

# Technical Report for the Lochaber Graphite Project, Quebec

Report Prepared for  
**Great Lakes Graphite Inc.**



Report Prepared by



SRK Consulting (Canada) Inc.  
5CG012.000  
July 31, 2015



# Technical Report for the Lochaber Graphite Project, Quebec

## Great Lakes Graphite Inc.

36 Toronto St. Suite 1000  
Toronto, Ontario, Canada  
M5C 2C5  
Website: [www.greatlakesgraphite.com](http://www.greatlakesgraphite.com)  
Tel: + 1 800-754-4510

## SRK Consulting (Canada) Inc.

Suite 1300, 151 Yonge Street  
Toronto, Ontario, Canada  
M5C 2W7  
E-mail: [toronto@srk.com](mailto:toronto@srk.com)  
Website: [www.srk.com](http://www.srk.com)  
Tel: +1 416 601 1445  
Fax: + 1 416 601 9046

## SRK Project Number 5CG012.000

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### Authored by:



Sébastien Bernier, PGeo  
Principal Consultant  
(Resource Geology)  
SRK Consulting (Canada) Inc.



Dominic Chartier, PGeo  
Senior Consultant  
(Geology)  
SRK Consulting (Canada) Inc.



Ernest Burga, PEng  
Independent Engineer  
Andeburg Consulting  
Services Inc.

### Peer Reviewed by:



Jean-François Couture, PhD, PGeo  
Corporate Consultant (Geology)  
SRK Consulting (Canada) Inc.

Cover: Flaky graphite on notebook (Source: Great Lakes Graphite Inc.)

## IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 *Standards of Disclosure for Mineral Projects* Technical Report for Great Lakes Graphite Inc. (Great Lakes) by SRK Consulting (Canada) Inc. (SRK). The quality of information, conclusions, and estimates contained herein are consistent with the quality of effort involved in SRK's services. The information, conclusions, and estimates contained herein are based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Great Lakes subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Great Lakes to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Great Lakes. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

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## Executive Summary

The Lochaber project is a graphite exploration project at the resource-delineation stage, located in the Outaouais region of Quebec, Canada, approximately 45 kilometres northeast of Ottawa. Great Lakes Graphite Inc. (Great Lakes) owns 100 percent of the project.

This technical report documents the first mineral resource evaluation constructed for the Lochaber graphite project pursuant to the Canadian Securities Administrators' National Instrument 43-101. The Mineral Resource Statement was disclosed by Great Lakes in a news release on June 17, 2015. The mineral resource model was prepared using a geostatistical block modelling approach and is constrained by graphite mineralization wireframes constructed by SRK. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1, and in conformity with the widely accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*.

Pursuant to National Instrument 43-101, Sébastien Bernier, PGeo (OGQ#1034), a full time employee of SRK, visited the property on December 22, 2014.

### Property Description and Ownership

The Lochaber property comprises 45 mineral claims in a single contiguous block, covering 2,648 hectares on NTS map 31G11. The claims are registered with the Ministère de l'Énergie et Ressources Naturelles du Québec (MERN) to Great Lakes Graphite Inc. Great Lakes acquired the property through an option agreement with Rock Tech Lithium Inc. (Rock Tech) in March 2014, and through staking. On January 12, 2015, Great Lakes announced that it has exercised its option and completed the acquisition of the optioned claims from Rock Tech. The Lochaber property contains a series of historical workings dating back to the late 1800s and early 1900s. SRK is not aware of any known environmental liability arising from these historical sites.

The property is readily accessible by road. Access has to be negotiated with the surface landowners before initiating any exploration work. Local resources and infrastructure are plentiful in the area. Hydro Quebec power lines are located on the property. There are numerous lakes on the property including Lac Long, Lac Flynn, Lac Limmer, Lac Burke, and Lac Murphy, which are potential sources of water for carrying out exploration. The topography in the project area is typical of the glaciated Canadian Shield. Tree cover in the area is typical of the boreal forest.

### History

The Lochaber property has an historical record of graphite exploration and production. Flake graphite occurrences on the property are some of the oldest graphite showings in Canada, having been discovered in the late 1800s and early 1900s when there was a considerable interest in graphite due to its properties as a lubricant. There are three historical graphite occurrences (the McLaren, Kelly, and Burke showings) and two past producing graphite mines (the Mayo and Plumbago mines) on the property. The mineral resource discussed herein is in the Plumbago mine area.

### Geology Setting, Mineralization, and Deposit Type

The Lochaber graphite project is located in the Central Metasedimentary Belt of the Mesoproterozoic age (1.6 Ga – 1.0 Ga) Grenville Structural Province of the Canadian Shield. The Central Metasedimentary Belt comprises north-northeast-trending marble and quartzite domains or terrains that also include quartzofeldspathic gneisses and (meta) tonalite intrusions. The Lochaber graphite project is underlain by quartzofeldspathic, garnetiferous paragneiss, and limestone / marble beds.

Graphite is a soft, crystalline form of carbon under standard conditions and can be considered the highest grade of coal, though it is not normally used as fuel because it is difficult to ignite. It is gray to black, opaque, and

has a metallic lustre. Graphite occurs naturally in metamorphic rocks such as marble, schist, and gneiss. It can also be found in veins and pegmatites.

Graphite mineralization on the property is associated with gneissic rocks in contact with limestone / marble in a shear zone. Regional strike of the rocks is north-south while the shear zone at Plumbago mine pit has a strike 045 degrees and dip of 70 degrees to the northwest. Other controls of mineralization apparent in the trenches are the presence of diabase dikes and pegmatitic textures in the marble and paragneiss. Graphite occurs as crystalline large flaky texture with a shiny metallic luster; flake size ranging from 1 to 3 millimetres and sometimes up to 5 millimetres. The distribution of graphite is irregular and mostly occurs as fracture filling or pockets and along gneissic banding. The Plumbago mine showing was discovered in 1864 and stopped producing graphite in 1868 with an estimated production of 545 tonnes of graphite. The graphite mineralization is in the form of coarse flake graphite within sheared paragneiss rocks.

## **Exploration and Drilling**

Great Lakes and Rock Tech have carried out exploration on the Lochaber graphite project since 2012. Exploration in 2012 was conducted by Rock Tech and consisted of prospecting, grab sampling, ground geophysical surveys, and core drilling in the Plumbago area. Exploration in 2014 – 2015 was conducted by Great Lakes to follow up on the Rock Tech results with additional core drilling in the Plumbago area and an airborne drone elevation survey.

Between 2012 and 2015, Great Lakes and Rock Tech have drilled a combined 45 core boreholes (8,110 metres). In addition, Rock Tech completed seven trenches with 19 sampling channels (357 metres of channel sampling). The mineral resource evaluation discussed herein considers both the drilling and trenching sampling data.

## **Sample Preparation, Analyses, Security and Data Verifications**

Core or channel samples were collected from intersected graphite bearing gneisses and metasedimentary rock. The graphite bearing zones were typically sampled at 1-metre intervals. In 2012, a total of 3,730 samples (3,629 metres) was collected by Rock Tech for assaying. Samples were submitted to Activation Laboratories Ltd. (Actlabs), Ancaster, Ontario, ACME Metallurgical Laboratories (ACME) in Vancouver, British Columbia, or Global Minerals Research Laboratories (Global Minerals) in Burnaby, British Columbia. In April 2015, Great Lakes collected an additional 499 samples (485 metres) from the 2012 drilling program and submitted them to AGAT Laboratories (AGAT), in Sudbury, Ontario for preparation and assaying. For the 2014 and 2015 drilling, a total of 768 samples (1,130 metres) were collected by Great Lakes and submitted to AGAT in Sudbury, Ontario for preparation and testing. Samples were analysed using either an infrared analysis or double loss on ignition, depending on the laboratory.

SRK reviewed the field procedures and analytical quality control measures used by Great Lakes and historical operator Rock Tech where possible. In the opinion of SRK, Great Lakes personnel used care in the collection and management of the field and assaying exploration data. Some discrepancies were found in the values for the Rock Tech drilling in 2012 for samples analysed at ACME. Following some investigating, SRK and Great Lakes understand that the discrepancies are due to variances in the preliminary results and the final pdf certificates. In some instances the preliminary results were not overwritten by the final results. In general, SRK considers that analytical quality control data reviewed attest that the assay results delivered by the primary laboratories used on the Lochaber graphite project are sufficiently reliable for the purpose of resources estimation.

In the opinion of SRK, the sampling preparation, security and analytical procedures used by Great Lakes and Rock Tech are consistent with generally accepted industry best practices and are, therefore, adequate to support mineral resource estimation. No evidence of sampling or analytical bias was found.

## **Mineral Processing and Metallurgical Testing**

Bench scale scoping tests examining physical beneficiation techniques (grinding followed by either gravity or flotation) on composite core samples and samples collected from the waste piles of the Plumbago mine site

area were performed. The testing performed by Rock Tech indicates the graphite flake recovered from the composite core sample is of high grade (+97 percent) through the different sizes. Testing performed by Process Research ORTECH Inc. (ORTECH) of Mississauga, Ontario has indicated that flotation upgrading of the material achieves a graphite grade of 93.4 to 96.5 percent recovery. These results indicate that the graphite bearing material is amenable to physical upgrading techniques and more detailed studies will improve recoveries along with retaining flake integrity.

## Mineral Resource Estimates

The Mineral Resource Statement presented herein represents the first mineral resource evaluation prepared for the Lochaber property pursuant to the Canadian Securities Administrators' National Instrument 43-101. The three-dimensional geological modelling was completed by Dominic Chartier, PGeo (OGQ# 874). Mr. Chartier also reviewed the analytical quality control data produced by Great Lakes for this project. The mineral resource estimation work was completed by Mr. Bernier, PGeo (OGQ#1034). Mr. Chartier and Mr. Bernier are full time employees of SRK and independent Qualified Persons as this term is defined in National Instrument 43-101. The effective date of the Mineral Resource Statement is June 17, 2015.

The Lochaber exploration database was audited by SRK. The current drilling information is sufficiently reliable to interpret with confidence the boundaries of the graphite mineralization and that the assaying data is sufficiently reliable to support mineral resource estimation. In collaboration with Great Lakes, SRK developed a series of wireframes defining the extent of the graphite mineralization and that were used to constrain mineral resource estimation. Two distinct zones, West and East, were modelled with multiple mineralization wireframes in each zone, all defined at a threshold of 1.00 percent graphitic carbon. A smaller domain, trending North-East, was also identified in the East zone and modelled independently. In total, three main domains and 13 subdomains were modelled.

The criteria used in the selection of the block size included the borehole spacing, composite assay length, as well as the geometry of the modelled domains and the anticipated mining methods. An unrotated block model aligned with the UTM grid was constructed. The parent block size was set at 10 by 10 by 2 metres. Sub-cells were used, allowing a resolution of 1 metre on X and Y and 0.5 metre on Z to honour the geometry of the modelled mineralization.

Borehole and trench sample data were extracted for each of the three resource domains (West, East and North-East) and composited to a modal length of 1.0 metre and extracted for geostatistical analysis and variography. SRK evaluated the spatial distributions using a variogram and correlogram and their normal score transform for each of the three domains. The block model was populated with graphitic carbon grades using ordinary kriging informed by capped composite data. Four estimation runs were used. Each considered increasing search neighbourhoods and less restrictive search criteria. The first and second estimation passes considered search neighbourhoods adjusted to full range of the modelled correlogram.

Specific gravity was measured on every sixth sample using a gas pycnometer at AGAT as part of the assaying routine. A total of 157 specific gravity measurements were taken in the mineralized domains. An average specific gravity was applied to each domain (2.82, 280 and 2.85 for West, East and North-East domain respectively).

Considering the overall widely spaced sampling information and the uncertainty in the continuity of the graphite mineralization between sampling points, SRK considers that all modelled blocks should be classified in the Inferred category within the meaning of the CIM *Definition Standards for Mineral Resources and Mineral Reserves*. SRK believes that the confidence in the estimates is insufficient to allow for the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure.

The “reasonable prospects for eventual economic extraction” requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recoveries. SRK considers that the graphitic carbon mineralization at the Lochaber project is amenable to open pit extraction. SRK used a pit optimizer and reasonable assumptions to evaluate the proportions of the block model that could be

“reasonably expected” to be mined from an open pit. SRK considers that it is appropriate to report as a mineral resource those classified blocks located within the conceptual pit shell and above a cut-off grade of 2.45% graphitic carbon.

The Mineral Resource Statement for the Lochaber graphite project is presented in Table i. The effective date of the Mineral Resource Statement is June 17, 2015. The mineral resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent resource estimates. The mineral resources may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors.

**Table i: Mineral Resource Statement\*, Lochaber Graphitic Carbon Project, Ontario, SRK Consulting (Canada) Inc., June 17, 2015**

Resource Category	Quantity	Grade	Contained	
	(‘000 t)	Graphitic Carbon (%)	(000’t)	(Millions lbs)
<b>Inferred**</b>	4,090	4.01	160	362

\* Mineral resources are not mineral reserves and have not demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

\*\* Open pit mineral resources reported at a cut-off grade of 2.45 percent graphitic carbon within a conceptual pit shell. Cut-off grades are based on a graphitic carbon price of US\$1,600 per ton and a metallurgical recovery of 96.5 percent.

