parental granite from which the pegmatites were derived. The presence of garnet, molybdenite, columbite-tantalite and sphalerite in the muscovite monzogranite indicates that the Lacorne pluton is fertile granite rather than barren granite (Mulja *et al.* 1995a).

Figure 8.1 Chemical Evolution of Lithium-rich Pegmatites over Distance



The pegmatites are regionally zoned from the Lacorne pluton outwards: beryl pegmatites to spodumene-beryl pegmatites, spodumene pegmatites to molybdenite-bearing albitite to molybdenite-quartz veins.

These rare-element pegmatites show features similar to other rare-element pegmatites of the Superior province:

1. The pegmatites occur within the Abitibi Greenstone Belt near the contact with the Pontiac subprovince. Many of the lithium dykes lie less than 2.5 km SW of and approximately parallel to the Manneville Fault zone.
2. The regional metamorphic grade is greenschist facies.
3. The pegmatites are genetically derived from the fertile Lacorne pluton.
4. The pegmatites are hosted by mafic metavolcanic rocks (i.e., basaltic lavas of Kinojevis group).
5. The mafic metavolcanic rocks have been metasomatized to produce Holmquistite along the contact with the Lacorne pluton.
6. The dominant Li-mineral is spodumene and the dominant Ta-mineral is columbite-tantalite. Cs-minerals have not yet been found in the pegmatites.
7. The columbite-tantalite crystals occur in the albite.

## 9 MINERALIZATION

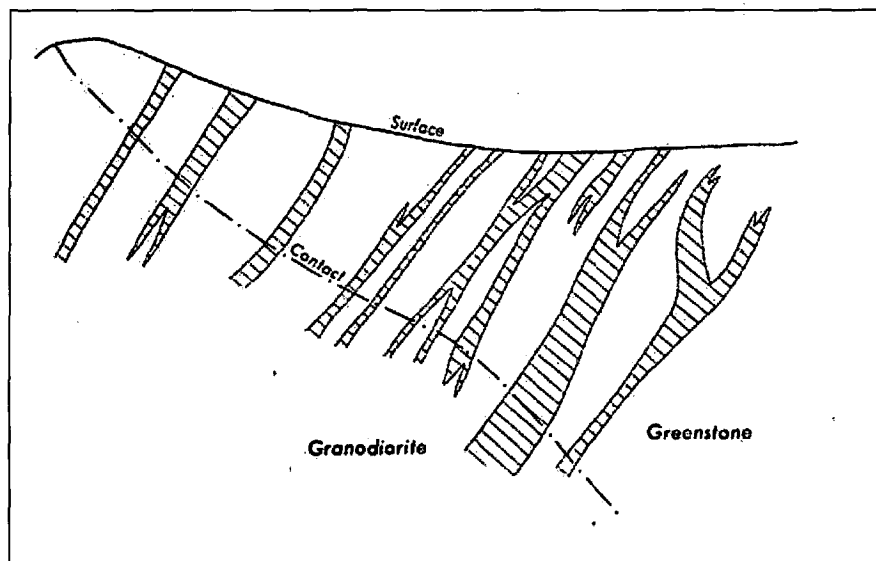
This has been adapted and abridged from Lavery ME and Stone, M, Technical Report of November 2010.

### 9.1 Historic Descriptions

According to Derry (1950), approximately 10 separate dykes were intersected by diamond drilling on the property as shown in Figure 9.1 from Mulligan 1965. This vertical section is looking N76° W. and shows steeply dipping unzoned quartz-feldspar-spodumene dykes. Several of the dykes are exposed on the hill south of the mine. The narrower dykes are simple quartz-feldspar dykes, but the majority of the dykes that are greater than approximately 3m in width are spodumene-bearing. The three most persistent spodumene dykes (continuous from hole to hole) were named dykes A, B and C. The spodumene dykes vary in width from 10's of centimetres to approximately 14m and had been traced up to approximately 200m in length (Tremblay, 1950). As interpreted from the drilling, dyke A was traced for approximately 180 m laterally and varies from approximately 3 to 15m in true width; Rowe, 1953). Dyke B is a lens approximately 3m in length and has a true width of approximately 6.5 m. Dyke C has been traced for approximately 100 m horizontally and has an average width of approximately 3m. The drill core indicates that the dykes are parallel striking 60 to 70° NW (nearly parallel to the main granite contact in this area) and dipping 40 to 60° S (Derry, 1950).

In Figure 9.1, which is a vertical section looking N76° W, steeply dipping unzoned quartz-feldspar-spodumene dykes are shown (Mulligan, 1965).

**Figure 9.1 Simplified Vertical Section showing Dykes**



The spodumene is typically white to cream (or buff) in colour which indicates low iron content as opposed to the green colour that is more common in the Preissac-La Corne district. Spodumene near the mine shaft area is white, fine- to medium-grained and oriented normal to the dyke walls. Minor coarse-grained crystals are more random in orientation. Spodumene in the east zone is reported as pale green, medium-grained and strongly oriented normal to the granodiorite contacts. Some spodumene is locally altered to a dark green colour, especially near an underground water-course, and leached spodumene and feldspar occur in the fissure.

Later after opening up the deposit underground Karpoff (1955), Chief Engineer and Geologist for the Quebec Lithium mine, states that almost all of the complex pegmatites display zoning: 1) border zone, 2) wall zone and 3) intermediate or inner zone, but this zoning is so insignificant and is not always completely revealed that he considered for mining purposes that the pegmatite dyke is spodumene-bearing from wall to wall. Karpoff (1955), reports that the border zone is generally less than 1 cm wide. The border zone has a very fine-grained texture and is composed mostly of white feldspar. The wall zone is also very narrow from a few centimeters to a maximum of approximately 30 cm and occurs only in a few places. It is a fine-grained zone composed mostly of white feldspar (platy cleavelandite), white to light brown quartz and some light buff to green spodumene oriented normal to the walls. The intermediate or inner zone represents the bulk of the pegmatite bodies. It has a fine- to medium-grained texture composed of 40% feldspar (albite, microcline and perthite), 35% quartz and 25% spodumene. The coarse feldspar crystals (microcline) and spodumene are uniformly oriented normal to the walls of the pegmatite dyke. Dyke B shows a fourth zone, the quartz core. In this particular case, the zones are much wider and some beryl crystals were noted in the wall zone.

Karpoff (1955) made the following observations on the spodumene within the pegmatite dykes based on surface drilling and underground workings, keeping in mind that the pegmatite dykes dip to the south and the granodiorite-volcanic contact dips to the north:

- The richest concentration of spodumene occurs at or near the granodiorite-volcanics contact.
- At a distance of 500 to 600 feet above the contact in the volcanic rocks, the pegmatite dykes become weak, narrow and low grade.
- In the granodiorite, the pegmatite dykes remain strong and become low in spodumene only at a distance of 1,600 feet below the contact.
- The amount of spodumene decrease with an increase in pink orthoclase feldspar. The K-feldspar begins to appear in the dykes within the granodiorite at a distance of about 1600 feet below the contact.
- The spodumene is white to light green in the mafic volcanic rocks and buff to light grey in the granodiorite. The spodumene crystals are also finer grained in the mafic volcanic rocks.

- The iron content in the spodumene is higher in the mafic volcanic rocks above the contact than in the granodiorite.
- The grade and uniformity of the spodumene pegmatite dykes are affected by the degree of orientation of the crystals. The part of the dykes in which the crystals lie at any direction (random orientation) are lower than the well oriented sections.
- Structural considerations suggest that the zone of pegmatitic dykes will have a depth extension of at 2,500 feet (approximately 762m) down the contact.

## 9.2 Observations from CLQ's 2009 and 2010 Drill Programs

Three types of pegmatite dykes form a co-linear bifurcating array in the centre of the Property. These dykes are designated PEG1 and PEG2 (both spodumene-bearing) and PEG3 (<1% spodumene). The majority of the dykes intersected in the 2009 drill program are spodumene-bearing and include the six main dykes historically mined. The spodumene dykes vary in width from 0.35m to 45m and have been intersected over and are interpreted to extend for several hundred metres in length. The dykes strike roughly 300° to 320°, roughly parallel to the contact of the Lacorne Pluton in this area and dip steeply to the south-east.

The 2009 drilling data and bulk sample outcrops suggest that PEG1 dykes exhibit well developed vertical zonation. This zonation has not been studied in detail but appears consistent with Karpoff's 1955 description. The transition between zones is gradual. Quartz cores have only been observed within intersections of the thicker spodumene dykes and in outcrop.

The border zone in PEG1 dykes is generally 1-10 cm wide. It has a very fine-grained aplitic texture and is composed mostly of white feldspar. The spodumene zone exhibits a range of grain size from fine- to coarse and forms the majority of the pegmatite. Millimetre-size white to pale green interstitial spodumene crystals fill the interstices between intervals of very coarse-grained to megacrystic spodumene. In Figure 9.2 such a fine grained border zone is seen in PEG1 on the contact with the host rock (dark rock on the right), in drill hole QL-M042C.

PEG1 and PEG2 are composed of 30-40% feldspar (albite, microcline, orthoclase and perthite), 30-50% quartz and 5-25% spodumene. The megacrystals of plagioclase, K-feldspar and spodumene are subhedral to euhedral and are either orientated perpendicular to dyke contacts or are randomly oriented. The footwall zone was intersected in several holes. This zone is very narrow, from 2-3 cm to a maximum of 20-30 cm. The footwall zone is fine-grained and consists mostly of white plagioclase (albite) and pinkish orthoclase and microcline, white to light grey quartz and light buff to pale green spodumene, epidote and mica.

Figure 9.2 PEG1 Contact Zone



In Figure 9.3 spodumene megacrysts in PEG2 are shown oriented perpendicular to the contact in drill hole QL-S09-026.

Figure 9.3 PEG2 Contact Zone



## 10 EXPLORATION

This has been adapted and abridged from Lavery ME and Stone M, Technical Report of November 2010. For more information and all the drawings the reader is referred to that report. As the pegmatite dykes were known to exist prior to CLQ's acquisition of the Property, exploration by CLQ has mainly consisted of drilling, which is described in this section. However being a lithium deposit, the collection of metallurgical samples at an early stage was very important and the field collection of these is also covered in this section.

### 10.1 Introduction

The Property was acquired by CLQ in 2008. In June of that year, collection of samples for preliminary metallurgical testwork was carried out. In December 2008, Caracle Creek International Consulting Inc. (CCIC) was retained to complete a review and compilation of the historic mine data.

In 2009, subsequent to the 2008 conceptual resource model referred to under "CCIC Compilation" below, diamond drilling was completed for geological, geotechnical and metallurgical purposes. Two bulk samples were also taken to further metallurgical studies. This work resulted in the estimation of an NI 43-101 compliant mineral resource and a completed PFS by Hardie et al., 2010.

A diamond drilling program was completed in 2010 to further define and potentially increase the resource base of the Property. An updated mineral resource estimate was completed with this information and released on October 28<sup>th</sup>, 2010. Additional drilling was also completed in 2010 for geotechnical and hydrological investigations required as part of the feasibility study (FS). The following sections describe the exploration activities by period and activity.

### 10.2 2008 Field Program

Eight holes were drilled by Forage Xtreme of Val-D'Or in June 2008 solely for the purpose of collecting spodumene pegmatite. The holes were not logged for lithology, down hole surveys were not completed and drill collars not surveyed. The pegmatite was sampled manually using a hammer, packed in rice bags that were sealed with tape and plastic cable ties. Additional pegmatite material was collected from a pile of rocks located near the tailings dam on the old mill site and this material was similarly prepared, packaged and all was delivered by a CLQ representative to SGS Lakefield in July, 2008.

### 10.3 CCIC Compilation 2009

Historic mine data was digitized and the 3D extents of the underground workings in the mine were constructed based on this information and mining widths cited in the historic reports. The collars of all available historic drill holes were digitized and basic lithology and hole orientation information compiled from the associated drill logs and plans. The resulting database for use in the 3D modelling was composed of 81 surface and 412 underground

holes. Drill holes were displayed using Surpac Vision v. 6.1.3 and 3D solids of the spodumene dykes were constructed based on mine plans, drill hole intercepts and the interpreted surface geology.

From a 10 x 10 x 10m block model which was constructed over the mine area, the tonnage of a conceptual exploration target for the Property was estimated. Grades were assigned into the blocks from the old quoted figure which had grades by cross section and dyke.

#### **10.4 2009 Field Program**

A drill program was designed by CCIC to twin several of the historic drill holes and to test the interpreted spodumene pegmatite thicknesses and available assay data. Holes were also drilled to test some of the dykes at depth and at a distance from the old workings.

In November 2009, two outcrops of spodumene pegmatite were stripped and trenches excavated to an approximate 1m depth. This was carried out to provide a sample for metallurgical testwork. G.E.S.T. Inc. was contracted to manage the blasting program including permitting requirements.

Both trenches exposed relatively thick pegmatite dykes (up to 8m thick) and are described below.

Trench #1 is approximately 28m long and 10m wide. The trench is centred at 292,006m E, 5,365,687m N, and 436 m elevation as recorded with a hand-held Garmin GPS (model GPSMAP 76CSx). The stripping uncovered an internally zoned, spodumene pegmatite (PEG1 type), close to the contact of the granodiorite with mafic volcanic rocks. The outcrop consists of a thin quartz core (approximately 1.25m long and x 25 cm thick) oriented roughly parallel with the dyke contacts. The quartz core is surrounded by pegmatite containing irregular lenses of granodiorite and amphibolite. Spodumene megacrystals are up to 16 cm long. Megacrystals of albite are very common.

Stripping at Trench #2 revealed a spodumene pegmatite (PEG1 type) intruded into mafic volcanic rocks and amphibolites. The dyke extends the full width of the trench (approximately 8m) and does not display any internal zonation. Spodumene crystals are randomly oriented and up to 10 cm in length. The centre of the trench (approximately 12m long) is located at the following coordinates, which were recorded using a hand-held Garmin GPS (model GPSMAP 76CSx): 292,235m E, 5,365,614m N, elevation 466m.

Pegmatite from both trenches was placed in rice bags, sealed with tape and plastic cable ties and shipped as one approximately 600 kg sample to SGS Lakefield.

While AMC was not involved in the sample collection, it is satisfied that the samples are representative of the spodumene pegmatite mineralization at that location for the purposes of preliminary metallurgical testing.

**Figure 10.1 Pegmatite Outcrop for Bulk Sample**



In late 2009, a metallurgical drill program was commenced to provide additional material for metallurgical testwork. This was mainly implemented in January 2010, so is discussed below.

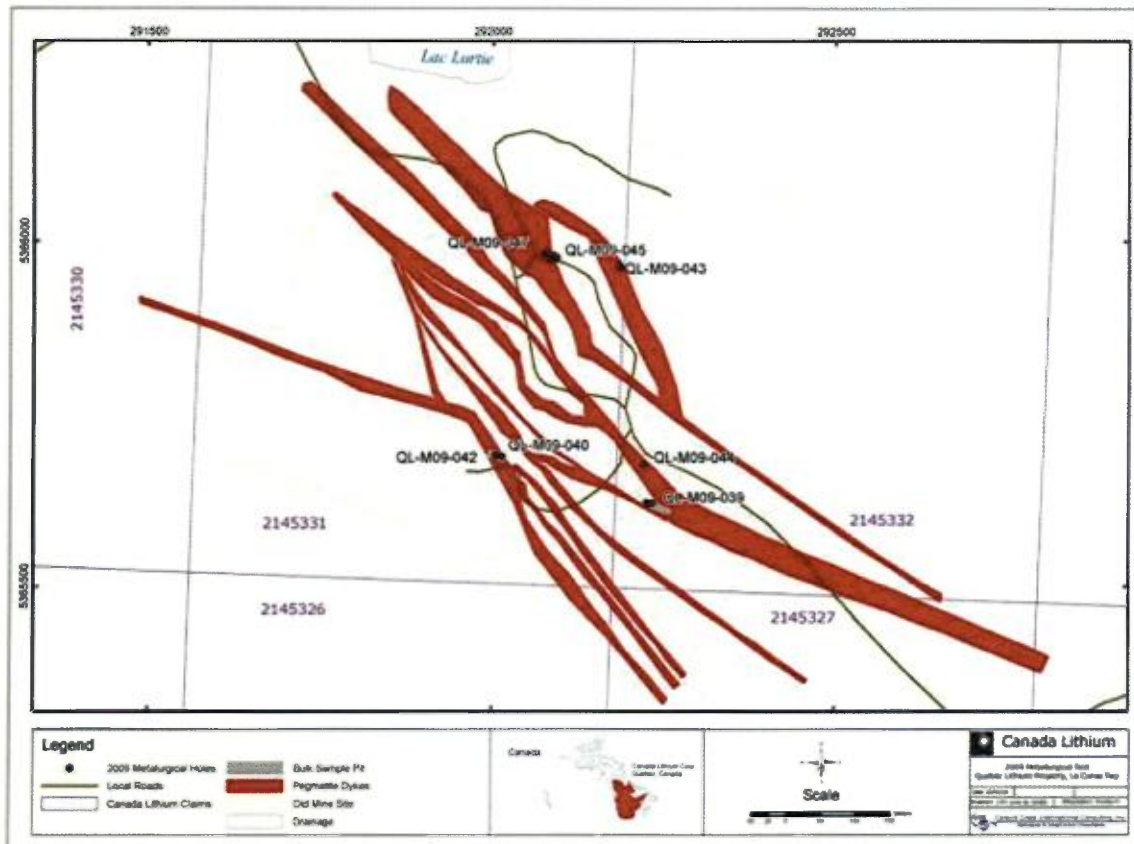
### **10.5 2010 Field Program**

A 45-hole exploration drilling program was completed from late April through June 2010. This program focused on extending the strike length of the known deposit and on infill drilling to increase the level of confidence in the mineral resources. Results of the drill program are further described in Section 11.0.

A metallurgical diamond drilling program, consisting of 67 short HQ holes for a total 1,010 m, was undertaken at seven locations as shown in Figure 10.2. A CCIC geologist logged the holes in their entirety prior to sampling. Major Drilling International Inc. (Major Drilling) was the contractor for the metallurgical drilling. The majority of the drill holes were collared within the stripped areas of the bulk sample material. Down-hole surveys were not completed on these holes. The spodumene bearing pegmatite was separated from the host rock manually using a hammer. Pegmatite intervals were placed in labelled rice bags and sealed with tape and plastic cable ties. Every bag contained approximately 3m of core,

totalling 546m of HQ core (approximately 4,641 kg). One hundred and eighty two bags of pegmatite were delivered by a CLQ representative to SGS Lakefield for test work. While AMC was not involved in the sample collection, it is satisfied that, the material collected from the pegmatite is representative of the spodumene mineralization in the dykes on the Property and appropriate for use in advancing the metallurgical studies for the PFS.

**Figure 10.2 Location of 2010 Metallurgical Holes and Trenches**



In addition, several holes were drilled for geotechnical and hydrological investigations as part of the ongoing FS activities during August through September as quantified in Table 10.1. Fieldwork associated with this drilling included soil and rock sampling, water level surveys, and bathymetry and sediment sampling in Lac Lortie. Geotechnical laboratory testing of soil samples was also undertaken. The results of the drilling and fieldwork have been incorporated into the FS.

**Table 10.1 Geotechnical and Hydrological Activity 2010**

Activity		Quantity
Borehole drilling	Overburden	9
	Bedrock	5
Soil and rock sampling	Overburden	Standard penetration tests 51
	Bedrock	Drilled length 130m Core Length 110m
Installation	Monitoring wells	13
	Vibrating wire piezometers	2
Hydraulic tests	Slug tests	15
	Packer tests	12
Water level measurements		14
Lac Lortie	Lakebed measurements	5
Test pits		3
Geotechnical laboratory tests	Grain size - Sieves	16
	Grain size - Hydrometer	16
	Organic content	5

Note quantity is number tests or holes or samples unless specified.

Condemnation drilling was also completed over proposed areas of the tailings management facility.

## 11 DRILLING

### 11.1 Introduction

This text has been adapted and abridged from Lavery ME and Stone M, Technical Report of November 2010. Two programs of exploration and resource definition drilling have been completed by CLQ since acquisition of the Property. Metallurgical and geotechnical drilling has also been completed and has been discussed earlier in Section 10. After reviewing the historic data in early 2009, CCIC recommended a verification/delineation surface diamond drill program to twin approximately 5% of the historic holes and check pegmatite intersections and continuity along strike of the mined area. The 2010 program was designed to continue testing the continuity of the deposit and potentially upgrade and increase the total resource. For completeness all drilling carried out by CLQ is summarised in Table 11.1.

**Table 11.1 Summary of Holes Drilled**

Year	Period	No of Holes	Meters	Comments
2008	June	8	-	Metallurgical samples
2009	October - December	38	9,646	Twinning and Infill
2009 - 10	December - January	67	1,010	Metallurgical samples
2010	April - June	45	6,938	Infill and extension

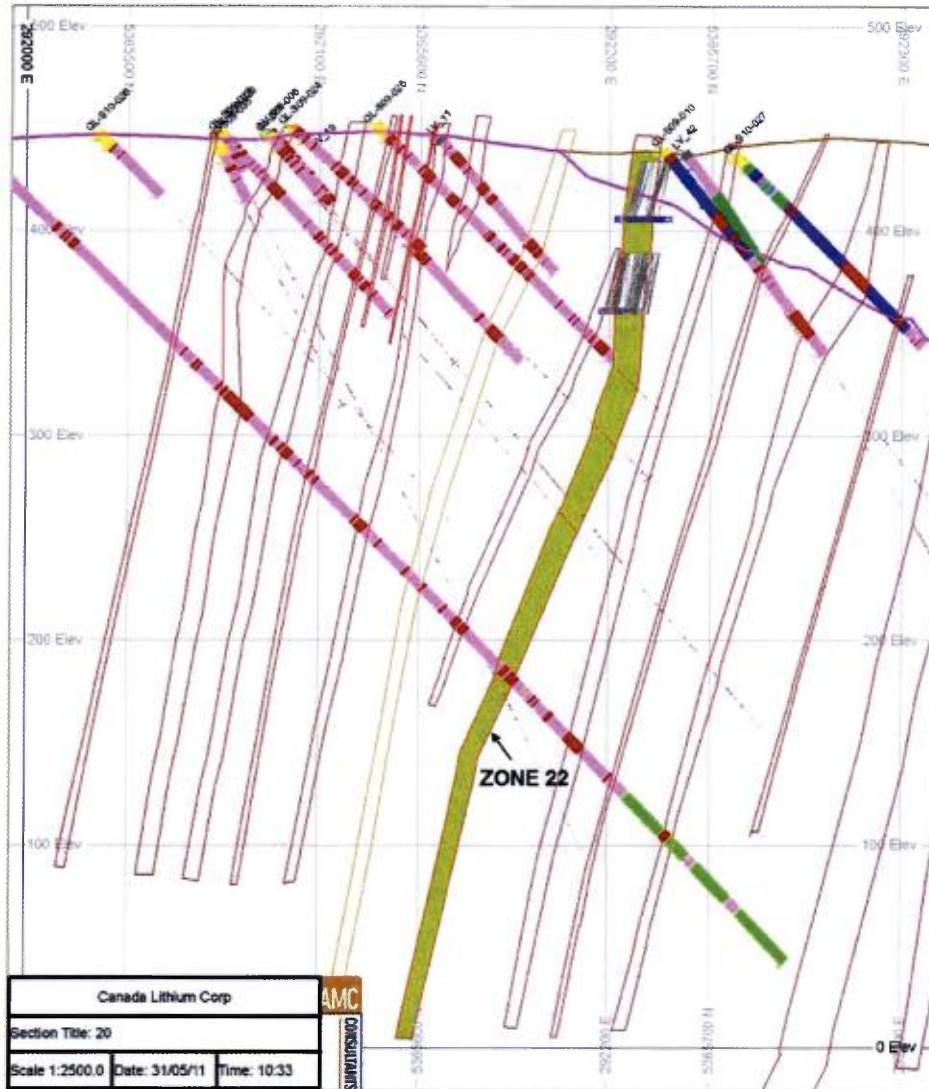
### 11.2 2009 Drilling Program

In this program six main spodumene dykes were tested and their locations confirmed. Enough information was obtained in the 2009 drill program to support the historic resource estimate, the geological model and the conceptual target. Part of this program was specifically designed to twin old (LV) holes, and the results of that portion of the program is discussed in Section 11.3. The detailed descriptions of the rock types and the spodumene mineralization intersected by the 2009 drill holes are presented in Section 7.3 in the Stone, M and Ilieva, T, Technical Report of April 2010, and have been summarized in this report along with results.

This program consisted of 38 NQ-sized diamond drill holes and one wedge and the details are listed in Table 11.2. Approximately 9,646m were drilled, surveyed and sampled during the third quarter of 2009. Nine holes were abandoned because of technical difficulties or inappropriate down-hole deviation and were re-drilled (approximately 470m).

The holes were drilled on eight sections intersecting spodumene pegmatite dykes approximately perpendicular to their strike (overall NW-SE, hole bearings were typically 18° or 45° (see the drill plan in Figure 11.1). The dykes generally dip 70° to 75° toward the south or southwest. Holes were angled typically at -45° or -60° to cut the interpreted true width of the dyke, in a close to normal intersection. See Figure 11.1 for a representative section showing the drillhole orientation in relationship to the dykes.

Figure 11.1 Cross Section Showing Drillhole Orientation



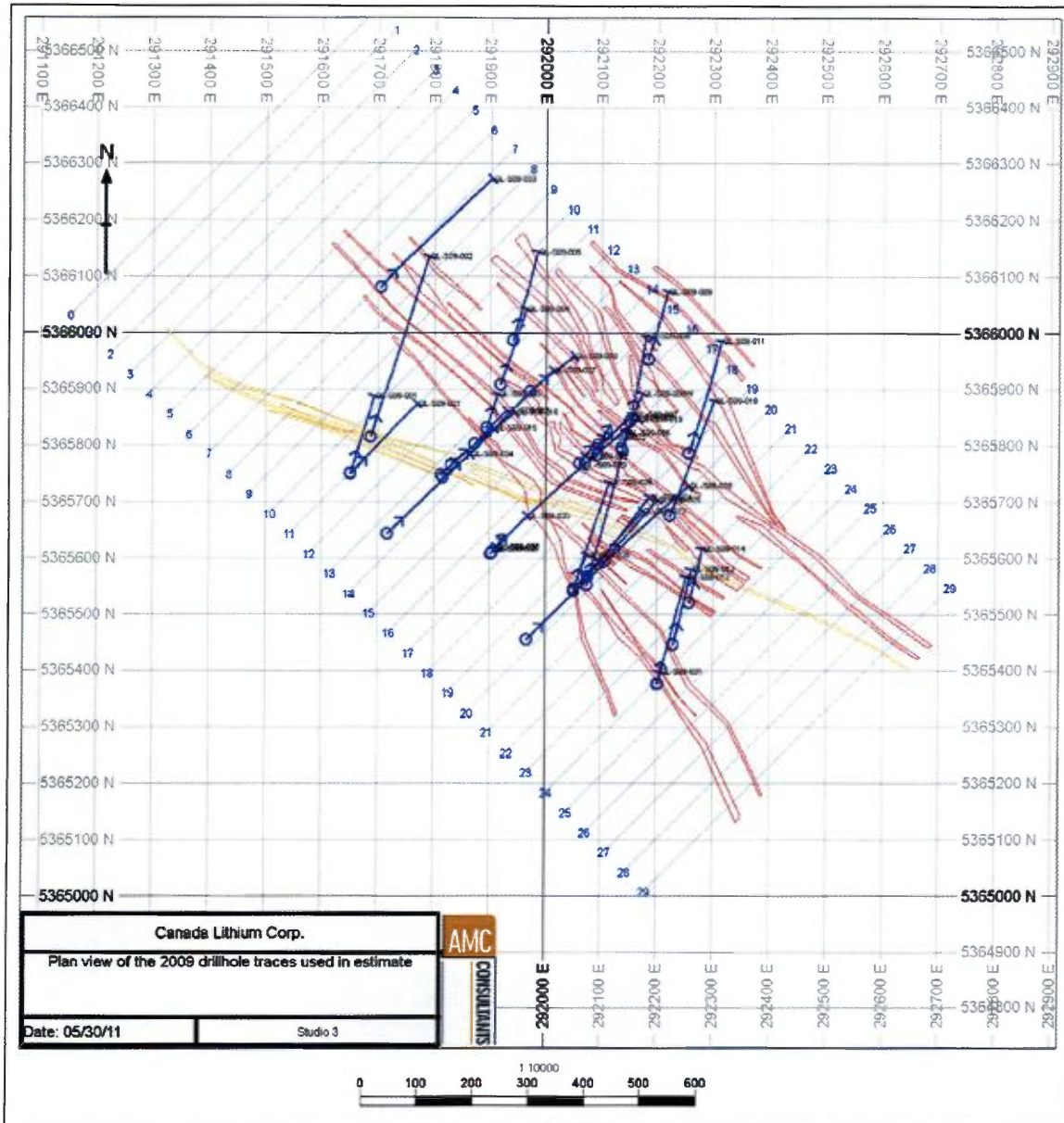
Twenty four holes were drilled by Orbit Garant Drilling Inc. (Orbit) and 14 holes were completed by Major Drilling.

A Reflex EZ-Shot (Major Drilling) or Flexit single shot (Orbit) survey was performed at approximately 50m intervals down-hole. The casing was left in 29 holes, which were capped to allow for future down-hole testing and/or extension. GPS coordinates of all collar locations were recorded and tied into the exploration grid.

**Table 11.2 List of Holes Drilled in the 2009 Program**

Drill Hole	Easting	Northing	Elev	Azimuth	Dip	Depth (m)	Company	Status
QL-S09-001	291,651	5,365,751	444.8	17.5	-45	201.00	Major Drilling	completed
QL-S09-002	291,688	5,365,814	441.1	18	-45	500.00	Orbit	completed
QL-S09-003	291,894	5,365,830	442.6	17.5	-50	102.00	Major Drilling	completed
QL-S09-004	291,919	5,365,907	435.2	18	-50	222.00	Major Drilling	completed
QL-S09-005	291,942	5,365,986	425.2	14	-45	222.00	Major Drilling	completed
QL-S09-006	292,075	5,365,552	445.7	18	-45	402.00	Orbit	completed
QL-S09-006W	292,075	5,365,552	445.7	18	-45	498.00	Orbit	completed
QL-S09-007	292,136	5,365,796	431.2	18	-70	213.00	Orbit	completed
QL-S09-008	292,151	5,365,842	428.3	18	-49	231.00	Orbit	completed
QL-S09-009	292,184	5,365,953	423.2	18	-50	195.00	Orbit	completed
QL-S09-010	292,223	5,365,676	438.2	18	-48	339.00	Orbit	completed
QL-S09-011	292,257	5,365,786	434.4	18	-45	295.50	Orbit	completed
QL-S09-012	292,201	5,365,376	415.5	18	-45	285.00	Orbit	completed
QL-S09-013	292,230	5,365,445	415.7	18	-50	222.00	Orbit	completed
QL-S09-014	292,259	5,365,520	421.0	18	-50	156.00	Orbit	completed
QL-S09-015	291,813	5,365,747	448.7	45	-60	280.00	Orbit	completed
QL-S09-016	291,832	5,365,765	447.6	45	-60	324.00	Orbit	completed
QL-S09-017	291,874	5,365,802	444.1	45	-45	117.00	Orbit	completed
QL-S09-018	291,972	5,365,895	436.5	45	-60	219.00	Major Drilling	completed
QL-S09-019	291,902	5,365,607	466.8	45	-55	640.00	Major Drilling	completed
QL-S09-020	291,902	5,365,607	466.8	45	-45	126.00	Major Drilling	completed
QL-S09-021	291,652	5,365,750	444.6	45	-60	372.00	Major Drilling	completed
QL-S09-022*	292,095	5,365,801	431.1	45	-60	32.10	Orbit	abandoned
QL-S09-023	292,051	5,365,545	446.0	45	-45	276.00	Orbit	completed
QL-S09-024	292,076	5,365,567	449.2	45	-45	246.00	Orbit	completed
QL-S09-025	292,106	5,365,595	450.0	45	-45	201.00	Orbit	completed
QL-S09-026	292,051	5,365,545	446.0	18	-60	401.70	Orbit	completed
QL-S09-027	291,718	5,365,643	435.0	45	-45	614.00	Major Drilling	completed
QL-S09-028	291,967	5,365,454	446.0	45	-45	565.40	Orbit	completed
QL-S09-029*	292,093	5,365,782	429.0	45	-60	42.90	Orbit	abandoned
QL-S09-030	292,090	5,365,794	438.0	45	-48	157.85	Orbit	completed
QL-S09-031*	292,202	5,365,376	418.0	18	-45	30.00	Orbit	abandoned
QL-S09-032*	292,061	5,365,767	437.0	45	-60	34.00	Major Drilling	abandoned
QL-S09-033	291,704	5,366,080	416.0	45	-60	551.52	Major Drilling	completed
QL-S09-034*	291,816	5,365,742	452.0	45	-60	136.81	Orbit	abandoned
QL-S09-035*	292,058	5,365,542	441.0	18	-60	144.00	Orbit	abandoned
QL-S09-036*	291,904	5,365,609	460.0	45	-45	18.00	Major Drilling	abandoned
QL-S09-037*	291,904	5,365,609	460.0	45	-45	21.00	Major Drilling	abandoned
QL-S09-038*	291,904	5,365,609	460.0	45	-45	12.00	Major Drilling	abandoned

**Figure 11.2 Plan of 2009 Drillholes**



The results of the 2009 drill program confirmed the data used to construct the geological model representing the exploration target developed for the Property, and also that the mineralization continues to the northwest and southeast of the currently mined area.

### 11.3 Results of the Twinning Program

A number of holes in this program were specifically designed to validate the historical LV series holes, in order to allow their acceptance into the database. Many of the LV holes are in the area of old workings thus are difficult to repeat and also because of this are important to the estimate. A discussion hole by hole is found in Stone, M. and Ilieva, T., Technical Report of April 2010, in Section 14.2. AMC carried out an analysis of the information and has tabulated the comparison as best fits in Table 11.4.

The comparison is not perfect due to logistics resulting in some of the holes not being true twins and located some distance apart. In the table, a third comparison is inserted which shows the average grade of the zone from the historical estimate which is taken from Table 10-1 in Lavery ME and Stone M, Technical Report of November 2010. The table below substantiates the statement from the above report that "Assays for the new holes are higher typically by 0.1 to 0.4% Li<sub>2</sub>O than historic values". However this possible upside has not been built into the old data in the estimate.

On the basis of the work carried out AMC would support the use of the old data in the 2011 estimate. In addition to using data, dummy holes were used in the area of the stopes. This is elaborated on in Section 17.

**Table 11.3 Twinning Results**

	Historic DDH		Twin DDH			Zone	
	M	% LiO <sub>2</sub>		M	% LiO <sub>2</sub>	#	% LiO <sub>2</sub>
LV 22	1.04	0.80	QL-S09-002	3.75 15.60	1.51 1.70	B	1.21
LV 34	22.60 24.20 13.70	1.10 1.20 1.40	QL-S09-005	13.00 17.00 14.10	1.40 1.60 1.40		1.04 1.21 1.21
LV 40	5.80	0.80	QL-S09-007	11.80	1.30	B	1.21
LV 36*	20.30	0.90	QL-S09-008	19.00	1.10	B	1.21
LV 33	7.90	0.80	QL-S09-009	8.80	1.30	B	1.21
LV 15	17.00 19.60	1.10 1.10	QL-S09-014	14.10 23.90	1.30 1.50	A A	1.16 2.16
LV 36	20.30	0.90	QL-S09-033	19.30 6.90 8.00	1.60 1.60 1.30	C B B	1.04 1.21 1.21

### 11.4 2010 Drilling Program

This program consisted of 45 NQ-sized diamond drill holes and the details are listed in Table 11.4 and shown in Figure 11.2. Approximately 6,938m were drilled, surveyed and sampled during the second quarter of 2010.