There are no mineral reserves on the Lochaber project.

## Conclusion and Recommendations

In reviewing the results of the mineral resource modelling work, SRK draws the following conclusions:

- Infill and step-out drilling, both in the West and East domains, is required to improve the confidence in the continuity of the graphite mineralization and to improve classification. Most sections on the West domain only contain one borehole whereas in the East contain only one to three boreholes.
- There is a good potential to expand the mineral resources along strike to the north in the East and West domains because the new geological model suggests that the graphite mineralization domains continues in these directions. The domains remain open to the South outside of the Lochaber property boundary.

SRK notes that the mineral resources discussed herein occupy only a small footprint within the Lochaber property and the graphite mineralized zones in the Plumbago area are open to the north along the main graphite mineralization trend identified by Great Lakes. Exploration outside of the extents of the current modelled mineralization should be considered. These could be tested by trenching and channel sampling.

To date, bench scale scoping tests examining physical beneficiation techniques consisting of grinding followed by either gravity or flotation, has been performed on composite core samples and samples collected from the waste piles of the Plumbago mine site area. The testing in 2012 indicates that the graphite flake recovered from the composite core sample is of high grade (+97 percent) through the different sizes. More recent testing has indicated that flotation upgrading of the Plumbago mine waste material achieves a graphite grade of 93.4 percent to 96.5 percent recovery. Further metallurgical test work on representative samples of the deposit to confirm preliminary upgrading results is recommended. A detailed mineralogical analysis of the graphite concentrates by optical or scanning electron microscopy (SEM) will also help define required processing parameters to obtain maximum large flake product.

The Lachaber property contains a series of old historical workings dating back to the late 1800s and early 1900s. While there are no known liabilities arising from these historical workings, SRK recommends that Great Lakes completes an inventory of these workings and characterizes the disturbances associated with these historical workings.

The geological setting and character of the graphite mineralization delineated to date on the Lochaber project are of sufficient merit to justify additional exploration expenditures. SRK recommends a work program that includes drilling and trenching to further improve the confidence in the geological continuity and expand the mineral resources in the Plumbago mine area. The total cost for the recommended exploration program is estimated at C\$1.0 million. SRK is unaware of any other significant factors and risks that may affect access, title, or the right, or ability to perform the recommended exploration program.



# Table of Contents

<b>IMPORTANT NOTICE .....</b>	<b>ii</b>
<b>Executive Summary .....</b>	<b>iii</b>
Property Description and Ownership.....	iii
History .....	iii
Geology Setting, Mineralization, and Deposit Type .....	iii
Exploration and Drilling .....	iv
Sample Preparation, Analyses, Security and Data Verifications.....	iv
Mineral Processing and Metallurgical Testing .....	iv
Mineral Resource Estimates .....	v
Conclusion and Recommendations.....	vi
<b>Table of Contents .....</b>	<b>viii</b>
<b>List of Tables .....</b>	<b>xi</b>
<b>List of Figures.....</b>	<b>xii</b>
<b>1 Introduction and Terms of Reference.....</b>	<b>1</b>
1.1 Scope of Work .....	1
1.2 Work Program.....	1
1.3 Basis of Technical Report .....	2
1.4 Qualifications of SRK and Technical Report Team .....	2
1.5 Site Visit.....	3
1.6 Acknowledgement .....	3
1.7 Declaration .....	4
<b>2 Reliance on Other Experts.....</b>	<b>5</b>
<b>3 Property Description and Location.....</b>	<b>6</b>
3.1 Mineral Tenure.....	7
3.2 Underlying Agreements .....	9
3.3 Permits and Authorization.....	9
3.4 Environmental Considerations .....	10
3.5 Mining Rights in Quebec.....	10
3.5.1 The Claim.....	10
3.5.2 Extraction Rights.....	10
<b>4 Accessibility, Climate, Local Resources, Infrastructure, and Physiography.....</b>	<b>12</b>
4.1 Accessibility .....	12
4.2 Local Resources and Infrastructure .....	12
4.3 Climate .....	12
4.4 Physiography.....	13
<b>5 History .....</b>	<b>15</b>
<b>6 Geological Setting and Mineralization.....</b>	<b>17</b>
6.1 Regional Geology .....	17
6.1.1 Grenville Metasediments and Metavolcanics .....	17
6.1.2 Grenville-age Intrusions .....	19
6.1.3 Post Grenville-age Lithologies .....	20
6.2 Property Geology.....	20
6.3 Mineralization .....	22

<b>7</b>	<b>Deposit Types</b>	<b>24</b>
<b>8</b>	<b>Exploration</b>	<b>26</b>
8.1	Exploration by Rock Tech	28
8.1.1	Ground Prospecting and Sampling	28
8.1.2	Ground Geophysical Survey	29
8.2	Exploration by Great Lakes	31
8.2.1	Airborne Drone Elevation Survey	31
<b>9</b>	<b>Drilling and Trenching</b>	<b>32</b>
9.1	Drilling and Trenching by Rock Tech	33
9.1.1	Drilling by Rock Tech	33
9.1.2	Trenching by Rock Tech	34
9.2	Drilling by Great Lakes	35
<b>10</b>	<b>Sample Preparation, Analyses, and Security</b>	<b>37</b>
10.1	Sample Preparation and Analyses	37
10.1.1	Grab Sampling by Rock Tech in 2012	37
10.1.2	Drilling by Rock Tech in 2012	37
10.1.3	Trenching by Rock Tech in 2012	38
10.1.4	Drilling by Great Lakes in 2014 – 2015	38
10.2	Specific Gravity Data	39
10.3	Quality Assurance and Quality Control Programs	39
10.4	SRK Comments	40
<b>11</b>	<b>Data Verification</b>	<b>41</b>
11.1	Verifications by Rock Tech and Great Lakes	41
11.2	Verifications by SRK	41
11.2.1	Site Visit	41
11.2.2	Verification of Electronic Analytical Data	41
11.2.3	Verifications of Analytical Quality Control Data	42
<b>12</b>	<b>Mineral Processing and Metallurgical Testing</b>	<b>44</b>
12.1	Testwork by Rock Tech in 2012	44
12.2	Testwork by Great Lakes in 2014	45
12.2.1	Findings	46
<b>13</b>	<b>Mineral Resource Estimates</b>	<b>47</b>
13.1	Mineral Resource Estimation Methodology	47
13.2	Resource Database	48
13.3	Geological Modelling	48
13.4	Compositing and Capping	49
13.5	Specific Gravity Database	54
13.6	Variography and Block Interpolation	54
13.7	Block Model Definition	56
13.8	Estimation Strategy	56
13.9	Block Model Validation	57
13.10	Mineral Resource Classification	63
13.11	Preparation of Mineral Resource Statement	64
<b>14</b>	<b>Adjacent Properties</b>	<b>66</b>
<b>15</b>	<b>Other Relevant Data and Information</b>	<b>66</b>
<b>16</b>	<b>Interpretation and Conclusions</b>	<b>67</b>
<b>17</b>	<b>Recommendations</b>	<b>69</b>

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<b>18 References .....</b>	<b>70</b>
<b>APPENDIX A .....</b>	<b>71</b>
<b>APPENDIX B .....</b>	<b>73</b>
<b>APPENDIX C .....</b>	<b>79</b>

## List of Tables

Table 1: Mineral Tenure Summary of the Lochaber Graphite Property .....	7
Table 2: Salient Assay Results from Drilling by Stratmin Inc. in 1986 – 87 .....	16
Table 3: Summary of Exploration Work Completed on the Lochaber Graphite Project.....	26
Table 4: Horizontal Loop Electromagnetic Survey Conductor Anomalies (Source: Rock Tech, 2012) .....	31
Table 5: Characteristics of Core Boreholes Drilled by Rock Tech in 2012 .....	34
Table 6: Characteristics of Sampling Channels in Trenching by Rock Tech in 2012.....	35
Table 7: Characteristics of Core Boreholes Drilled by Great Lakes in 2014 and 2015.....	36
Table 8: Specifications of Control Samples Used on the Lochaber Project.....	40
Table 9: Summary of Analytical Quality Control Data Produced for the Lochaber Project .....	42
Table 10: Gravity Test Summary from 2012 Metallurgical Testing by Rock Tech .....	44
Table 11: Flake Size Distribution on Combined Concentrates 1, 2, and 3 from 2012 Metallurgical Testing by Rock Tech .....	44
Table 12: Mass Distribution of Flotation Fractions .....	45
Table 13: Flake Size Distribution on Combined Concentrates Through Sieve Analysis.....	46
Table 14: Graphitic Carbon Recovery .....	46
Table 15: Basic Statistics – Graphitic Carbon .....	50
Table 16: Graphitic Carbon Correlogram Parameters for the Lochaber Project.....	55
Table 17: Lochaber Project Block Model Specifications .....	56
Table 18: Summary of Estimation Parameters for all Resource Domains .....	56
Table 19: Volume Estimated per Passes .....	57
Table 20: Assumptions Considered for Reporting Cut-Off Grade Determination .....	64
Table 21: Mineral Resource Statement*, Lochaber Graphitic Carbon Project, Ontario, SRK Consulting (Canada) Inc., June 17, 2015 .....	65
Table 22: Estimated Cost for the Exploration Program Proposed for the Lochaber Property .....	69

## List of Figures

Figure 1: Location of the Lochaber Graphite Property .....	6
Figure 2: Land Tenure Map of the Lochaber Graphite Property .....	8
Figure 3: Typical Landscape on the Lochaber Graphite Project .....	14
Figure 4: Regional Geology Setting.....	18
Figure 5: Local Geology Setting .....	21
Figure 6: View Looking North Displaying Gneissic Rocks in Contact with Marble in Plumbago Mine Showing Area .....	22
Figure 7: Flake Graphite Mineralization from the Plumbago Mine Area .....	23
Figure 8: Compilation Map of Exploration Work.....	27
Figure 9: Ground Geophysical Survey Interpretation Map .....	30
Figure 10: Drilling and Trench Location Map on the Lochaber Graphite Project .....	32
Figure 11: Oblique Section Looking Northeast.....	49
Figure 12: Sampling Length by Domains .....	50
Figure 13: Basic Statistics – West.....	51
Figure 14: Basic Statistics – East .....	52
Figure 15: Basic Statistics – North-East.....	53
Figure 16: Specific Gravity.....	54
Figure 17: Graphitic Carbon Correlograms for West and East Domains .....	55
Figure 18: Validation of the Block Estimates for the West Domain .....	58
Figure 19: Validation of the Block Estimates for the East Domain .....	59
Figure 20: Validation of the Block Estimates for the North-East Domain.....	60
Figure 21: Validation of the Block Estimates for all the Resource Domains Combined.....	61
Figure 22: Block Estimates Comparing Ordinary Kriging and Inverse Distance Estimation Results .....	62

# 1 Introduction and Terms of Reference

The Lochaber project is a graphite exploration project at the resource-delineation stage, located in the Outaouais region of Quebec, Canada, approximately 45 kilometres northeast of Ottawa. Great Lakes Graphite Inc. (Great Lakes) owns 100 percent of the project.

In December, 2014, Great Lakes commissioned SRK Consulting (Canada) Inc. (SRK) to visit the property and prepare a geological and mineral resource model for the project. The services were rendered between December 2014 and June 2015 leading to the preparation of the initial Mineral Resource Statement reported herein that was disclosed publically by Great Lakes in a news release on June 17, 2015.

This technical report documents the maiden Mineral Resource Statement prepared by SRK for the Lochaber graphite project. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The Mineral Resource Statement reported herein was prepared in conformity with the widely accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*.

## 1.1 Scope of Work

The scope of work, as defined in a letter of engagement executed on December 12, 2014 between Great Lakes and SRK, includes the construction of a mineral resource model for the graphite mineralization delineated by drilling on the Lochaber project and the preparation of an independent technical report in compliance with National Instrument 43-101 and Form 43-101F1 guidelines.

The work involved the following:

- Review of the mineral tenure and underlying property agreements
- Inspection of the topography, landscape, and access
- Assessment of the regional and local geology
- Compilation of the exploration history of the property
- Audit of exploration work carried out on the project
- Construction of a geological model
- Estimation and validation of mineral resources
- Assessment of reasonable prospect for economic extraction
- Preparation of a Mineral Resource Statement
- Recommendations for additional work

## 1.2 Work Program

The Mineral Resource Statement reported herein is a collaborative effort between Great Lakes and SRK personnel. The exploration database was compiled and maintained by Great Lakes, and was audited by SRK. The geological model and outlines for the graphite mineralization were constructed by SRK. In the opinion of SRK, the geological model is a reasonable representation of the distribution of the targeted mineralization at the current level of sampling. The geostatistical analysis, variography, and grade models were completed by SRK during the months of May and June 2015. The Mineral Resource Statement reported herein was presented to Great Lakes

in a memorandum report on June 10, 2015 and the company disclosed it publicly in a news release dated June 17, 2015.

The Mineral Resource Statement reported herein was prepared in conformity with the widely accepted *CIM Exploration Best Practices Guidelines* and *CIM Estimation of Mineral Resource and Mineral Reserves Best Practices Guidelines*.