The holes were drilled on 14 sections intersecting spodumene pegmatite dykes approximately perpendicular to their strike (overall NW-SE), hole bearings were

approximately 45°. The dykes generally dip 70° to 75° toward the south or southwest. Holes were again angled typically at -45° to cut the interpreted true width of the dyke.

Major Drilling was engaged as the drilling contractor. Again down-hole surveys were completed using a Reflex EZ-Shot at approximately 50m intervals down-hole. GPS coordinates of all collar locations were recorded and tied into the exploration grid.

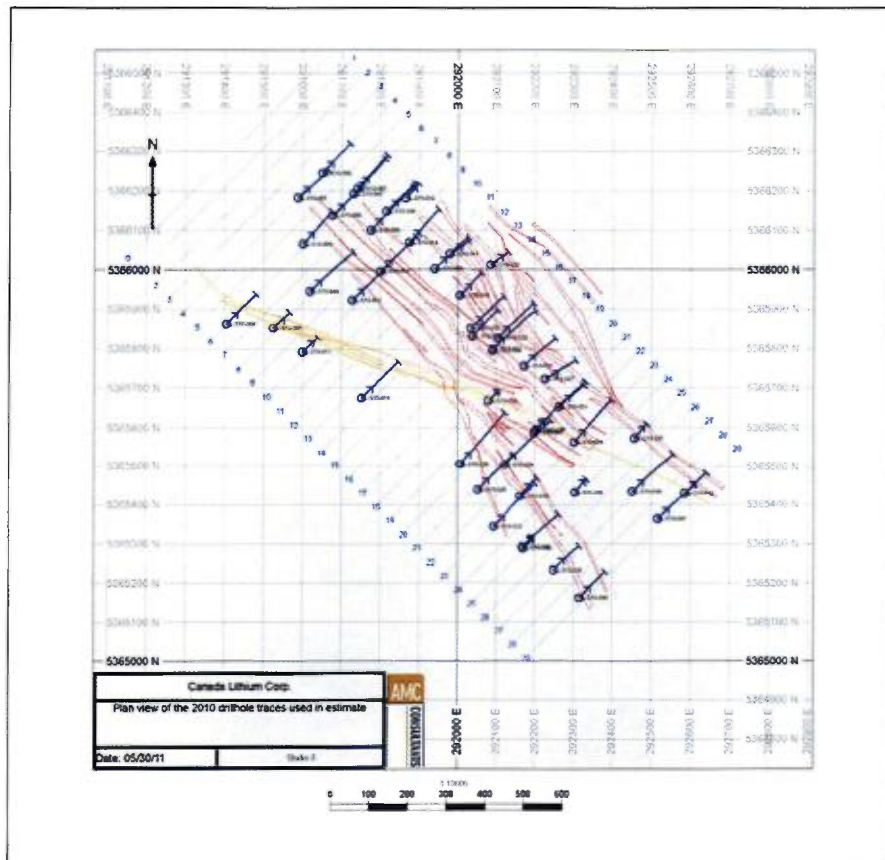
The previous geological model was supported by the results of the drilling. The deposit comprises a series of steeply dipping spodumene-bearing pegmatite dykes that bifurcate and coalesce. Dyke true thicknesses range up to tens of metres. The composite body extends more than 1.5 km in approximately a NW-SE direction over a width of approximately 500m. There is one main persistent set of dykes that strikes obliquely to this main orientation.

**Table 11.4 List of Holes Drilled in the 2010 Program**

Drill Hole	Easting	Northing	Elev	Azimuth	Dip	Depth (m)	Status
QL-S10-001	291,588	5,366,181	398	45	-45	150	complete
QL-S10-002	291,651	5,366,245	398	45	-45	150	complete
QL-S10-004	291,405	5,365,863	401	45	-45	150	complete
QL-S10-005	291,601	5,366,065	409	45	-45	159	complete
QL-S10-006	291,677	5,366,137	411	45	-45	141	complete
QL-S10-007	291,742	5,366,205	406	45	-45	162	complete
QL-S10-008	291,524	5,365,852	418	45	-45	81	complete
QL-S10-009	291,776	5,366,099	417	45	-45	213	complete
QL-S10-010	291,867	5,366,180	408	45	-45	72	complete
QL-S10-011	291,600	5,365,791	437	45	-60	111	complete
QL-S10-012	291,729	5,365,923	425	45	-45	180	complete
QL-S10-013	291,802	5,365,995	426	45	-45	183	complete
QL-S10-014	291,875	5,366,068	419	45	-45	162	complete
QL-S10-015	292,034	5,365,852	436	45	-45	165	complete
QL-S10-016	291,941	5,366,001	424	45	-45	168	complete
QL-S10-017	291,980	5,366,039	417	45	-45	81	complete
QL-S10-018	291,753	5,365,674	445	45	-45	186	complete
QL-S10-019	292,007	5,365,934	428	45	-45	108	complete
QL-S10-020	292,085	5,366,012	415	45	-45	81	complete
QL-S10-021	292,039	5,365,830	435	45	-53	160	complete
QL-S10-022	292,092	5,365,798	432	45	-45	276	complete
QL-S10-023	292,105	5,365,827	430	45	-45	180	complete
QL-S10-024	292,080	5,365,667	457	45	-45	42	abandoned
QL-S10-025	292,172	5,365,756	433	45	-45	156	complete
QL-S10-026	292,007	5,365,505	446	45	-45	260	complete
QL-S10-027	292,226	5,365,722	435	45	-45	132	complete
QL-S10-028	292,053	5,365,438	435	45	-45	180	complete
QL-S10-029	292,122	5,365,504	434	45	-45	237	complete
QL-S10-030	292,204	5,365,594	437	45	-45	237	complete
QL-S10-031	292,264	5,365,652	439	45	-45	132	complete
QL-S10-032	292,094	5,365,343	429	45	-45	222	complete
QL-S10-033	292,162	5,365,422	423	45	-45	90	complete
QL-S10-034	292,303	5,365,563	424	45	-45	207	complete

Drill Hole	Easting	Northing	Elev	Azimuth	Dip	Depth (m)	Status
QL-S10-035	292,168	5,365,292	415	45	-45	180	complete
QL-S10-036	292,305	5,365,431	410	45	-45	60	complete
QL-S10-037	292,458	5,365,572	419	45	-45	69	complete
QL-S10-038	292,250	5,365,234	394	45	-45	125	complete
QL-S10-039	292,453	5,365,433	413	45	-45	195	complete
QL-S10-040	292,316	5,365,161	395	45	-45	132	complete
QL-S10-041	292,518	5,365,364	412	45	-45	180	complete
QL-S10-042	292,586	5,365,429	420	45	-45	108	complete
QL-S10-043	292,201	5,365,591	437	45	-45	15	abandoned
QL-S10-044	292,198	5,365,585	437	45	-45	15	abandoned
QL-S10-045	292,171	5,365,287	416	45	-45	41.57	abandoned
QL-S10-046	292,171	5,365,287	416	45	-45	42	abandoned
QL-S10-047	291,732	5,366,191	407	45	-45	171	complete
QL-S10-048	291,816	5,366,148	414	45	-55	171	complete
QL-S10-049	291,620	5,365,944	417	45	-45	213	complete
QL-S10-050	292,090	5,365,794	434	45	-57	6.9	abandoned

**Figure 11.3 Plan of 2010 Drillholes**



### 11.5 Bulk Density Measurements

Bulk density measurements were taken from drill core and determined by the water immersible method. The samples were weighed in air, recorded, then placed in a water submersed basket suspended in the water and the weight was again recorded. The samples were not waxed or sealed. However AMC does not consider natural voids to be a significant issue with respect to bulk density determination and accepts the values as presented.

The formula used was as follows:

$$\frac{(\text{Sample weight in air})}{(\text{Sample weight in air}) - (\text{Sample weight in water})}$$

This was carried out on the 2009 drill core as all the 2010 core was on pallets and frozen at the time of carrying out this work. At least one sample was taken from each hole in the program for each of the main three rock types. All samples were NQ core and approximately 15 cm long. Fifty samples were taken from each rock type.

The work was supervised by Mitchell Lavery V.P. Exploration for CLQ and he chose the samples, recorded the weights and set up the Excel file. The average figures are shown in Table 11.5.

**Table 11.5 Bulk Density Values by Lithology**

Rock Type	Number of measurements	Average value t/m <sup>3</sup>
Granodiorite	50	2.77
Dykes	50	2.69
Volcanics	50	3.07

## 12 SAMPLE METHOD AND APPROACH

This text has been adapted from Lavery ME and Stone M, Technical Report of November 2010. As AMC has not seen the programs in progress it cannot directly comment on the work carried out. However during a field visit, the current core handling facility was seen, and after discussions held with Mr Lavery and Ms Stone, AMC are satisfied that the data was collected in a manner which meets appropriate industry standards.

### 12.1 Historic Data

There is no record in the historic information available specific to the sampling method of the underground or surface drill holes, or the analytical method used to determine the  $\text{Li}_2\text{O}$  content. A review of the drill logs indicates that sample intervals ranged from approximately 3 cm to 31m, with an average value of approximately 2.4m. Assay values in percent  $\text{Li}_2\text{O}$  are reported (typed or hand-written on drill logs) but no original assay certificates are available to confirm these grades. Eight hundred and six assays are reported in 61 of the surface drill holes. Some reported grades appear to be composites. There is no grade information available for the underground drilling. This is discussed further in Section 17.1.

### 12.2 2009 Drill Program

All drill core from the 2009 confirmation program was logged, split and stored in CLQ's core facility in Val-d'Or. The drill core was washed, photographed and logged prior to sampling. Core logging and sampling were carried out by CCIC Geologists, one of whom was responsible for managing and supervising the 2009 drill program on-site. Geological descriptions and geotechnical information was recorded directly into Coreview v. 5.0.0 software (Visidata Pty Ltd.), which was exported and backed up nightly on a secure data server.

Core samples were sawn in half. One half of the sampled interval was submitted for analysis and the remaining core was retained in the core box for reference and future verification or testing if required. The nominal sample interval was 1m, or less if the pegmatite was less than 1m in width. Lengths were adjusted as necessary to reflect geological and/or mineralization contacts. Pegmatite veins that were 0.4 to 1m in thickness were also sampled if spodumene was visible. Longer sample lengths were taken of strongly sheared core or sections with poor core recoveries. Twenty three hundred and forty two core samples were collected from 38 drill holes.

Drillhole intercepts are shown in Table 12.1 for a selection of the 2009 drill holes. The table also shows the relationship between core length and true width.

**Table 12.1 Selected Drillhole Intercepts from the 2009 Program**

Hole	From (m)	To (m)	Core Length (m)	True Width (m)	Li <sub>2</sub> O %
QL-S09-002	370.09	384.06	13.97	9.88	1.90
QL-S09-006W	450.10	492.80	42.75	29.16	1.12
QL-S09-009	9.25	19.35	10.10	7.70	1.44
QL-S09-014	103.15	127.20	24.05	17.76	1.42
QL-S09-012	216.6	218.95	2.35	1.66	2.38
QL-S09-016	260.05	322.66	62.61	54.22	1.33
QL-S09-018	104.25	111.00	6.75	5.85	2.18
QL-S09-020	62.40	64.70	2.30	1.63	2.05
QL-S09-023	157.56	160.56	3.00	2.60	1.95
QL-S09-023	164.00	166.11	2.11	1.83	1.96
QL-S09-027	29.72	34.40	3.40	2.40	2.11
QL-S09-033	432.32	437.36	5.04	3.56	1.43
Including	432.32	434.32	2.00	1.41	2.10

It was stated in Lavery ME and Stone M, Technical Report of November 2010 that there are no known drilling, sampling or recovery factors anticipated to result in a material sampling bias, or otherwise materially impact the accuracy and reliability of the Li assay results, and AMC agrees with that statement. Also in AMC's opinion, the sampling method used for the 2009 drilling program would produce representative samples of appropriate quality for Li analysis and resource estimation purposes.

### 12.3 2010 Drill Program

A new core facility was constructed in Val-d'Or in 2010 and all logging, sawing and storage equipment moved to the new facility. The 2010 logging and sampling was supervised again by a CCIC senior geologist, and logging undertaken by two CCIC geologists. The same protocols for logging, core cutting and sampling were used as per the 2009 drill program. Core samples were sawn in half. One half of the sampled interval was submitted for Li analysis. The nominal sample interval was 1m with more than 99.7% of the samples being 1 m or less. Lengths were adjusted as necessary to reflect geological and/or mineralization contacts which creates the samples of less than 1m length. A total of 1,454 core samples were collected from 41 drill holes.

Core recovery was excellent for both programs, and typically over 95%.

Drillhole intercepts are shown in Table 12.2 for a selection of the 2010 drill holes. The table also shows the relationship between core length and true width.

**Table 12.2 Selected Drillhole Intercepts from the 2010 Program**

Hole	From (m)	To (m)	Core Length (m)	True Width (m)	Li <sub>2</sub> O %
QL-S10-009	131.49	139.52	8.03	5.68	1.49
QL-S10-009	143.70	202.82	66.30	43.78	1.37
QL-S10-013	146.94	156.67	9.73	6.88	1.76
QL-S10-013	159.45	180.40	20.95	14.81	1.30
QL-S10-014	77.46	94.80	17.34	12.26	1.88
QL-S10-014	132.35	159.00	26.65	18.84	1.56
QL-S10-015	77.52	85.60	8.08	5.71	1.25
QL-S10-016	50.50	61.16	10.66	7.54	1.44
QL-S10-016	153.47	164.82	11.35	8.03	1.64
QL-S10-018	149.22	159.9	10.68	7.55	1.03
QL-S10-019	83.71	97.15	13.44	9.50	1.59
QL-S10-020	12.96	27.50	14.54	10.28	1.59
QL-S10-021	123.19	145.50	22.31	13.34	1.43
QL-S10-030	184.58	195.98	11.40	8.06	1.72
QL-S10-034	9.28	32.25	24.72	17.48	1.48
QL-S10-034	39.53	79.51	39.98	11.48	1.25
QL-S10-040	11.54	26.97	15.43	10.67	1.58

From what AMC has seen, the sample collection was of good quality. However sampling in the old holes was in part selective and neither the complete dyke sampled in many instances nor mineralization bracketed in the normal way. This can have implications for resource estimation unless recognized, and if non-sampled segments are not handled appropriately this can lead to overestimation issues. AMC's resource estimation procedure has handled the issue appropriately as is discussed in Section 17.

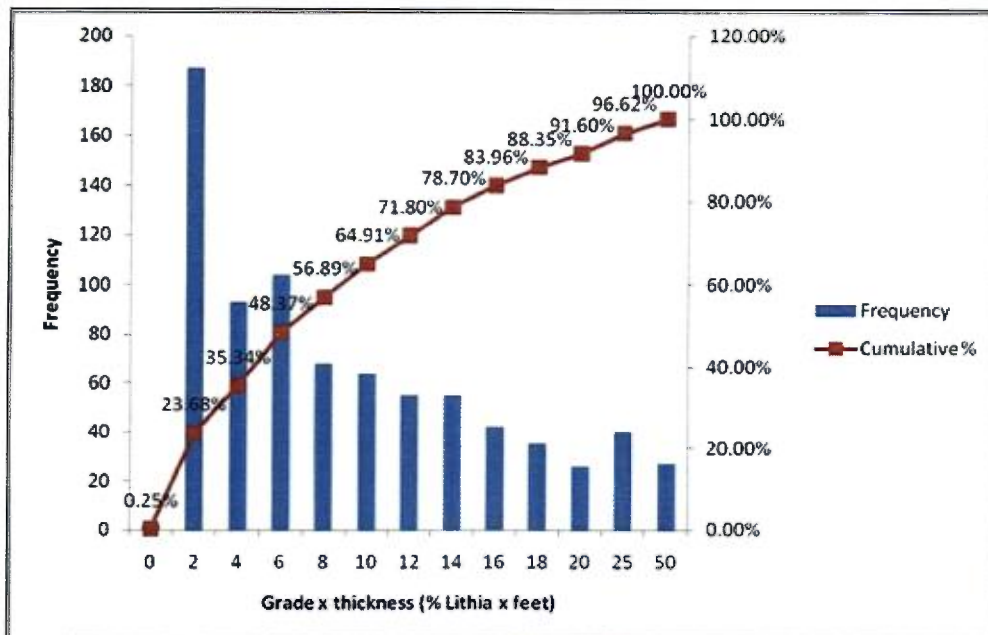
### 13 SAMPLE PREPARATION, ANALYSES AND SECURITY

This has been adapted from Lavery ME and Stone M, Technical Report of November 2010, which in part refers to earlier documents. As part of the review AMC has investigated the QA/QC data and replotted the 2010 control charts.

#### 13.1 Historic Data

There is no documentation of historic sample preparation, analysis or security measures undertaken by Quebec Lithium Corp., which completed the majority of the drilling on the Property prior to CLQ. However, as part of the historic data review undertaken by CCIC, 798 assays were compiled from 60 of the surface drill holes and entered into a database. Assay values are hand-written on the drill logs and expressed in percent Lithia (%Li<sub>2</sub>O). A few composited intervals were noted. Assay values ranged from 0 (probably less than detection limit of the assay method used) to 3.65% Li<sub>2</sub>O. A histogram of the length weighted or “grade x thickness” results of the historic assay information is shown in Figure 13.1. This shows that the predominate grade x thickness value is equivalent to 1% Li<sub>2</sub>O per 2 feet (approximately 60 cm) of material sampled. According to the comparison in Stone, M and Ilieva, T, Technical Report of April 2010, more than 50% of the samples report with the equivalent of 8 feet (approximately 2.5m at 1% Li<sub>2</sub>O).