The technical report was assembled in Sudbury and Toronto between the months of April and July, 2015 with input from Great Lakes.

### 1.3 Basis of Technical Report

This report is based on information collected by SRK during a site visit performed on December 22, 2014 and on additional information provided by Great Lakes throughout the course of SRK's investigations. SRK has no reason to doubt the reliability of the information provided by Great Lakes. Other information was obtained from the public domain.

This technical report is based on the following sources of information:

- Discussions with Great Lakes personnel
- Inspection of the Lochaber graphite project area, including outcrops and core from selected boreholes drilled by Great Lakes and Rock Tech
- Review of the exploration data collected by Great Lakes
- Information extracted from an earlier technical report prepared by Hinterland Geoscience & Geomatics and Geomap Exploration Inc. dated July 4, 2014 (Hinterland & Geomap, 2014)
- Metallurgical testwork results provided by Process Research ORTECH Inc. (ORTECH)
- Additional information from public domain sources

### 1.4 Qualifications of SRK and Technical Report Team

The SRK Group comprises more than 1,600 professionals, offering expertise in a wide range of resource engineering disciplines. The independence of the SRK Group is ensured by the fact that it holds no equity in any project it investigates and that its ownership rests solely with its staff. These facts permit SRK to provide its clients with conflict-free and objective recommendations. SRK has a proven track record in undertaking independent assessments of mineral resources and mineral reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies, and financial institutions worldwide. Through its work with a large number of major international mining companies, the SRK Group has established a reputation for providing valuable consultancy services to the global mining industry.

The mineral resource evaluation work was completed by Sébastien Bernier, PGeo (OGQ#1034). The technical report was compiled by Dominic Chartier, PGeo (OGQ#874). By virtue of their education, membership to a recognized professional association, and relevant work experience, Mr. Bernier and Mr. Chartier are independent Qualified Persons as this term is defined by National Instrument 43-101.

Mr. Sébastien B. Bernier, MSc, PGeo (OGQ#1034) is a Principal Consultant (Resource Geology) specialised in geological modelling, geostatistics, and mineral resource estimation. Proficient in CAE Datamine Studio 3, he has co-authored several National Instrument 43-101 technical reports and worked on numerous projects around the world. His expertise includes a variety of commodities

such as base metals, precious metals, uranium, and lithium in a variety of deposit types, from unconformity-type uranium deposit to narrow gold veins and volcanic massive sulphides. Mr. Bernier is the qualified person taking responsibility for the Mineral Resource Statement. Mr. Bernier visited the property on December 22, 2014.

Mr. Dominic Chartier, PGeo (OGQ #874) is a Senior Consultant (Geology) with SRK. He has been practising his profession continuously since 2002. He has estimated mineral resources, created geological and mineral deposit 3D models, and authored, co-authored, or contributed to numerous independent National Instrument 43-101 technical reports. He is the qualified person taking responsibility for this technical report excluding the Mineral Processing and Metallurgical Testing and Mineral Resource Estimates sections. Mr. Chartier has not visited the project.

Mr. Ernest Burga (PEO# 606 7011) is a Senior Consultant (Mechanical and Hydro-metallurgical Project Development) with Andeburg Consulting Services Inc. specialized in design engineering and capital cost definition. He has co-authored several National Instrument 43-101 technical reports and worked on numerous projects around the world. His expertise includes a variety of projects for processing commodities such as base metals, precious metals, titanium dioxide, lithium carbonate production from different sources. His experience also includes plant design for processing mineral from gold veins operations, and treatment of sulphide and refractory gold bearing minerals. Mr. Burga is the qualified person taking responsibility for the Flotation Test Statement of Section 12.

Dr. Jean-François Couture, PGeo (OGQ#1106, APGO #0197), who is a Corporate Consultant (Geology) with SRK, reviewed drafts of this technical report prior to their delivery to Great Lakes as per SRK internal quality management procedures, which require the peer review of a senior consultant of each client deliverable. Dr. Couture has not visited the property.

## 1.5 Site Visit

In accordance with National Instrument 43-101 guidelines, Sébastien Bernier of SRK visited the Lochaber graphite project on December 22, 2014. Mr. Bernier also visited the core logging and storage facility located in Sudbury, Ontario on many occasions during the winter of 2015 accompanied by Mr. Terry Loney, a consultant for Great Lakes.

The purpose of the site and core logging facility visits was to examine drilling locations, core, audit project technical data, interview project personnel, and collect all relevant information for the preparation of a mineral resource evaluation and the compilation of a technical report.

SRK was given full access to relevant data and conducted interviews with Great Lakes personnel to obtain information on the past exploration work, and to understand procedures used to collect, record, store, and analyze exploration data.

## 1.6 Acknowledgement

SRK would like to acknowledge the support and collaboration provided by Great Lakes personnel for this assignment. Their collaboration was greatly appreciated and instrumental to the success of this project.



## 1.7 Declaration

SRK's opinion contained herein and effective **June 17, 2015** is based on information collected by SRK throughout the course of SRK's investigations. The information in turn reflects various technical and economic conditions at the time of writing this report. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report may include technical information that requires subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Great Lakes, and neither SRK nor any affiliate has acted as advisor to Great Lakes, its subsidiaries, or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

## 2 Reliance on Other Experts

SRK has not relied on a report, opinion, or statement of another expert who is not a Qualified Person as defined by National Instrument 43-101, or on information provided by the issuer, concerning legal, political, environmental, or tax matters relevant to the technical report.

### 3 Property Description and Location

The Lochaber project is a graphite exploration project at the resource-delineation stage, located near the township of Buckingham, Quebec, Canada, now part of the city of Gatineau. The property is approximately 45 kilometres northeast of Ottawa. The centre of the property is located at approximately 75.32 degrees longitude west and 45.68 degrees latitude north (Figure 1). Great Lakes Graphite Inc. (Great Lakes) owns 100 percent of the project.

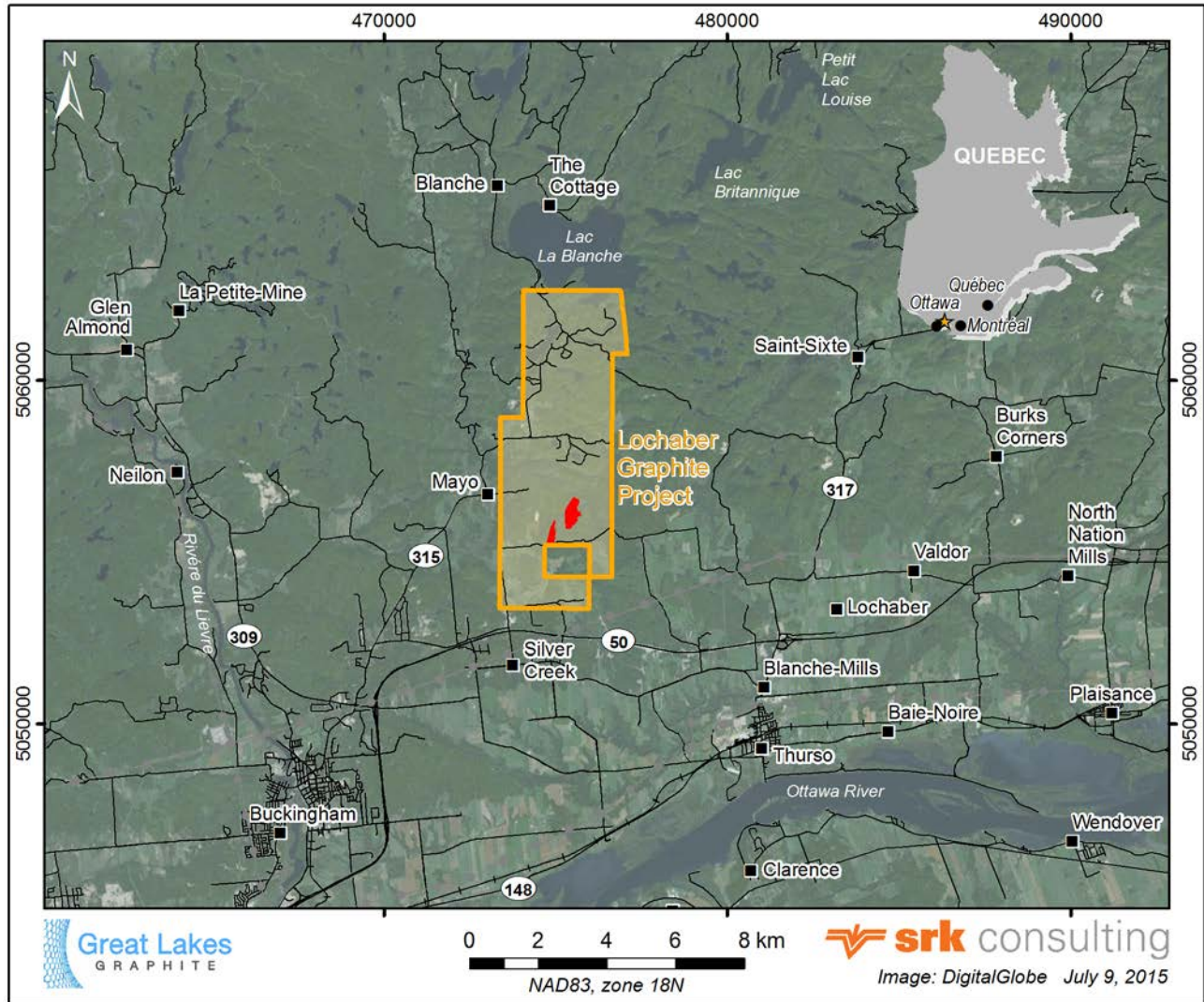


Figure 1: Location of the Lochaber Graphite Property

### 3.1 Mineral Tenure

The Lochaber property now comprises 45 mineral claims in a single contiguous block, covering 2,648 hectares on NTS map 31G11. The claims are registered to Great Lakes Graphite Inc.

Great Lakes originally optioned the property, then consisting of 151 claims covering 9,043 hectares in four contiguous blocks, from Rock Tech Lithium Inc. (Rock Tech) in March 2014. Of the original 151 claims, some 120 claims were allowed to lapse in October 2014 leaving the main claim blocks of the property in one contiguous block. On January 12, 2015, Great Lakes announced that it has exercised its option and completed the acquisition of the Lochaber property from Rock Tech.

In October 2014, Great Lakes acquired a further 12 claims contiguous with the main claim blocks adding an additional 665 hectares. A further two claims were acquired in April 2015 for 120 hectares. The result is the current land package of the Lochaber property shown in Figure 2.

The claims have not been legally surveyed. Map designated cells are defined on the basis of Universal Transverse Mercator coordinates for the corner points. The location of each corner point of each cell is predefined by the claim staking system maintained by the Ministère de l'Énergie et Ressources Naturelles du Québec (MERN).

The list of claims, renewal dates, work requirements, and renewal fees as established by the MERN is presented in Appendix A and are summarized in Table 1. Seven claims are set to expire on July 26, 2015. Though the GESTIM registry has yet to show the renewal of these claims as of July 28, 2015, Great Lakes has indicated to SRK that the request for renewal has been submitted to the MERN on July 16, 2015.

**Table 1: Mineral Tenure Summary of the Lochaber Graphite Property**

Registered Company	Obtained	Registration Date	Expiry Date	No. Claims	Area (Ha)	Contain Mineral Resources
Great Lakes*	Rock Tech Option	27/07/2011	26/07/2015	7	420.53	Yes
Great Lakes*	Rock Tech Option	29/11/2011	28/11/2015	10	600.85	
Great Lakes*	Rock Tech Option	01/12/2011	30/11/2015	3	180.35	
Great Lakes*	Rock Tech Option	05/03/2012	04/03/2016	10	600.91	Yes
Great Lakes*	Rock Tech Option	03/03/2014	02/03/2016	1	60.05	
Great Lakes*	Staking	24/10/2014	23/10/2016	10	601.10	
Great Lakes*	Staking	29/10/2014	28/10/2016	2	63.60	
Great Lakes*	Staking	10/04/2015	09/04/2017	2	120.13	
<b>Totals</b>				<b>45</b>	<b>2,647.52</b>	

\* Registered as: Great Lakes Graphite Inc. (93393) 100 percent (responsible)

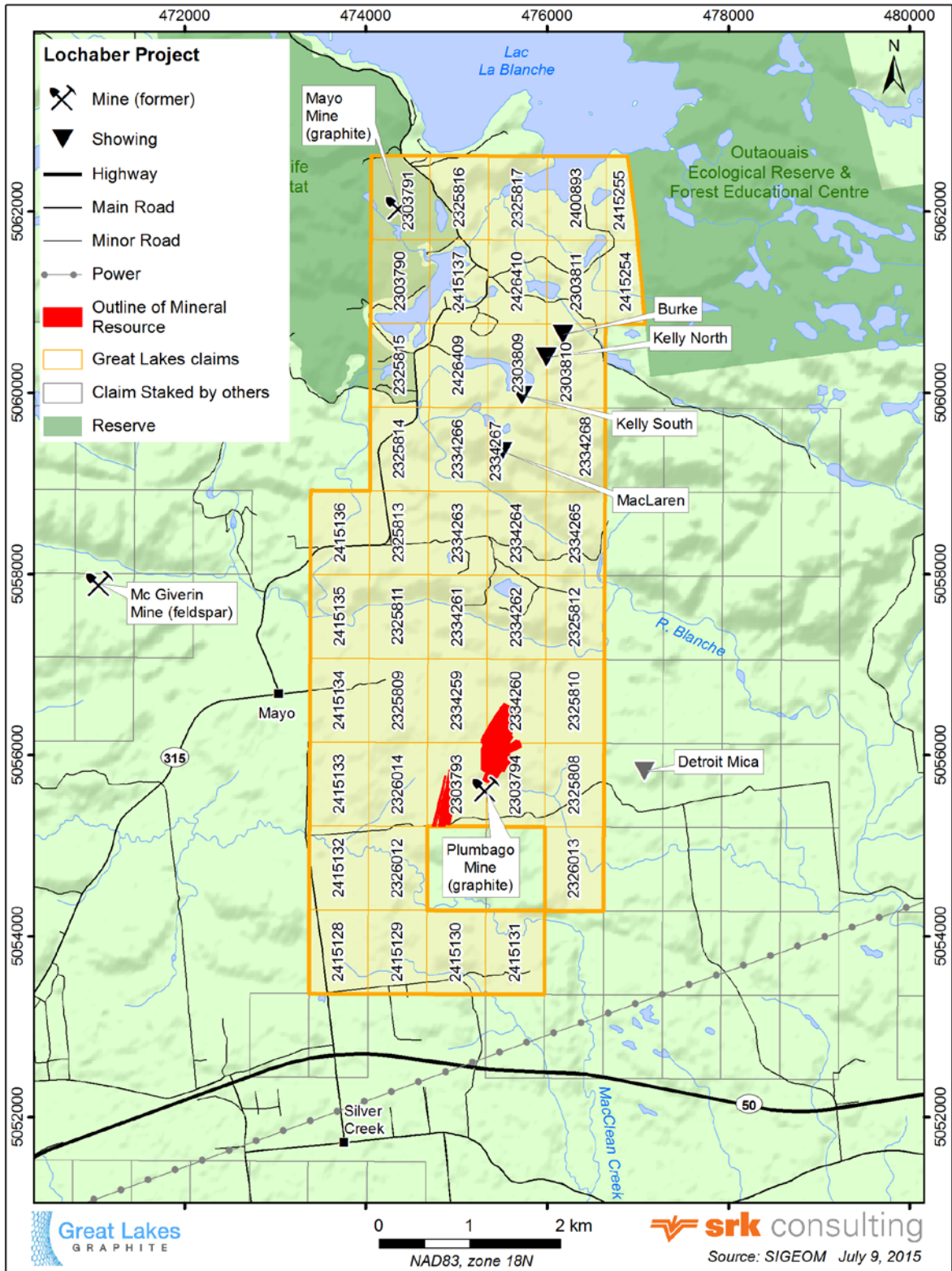


Figure 2: Land Tenure Map of the Lochaber Graphite Property

## 3.2 Underlying Agreements

The Lochaber property was acquired by Great Lakes through an option agreement with Rock Tech which was finalized in January 2015, and subsequently by staking.

Rock Tech originally acquired the property through an option agreement with UniMera Holding Public Ltd. in May 2012. The agreement to acquire a 100 percent interest in the property was subject to a 3 percent net smelter royalty (NSR) and included the aggregate cash payment of C\$200,000 and 4 million common shares of Rock Tech.

Under a purchase agreement announced on March 04, 2014, Great Lakes acquired the property from Rock Tech with the possibility of owning 100 percent of the property by making a payment of C\$300,000 and issuing a total of 15 million common shares of Great Lakes to Rock Tech or to whom it may direct. As part of the agreement, the 3 percent NSR was eliminated. The property purchase agreement was amended on May 16, 2014 calling for the payment of C\$100,000 and 5 million shares upon execution of the purchase and sales agreement, a further C\$200,000 and 5 million shares upon the completion of a mineral resource estimate, and a final payment of 5 million shares upon the completion of a preliminary economic assessment.

On January 12, 2015, despite not having yet completed the mineral resource estimate or a preliminary economic assessment, Great Lakes announced that it had exercised its option and completed the acquisition of the Lochaber property by issuing the outstanding cash payments and share allocations to Rock Tech (a total of C\$300,000 and 15 million common shares of Great Lakes).

SRK is not aware of any back-in rights, payments or other agreements, encumbrances, or environmental liabilities to which the Lochaber property could be subject.

## 3.3 Permits and Authorization

Several claims are located on private lands and Great Lakes is required to negotiate with the surface right owners to gain access for mineral exploration work. Great Lakes has so far negotiated agreements for exploration work with two of the three landowners. Great Lakes continues to work to complete an agreement with the third landowner.

Great Lakes has indicated to SRK that the limited early exploration work carried out has not required permits and certifications from governmental agencies as the work has solely been completed on private lands, not crown land.

Five claims are partially or fully affected by restriction 16582 Habitat faunique (Regulations for protecting wildlife habitat) which protects an area frequented by white-tail deer named Aire de confinement du cerf de Virginie (Lac Lablanche). Authorization is required from the Ministère des Forêts, de la Faune et des Parcs (MFFP) prior to exploration activities. The five claims in question are located in the northwestern corner of the property, away from the mineral resources discussed herein.

Two claims in the northeast corner of the property are limited by Centre éducatif forestier du Lac La Blanche, Réserve écologique, an ecological reserve the claims border where exploration is prohibited.



SRK is unaware of any other significant factors and risks that may affect access, title, or the right or ability to perform the exploration work recommended for the Lochaber property.

### 3.4 Environmental Considerations

The Lochaber property contains a series of historical workings dating back to the late 1800s and early 1900s. Those sites are shown on Figure 2. SRK is not aware of any known liability arising from these historical sites.

SRK is not aware of any existing environmental liabilities related to the Lochaber property. The Lochaber property consists of an undeveloped exploration project. The area has received limited recent surface exploration work.

### 3.5 Mining Rights in Quebec

In Canada, natural resources fall under provincial jurisdiction. In the Province of Quebec, the management of mineral resources and the granting of exploration and mining rights for mineral substances and their use are regulated by the Quebec Mining Act that is administered by the MERN. The act also establishes the rights and obligations of claim holders with the view of maximizing development of Quebec's mineral resources. Mineral rights are owned by the Crown and are distinct from surface rights. The Quebec Mining Act is currently under revision.

#### 3.5.1 The Claim

As defined by the MERN website ([www.mern.gouv.qc.ca](http://www.mern.gouv.qc.ca)), the claim is the only valid exploration right in Quebec. The claim gives the holder an exclusive right to search for mineral substances in the public domain, except sand, gravel, clay, and other loose deposits on the land subject to the claim. Each claim also provides access rights to a parcel of land on which exploration work may be performed. However, the claim holder cannot access land that has been granted, alienated, or leased by the Crown for non-mining purposes, or land that is the subject of an exclusive lease to mine surface mineral substances, without first having obtained the permission of the current holder of these rights. A claim holder cannot erect or maintain a construction on lands in the public domain without obtaining, in advance, the permission of the MERN, unless such a construction is specifically allowed for by ministerial order. An application is not necessary for temporary shelters that are made of pliable material over rigid supports that can be dismantled and transported.

A claim can be obtained by map designation, henceforth the principal method for acquiring a claim, or by staking on lands that have been designated for this purpose. The accepted means to submit a notice of map designation for a claim is through GESTIM Plus ([gestim.mines.gouv.qc.ca](http://gestim.mines.gouv.qc.ca)).

The term of a claim is two years, from the day the claim is registered, and it can be renewed indefinitely, providing the holder meets all the conditions set out in the Mining Act, including the obligation of paying statutory taxes and investing a required minimum amount in exploration work determined by the regulation. The Act includes provisions to allow any amount disbursed to perform work in excess of the prescribed requirements to be applied to subsequent terms of the claim.

#### 3.5.2 Extraction Rights

There are two types of extraction rights in Quebec: A mining lease for mineral substances and a lease to mine surface mineral substances.

A mining lease is required to undertake commercial mining activity. A claim owner can apply to the mine registrar to obtain a mining lease granting the right to mine mineral substances over areas generally not exceeding 100 hectares (larger areas may be granted by exception). The applicant must demonstrate that the deposit is mineable and submit a written application with conditions set out by regulation and containing a description of the land, including its location, its surface area as determined by a land surveyor, and a list of the claim numbers to be covered by the mining lease. The application must also include a report certified by a geologist or an engineer describing the nature and extent of the deposit and its likely value and the payment of the annual rent for the first year of the lease as set out by regulation. Rent is established by regulation and varies based on the surface area of the lease, its use (mine or tailings) and its tenure (private or public land).

A mining lease is valid for a period of 20 years and can be renewed for three successive periods of 10 years (total of 50 years) by filling a renewal with the mine registrar and paying renewal fees set out by regulation. The renewal application must include the amount representing the annual rent for the first year of the renewed lease, and a report demonstrating that the holder has engaged in mineral exploitation on the land covered by the mining lease for at least two of the last 10 years for which the lease was valid. The lessee must have also complied with the provisions of the Act and of the regulation during the term of the lease. Thereafter, the MERN can prolong the lease under conditions it determines.

The lessee of a mining lease or the concession holder has surface access and usage rights, except when the land is used as a cemetery. On public lands, access and usage rights are limited to mining purposes only. If the land covered by the lease or concession was granted or alienated by the province, the lessee or concession holder must obtain the owner's permission to access the land and carry out work. The concession holder may acquire these rights through amicable agreement or, if necessary, by expropriation. On land leased by the province, the lessee of a mining lease or the holder of a mining concession must obtain the consent of the lessee of the land surface or pay the lessee compensation. In the event of a disagreement, a court can determine this compensation.

The lessee or concession holder may also use adjacent land for his mining activities, in compliance with other laws, in particular those relating to public lands, forests and the environment. On public lands, the lessee or concession holder may purchase or rent land to set up mine tailings or any other facility required for mining purposes. The lessee may also obtain a right of way to install transport routes or tracks, pipelines and water conduits. The location of a mill on land that is covered by a lease or outside its boundaries must be approved by the MERN, and its location may be subjected to an environmental impact assessment, or review in accordance with the Environment Quality Act, in which case the site must be approved by the government.

The lessee or concession holder may use any sand or gravel that is present at the surface of the land covered by their lease or concession for activities related to mining. This permission only applies to public lands that are not subject to an exclusive lease to mine surface mineral substances. Any mining-related activities involving sand or gravel do not require a lease to mine surface mineral substances.

The lessee or concession holder may cut wood on the land of their lease or concession, provided that this wood is only used for the purposes of erecting buildings or carrying out mining-related activities. A forest management permit must be obtained from a regional office of the Forestry Branch of the MERN. The terms and conditions for issuing the permit vary according to amount of wood to be cut.



## **4 Accessibility, Climate, Local Resources, Infrastructure, and Physiography**

### **4.1 Accessibility**

The Lochaber graphite project is accessible by road from Ottawa on Highway 50 to the town of Buckingham from where paved Road #315 leads to the town of Mayo. Mayo is located 1 kilometre to the west of the property. From Mayo, a network of gravel and paved roads provide access to different claims on the property.

Access has to be negotiated with the surface landowners before initiating any exploration work. Great Lakes has so far negotiated agreements for exploration work with two of the three landowners.

### **4.2 Local Resources and Infrastructure**

Buckingham is part of the amalgamated city of Gatineau with five other municipalities. The local economy is based on dairy, forestry, tourism, and agriculture. Various industries and services are available in the area. The Lochaber property size is sufficient for future exploration and mining work. Some construction related services are available locally. Specialized exploration services such as drilling and airborne geophysical survey companies provide their own personnel. Several lakes located on the property are good sources of water for exploration and mining work. Hydro Quebec power lines are located on the property. The property is within 20 kilometres of the nearest railhead and Ottawa International Airport is approximately 45 kilometres away.

### **4.3 Climate**

The project area has continental temperate climate with warm humid summers and cold and snowy winters. There are wide temperature variations in each season. The average summer temperature varies between 10 and 27 degrees Celsius. The average winter temperature in the area ranges from -4 degrees Celsius to -17 degrees Celsius. Exploration work can be carried out throughout the year except if snow cover is a hindrance, such as for geological mapping, surface sampling, or some geophysical surveys.