Figure 13.1 Frequency Plot of Grade Thickness for Historic Data



### 13.2 Sample Handling and Preparation

During both the 2009 and 2010 drill programs, core was laid in wooden core boxes at the drill site, sealed with a lid and strapped with plastic bindings. The core was transported from the drill site by the drill contractor or CLQ personnel to CLQ's core facility in Val-d'Or. Upon arrival at the core facility, the core was washed, logged and split using a diamond blade saw under the on-site supervision of a CCIC geologist.

Core sampling was nominally done in 1m intervals through pegmatite. Half-core samples were taken sequentially down from the apparent stratigraphic top of the pegmatite. Samples were sawn wet to minimize dust production and potential related contamination. The saw and work area was cleaned after each sample was sawn. The saw blade was checked weekly for excessive damage and sharpness, and changed as appropriate. Core samples were sealed with a plastic cable tie in labeled plastic bags with their corresponding sample tag. The plastic sample bags were placed in large rice sacks and secured with tape and a plastic cable tie for shipping to the laboratory. The drill hole and sample numbers were also labeled on the outside of each rice sack and checked against the contents prior to sealing the sacks. Standards and blanks were inserted into the sample sequence prior to shipping. Samples from individual holes constitute individual batches of samples sent to the laboratory. If additional sample material was required from any drill hole, that material was considered a separate batch and not included with samples from another hole. In 2009 samples were delivered to SGS Lakefield by a CLQ representative. Sample shipments were recorded and tracked using an MS Excel worksheet. In 2010 due to a change of primary laboratory, samples were delivered by CLQ personnel to the ALS Laboratory Group (ALS) preparation facility in Val-d'Or.

### 13.3 Sample Analysis

In both years a primary laboratory and a check laboratory was used for the analyses. In 2009 the core samples were prepared at SGS Lakefield and analyzed in Lakefield or the Toronto laboratories using a sodium peroxide fusion with Atomic Absorption Spectrometry (method 9-8-40) to determine the %Li content. SGS monitored the quality of the assays with internal pulp duplicates, blanks and standards for every batch. SGS uses NBS-181 and NBS-183 standards as ore-grade lithium internal standards. Check samples were prepared for selected samples from a split from the pulps remaining after primary analysis. These samples were packaged by SGS Lakefield and sent by couriers to the ALS Vancouver laboratory.

Both SGS (Lakefield and Toronto) and ALS are accredited for ISO/IEC17025:2005 and ISO 9001 by Standards Council of Canada.

In 2010 the primary laboratory was ALS and the check laboratory was AGAT Laboratories Ltd. (AGAT). The samples were prepared at ALS Val-d'Or and analyzed in Vancouver using a four-acid digestion with ICP-AES Finish (method Li-OG63) to determine the percent (%) Li content of the pulverized core samples. ALS monitored the quality of the assays with internal pulp duplicates, blanks and standards for every batch. ALS uses NBS-181 as an

ore-grade lithium internal standard. Check analyses were completed on specially selected samples from a split from the pulps remaining after the pulps were returned to CLQ in Val-d'Or. These samples were sent by courier to AGAT's laboratory in Mississauga, Ontario. These check samples were also analyzed by ICP-AES following four acid digest which is AGAT's method 201070, and this determined the ppm Li content for the pulverized core samples. Replicate analyses and blanks were used by AGAT to monitor assay quality.

Both ALS and AGAT are accredited for ISO/IEC 17025:2005 and ISO 9001 by Standards Council of Canada.

### **13.4 Assay QAQC**

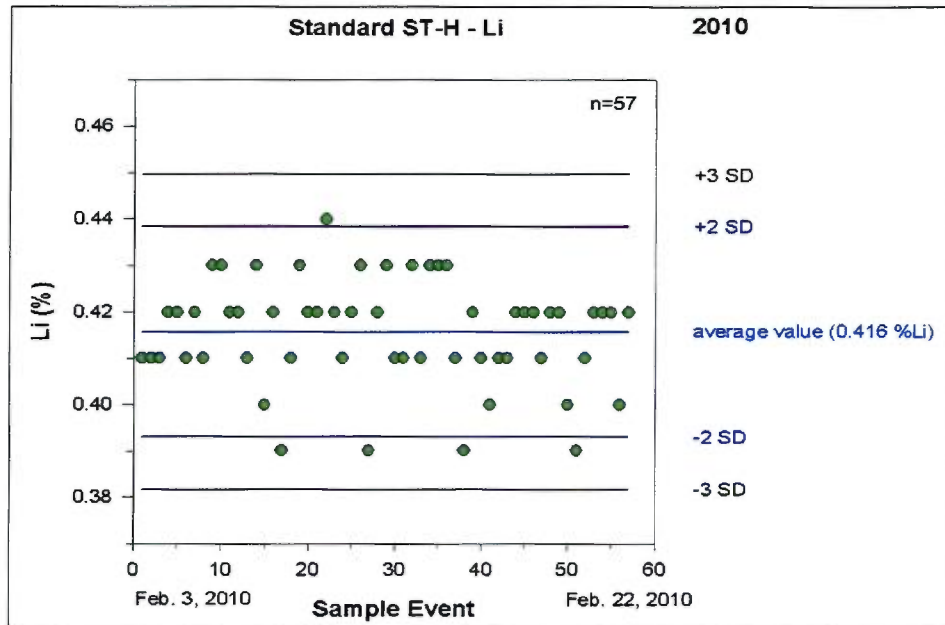
For each program, QA/QC protocols included the insertion of standards and blanks (silica sand) directly into the sample sequence. In addition a number of pulps were sent to a secondary laboratory as a check. These three activities are summarized below and discussed more fully in Stone, M. and Ilieva, T., Technical Report of April 2010, for the 2009 drilling and Lavery ME and Stone M, Technical Report of November for the 2010 drilling. In both drilling campaigns the protocols were the same.

#### **13.4.1 Standards**

Every batch of sample sent to the labs had a minimum of two Li standards included. High and low grade Li standards were prepared by Geoscience Laboratories (Geo Labs), Sudbury, Ontario from a Spd concentrate obtained from the "Tanco" mine in Manitoba owned by the Cabot Corporation. These standards were termed ST-H and ST-L. Graphs were prepared by AMC from the data for 2010 and replicate the data presented in the earlier report, (Figure 13.4 and 13.5). As AMC were not provided the 2009 data the graph included is from the Stone, M and Ilieva, T, Technical Report of April 2010.

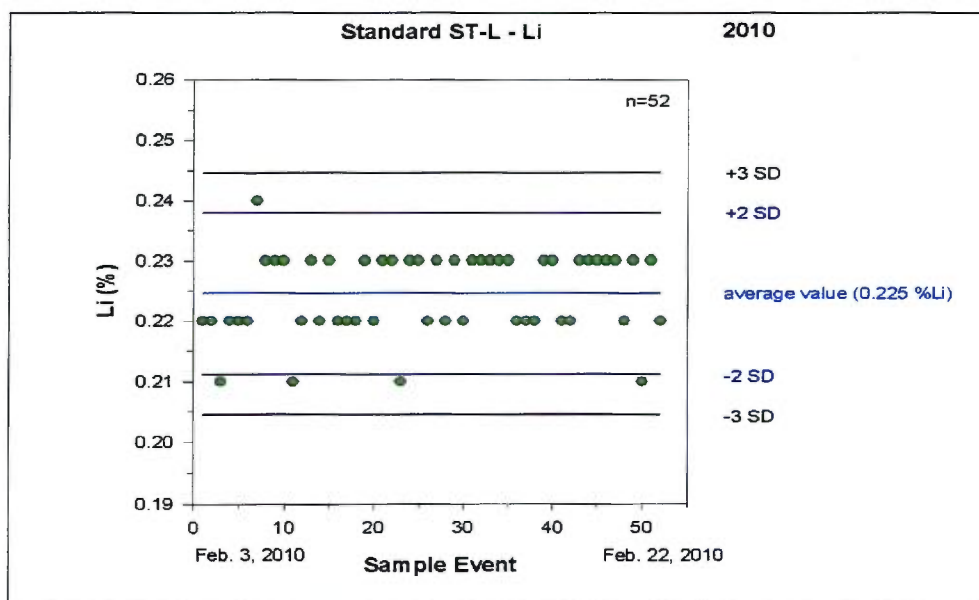
Based on 57 assays of ST-H by SGS in 2009, the average value of the high grade standard was determined to be 0.416% Li with a standard deviation of 0.011% Li. All of the assays of ST-H passed and there is no bias, as shown in Figure 13.2. Note that the dates are shown as February 2010 because the 2009 drilling program was completed at the end of 2009.

Figure 13.2 Control Chart for 2009 High Grade Standard



In 2009, ST-L was determined to have a value of 0.225% Li and one standard deviation of 0.007% Li based on 52 analyses at SGS. All of the assays of ST-L passed and there is no bias, as shown in Figure 13.3.

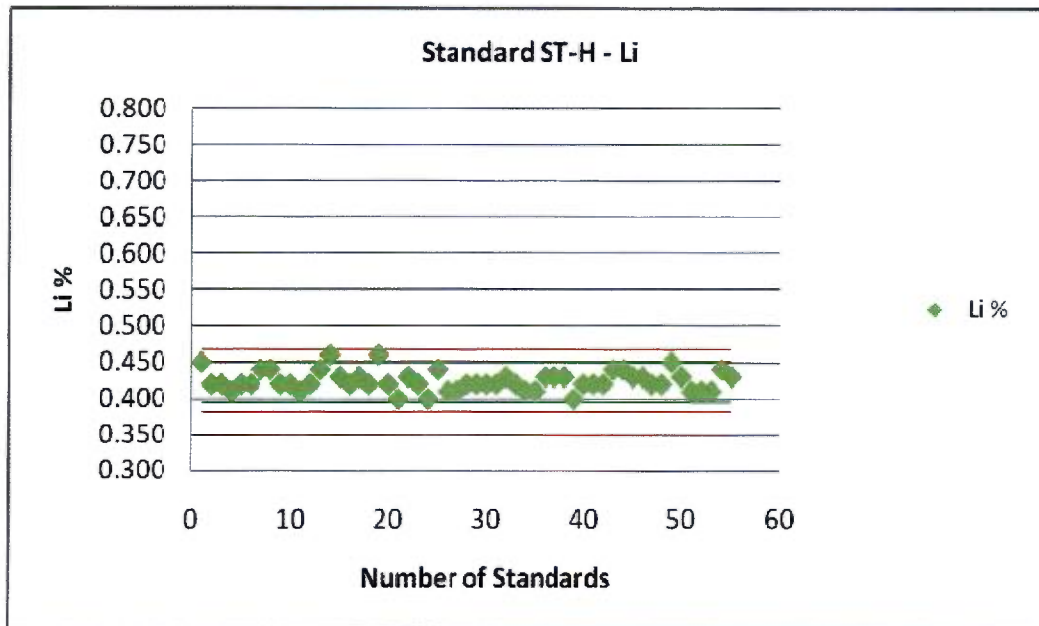
Figure 13.3 Control Chart for 2009 Low Grade Standard



It should be noted that in 2009 there was an issue with the primary laboratory and results were lower than the expected value of the external standards. After an investigation it was determined that the procedure for sample preparation was not being followed and samples analysed up to that point were reanalysed by the primary laboratory. This is discussed in Stone, M and Ilieva, T, Technical Report of April 2010 page 140. This also explains the dates in Figures 13.2 and 13.3 as the data presented consists of the reanalysed samples and there was a gap between drilling and the analysis.

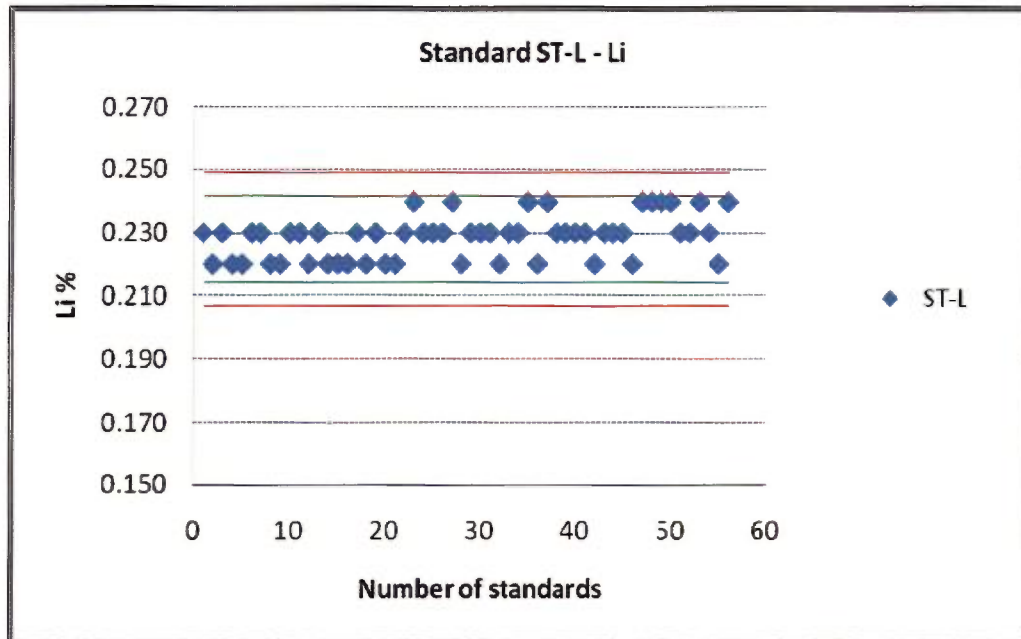
In 2010, the average value of ST-H was determined to be slightly higher at ALS with value of 0.424% Li and a standard deviation of 0.014% Li. Three samples had warnings and one sample was shown having failed in the earlier report. In AMC's validation of the QA/QC data it was found that this failure was due to the value attributed to the standard being actually the value of the adjacent sample. However this error was not carried through to the database.

**Figure 13.4 Control Chart for 2010 High Grade Standard**



In 2010, based on the analysis of 56 samples at ALS, the average value of ST-L was reported as 0.229% Li with one standard deviation of 0.007%. All of the St-L determinations had assay values within  $\pm 2$ SD and were therefore within acceptable limits, as shown in Figure 13.5.

Figure 13.5 Control Chart for 2010 Low Grade Standard

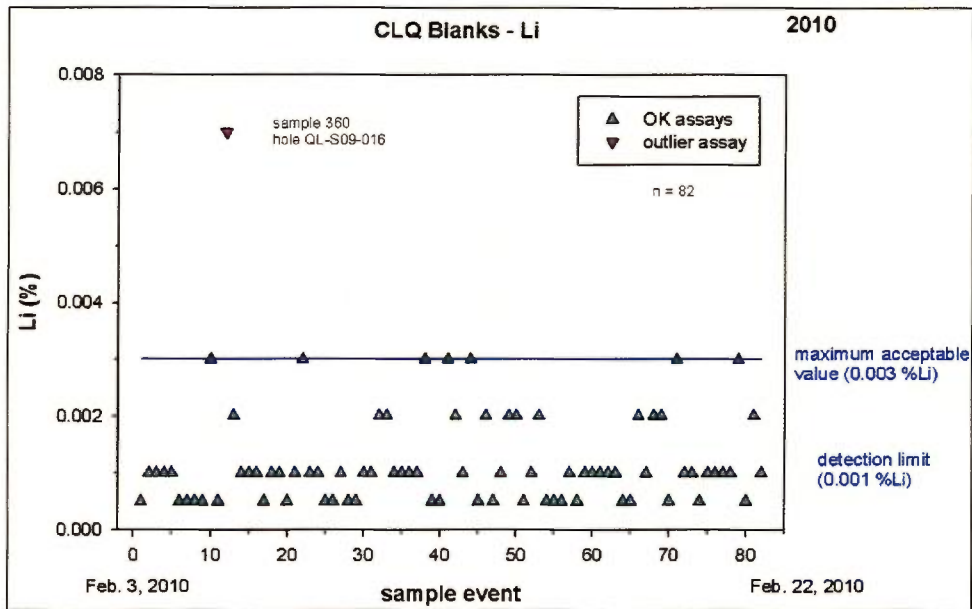


#### 13.4.2 Blanks

Blank material were silica sand and were routinely inserted initially every 10<sup>th</sup> sample in sequence but later in a more random fashion. Plots for the 2009 and 2010 data are shown below in Figures 13.6 and 13.7.

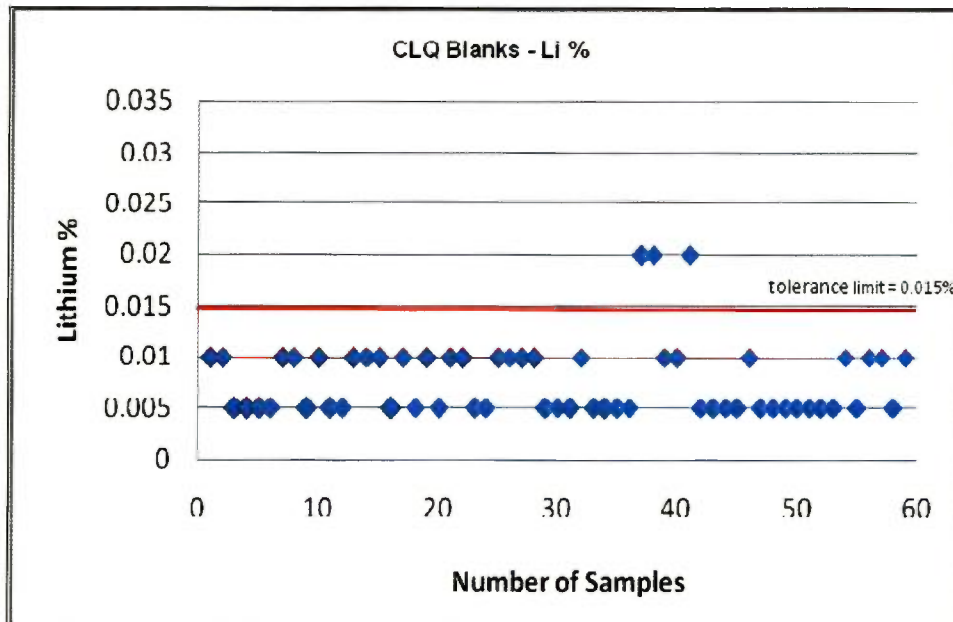
In 2009 the correlation was excellent with only one blank failure (sample 360 from drillhole QL-S09-016), which is ascribed to contamination from a previous high grade sample. It is not clear if this was followed up. There were also seven minor failures which are equal to the maximum acceptable value of 0.003% Li and are not a cause for concern.

Figure 13.6 Control Chart for 2009 Blanks



In 2010, three samples have values of 0.02% Li and could represent low grade contamination during preparation from the previous mineralized sample. In the CLQ analysis the upper tolerance limit was stated as 0.03% Li. However the detection limit stated for the ALS method is 0.005% Li thus the previous graph is incorrect. The redrawn graph is shown as Figure 13.6.

Figure 13.7 Control Chart for 2010 Blanks

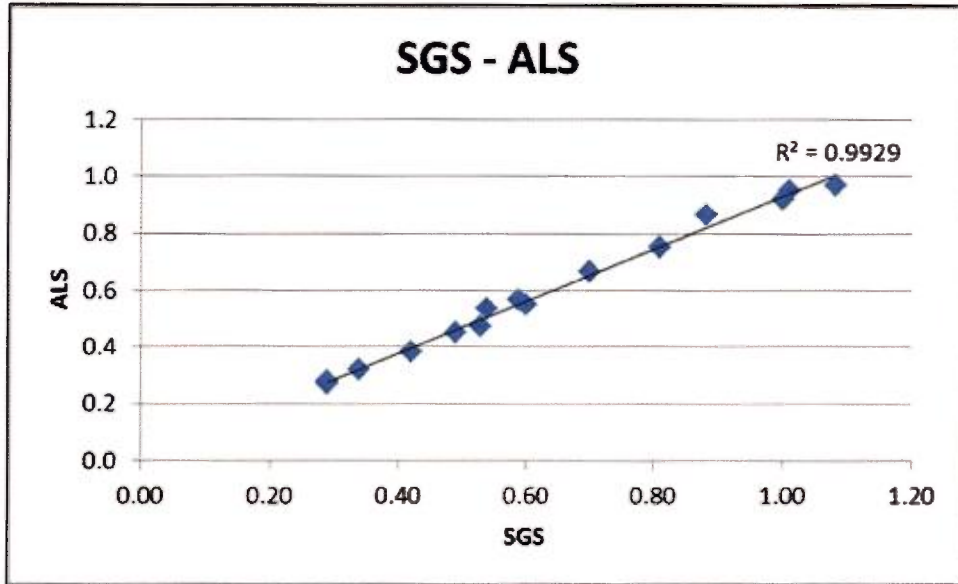


The majority of the samples cluster at the detection limit of 0.005% with three samples at 0.02%Li above the maximum allowed. This is not deemed significant.

### 13.4.3 Inter Laboratory Check Assays

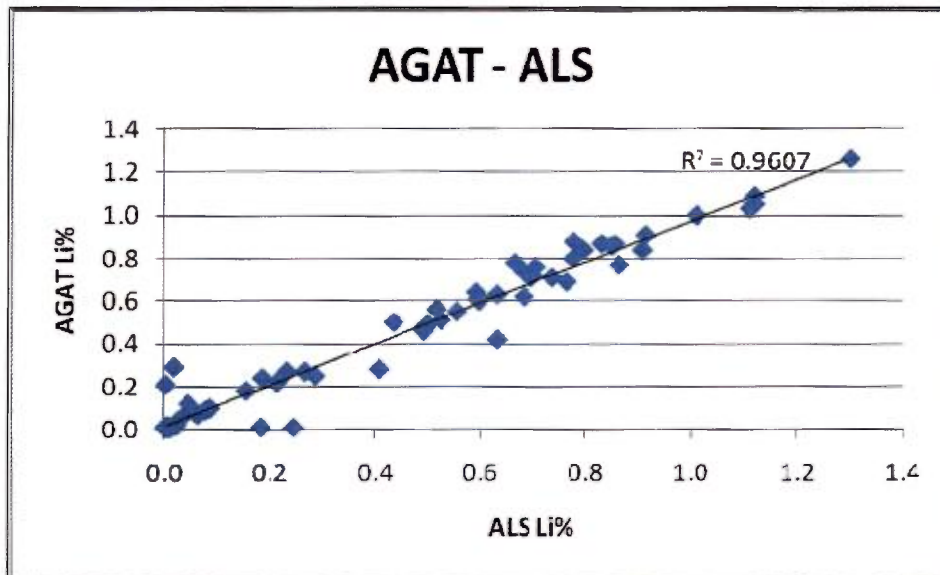
In 2009, CLQ sent splits of approximately 10% of the drill core pulps to ALS for check analysis. The pulp duplicates included all of the high grade >2.25% Li<sub>2</sub>O samples and randomly selected samples from 0.5 to 2.25% Li<sub>2</sub>O. In addition, ten samples of standard ST-L, five samples of ST-H and one sample of the blank were sent to both ALS and SGS. The initial plots identified some mislabelling issues and another due to use of method ME-MS61, which is close to the upper limit for this method. Figure 13.8 shows the plot of the corrected figures. There is a full discussion on this in Stone, M and Ilieva T, Technical Report of April 2010.

Figure 13.8 Scatter Plot for 2009 Checks



After the 2010 drilling program 68 primary ALS pulp samples were sent from the CLQ core facility in Val-d'Or to AGAT's Laboratory in Mississauga, Ontario, by courier. The analyses show an excellent correlation with the original Li% values in Figure 13.8.

Figure 13.9 Scatter Plot for 2010 Checks



AMC is satisfied with the QA/QC program that was carried out and believes that the sample preparation, security and analytical procedures were reasonable. The re-assaying in 2009

demonstrates a diligence and follow up to non-compliance, however from the reports it is not evident that this has always been done. For example, blank sample 360 from drillhole QL-S09-016 has been highlighted but it is not clear to AMC that corrective action was taken.

There is not a database of the QA/QC data, thus over time this data can become "lost", so a database for this data is recommended.

It had been recommended in earlier reports that a number of certified reference standards should be prepared. AMC agrees with this recommendation. As this takes time it should be initiated soon.

## 14 DATA VERIFICATION

A number of verification checks were carried out by AMC, in addition to those carried out in using the data.

### 14.1 Assay checks

The source data was compared to the database by comparing the drill logs in the case of the historical or LV holes, and the assay certificates in the case of the 2009 and 2010 drilling. Initially a 5% sample of the population was checked but this was expanded as small errors were found.

#### Historical holes

A total of six holes out of the 61 in the database with assays were validated which represents 10% of the samples. The logs are typewritten for the most part with the sample information hand-written on the pages. Two small reading / typographical errors in the  $\text{Li}_2\text{O}$  grade were seen in LV 52 which are insignificant.

#### 2009 Drill Holes

A total of six holes out of the 38 in the database with assays were validated which represents 9% of the samples. The data was sourced from the SGS Assay Certificates. No errors were found.

#### 2010 Drill Holes

A total of eight holes out of the 49 in the database with assays were validated which represents 20% of the samples. The data was sourced from the ALS Assay Certificates. A total of three errors were seen in two holes which seem to be due to the removal of the QA/QC data from the reported results. As this should be automated these errors should not occur.

### 14.2 Historical Azimuths and Dips

A comparison was made of the azimuths and dips as recorded in the historical drill logs to the database. This was done for the whole population which was 45 holes. Eight small changes were made in the database, the largest of which was an azimuth change from N 171.7° to N 17.2° in LV 42

#### Collars

Collars were validated in several ways, with some of the validation and checking occurring when working with the data.

The 2010 collars were checked against the surveyor's certificates. There were small differences discovered in four holes, one of which appeared to be the insertion of the coordinates of an adjacent hole. These have all been corrected.

The 2009 collars were also checked against the surveyor's certificates. There were some minor differences which were changed.

The historical holes were in an imperial grid so to carry out a rough check the holes were plotted from the imperial coordinates on the drill logs to review the locations relative to a plot from the database. It was found that holes LV58, LV59 and LV60 drilled on the same section, had been mislabeled and were corrected.

### **14.3 Other**

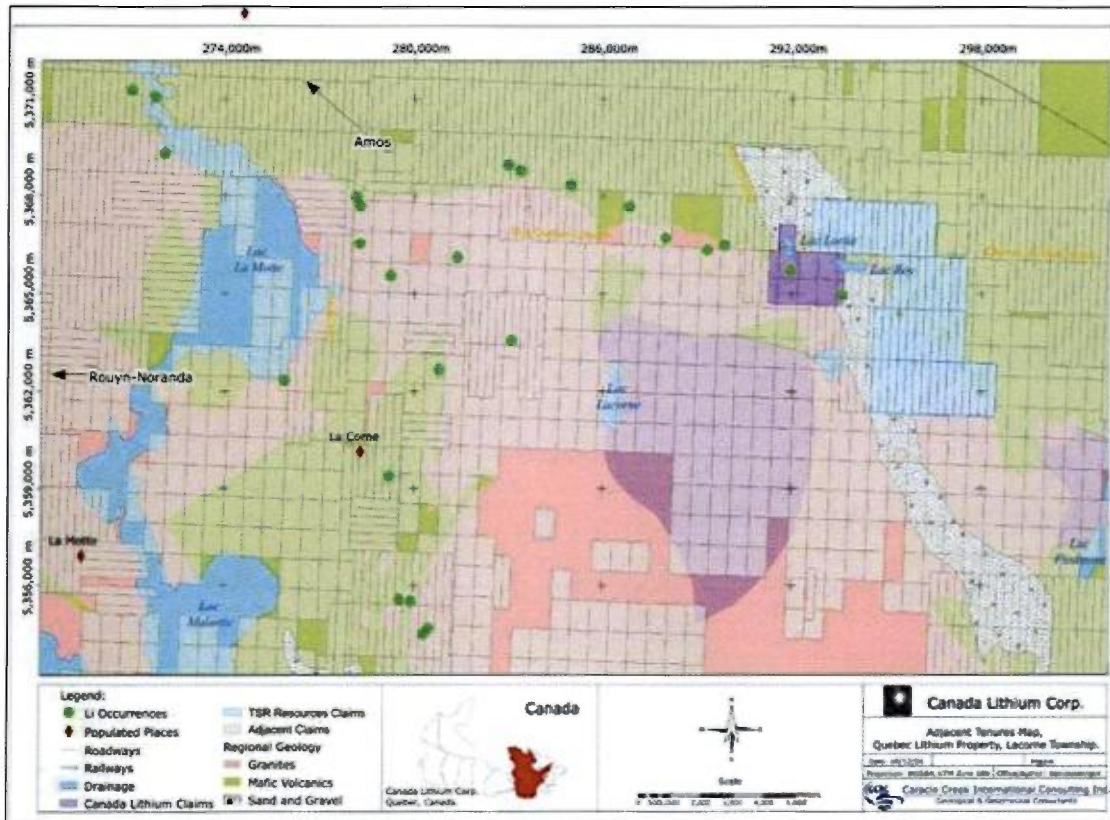
There is an anomaly in the geology interpretation and grade data through holes S10-009, 010 and 048. This is on the fringe of the deposit and may be due to faulting. This issue will require further effort through investigation, interpretation or drilling. The intersection in S10-009 has not been used in domaining or estimation in AMC's resource model.

AMC believes that in general a fair job was done on the handling of the data. In view of the fact that errors have been detected within the assay database, which should have been drawn into the master database electronically and therefore should not have random errors, it is suggested that, as part of a process of creating a master database for ongoing work, the original assay data from the laboratories should be sourced and used for input into the database. The usual QA/QC systems should also be put in place and there should be no copies of the master database made. The database needs to be under the control of a database manager who will verify all data prior to its inclusion and who will also be in control of any changes made within it.

## 15 ADJACENT PROPERTIES

The Property is surrounded by active claims which cover 18 known lithium occurrences that are located between Lac La Motte and Lac Roy. A claim map is shown in Figure 15.1 in which the green dots are occurrences of lithium (occurrences taken from Mulligan, 1965).

**Figure 15.1 Claim Map of Adjacent Properties**



There are also past producing mines in addition to Quebec Lithium, as listed below:

Preissac Moly. Operated as an underground mine and produced 2,235,880 tonnes grading 0.19% Mo and 0.03% Bi from 1943 to 1944 and 1962 to 1971. (MRNFQ Report DPV 619).

Cadillac Moly. Operated as an underground mine and produced 1,761,000 tonnes grading 0.83% Mo, 0.04% Bi and 0.45 g/t Ag from 1965 to 1970. (MRNFQ Report DV-85-08).

Lacorne Moly. Operated as an underground mine and produced 3,828,844 tonnes grading 0.33% Mo and 0.04% Bi from 1954 to 1972. (MRNFQ Report GM 28882).

Some information on companies exploring for lithium in the area is given below.

### **15.1 Candorado Operating Company Ltd**

Candorado Operating Company Ltd. entered into an option agreement with two private individuals, to acquire 100% interest in 29 mineral claims totalling 1,289.95 hectares located approximately 8 km west of the Property. The reader is referred to Lavery ME and Stone M, Technical Report of November 2010, for the information. AMC has not been able to validate or update this information

### **15.2 Jourdan Resources Inc**

Jourdan Resources Inc. (Jourdan) acquired three properties, the Vallée, Lacombe and Baillarge Lithium Properties collectively called the Barraute Lithium Project. These are in proximity to the CLQ Property, as announced in its news release of January 2011. From a later news release dated April 28, 2011, Jourdan announced the start of a 3,000 metres diamond drilling program on the Vallée Property, which sits contiguous to the east and south of the CLQ Project. The aim of the program is stated to be to identify the same lithium bearing pegmatites along the 1.8 km strike of the property as those found on the adjacent and contiguous CLQ Project in order to potentially define mineral resources in the near term.

### **15.3 TSR Resources Inc**

TSR Resources Inc. is a private Quebec company that holds 104 claims in Fiedmont and La Corne Townships. Its claims are located approximately 3 km to the southeast of the Property. A ground geophysical survey was completed in April 2010 by TSR according to the MNRF website.

## 16 MINERAL PROCESSING AND METALLURGICAL TESTING

### 16.1 Introduction

This section has been summarized from the FS documentation which was reviewed by Alan Riles of Riles Integrated Resource Management Ltd. In addition, the reader is referred to Lavery ME and Stone M, Technical Report of November 2010. However this section has also been updated for more recent testwork.

Many of the documents relating to production and concentration of spodumene ore were lost or destroyed after the mine was closed in the 1960s. However, historic records show that the crushing and grinding plant had sufficient capacity to handle approximately 900t of ore per day with production of approximately 169 tons of spodumene concentrate at an average grade of approximately 5.78% Li<sub>2</sub>O. The historic processing method is described in the SNC (1974) and Karpoff (1993) reports, and summarized in the report above.

### 16.2 Summary of Sampling for Metallurgical Testwork

Initially material for preliminary testwork was obtained in 2008. There was more material collected later as described under field programs in Section 10. Table 16.1 below summarizes the material collected for this purpose over time with some comments.

**Table 16.1 Metallurgical Samples Collected**

Date	Sample type	No	Meters	Comments
June 2008	Drill holes	8	n/a	400 kg incl rock samples supplied to SGS
July 2008	Rock	-	-	
November 2009	Outcrop	-	-	600 kg supplied to SGS
Dec' 09 - January 2010	Drill holes	67	1,010	4,652 Kg supplied to SGS

In each case the samples were packed in rice bags that were sealed with tape and plastic cable ties, and delivered by a CLQ representative to SGS Lakefield.

### 16.3 Summary of Metallurgical Testwork

The metallurgical testwork program and process plant design is the subject of the Quebec Lithium Feasibility Study Report of December 2010 by BBA Engineering. The mine study having been reported separately, this Feasibility Study Report focused on the process plant design to treat 1.17% Li<sub>2</sub>O ore and produce approximately 20,000 tpa of >99.5% purity Li<sub>2</sub>CO<sub>3</sub> suitable for battery application.

The key outcomes of this report are summarized here.

The testwork was carried out in two phases. Phase 1 was based on eight holes drilled specifically for metallurgical testing purposes and not surveyed nor logged. This material was supplemented by outcrop samples to a total weight of 400 kg and sent to SGS

Lakefield. The head grade was 1.61%  $\text{Li}_2\text{O}$ , significantly higher than the resource grade of 1.17%  $\text{Li}_2\text{O}$ .

A programme of dense medium separation, gravity concentration and flotation followed by bench scale decrepitation / roasting / water leach was carried out from which a conceptual flowsheet based on flotation and hydrometallurgical treatment of the spodumene concentrate to produce  $\text{Li}_2\text{CO}_3$  was developed.

Phase 2 was an extensive programme of bench scale and pilot plant testwork, also largely at SGS Lakefield, to validate and optimize the Phase 1 flowsheet, provide sufficient spodumene concentrate for the hydrometallurgical testing, and provide plant design data.

The sample consisted of NQ core rejects from the previous phase, HQ core from 67 short holes drilled for metallurgical purposes and again supplemented by outcrop samples to make up 6,635 kg of the "mine representative sample". The assay was 1.22%  $\text{Li}_2\text{O}$ , much closer this time to the resource grade.

In addition, 11 variability samples were prepared from NQ holes to represent variability across the orebody and variability in grade.

Comminution results showed the ore to be soft-medium with a BWI of 13.2 and showing little variability across the orebody or with grade.

A comprehensive programme of flotation testwork was performed to investigate the merits of scrubbing and desliming and test sensitivity to grind size and collector choice, and which also included locked cycle tests. Despite the lithium losses associated with the desliming stage, this was deemed necessary as the overall grade-recovery performance was improved. The locked cycle tests achieved concentrate grades over 6%  $\text{Li}_2\text{O}$  and recoveries of 82-85% and these parameters were also confirmed in the pilot plant tests.