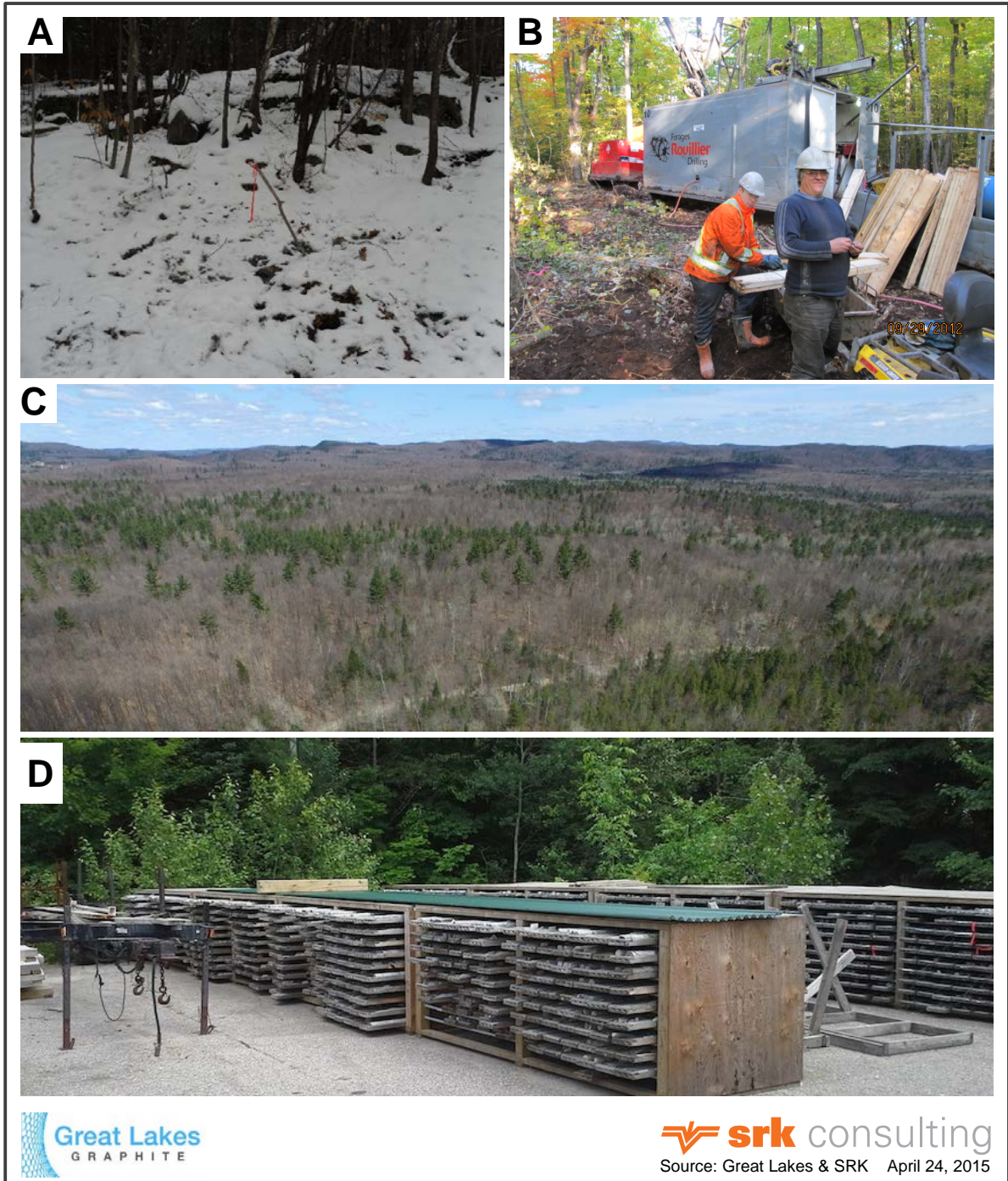
## 4.4 Physiography

The property occurs within the Canadian Shield, characterized by subdued topography shaped by glaciers, which explains the glacial deposits of boulders, gravel, and sand. Post-glacial seawater intrusions and lakes resulted in abundant, locally thick, clay deposits in some parts of the Shield. An intricate hydrological network of lakes, muskeg, rivers, and streams are a dominant feature of the Canadian Shield.

The topography in the project area is typical of the glaciated Canadian Shield in that low ridges of rock or gravel are interspersed with low areas of muskeg or lakes. The property is between 180 to 280 metres above sea level.

The area is drained by River Blanche and its tributaries. There are numerous lakes on the property including Lac Long, Lac Flynn, Lac Limmer, Lac Burke, and Lac Murphy, which are potential sources of water for carrying out exploration work. The area is marked by second growth vegetation including cedar and bush.

Tree cover in the area is mainly boreal forest, dominated by coniferous trees; the most common being white and black spruce and pines. Parts of the Lochaber project are in the regenerating phase as a result of commercial logging. Large mammals include moose, deer, and black bear. Small fur bearing animals include wolf, fox, lynx, mink, marten, and beaver. The numerous lakes have abundant trout populations. Typical project landscape is shown in Figure 3.



**Figure 3: Typical Landscape on the Lochaber Graphite Project**

- A. Collar Location in winter.
- B. Core drill rig during 2012 drill program.
- C. Aerial view looking northeast taken south of Burke Rd in April 2015.
- D. Core storage facility.

## 5 History

The Lochaber property has an historical record of graphite exploration and production. Flake graphite occurrences on the property are some of the oldest graphite showings in Canada, having been discovered in the late 1800s and early 1900s when there was a considerable interest in graphite due to its properties as a lubricant in the automobile industry. There are three historical graphite occurrences (the McLaren, Kelly, and Burke showings) and two past producing graphite mines (the Mayo and Plumbago mines) on the property (Figure 2).

The Ministère de l'Énergie et Ressources Naturelles du Québec (MERN) maintains records of past exploration and development work, filed for assessment credit purposes, carried out on a mineral claim. Great Lakes has acquired all the historical exploration work available online from the MERN. A summary of the information reviewed is provided below.

Production from 1864 to 1868 on the Mayo and Plumbago mines is estimated at 545 tonnes of graphite. Specific production on the Mayo mine is unknown. (MERN, 2015)

In 1867 a graphite mill was erected by the Lochia Plumbago Company on the Blanche River that processed the graphite material hauled from various mining properties in the area. During that time the mill was operated by the Kelly family.

In 1941, a metallurgical test was carried out on a sample from the Kelly occurrence with a head grade of 21.17 percent carbon. The graphite material was concentrated by flotation, dried and screened on 65 mesh (0.212 millimetres), 120 mesh (0.125 millimetres), and 150 mesh (0.106 millimetres). The results showed that 34.37 percent of the material was coarser than 0.212 millimetres in size and assayed 87 percent carbon (CDMR, 1941B). Similarly, a second sample with head grade of 23.53 percent carbon, concentrated by flotation, indicated 31.27 percent material coarser than 0.212 millimetres in size and assayed 84.5 percent carbon (CDMR, 1941A).

In 1985 and 1986, Bay Resources and Services Inc. carried out an exploration program comprising 39 core boreholes over 10,203 feet (3,110 metres) on the Kelly, McLaren, and Burke occurrences, and modelled an historical resource estimate of 90,654 tons (or 82,263 tonnes) at 8 percent graphite or 59,609 tons (or 54,091 tonnes) at 10 percent graphite (Heon, 1986). The author of the report estimated the tonnage for a volume grading 8 percent graphitic carbon or 10 percent graphitic carbon using graphite intersections in the drill core. Each borehole intersection was extrapolated to 25 feet (7.62 metres) on each side and the calculated volume was divided by a factor of 13 feet per ton used as specific gravity of marble, the graphite host rock. Flake size graphite material reported in the 1986 drilling report indicated 0.1 to 0.5 centimetres. The reader is cautioned that this historical mineral resource was evaluated before the development of National Instrument 43-101 guidelines and should not be relied upon. The estimates are superseded by mineral resource estimates discussed herein.

During 1986 – 87, Stratmin Inc. (Stratmin) carried out an exploratory drilling program on its properties located in Buckingham Township which partially covered the Lochaber property. A total of 45 boreholes were completed on interpreted geophysical survey anomalies, of which 17 boreholes were located on the Lochaber property (Stratmin, 1987). Some 13 boreholes were drilled on geophysical anomalies 7A / 8A located on Rock Tech's geophysical Conductor C identified during their 2012 exploration program, and four boreholes were located to the north of Conductor A. Nine boreholes intersected graphite mineralization summarized in Table 2.

**Table 2: Salient Assay Results from Drilling by Stratmin Inc. in 1986 – 87**

Conductor / Area	Borehole	Depth From (m)	Depth To (m)	Length (m)	Graphite (%)	Lochaber Property Claim
7A / 8A	86-4	35.40	36.40	1.00	8.06	2303793
		36.40	37.40	1.00	3.27	
		50.80	51.80	1.00	8.63	
		51.80	52.80	1.00	6.87	
		52.80	53.80	1.00	9.41	
		84.80	85.80	1.00	6.41	
	86-5	3.65	5.00	1.35	9.67	
		15.39	16.39	1.00	10.04	
		35.90	36.90	1.00	11.31	
		41.45	43.05	1.60	9.07	
	86-6	113.90	115.40	1.50	7.36	
	86-8	103.50	104.50	1.00	3.75	
		111.40	112.40	1.00	5.60	
		112.90	114.00	1.10	8.50	
	86-9	72.50	73.65	1.15	6.15	
		105.60	106.60	1.00	5.95	
	86-12	51.15	52.15	1.00	8.45	
		68.70	69.70	1.00	10.20	
	86-13	19.90	20.90	1.00	9.80	
		20.90	21.90	1.00	7.90	
		38.20	39.20	1.00	11.60	
		44.00	45.00	1.00	8.80	
		54.40	55.40	1.00	4.60	
133.70		134.70	1.00	5.15		
9A	86-29	51.50	52.50	1.00	2.54	2334262
	86-30	84.30	85.60	1.30	4.97	

Great Lakes optioned the property from Rock Tech in March 2014. Rock Tech acquired the property through an option agreement with UniMera Holding Public Ltd. in May 2012. The claims were originally acquired by staking in 2011. Exploration completed by Rock Tech is described in Sections 7 and 8.

## 6 Geological Setting and Mineralization

### 6.1 Regional Geology

The Lochaber graphite project is located in the Central Metasedimentary Belt of the Mesoproterozoic age (1.6 Ga – 1.0 Ga) Grenville Structural Province of the Canadian Shield (Figure 4). The Central Metasedimentary Belt comprises north-northeast-trending marble and quartzite domains or terrains that also include quartzo-feldspathic gneisses and (meta) tonalite intrusions. Regional metamorphism is of upper amphibolite grade and, locally, granulite facies. Suites of north-trending monzonitic, dioritic, and gabbroic rocks are present along the boundaries of the Central Metasedimentary Belt.

The Central Metasedimentary Belt represents accreted lithotectonic terranes (1.22 Ga – 1.21 Ga) that were sealed against the Laurentian continent to form the Rodinia supercontinent. Protoliths to the quartzite and marble domains were shallow-marine and platform sediments, respectively, laid down within a retroarc foreland fold basin developed on the continental (Laurentian) margin during the collision (Siriunas, 2012). The following rock units represent a summary of the lithologies on a regional scale.

#### 6.1.1 Grenville Metasediments and Metavolcanics

##### Paragneiss

The fine to medium grained aluminous paragneiss has a variety of compositions which include quartzo-feldspathic gneiss, biotite gneiss, biotite-garnet gneiss, biotite-garnet-sillimanite gneiss, and biotite-hornblende gneiss. All compositional varieties can contain some graphite. The paragneiss sequence has been migmatized to varying degrees and also contains narrow beds (30 centimetres thick) of quartzite.

##### Quartzite

Though commonly found as thin beds in paragneiss or in marbles, quartzite can form continuous beds up to 100 metres in width. Quartzite is rarely pure and generally contains approximately 15 percent impurities (feldspar / microcline, biotite, hornblende, garnet, graphite), which also is reflected in its colour.

##### Marble

Medium-grained marble (crystalline limestone), like quartzite, is generally found as thin beds in paragneiss but can also occur as bands up to 150 metres in width. Calcite is the main carbonate mineral, but like quartzite this unit is rarely pure and can contain up to 15 percent phlogopite, diopside (with some graphite), scapolite, or serpentine. Accessory minerals can occur as grano or porphyroblasts. Boudins of other rocks are common within the marbles.