The various stages of the hydrometallurgical process ie decrepitation / sulphation, water leach, solution purification, including ion exchange polishing, were extensively tested in batch and pilot runs including some work carried out at the METSO pyrometallurgical facility and also vendor tests for the various solid/liquid separation steps.

Battery grade 99.96%  $\text{Li}_2\text{CO}_3$  lithium carbonate product was successfully produced, with the only product quality concerns being elevated aluminium and sulphur levels for which a bicarbonate polishing step was successfully tested but not included in this flowsheet pending further evaluation during the detailed engineering phase to follow. Similarly some final optimization work will also be completed in that detailed engineering phase.

The overall lithium recovery for the flowsheet is 67.6%, with 80.5% lithium recovery in the mineral processing section and 84% in the hydrometallurgical section.

A critical operational element will be the water balance, it being necessary to balance scarce raw water supplies with the impurity impacts of recycling tailings water. A fully integrated pilot programme of the full flowsheet would help address this issue.

#### 16.4 Process Plant Description

The mineral processing and hydrometallurgical flowsheets have been determined from the testwork and will be discussed in a future Technical Report to be prepared by another party. Only a summary is presented here.

The front end mineral processing section consists of a conventional rod mill/ball mill circuit to minimize fines generation, followed by scrubbing and desliming then a flotation circuit with rougher and scavenger cells and two stages of concentrate cleaning to produce a spodumene concentrate.

Dense media separation as a means of upgrading the ore prior to flotation was not included in the present flowsheet due to high lithium losses.

The spodumene concentrate produced in the mineral processing section is treated in the hydrometallurgical section of the plant to produce a battery grade lithium carbonate product.

The hydrometallurgical section consists of concentrate calcining in a rotary kiln, sulphation with acid, water leaching, two stages of pregnant leach solution purification, further solution cleaning by ion exchange and lithium carbonate precipitation. Sodium sulphate, which is generated in the lithium carbonate precipitation step, is removed from the circuit by distillation and crystallization as a by-product.

AMC concludes from the FS report that sufficient metallurgical testwork and process design has been carried out on a representative sample of the resource to support a viable recovery process to a saleable product and with appropriate recoveries.

Some final optimization work is still required during the detailed engineering phase to follow but no material changes to the flowsheet are anticipated.

## 17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

### 17.1 Introduction

The mineral resource has been estimated by Ms D Nussipakynova, P.Geo of AMC, who takes responsibility for the estimate, under the supervision of Mr J M Shannon, P.Geo of AMC. This model and estimate supersedes the 2010 mineral resource estimate, prepared by M Stone, P.Geo, Geologist, CLQ, and reported in Lavery and Stone, Technical Report of November 2010. The model has been completely rebuilt but relies on the same data as the 2010 report, which includes data from CLQ's 2009 and 2010 drill programs as well as a certain amount of historical data. All the modelling and the estimation was carried out in Datamine software and the completed model is named AMC0511.

The summary results of the estimate at a cut off of 0.8% Li<sub>2</sub>O are shown in Table 17.1 below.

**Table 17.1 Mineral Resources as of May 2011**

	<b>Tonnes (M)</b>	<b>Grade %Li<sub>2</sub>O</b>
Measured	6.10	1.16
Indicated	23.19	1.20
Measured and Indicated	29.30	1.19
Inferred	20.94	1.15

Notes: 1.CIM definitions were used for mineral resources  
2.The cut offs applied are 0.80% Li<sub>2</sub>O for all classes  
3.The reported resources are rounded to nearest 10,000 tonnes and 0.1 % Li<sub>2</sub>O  
4.These resources have been depleted for historical mining.  
5.Material estimated to be remaining in stopes is accounted for.

### 17.2 Data Used

#### 17.2.1 Drillhole Database

The data used in the estimate consisted of drillhole data in an Access database provided by CLQ to AMC. This included all data that had been captured including all historic holes for which there were incomplete records. The data type and number of holes used is shown in Table 17.2.

**Table 17.2 Data used in 2011 AMC Resource Estimate**

<b>Type of hole</b>	<b>No</b>	<b>Year</b>	<b>Comments</b>	<b>Used</b>
Underground	412	Historic	No assays for all, 2 holes missing collars and surveys	0
Surface	79	Historic	20 holes has no assays, 22 holes has no collars	37
Surface	39	2009		39
Surface	49	2010		49
All	579	Total		125

### 17.2.2 Pseudo-Holes

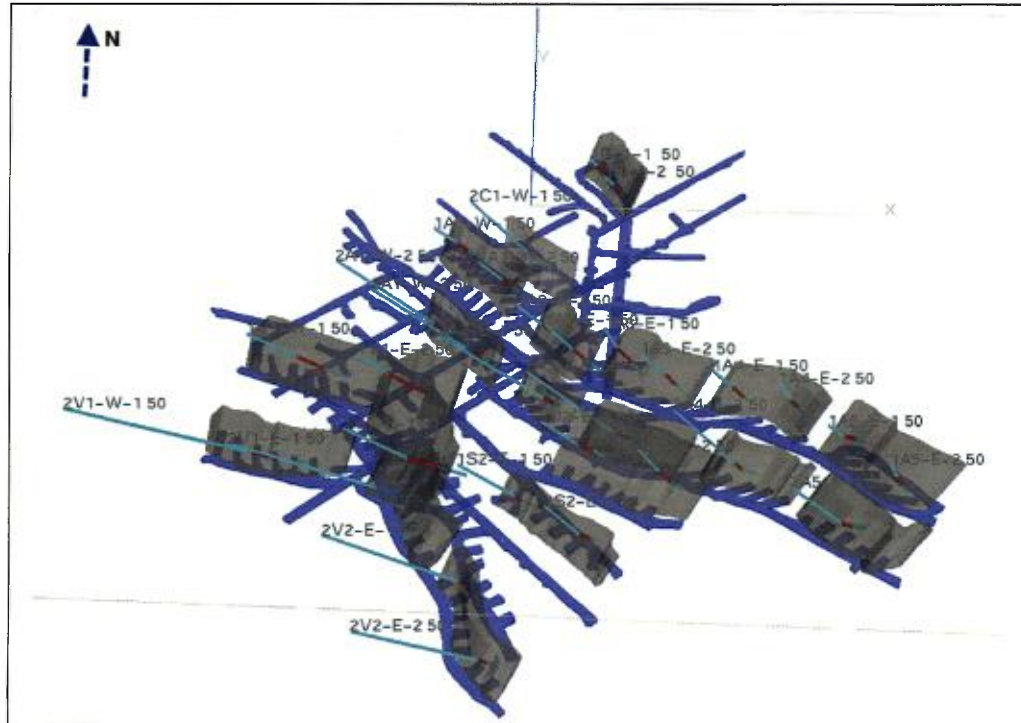
Within the stoped-out area where much of the raw data is missing, pseudo-holes were created to honour the data originally captured in that area. A pseudo-hole was created intersecting each stope and using the stope grade listed in Table 17-4 in Lavery ME and Stone, M, Technical Report of November 2010. The location of these holes was created in Datamine by making a trace and converting this to a drillhole. The intersections were registered to the top and bottom of the stope surfaces. A list of the pseudo-holes and the assigned grades are shown in Table 17.3.

**Table 17.3 Pseudo-Holes and Assigned Grades**

Hole No	From	To	Length	%Li <sub>2</sub> O
1A1-W-1	22.6	32.9	10.2	1.15
1A1-W-2	25.3	33.9	8.6	1.15
1A2-E-1	33.0	45.6	12.6	1.07
1A2-E-2	27.4	40.6	13.2	1.07
1A3-E-1	21.0	42.0	20.9	1.29
1A3-E-2	32.6	48.9	16.3	1.29
1A4-E-1	30.0	47.5	17.5	1.13
1A4-E-2	26.6	35.9	9.3	1.13
1A5-E-1	25.7	39.4	13.7	1.12
1A5-E-2	22.5	36.5	14.0	1.12
1B-1-1	8.8	20.3	11.5	1.15
1B-1-2	12.9	21.2	8.3	1.15
1S2-E-1	55.2	62.9	7.7	1.25
1S2-E-2	43.4	54.1	10.7	1.25
1U2-E-1	43.3	58.6	15.3	1.25
1U2-E-2	31.9	47.4	15.5	1.25
1V1-E-1	50.8	76.1	25.2	1.12
1V1-E-2	30.0	65.5	35.5	1.12
1V1-W-1	40.4	63.8	23.3	1.25
2A1-W-2	93.9	103.3	9.4	1.15
2A1-W-3	96.2	105.0	8.9	1.15
2A2-E-1	103.7	113.7	10.0	1.07
2A3-E-1	101.5	118.9	17.4	1.31
2A4-E-1	96.7	108.5	11.7	1.13
2A5-E-1	86.7	101.4	14.7	1.12
2C1-W-1	77.6	80.1	2.5	0.95
2V1-E-1	126.6	136.2	9.5	1.12
2V1-W-1	119.0	139.9	20.9	1.27
2V2-E-1	109.8	114.8	5.0	1.17
2V2-E-2	101.2	109.3	8.1	1.17

The pseudo-holes and their relationship to the stopes is shown in Figure 17.1. Note that the holes are in blue and the stopes in grey with other development in blue.

**Figure 17.1 Relationship of Pseudo Holes to Mined Area**



It has proved extremely difficult for CLQ to drill holes within the mined area, despite considerable effort. This is due to hitting openings and having to abandon holes. AMC has requested further attempts but meantime considers the use of the pseudo-holes as being a fair way to represent the old lost data.

### 17.2.3 Bulk Density

The collection of bulk density measurements is described in Section 11. The bulk density values used for the main rock types are shown in Table 17.4.

**Table 17.4 Bulk Density Values used in Estimate**

Rock Type	Number of measurements	Assigned value t/m <sup>3</sup>
Overburden	0	2.00
Granodiorite	50	2.77
Dykes	50	2.69
Volcanics	50	3.07

## 17.3 Domain Modelling

### 17.3.1 Geology Model

The geology model is composed of the three main rock types plus overburden as shown in Table 17.5 below. The pegmatite dykes are individually modelled and are given a zone name. Those dykes which form the mineralized domains are discussed further in Section 17.3.3.

**Table 17.5 Rock Codes Used**

Rock Type	Rock Code
Granodiorite	100
Pegmatite Dyke	Zone # 1 – 46
Mafic Volcanic	200
Overburden	300

Other rock types such as amphibolite and schist are included within the mafic boundary. Some logging issues and lack of continuity negated breaking out these individual units.

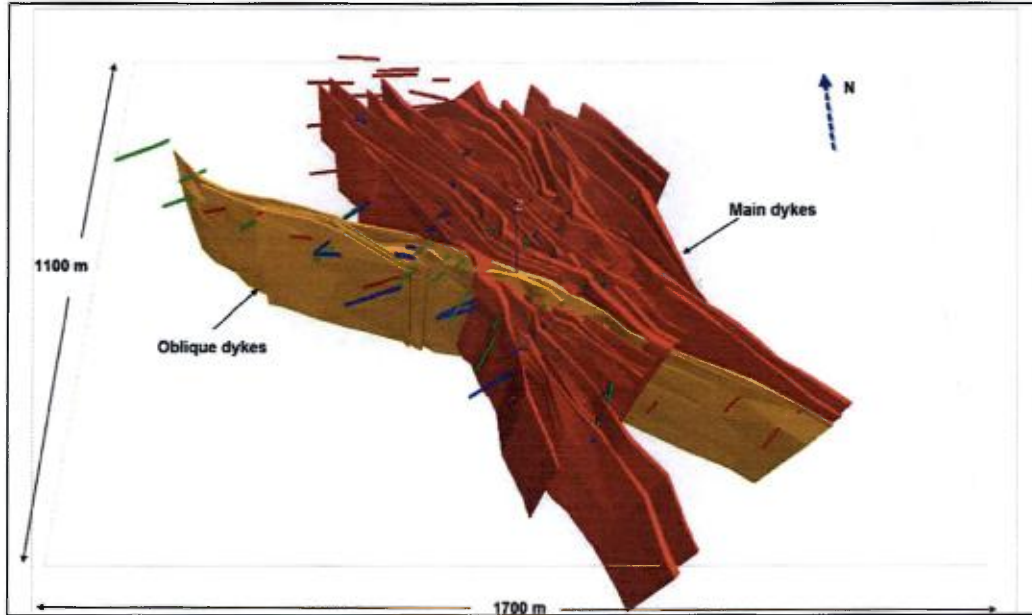
The pegmatite units are very distinct.

A separate wireframe was created for overburden which includes intervals coded as "casing".

### 17.3.2 Mineralized Domains

The mineralized domains are actually the dykes as constructed in the geology model, calibrated by grade such that barren dykes were not included. While the domains in the 2010 model were broader and incorporated multiple dykes, each dyke in the AMC model is modelled as an individual domain. Thus all significant dykes are modelled and the estimation only carried out within these domains. The new interpretation of the mineralized dykes created a model of 46 separate dykes in total. Of this total, 41 dykes belong to the main trend and five dykes to the oblique set, which has different direction and crosses the main group. Each dyke has an individual zone number. The two orientations and the total dyke swarm as modelled is shown in Figure 17.2 below.

Figure 17.2 Mineralised Domains



### 17.3.3 Stopes

The stopes which were historically mined within the AMC 0511 block model are quite confined and consist of 19 voids. These voids are open except for broken material remaining which were estimated by Karpoff in 1993 as approximately 274,000 tonnes. These remaining tonnages are itemized in Table 4 of the 1993 Karpoff report, and reworked into Table 17.6 below. This tonnage was translated into a percentage mined which was applied to a stope block model which was then merged with the AMC 0511 block model. This then gives a fair reflection of the stope voids, some of which are partially filled with broken muck.

Table 17.6 Stopes within AMC 0511 Block Model

Original "Reserves"	Remaining "Insitu Reserves"	Depleted "Reserves"	Remaining "Broken Reserves"	Remaining	Mined out
Karpoff	Karpoff	Calc	Karpoff	Calc	Calc
Tonnes	Tonnes	Tonnes	Tonnes	%	%
1,894,108	567,918	1,326,190	273,841	20.6	79.4

Notes: Columns from report noted as "Karpoff"

Tonnes are taken directly from the report and thus not rounded

The "Reserves" are historic, do not comply with NI 43-101, have not been verified by a Qualified Person, are not being treated as current reserves by AMC or CLQ and should not be relied upon.

Elsewhere in the documentation it is said that there is 227,000 tonnes remaining. This may be a difference between survey tonnes and calculated from tonnes removed from reserves.

## 17.4 Statistics and Compositing

### 17.4.1 Statistics

The data was examined statistically in several ways as shown in Table 17.7, which summarizes the data selected within the pegmatite dykes for both raw data and for the composites. This is the data used in the estimate.

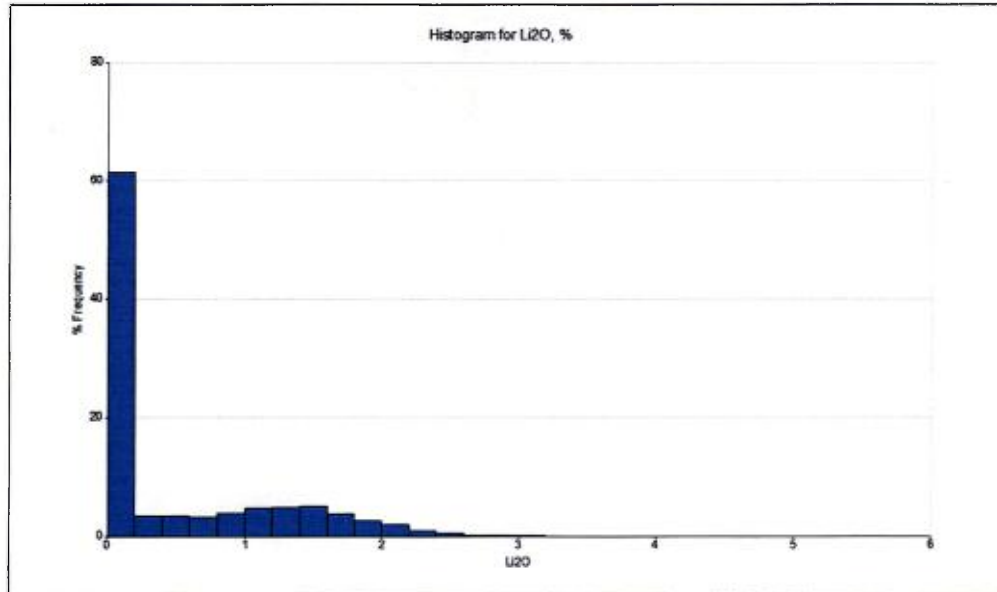
**Table 17.7 Raw and Composite Statistics**

	Main dykes	
Field	Raw data	Composites
	%Li <sub>2</sub> O	%Li <sub>2</sub> O
<b>N Samples</b>	2,890	3,803
<b>Minimum</b>	0.00	0.00
<b>Maximum</b>	4.52	4.52
<b>Mean</b>	0.94	0.96
<b>Variance</b>	0.55	0.44
<b>Std Dev</b>	0.74	0.66
<b>Skewness</b>	0.19	0.02

	Oblique dykes	
Field	Raw data	Composites
	%Li <sub>2</sub> O	%Li <sub>2</sub> O
<b>N Samples</b>	462.00	670.00
<b>Minimum</b>	0.00	0.00
<b>Maximum</b>	3.06	3.06
<b>Mean</b>	0.77	0.85
<b>Variance</b>	0.59	0.42
<b>Std Dev</b>	0.77	0.65
<b>Skewness</b>	0.48	0.09

Compositing was done by flagging which appears to have lost some low grade fringe samples making the composites higher than the raw. This flagging involved some decisions made manually to ensure the data best respected the domains.

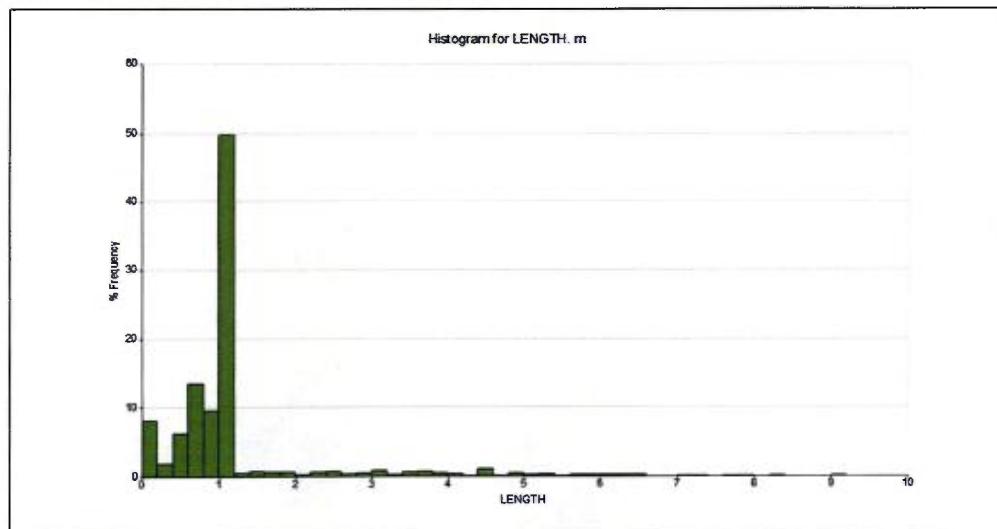
Figure 17.3 Histogram of Raw Li<sub>2</sub>O Values



#### 17.4.2 Compositing

Based on a review of the sampled intervals as shown in Figure 17.4, a composite length of one meter was chosen. Some of the outliers are from the old LV holes and may have been calculated intervals and hence skew the data.

Figure 17.4 Histogram for Sample Lengths



### 17.4.3 Grade Capping

No grade capping was carried out after a review of the data. There are no unusually high grades, with the maximum value being 4.5% Li<sub>2</sub>O.

## 17.5 Block Model

### 17.5.1 Block Model Parameters

Parent blocks of 5 m by 5 m by 5 m (vertical) were used in the block model, with sub blocking using a split of "2", such that the smallest block size is 1.25 m<sup>3</sup>. The block model dimensions are shown in Table 17.8 and model fields used in reporting from the block model in Table 17.9. The model is un-rotated, and is in the UTM system.

**Table 17.8 Block Model Parameters**

Item	X	Y	Z
Origin	291250	536500	-125
Parent cell size	5	5	5
Number of cells	286	260	125

**Table 17.9 Block Model Fields**

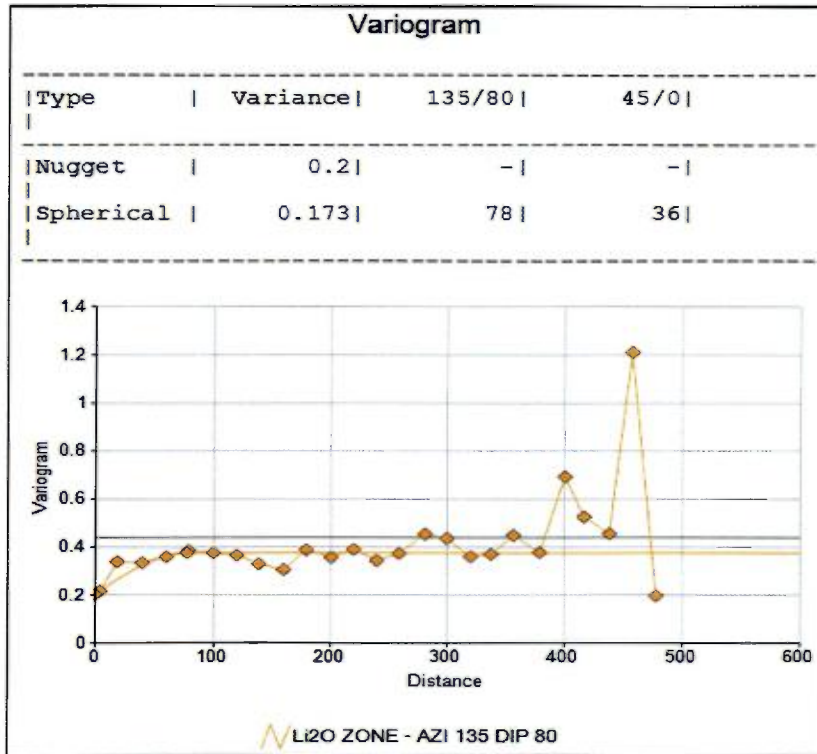
Field	Explanation
XC	centroid X coordinate
YC	centroid Y coordinate
ZC	centroid Z coordinate
XINC	cell size on X
YINC	cell size on Y
ZINC	cell size on Z
IJK	Identification number
ZONE	Dyke zone ( from 1 to 46)
CAT	Class (1-meas, 2-ind, 3-inf, 4-unclassified)
MO	Mining openings ( 1- stope, 2-ug)
STOPE	Stope name
DENSITY	default is 2.69
Li2O_ST	Average grade in stope
MINED_%	Mined out % in stopes
Li2O_ID	Grade of Li <sub>2</sub> O, %
NSAMP_ID	Number of samples
VOLUME	Volume
TONNES	Tonnes

### 17.5.2 Variography and Grade Estimation

Variography was carried out on the data using one of the pegmatite dykes (zone 22) as an example to confirm the selected search distance. The variogram shown in Figure 17.5 is an

across strike variogram and it demonstrated that the parameters selected were adequate to use in this instance.

**Figure 17.5 Variogram for Zone 22**



The estimation method used was ID<sup>2</sup> and estimation and was carried out using a 20m x 70m x 70m search. The angle of rotation for the search ellipsoids was different for the Main and Oblique dykes as follows: Main dykes -45 on strike and -75 dip and Oblique -70 on strike and -80 on dip.

A number of passes were employed and used different searches as follows; pass 1: 1 x search, pass 2: 2 x search, pass 3; 5 x search. The third pass was to fill the dyke wireframes to depth. However the resource at depth and along strike was trimmed by a pit shell.

The minimum and maximum number of samples used for all passes were minimum samples 4 and maximum 20.

The next two Figures show slices through the block model in plan, (Figure 17.6) and in section (Figure 17.7). Note that the two outlines in Figure 17.6 are the Indicated Resource shell and the resource pit shell.

Figure 17.6 Estimated Dykes in Plan

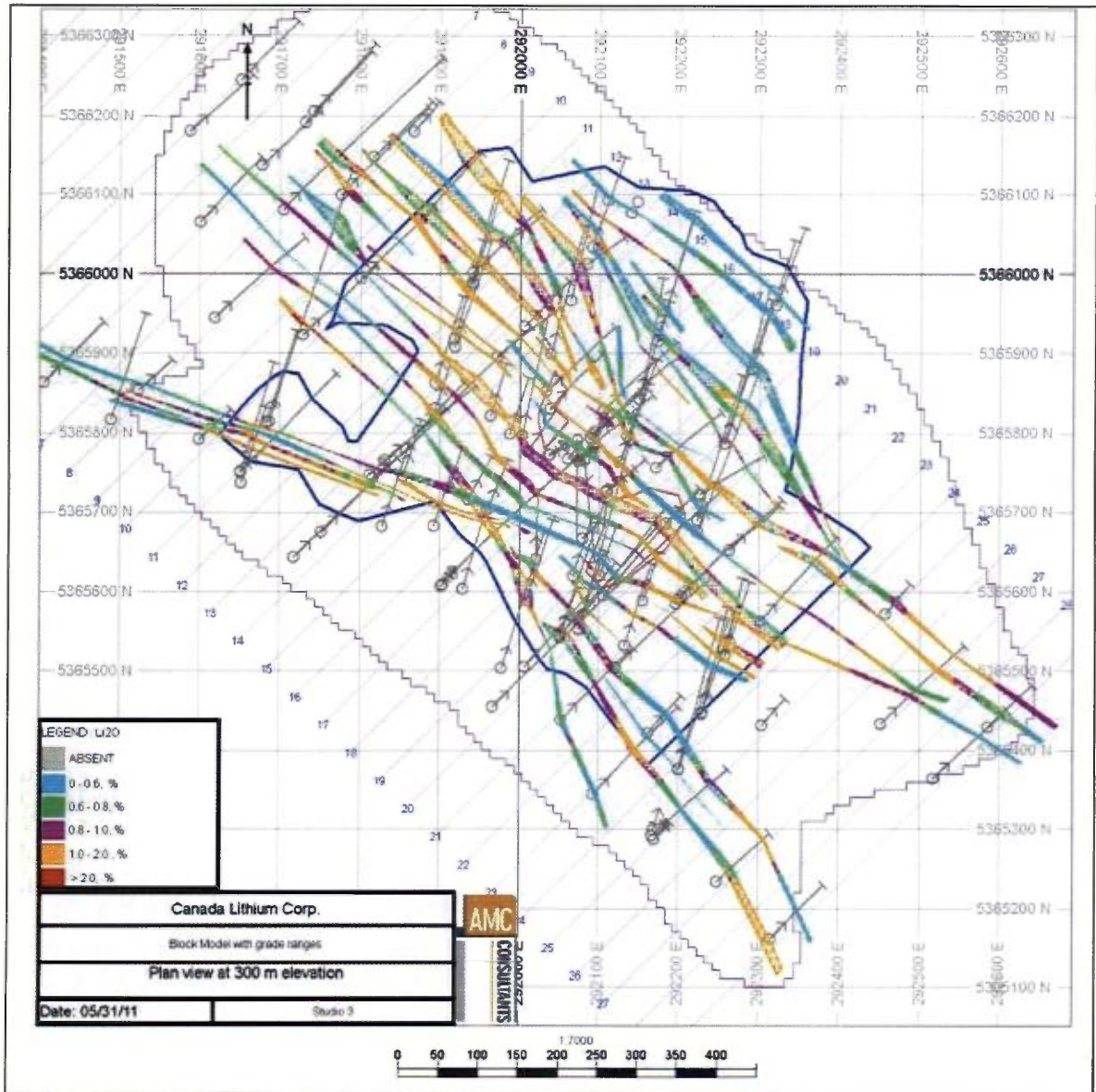
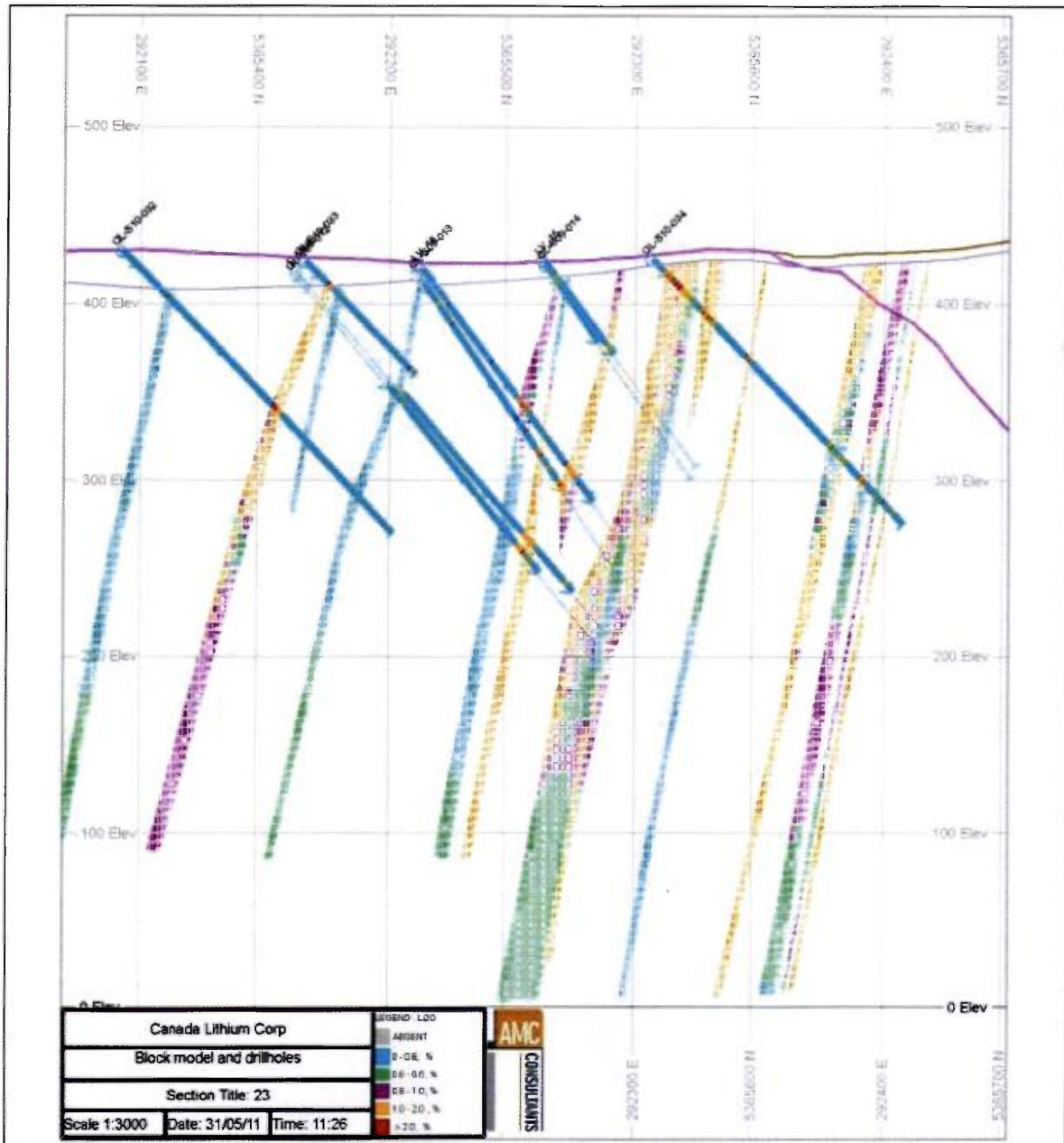


Figure 17.7 Estimated Dykes in Section



### 17.5.3 Resource Classification

Classification was undertaken in different ways and involving discussion between several parties. A single wireframe was used to enclose each class so a certain amount of smoothing was employed.

For the Measured Resource two criteria were used. The blocks informed by more than 15 samples within the first pass were plotted to use as a guide. Then viewing this in the context of the underground workings, an envelope some 25m from the workings was drawn to constrain the Measured Resource.

For the Indicated Resource again a number of tests were applied.

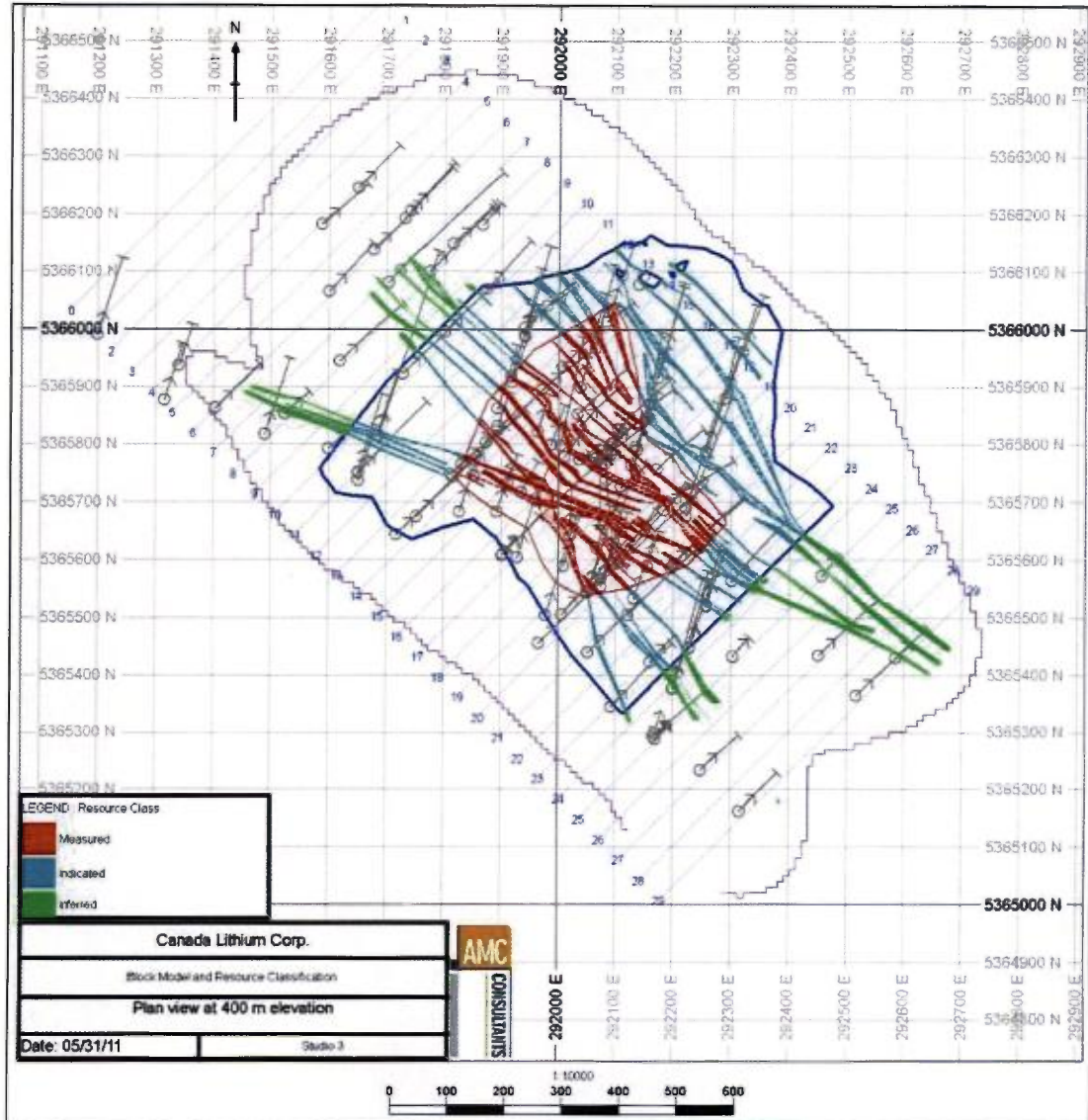
The block model was filtered based on the first and second pass search where minimum of four and maximum of 20 samples were used to estimate a block. A shell was produced enclosing these blocks and this was independently used to calibrate results of the second method discussed below.