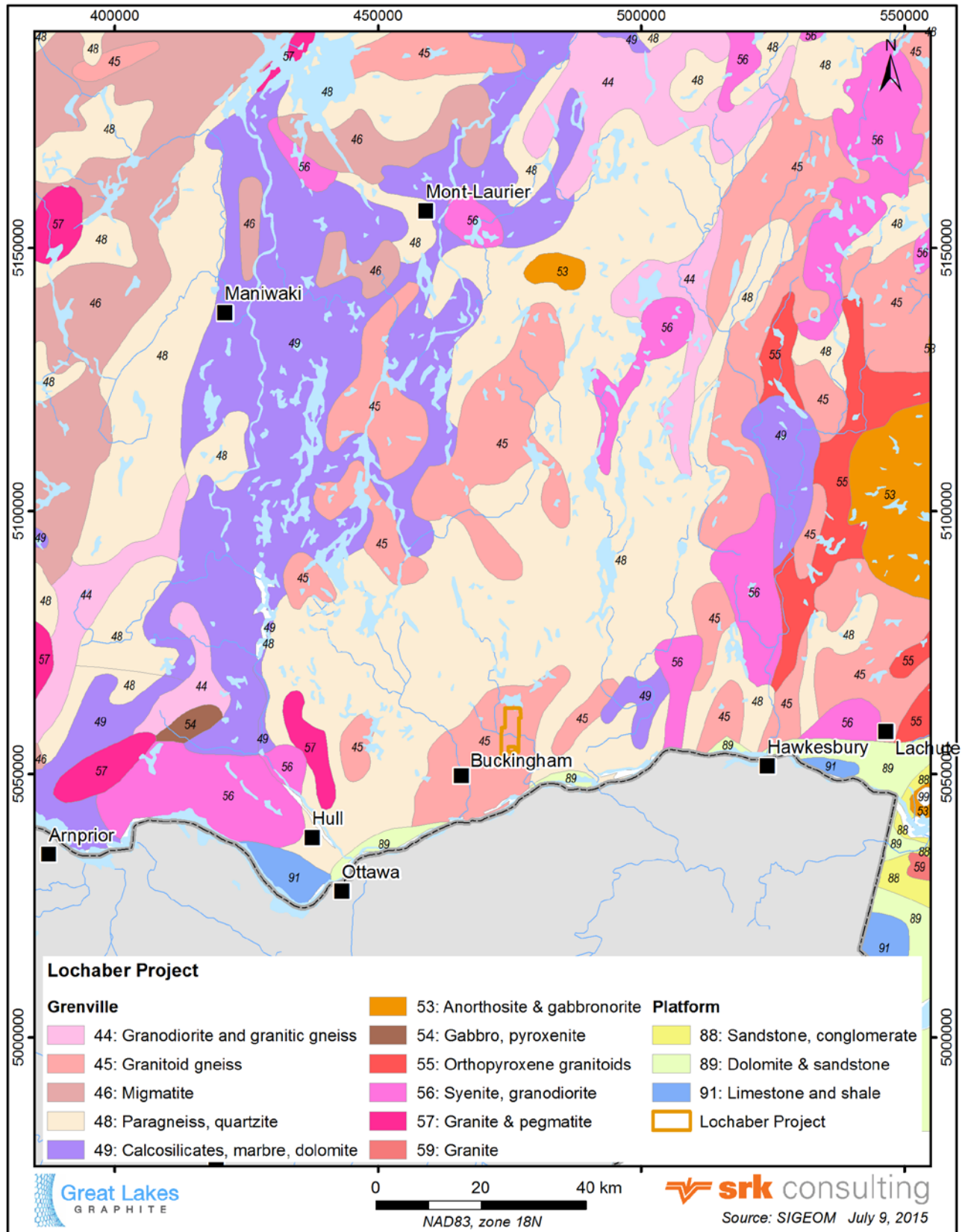


Figure 4: Regional Geology Setting

## **Calc-silicate Rocks**

Regional and contact metamorphism and / or metasomatism of marble have locally resulted in rock characterized by the presence of tremolite, diopside, wollastonite, phlogopite, and apatite (skarn). Other minerals that can be present include calcite, quartz, and sphene. This rock type is generally well banded and less than 1 metre in width. There may be gradation from marble mapped or described as calc-silicate rock.

## **Amphibolite**

Gneissic bands of amphibolite composed of black or green hornblende, biotite, and plagioclase ( $\pm$  magnetite,  $\pm$  almandine) occur within the paragneiss. It can also be intercalated with quartzite and locally bands up to 100 metres wide can be found. The amphibolite is typically medium grained and exhibit a “salt and pepper” texture.

### **6.1.2 Grenville-age Intrusions**

#### **Syenite**

Pink or red, medium- to coarse-grained porphyritic syenite is composed of feldspar crystals (up to 15 millimetres) in a matrix of feldspar, hornblende or pyroxene, and minor quartz. Accessory magnetite is typically present. Syenite and all other intrusive rocks in the area possess a weak foliation parallel to regional tectonic grain. Partially assimilated xenoliths of sedimentary rocks can be present at places.

#### **Diorite**

Diorite is medium-grained, grey, foliated, and composed of equal portions of hornblende and white feldspar.

#### **Granite and Monzonite**

Small stocks of medium-grained white- to pale pink-coloured granite are locally observed. The granite has a well-developed foliation and is comprised of quartz, white and pink feldspar, and some biotite and hornblende. Monzonite is massive to foliated, and is composed of phenocrystic feldspar in a quartz-feldspathic matrix with some biotite and hornblende.

#### **Pegmatite**

Dikes and massive bodies of pegmatite occur comprised of quartz, microcline, biotite, muscovite, and some tourmaline. The larger dikes can be more than 100 metres wide and up to 1 kilometre long.

#### **Gabbro**

Gabbro is observed only very locally, and is medium- to coarse-grained, weakly foliated, and mainly composed of feldspar and hornblende. Depending on the proportion of those two minerals, it can be leucocratic to melanocratic.

#### **Pyroxenite and Peridotite**

Pyroxenite is medium-grained and dark green in colour, and mainly composed of augite. Peridotite is medium-grained and olive green in colour, and is essentially composed only of olivine.



### 6.1.3 Post Grenville-age Lithologies

#### Latite

Undeformed, amygdaloidal, aphanite, dark grey to black (brown weathering) volcanic rocks of Cambrian age are observed to fill north-east–trending fissures at several locations. They are rarely up to a metre in width.

#### Diabase

Diabase intrusives that trend east-west are locally present. These rocks are undeformed; fine- to medium-grained and can be up to 100 metres wide. These rocks are believed to be of Cambrian-Ordovician age and related to Ottawa-Bonnechere graben system.

Sedimentary rock units at regional scale are dolomites and sandstones of Paleozoic age lying unconformably over Precambrian lithologies (Siriuнас, 2012).

## 6.2 Property Geology

The Lochaber graphite project is underlain by quartzofeldspathic, garnetiferous paragneiss, and limestone / marble beds (Figure 5). Quartzite is the least abundant rock in this suite. The igneous rocks that have intruded the metasedimentary sequence consist of gabbro, monzonite, anorthosite, and diabase.

Paragneiss is generally fine- to medium-grained with a variety of compositions such as quartzofeldspathic gneiss, biotite gneiss, biotite-garnet gneiss, biotite-garnet-sillimanite gneiss, or biotite-hornblende gneiss. All compositional varieties contain some graphite. Narrow beds of quartzite are found interbedded with biotite-garnet gneiss at places.

Quartzite found as thin beds contains impurities such as feldspar / microcline, biotite, hornblende, garnet, graphite, which defines its colour as white, grey, blue-grey, or pink-grey.

Marble is also found at the Plumbago mine area, Kelly and Burke claims, and several other locations on the project as thin beds up to 1.5 metres thick and is generally medium-grained crystalline limestone. Like quartzite, it also contains impurities such as phlogopite, graphite, or serpentine.

Gneissic bands of amphibolite are also found in paragneiss, which are mainly composed of black or green hornblende, biotite and plagioclase. These are mostly medium-grained rocks and exhibit a “salt and pepper” texture.

Gabbroic rocks are found in the southern portion of the project and are mainly comprised of feldspar and hornblende.

Post-Grenville intrusions consist mainly of east-west–trending diabase dikes. The diabase dikes are dark grey to dark greenish grey intruding into paragneiss rocks mainly observed at the Plumbago mine area.

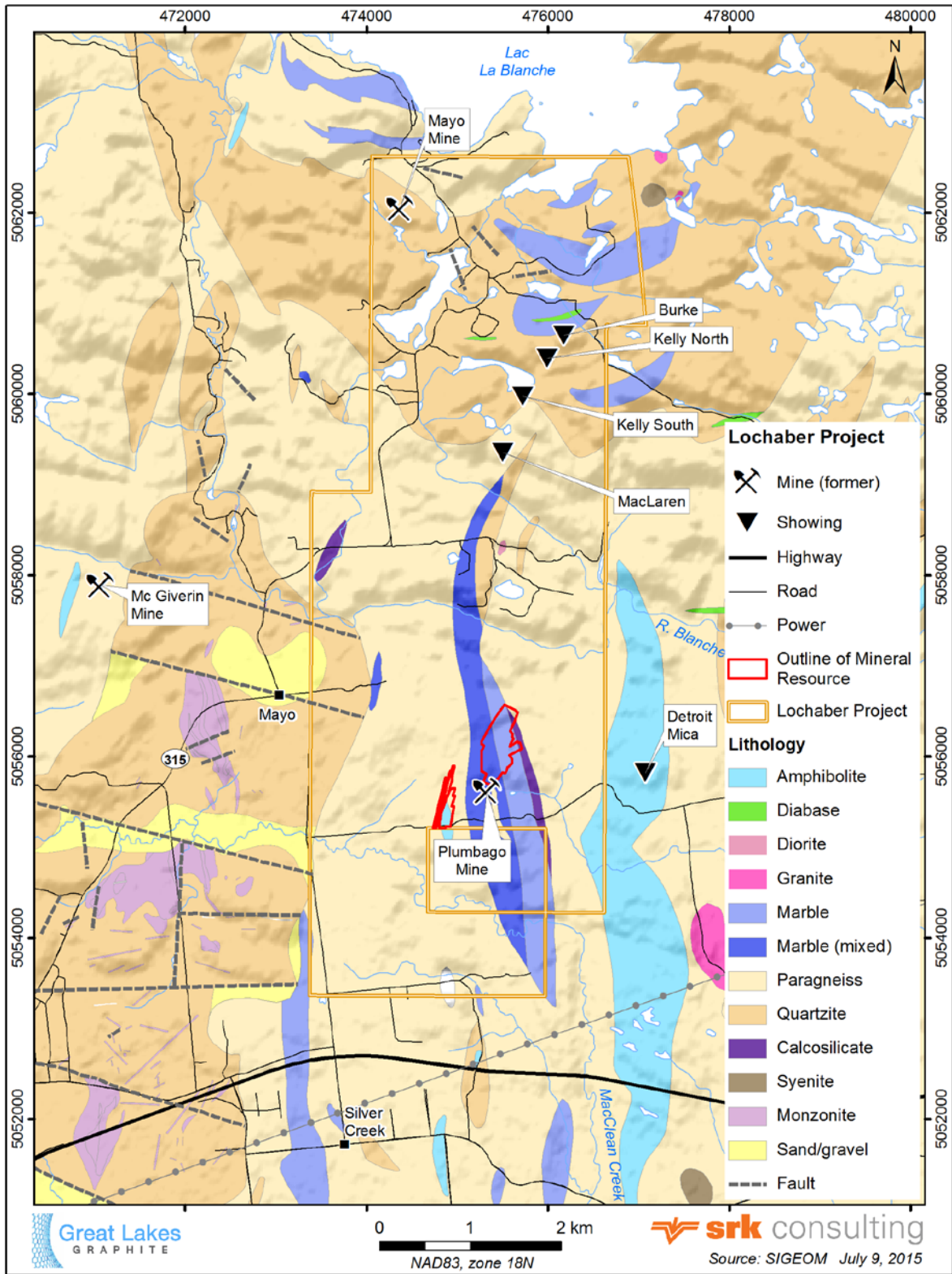


Figure 5: Local Geology Setting

### 6.3 Mineralization

Graphite mineralization is associated with gneissic rocks in contact with limestone / marble in a shear zone (Figure 6). Regional strike of the rocks is north-south while the shear zone at Plumbago mine pit has a strike 045 degrees and dip of 70 degrees to the northwest. Other controls of mineralization apparent in the trenches are the presence of diabase dikes and pegmatitic textures in the marble and paragneiss. Graphite occurs as crystalline large flaky texture with a shiny metallic luster; flake size ranging from 1 to 3 millimetres and sometimes up to 5 millimetres. The distribution of graphite is irregular and mostly occurs as fracture filling or pockets and along gneissic banding. The other pits on the Lochaber project are smaller in size than the Plumbago pit.



**Figure 6: View Looking North Displaying Gneissic Rocks in Contact with Marble in Plumbago Mine Showing Area**

(Source: Great Lakes)

Mineralization in the graphite showings (Figure 5) is described below:

**Kelly Showing** – consists of two parallel zones approximately 90 metres along strike, the first one is approximately 8 metres wide and the second zone is located 3 metres to the east is about 1.6 metres wide. These zones visually contain 15 to 20 percent coarse flake graphite.

**Burke Showing** – located approximately 500 metres to the north of the Kelly showing, explored in an area 1.3 to 3.0 metres wide and 120 metres long with visual estimation of 10 to 15 percent graphite. Some 450 metres to the west of this showing is another trench where graphite bearing muck was found which indicates that the Burke prospect may potentially continue further to the west along strike.

**McLaren Showing** – located to the south of the Kelly showing, its mineralization is mostly associated with marble unit and quartzofeldspathic gneiss as interpreted from borehole logs. The surface showing was followed by ground geophysical survey (electromagnetic) and was defined as one of the richest graphite bearing zone in boreholes in 1986 by Bay Resources.



**Plumbago Mine Showing** – located about 5 kilometres to the south of the Kelly showing. It was discovered in 1864 and stop producing graphite in 1868 with an estimated production of 545 tonnes of graphite. The graphite mineralization is in the form of coarse flake graphite within sheared paragneiss rocks (Figure 7). Flake graphite and slabs of graphite are widely disseminated in this zone with visual estimation of 10 to 15 percent graphite over an average width of 9 metres (MERN, 2015).

**Mayo Mine Showing** – located approximately 6 kilometres to the north of the village of Mayo in Buckingham. It was discovered in 1864 and stopped producing graphite in 1868 with no record of the production tonnage. The graphite showing is 9 metres long and 3 metres wide with 20 percent graphite disseminated in crystalline marble rocks (MERN, 2015).