In addition hard copy sections were output and the geology, drill spacing and distribution of data was reviewed. Then a single enclosing shape was drawn and compared with the interpretation which had been done on screen using the criteria selected. These were remarkably close and an agreed outline was created.

The Inferred Resource was within the wireframes created filled by up to three passes but then trimmed by an optimized pit which was run on the Measured, Indicated and Inferred Resources using the Feasibility Study cost parameters but increasing the commodity price by 20%.

The shapes constraining the Measured, and Indicated Resources are shown in plan in Figure 17.8 along with the resource pit shell.

Figure 17.8 Plan with Classification



#### 17.5.4 Block Model Validation

Visual checks were carried out to ensure that the grades respected the raw data and also lay within the constraining wireframes.

In addition to the ID<sup>2</sup> estimate a Nearest Neighbour (NN) run was made in Datamine. A comparison of the outputs is shown in Table 17.10.

**Table 17.10 Comparison of Data to Outputs**

Main dykes				
Field	Data		Block model	
	Raw data	Composites	Nearest Neighbour	ID <sup>2</sup>
	%Li <sub>2</sub> O	%Li <sub>2</sub> O	%Li <sub>2</sub> O	%Li <sub>2</sub> O
<b>N Samples</b>	2,890	3,803	3,700,006	3,700,006
<b>Minimum</b>	0.00	0.00	0.00	0.00
<b>Maximum</b>	4.52	4.52	4.52	2.66
<b>Mean</b>	0.94	0.96	0.81	0.86
<b>Variance</b>	0.55	0.44	0.40	0.18
<b>Std Dev</b>	0.74	0.66	0.63	0.43
<b>Skewness</b>	0.19	0.02	0.21	0.09

Oblique dykes				
Field	Data		Block model	
	Raw data	Composites	Nearest Neighbour	ID <sup>2</sup>
	%Li <sub>2</sub> O	%Li <sub>2</sub> O	%Li <sub>2</sub> O	%Li <sub>2</sub> O
<b>N Samples</b>	462	670	771,977	771,977
<b>Minimum</b>	0.00	0.00	0.00	0.00
<b>Maximum</b>	3.06	3.06	3.06	2.44
<b>Mean</b>	0.77	0.85	0.80	0.79
<b>Variance</b>	0.59	0.42	0.39	0.13
<b>Std Dev</b>	0.77	0.65	0.62	0.36
<b>Skewness</b>	0.48	0.09	0.44	0.26

Note the composites are not declustered. The figures above also relate to the whole model, and are not constrained by a pit shell.

### 17.6 Mineral Resource Estimate

The results are shown in the tables below. Table 17.11 shows a summary of the mineral resource at a cut off of 0.8% Li<sub>2</sub>O and within a pit shell constructed as explained above. This cut off is the same as has been used previously by CLQ and AMC is satisfied that it is reasonable for the delineation of mineral resources.

**Table 17.11 Summary of Mineral Resource Estimates, 0.8% Li<sub>2</sub>O Cut-off Grade**

Classification	Tonnes	%Li <sub>2</sub> O
Measured (M)	6,101,000	1.16
Indicated (I)	23,194,000	1.20
M + I	29,295,000	1.19
Inferred	20,935,000	1.15

- Notes: 1. CIM definitions were used for mineral resources  
 2. The reported resources are rounded to nearest 1,000 tonnes and 0.01 % Li<sub>2</sub>O  
 3. These resources have been depleted for historical mining  
 4. Material estimated to be remaining in stopes is accounted for

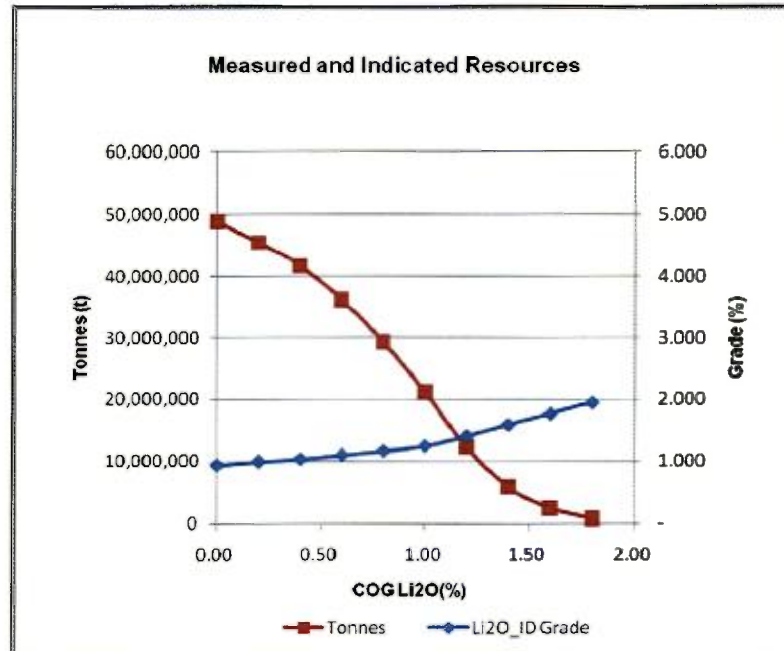
In Table 17.12, the totals are shown at a range of cut offs with the preferred resource estimate emboldened. The same notes apply as above.

**Table 17.12 Mineral Resource Estimates, Range of Cut-off Grades**

	Cut-off % Li <sub>2</sub> O	Tonnes	% Li <sub>2</sub> O
<b>Measured</b>	0.0	9,089,000	0.93
	0.6	7,148,000	1.10
	<b>0.8</b>	<b>6,101,000</b>	<b>1.16</b>
	1.0	4,623,000	1.25
<b>Indicated</b>	0.0	39,782,000	0.89
	0.6	29,010,000	1.10
	<b>0.8</b>	<b>23,194,000</b>	<b>1.20</b>
	1.0	16,620,000	1.31
<b>Measured + Indicated</b>	0.0	48,871,000	0.90
	0.6	36,158,000	1.10
	<b>0.8</b>	<b>29,295,000</b>	<b>1.19</b>
	1.0	21,243,000	1.30
<b>Inferred</b>	0.0	33,432,000	0.92
	0.6	27,301,000	1.05
	<b>0.8</b>	<b>20,935,000</b>	<b>1.15</b>
	1.0	12,960,000	1.30

A grade-tonnage curve has been constructed for the total Measured and Indicated Resources and is shown in Figure 17.9. This shows that, while tonnage is relatively sensitive to cut off grade, average grade is relatively insensitive.

**Figure 17.9 Grade Tonnage Curve**



## 17.7 Comparison with 2010 Resource Estimate

Table 17.13 summarizes the 2010 and AMC 2011 resource estimates.

**Table 17.13 Comparison of 2010 and AMC 2011 Resource Estimates**

Classification	AMC 2011 Estimate		CLQ 2010 Estimate	
	Tonnes	%Li <sub>2</sub> O	Tonnes	%Li <sub>2</sub> O
Measured (M)	6,101,000	1.16	5,654,000	1.15
Indicated (I)	23,194,000	1.20	41,015,000	1.20
M + I	29,295,000	1.19	46,669,000	1.19
Inferred	20,935,000	1.15	57,581,000	1.18

AMC's review of the 2010 resource estimate indicated that there was room for improvement, particularly with respect to geological domaining and the treatment of unsampled dyke material. AMC constrained its mineralized domains to the individual pegmatite dykes. In addition, where the dyke is unsampled, a zero grade was assumed, and the estimate only made within the mineralized domains. These two changes from the 2010 procedure substantially reduced the volume of material estimated. Having reviewed the other parameters used in the earlier estimate, only minor changes were made by AMC, so that the differences between the 2010 and AMC estimates mainly reflect the strategy of domaining individual dykes.

Another difference to the previous estimate is that a pit shell was used as a constraint in order to ensure that the resource met the "reasonable prospects for economic extraction" test. This effect is principally on the Inferred Resource.

## 18 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data at this point. A feasibility study has been carried out on the property and the results of that have been disclosed in Hardie, C, Stone, M, Lavery ME, Lemieux M, Blanchet D, and Woodhouse P, Technical Report of January 2011. This is being updated and will be disclosed in a separate document.

## 19 INTERPRETATION AND CONCLUSIONS

The Property was a producer over a ten-year period and has been explored in phases over the past 17 years by a number of companies. The project is at an advanced stage and with a feasibility study having been completed in early 2011, is currently in detailed engineering design stage.

CLQ's exploration programs have been conducted to generally good industry standards and the resulting data is appropriate as the basis for mineral resource estimation. Some historic exploration data, including information relating to old underground workings, was used for resource estimation purposes after validation, which included twinning of some drillholes.

The deposit is geologically robust and, from the current knowledge, is reasonably predictable.

AMC's review of the 2010 resource estimate indicated that there was room for improvement, particularly with respect to geological domaining and the treatment of unsampled dyke material. In addition, the 2010 estimate was not constrained within a pit shell.

AMC's resource estimate is based primarily on a more rigorous interpretation of pegmatite dykes and restriction of its mineralized domains to those dykes. In addition, where the dyke is unsampled, a zero grade was assumed, and the estimate only made within the mineralized domains. AMC also constrained its reported resources within a pit shell.

These changes from the 2010 procedure substantially reduced the volume of material estimated and therefore the tonnage of mineral resources. The grade was relatively unaffected.

CLQ is currently carrying out a drilling program, with the location of holes being based in part on AMC's work and interim recommendations. A total of 43 drillholes for approximately 10,000 meters has been laid out for an all-inclusive cost of \$1,100,000 (Table 19.1). It is designed primarily to infill around the area of previous mining, upgrade near surface Inferred Resources to Indicated Resources, and to improve resource definition within the proposed pit area.

**Table 19.1 Current CLQ Drilling Program**

Hole No	X Coordinate	Y Coordinate	Azimuth	Dip	Depth in M	Notes
CLC_2011-1	291,724.2	5,365,755.1	45	52	117	
CLC_2011-2	291,808.5	5,365,839.4	45	50	152	
CLC_2011-3	291,883.5	5,365,914.4	45	53	165	
CLC_2011-4	291,953.1	5,365,984.0	45	58	230	
CLC_2011-5	292,083.8	5,365,690.4	45	68	217	
CLC_2011-6	292,076.7	5,365,400.7	45	48	182	

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**Quebec Lithium Property**

Hole No	X Coordinate	Y Coordinate	Azimuth	Dip	Depth in M	Notes
CLC_2011-7	292,131.9	5,365,455.6	45	42	322	
CLC_2011-8	292,252.7	5,365,575.5	45	43	235	
CLC_2011-9	292,248.7	5,365,431.1	45	48	250	
CLC_2011-10	292,283.7	5,365,466.1	45	47	196	
CLC_2011-11	292,332.4	5,365,514.8	45	44	228	
CLC_2011-12	292,399.0	5,365,581.3	45	42	138	
CLC_2011-13	292,312.2	5,365,423.8	45	45	178	
CLC_2011-14	292,381.4	5,365,493.1	45	42	190	
CLC_2011-15	292,416.6	5,365,457.5	45	43	198	# 16 is already drilled
CLC-2011-17	291,731.0	5,366,044.7	45	45	390	Deepen QL-S09-049
CLC-2011-18	291,715.8	5,366,029.5	45	47	167	
CLC-2011-19	291,819.7	5,366,010.0	48	45	168	Deepen QL-S10-012
CLC-2011-21	291,691.0	5,365,804.8	46	50	95	
CLC-2011-20	291,796.1	5,365,906.2	46	51	224	
CLC-2011-22	291,771.7	5,365,743.8	45	51	130	
CLC-2011-23	291,849.1	5,365,818.5	45	52	140	
CLC-2011-24	291,957.9	5,365,923.5	45	64	112	
CLC-2011-25	292,058.1	5,366,020.1	45	50	200	
CLC-2011-26	291,797.3	5,365,629.6	45	48	131	
CLC-2011-27	291,828.8	5,365,591.8	45	45	215	
CLC-2011-28	292,232.6	5,365,980.0	45	54	122	
CLC-2011-29	292,165.3	5,365,845.7	45	55	266	
CLC-2011-30	292,157.9	5,365,769.0	45	69	198	
CLC-2011-31	292,262.7	5,365,870.2	45	47	125	
CLC-2011-32	292,319.5	5,365,924.9	45	45	337	
CLC-2011-33	292,290.9	5,365,818.9	45	46	461	
CLC-2011-34	292,366.9	5,365,901.4	45	46	125	
CLC-2011-35	292,306.2	5,365,773.2	45	57	450	
CLC-2011-36	292,383.4	5,365,847.7	45	57	357	
CLC-2011-37	292,143.8	5,365,529.3	41	45	273	Deepen QL-S10-031
CLC-2011-38	292,330.1	5,365,715.2	40	47	354	Deepen QL-S10-028
CLC-2011-39	292,313.6	5,365,710.9	45	46	187	
CLC-2011-40	292,390.8	5,365,785.2	45	46	307	
CLC-2011-41	292,335.2	5,365,662.4	45	45	371	
CLC-2011-42	292,413.3	5,365,737.4	45	45	239	
CLC-2011-43	292,204.9	5,365,457.9	45	48	450	
CLC-2011-44	292,344.8	5,365,601.1	45	47	425	
<b>Total</b>					<b>10,017</b>	

## 20 RECOMMENDATIONS

### Data

Errors have been detected within the assay database, which should have been drawn into the master database electronically and therefore should not have random errors.

Therefore it is recommended that as part of a process of creating a master database for ongoing work, the original assay data from the laboratories should be sourced and used for input into the database. It is also recommended that the database be under the control of a database manager who will verify all data prior to its inclusion and who will also be in control of any changes made within it. The usual QA/QC systems should be put in place and there should be no copies of the master database made, other than well-labelled copies for specific purposes.

### Model

The location of some of the stopes require validation as to how they relate to the modern drilling and interpretation.

There are a number of locational conflicts between old drill holes and the recent drilling. The current CLQ drilling program has, in part, been designed to resolve these.

CLQ should complete the current drilling program, described above.

On completion of the current CLQ drilling program, a new resource estimate should be prepared incorporating all the new data with an updated geological interpretation and a clean database. The cost is estimated at around \$50,000.

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## 22 DATE AND SIGNATURE PAGE

This report titled Quebec Lithium Property, La Corne Township, Quebec for Canada Lithium (CLQ) of Toronto, Canada, and its wholly owned subsidiary Quebec Lithium Corp, (QLC) has been prepared by and signed for by the following authors:

3 June 2011

Dated at Vancouver, BC

*Original signed and sealed by*

John Morton Shannon, P.Geo.  
Principal Geologist

3 June 2011

Dated at Vancouver, BC

*Original signed and sealed by*

Dinara Nussipakynova PGeo.  
Senior Geologist

**23 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON  
DEVELOPMENT PROPERTIES**

A feasibility study has been carried out on the property and the results of that have been disclosed in Hardie, C., Stone, M., Lavery M.E., Lemieux M., Blanchet D., and Woodhouse P., Technical Report of January 2011. This is subject to an update incorporating the new data in this report. The results of the update will be released and disclosed in a separate document.

## 24 QUALIFIED PERSONS' CERTIFICATES

**J Morton Shannon P. Geo**

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Canada

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Email: mshannon@amcconsultants.ca

1. I, John Morton Shannon, PGeo, do hereby certify that I am Principal Geologist and Group Manager Geology for AMC Mining Consultants (Canada) Limited, Suite 1330, 200 Granville Street, Vancouver, British Columbia V6C 1S4.
2. I graduated with a BA Mod Nat. Sci. in Geology from Trinity College Dublin, Ireland in 1971.
3. I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia, and the Association of Professional Geoscientists of Ontario, and a member of the Canadian Institute of Mining, Metallurgy and Petroleum
4. I have practiced my profession continuously since 1971, and have been involved in mineral exploration and mine geology for a total of 39 years since my graduation from university. This has involved working in Ireland, Zambia, Canada, and Papua New Guinea. My experience is principally in base metals and gold.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for the preparation of Sections 1-11, 14, 17 and contributed to Sections 18 - 22 of the Technical Report titled "Quebec Lithium Property, La Corne Township, Quebec, Technical Report for Canada Lithium Corporation, dated 30 March 2011. I have visited the Quebec Lithium Property.
7. I have not had any prior involvement with the property that is the subject of the Technical Report.
8. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. As of the date of this certificate, to the best of my information, knowledge and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 3 June 2011

*Original signed and sealed by*  
John Morton Shannon, PGeo

**Dinara Nussipakynova P. Geo**  
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1. I, Dinara Nussipakynova, PGeo, do hereby certify that I am a Senior Geologist for AMC Mining Consultants (Canada) Limited, Suite 1330, 200 Granville Street, Vancouver, British Columbia V6C 1S4.
2. I graduated with a BSc. and MSc. in Geology from Kazakh National Polytechnic University in 1987.
3. I am a registered member of the Association of Professional Geoscientists of Ontario.
4. I have practiced my profession continuously since 1987, and have been involved in mineral exploration and mine geology for a total of 24 years since my graduation from university. This has involved working in Kazakhstan, Russia and Canada. My experience is principally in database management, geological interpretation and resource estimation.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for the inputs to Section 17 and contributed to Sections 12 - 14 of the Technical Report titled "Quebec Lithium Property, La Corne Township, Quebec, Technical Report for Canada Lithium Corporation, dated 3 June 2011. I have visited the Quebec Lithium Property.
7. I have not had any prior involvement with the property that is the subject of the Technical Report.
8. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. As of the date of this certificate, to the best of my information, knowledge and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 3 June 2011

*Original signed and sealed by*  
**Dinara Nussipakynova P. Geo**