**Figure 7: Flake Graphite Mineralization from the Plumbago Mine Area**  
(Source: Rock Tech)

## 7 Deposit Types

Graphite is a soft, crystalline form of carbon under standard conditions and can be considered the highest grade of coal, though it is not normally used as fuel because it is difficult to ignite. It is gray to black, opaque, and has a metallic lustre. Graphite occurs naturally in metamorphic rocks such as marble, schist, and gneiss. It can also be found in veins and pegmatites.

Graphite is a good electrical conductor. There are three principal types of natural graphite each occurring in different types of deposits, which are amorphous graphite, crystalline flake graphite, and lump graphite, also known as vein graphite.

Amorphous graphite is the lowest quality and most abundant. Amorphous refers to its very small crystal size and not to a lack of crystal structure. Amorphous is used for lower value graphite products and is the lowest priced graphite. Large amorphous graphite deposits are found in China, Europe, Mexico, and the United States.

The flake or crystalline form of graphite consists of many graphene sheets stacked together and is less common and higher quality than amorphous. Flake graphite occurs as separate flakes that crystallized in metamorphic rock and can be up to four times the price of amorphous. Good quality flakes can be processed into expandable graphite for many uses, such as flame retardants. The best known graphite flake deposits are found in Austria, Brazil, Canada, China, Germany, and Madagascar.

Vein or lump graphite is the rarest, most valuable, and highest quality type of natural graphite. It occurs in veins along intrusive contacts in solid lumps, and it is only commercially mined in Sri Lanka.

Economic graphite deposits can be classified into five categories reflecting the different types of graphite (Taylor, 2006).

The five types of deposits are:

1. Disseminated flake graphite in silica-rich meta-sedimentary rock
2. Disseminated flake graphite in marble
3. Metamorphosed coal seams
4. Vein deposits
5. Contact metasomatic or hydrothermal deposits in metamorphosed calcareous sedimentary rock or marble

The geology of each type is different. Deposits of category 1 or 2 are usually disseminated flake graphite and those of category 3 and 5 consist of micro crystalline or amorphous graphite. The mineralization at the Lochaber property is similar to categories 1 and 2. At the Lochaber property, graphite mineralization is associated with gneissic rock in contact with limestone / marble and is hosted in a shear zone. Other controls on the distribution of the graphite mineralization apparent in the trenches are the presence of diabase dikes and pegmatitic texture in the marble and paragneiss. Graphite occurs as crystalline large flaky texture with a shiny metallic luster; flake size ranges from 1 to 3 millimetres and can reach up to 5 millimetres.

Due to its conductive nature, airborne and ground electromagnetic surveying is the most commonly used exploration tool to locate graphite mineralization at an early exploration stage. The presence of local foliation is another important field prospecting criterion for locating graphite mineralization.

Graphite is mined by both open pit and underground methods. Graphite usually needs beneficiation. This may be carried out by hand-picking the pieces of gangue (rock) and hand-screening the product or by crushing the rock and floating out the graphite. Beneficiation by flotation encounters the difficulty that graphite is very soft and “marks” (coats) the particles of gangue. This makes the “marked” gangue particles float off with the graphite, yielding an impure concentrate. There are two ways of obtaining a commercial concentrate or product: repeated regrinding and floating (up to seven times) to purify the concentrate, or by acid leaching (dissolving) the gangue with hydrofluoric acid (for a silicate gangue) or hydrochloric acid (for a carbonate gangue).

In milling, the incoming graphite products and concentrates can be ground before being classified (sized or screened), with the coarser flake size fractions (below 8 mesh, 8–20 mesh, 20–50 mesh) carefully preserved, and then the carbon contents are determined. Some standard blends can be prepared from the different fractions, each with a certain flake size distribution and carbon content. Custom blends can also be made for individual customers who want a certain flake size distribution and carbon content. If flake size is unimportant, the concentrate can be ground more freely. Typical end products include a fine powder for use as a slurry in oil drilling and coatings for foundry molds, carbon raiser in the steel industry. (Synthetic graphite powder and powdered petroleum coke can also be used as carbon raiser). Environmental impacts from graphite mills consist of air pollution including fine particulate exposure of workers and also soil contamination from powder spillages leading to heavy metals contaminations of soil.

## 8 Exploration

Great Lakes and Rock Tech have carried out exploration on the Lochaber graphite project since 2012. Exploration in 2012 was conducted by Rock Tech and consisted of prospecting, grab sampling, ground geophysical surveys, and core drilling in the Plumbago area. Exploration in 2014 – 2015 was conducted by Great Lakes to follow up on the Rock Tech results with additional core drilling in the Plumbago area and an airborne drone elevation survey.

Exploration work carried out by Rock Tech and Great Lakes between 2012 and 2015 is summarized in Table 3 and shown in Figure 8.

**Table 3: Summary of Exploration Work Completed on the Lochaber Graphite Project**

<b>Exploration Work</b>	<b>2012 Rock Tech</b>	<b>2014 – 2015 Great Lakes</b>
Prospecting and Grab Sampling	11 grab samples at Kelly, McLaren, Burke, and Plumbago historical showings	
Ground Geophysics	35.17 line-kilometres magnetic survey 33.7 line-kilometres of horizontal loop electromagnetic survey	
Airborne Survey		Airborne drone elevation survey
Trenching	357 metres of channel sampling in seven trenches in the Plumbago area	
Core Drilling	37 NQ-sized boreholes (6,981 metres) in the Plumbago area	8 NQ-sized boreholes (1,130 metres) in the Plumbago area

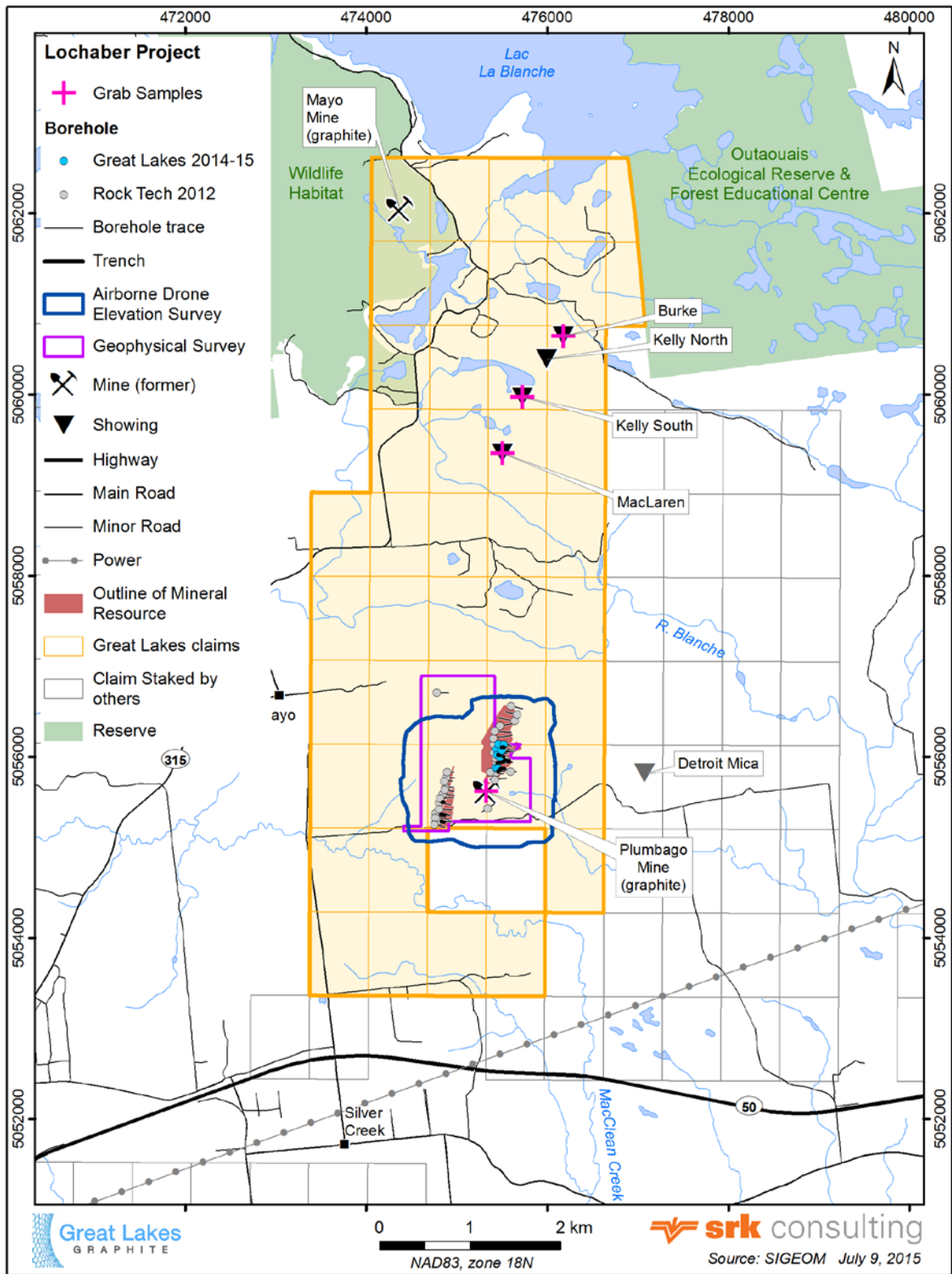


Figure 8: Compilation Map of Exploration Work



## 8.1 Exploration by Rock Tech

Rock Tech acquired the Lochaber project in May 2012 and started exploration work immediately. The historical exploration data helped in defining targets for geophysical survey, trenching, and diamond drilling. The exploration work carried out by Rock Tech is summarized herein.

### 8.1.1 Ground Prospecting and Sampling

The field prospecting and sampling work was carried out in May 2012 with the objective to evaluate various graphite mineralization areas and develop a systematic exploration work program. The prospecting work was contracted to St-Pierre Exploration, a prospecting and ground geophysical survey contractor out of Amos, Quebec. The property area was traversed to view local geological conditions, rock outcrops, old workings, and local structural trends. A total of eleven grab samples were collected during this work from which five samples were collected from the Plumbago mine area, four from the Burke graphite occurrence, and one each from the Kelly and McLaren occurrences. The sampling approach for this reconnaissance work was to collect representative samples from each of the dominant rock types present on the property to better understand the graphite mineralization style. All the samples were submitted to TECHNI-LAB Abitibi Inc., in Val d'Or, a branch of Activation Laboratories Ltd. Some of the salient results from the grab samples program include:

- A broken rock near an historical trench in the Kelly occurrence area that returned a grade of 16.7 percent graphitic carbon
- Three grab samples from historical trenches in the Burke occurrence area with grades of 20.7, 22.0 and 16.6 percent graphitic carbon
- A grab from an outcrop in the Plumbago northeast historical pit with a grade of 13.6 percent graphitic carbon

There are three exploration pits or past producing mines on the Plumbago mine area. The main pit is 10 by 6 metres in size with an approximate depth of 3 to 5 metres. Most of the graphite from side walls has been mined out, and the bottom of the pit is filled with water. It was observed that although the geological environment and trend of graphite mineralization at the Burke, Kelly, and McLaren occurrences are similar to that at the Plumbago mine area, the quality of graphite in terms of flake size visually appears to be better in the Plumbago mine area.

Graphite mineralization is associated with gneissic rocks in contact with marble / limestone in a shear zone. Regional strike of the rocks is north-south, while the shear zone at the Plumbago mine pit has a strike of 045 degrees and a dip of 70 degrees to the northwest. Other controls of mineralization apparent in the trenches are the presence of diabase dikes and pegmatitic texture of marble and paragneiss. Graphite occurs as crystalline large flaky texture with a shiny metallic luster; the flake size ranges from 1 to 3 millimetres and reaches up to 5 millimetres. The distribution of graphite is irregular and mostly occurs as fracture filling or pockets and along gneissic bands. The other two pits are smaller in size than the main pit.

The results of the grab sampling program by Rock Tech in 2012 indicated that the Burke occurrence is the most promising in terms of graphite content in surface samples with grades ranging from 10.4 to 22.0 percent graphitic carbon. The mineralization is at the contact of marble and paragneiss. For Plumbago mine area samples, the graphite content is in the range of 0.75 to 13.6 percent graphitic carbon, and the mineralization is associated with paragneiss. The sole samples from the Kelly and McLaren occurrences returned 16.7 and 3.01 percent graphitic carbon, respectively. Graphite flake size in surface samples ranged from 1 to 3 millimetres.

## 8.1.2 Ground Geophysical Survey

In August 2012, Rock Tech carried out a 35.17 line-kilometres ground magnetic survey in addition to 33.7 line-kilometres of horizontal loop electromagnetic (HLEM) ground surveying using a Max-Min instrument in the Plumbago area of the property. A GEM GSM-19 V7.0 Overhauser magnetometer was used to acquire the total field intensity magnetic data along the grid lines. An Apex Parametrics (Uxbridge, Ontario) MaxMin 1-9 instrument (serial number 5309) was used for the horizontal loop electromagnetic survey. The survey was done on traverses with a line spacing of 50 metres oriented east-west (090 - 270 degrees) and control-lines spaced at 100 metres oriented north-south (0 - 180 degrees). The interpretation of the survey was completed by Géophysique Camille St-Hilaire Inc. (Figure 9).

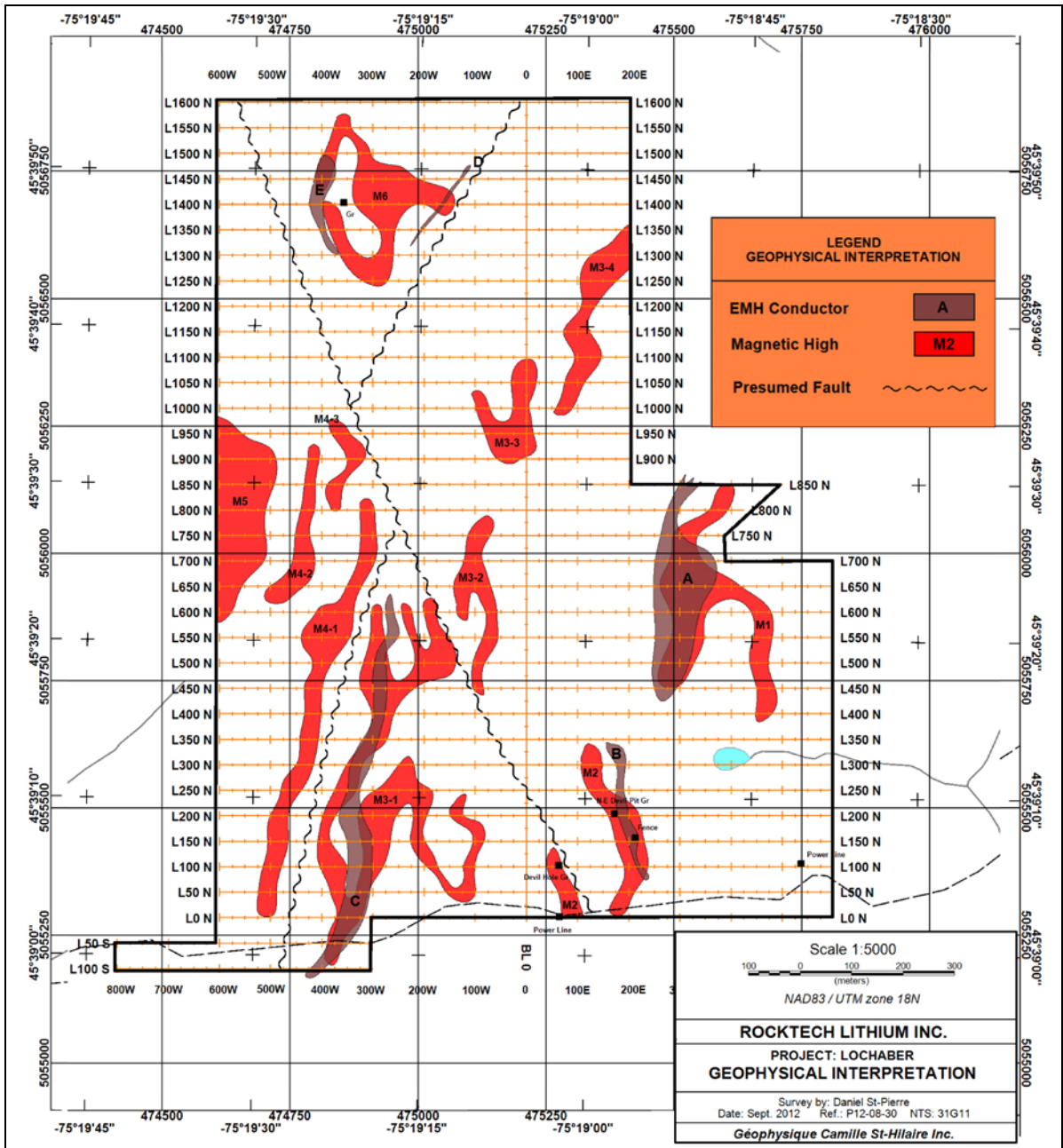
The interpretation of the magnetic survey data outlined several wide and intense magnetic anomalies all of which follow a north-northeast orientation. The magnetic field observed in the survey area is very strong, ranging from 47,207 to 63,000 nanotesla, meaning that strong magnetic susceptibility contrasts are present. Many wide and intense magnetic anomalies were outlined and named M1 to M6 on the geophysical interpretation map (Figure 9). The M3 and M4 anomalies are clearly divided into several segments (M3-1 to M3-4, and M4-1 to M4-3). Three interpreted faults cross the survey area in conjugate north-northeast and north-northwest orientations.

All of the magnetic anomalies seem to follow a preferential north-northeast orientation which is related to the presence of ferromagnesian mineralization along the main shear orientation.

The HLEM survey has identified five conductors oriented north-northeast to north-northwest. These conductors were named A, B, C, D, and E, as presented on Figure 9. Conductors A and C are strongly correlated with magnetic high anomalies. Table 4 presents results obtained from the electromagnetic data interpretation.

The ground geophysical survey interpretation recommended further exploration of interpreted conductors through drilling and surface trenching at recommended locations. As shown in Table 4, boreholes at Priority 1 were the most important recommended targets while those of Priority 3 were less important.

The best target is the wide and strong electromagnetic anomaly A. For this conductor, Table 5 shows that the mineralization should be very shallow. For this reason, trenching was recommended along the traverse 6+50N, over the conductive area, prior to drilling.



**Figure 9: Ground Geophysical Survey Interpretation Map**  
 Showing conductors, magnetic trends, and structural features interpreted as potential faults.

**Table 4: Horizontal Loop Electromagnetic Survey Conductor Anomalies  
 (Source: Rock Tech, 2012)**

Conductor Anomaly	Line	IP (%)	OP (%)	Conductance (Siemens)	Depth (m)	Comments
A	5+50N	-60	-18	~45.0	~0	Signal saturation. Conductor dip: sub-vertical (~85°W). Strong correlation with the magnetic anomaly M1. Priority 1.
	6+00N	-67	-30	~45.0	~0	
	6+50N	-65	-23	~45.0	~0	
	7+00N	-40	-19	45.0	5	
B	1+00N	-10	-17	2.3	12	Conductor dip: sub-vertical (~85°E). Partly correlated with the magnetic anomaly M2. Priority 1 even if the conductance is low.
	1+50N	-22	-22	5.2	10	
	2+00N	-26	-19	7.1	15	
	2+50N	-18	-16	6.0	18	
	3+00N	-17	-15	7.6	20	
C	0+00	-35	-23	30.0	5	Conductor dip: sub-vertical (~85°W). Strong correlation with the complex magnetic anomaly M3-1. Priority 2.
	1+00N	-32	-28	3.0	~0	
	1+50N	-17	-20	16.0	11	
	2+00N	-22	-22	21.0	10	
	2+50N	-18	-21	17.0	11	
	3+00N	-8	-10	15.0	27	
	3+50N	-9	-7	22.0	35	
	4+00N	-10	-17	9.0	13	
4+50N	-13	-14	18.0	21		
D	14+00N	-11	-4	22.0	40	Thin and deep conductor. Vertical. Parallel and very close to a presumed fault. Partly correlated with the magnetic anomaly M6.
E	14+00N	-16	-4	22.0	35	Deep conductor. Vertical. Partly correlated with the magnetic anomaly M6.

## 8.2 Exploration by Great Lakes

### 8.2.1 Airborne Drone Elevation Survey

In April 2015, Great Lakes contracted North Country Aerial, of Haileybury, Ontario to fly a visual spectrum remote airborne survey over the project in order to map the topography. The primary airborne remote sensing equipment was a DJI Inspire Multirotor unmanned aerial vehicle with a FC350 12.2 megapixel UHD 4k camera. The unmanned aerial vehicle carries a global navigation satellite system and GLONASS GPS system for geo-referencing image positions. Ground control points were supplied by Hinterland Geomatics for quality control purposes.

The survey was flown between April 27 and 29, 2015, covering the drilled area of the property, by Hinterland Geomatics, a contractor to Great Lakes.

The survey was flown at 100 metres from ground elevation to create a geo-referenced orthomosaic with images taken every 5 metres at an average speed of 7.2 metres per seconds. An average ground sampling distance of 4.7 centimetres per pixel and an average low resolution point cloud density of 9.6 points per square metre was generated from these results. All data from North Country Aerial has been supplied in UTM datum WGS84 zone 18N.



## 9 Drilling and Trenching

Between 2012 and 2015, Great Lakes and Rock Tech have drilled a combined 45 core boreholes (8,110 metres). In addition, Rock Tech completed seven trenches with 19 sampling channels (357 metres of channel sampling). The mineral resource evaluation discussed herein considers both the drilling and trenching sampling data. The drilling and trenching completed on the property are shown in Figure 10.

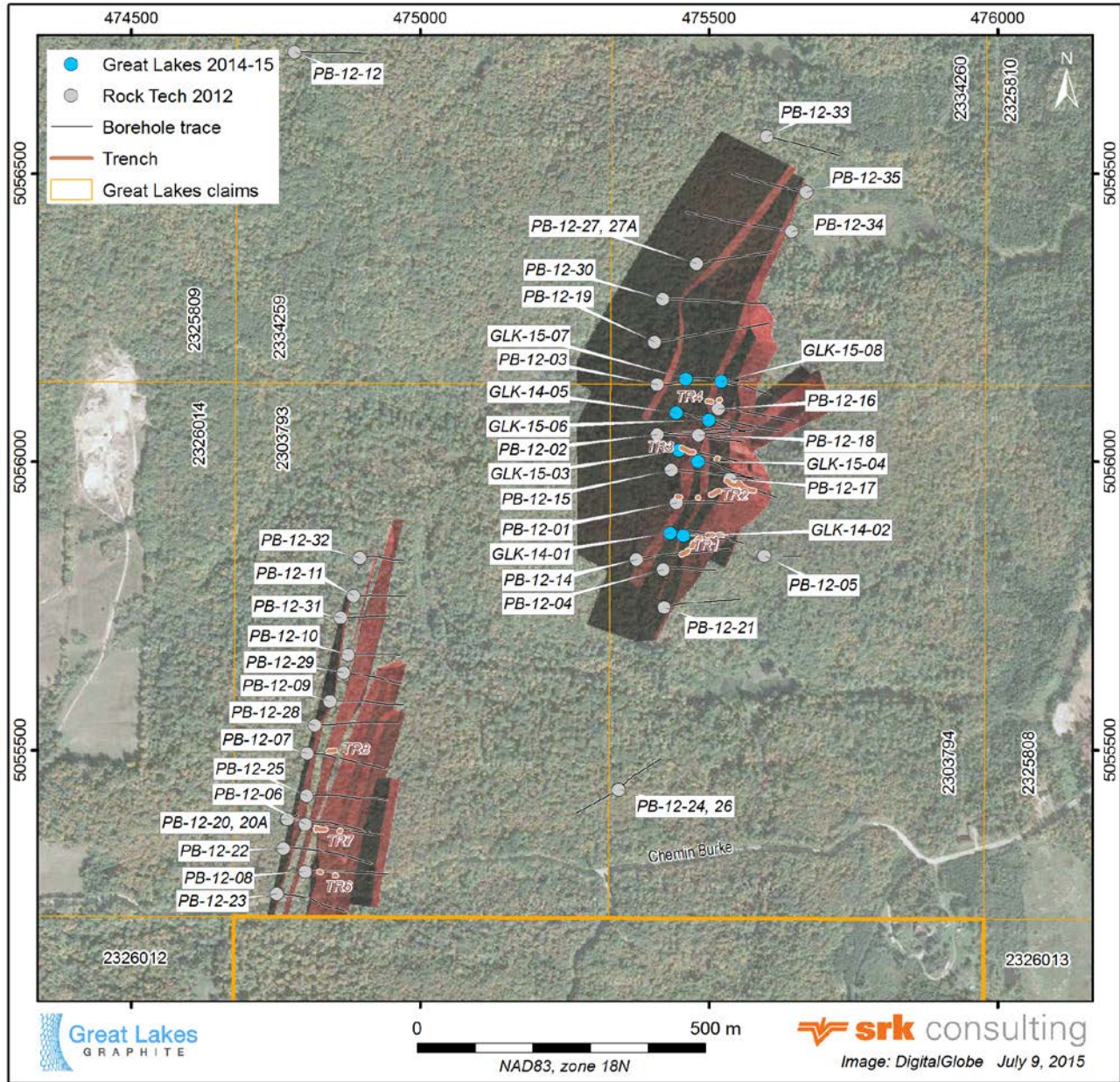


Figure 10: Drilling and Trench Location Map on the Lochaber Graphite Project

## 9.1 Drilling and Trenching by Rock Tech

### 9.1.1 Drilling by Rock Tech

From September 17 to December 31, 2012, 37 NQ-sized core boreholes (6,981 metres) were drilled by Rock Tech, of which 17 boreholes were drilled on electromagnetic Conductor A, 15 on Conductor C, one each on Conductors B and E, one on magnetic anomaly M1, and two that Rock Tech abandoned and re-drilled (Table 5). The purpose of the drilling program was to test electromagnetic and magnetic interpreted anomalies in the Plumbago mine showing area. The area covered by the drilling program is shown in Figure 10. Representative vertical cross-sections of the drilling data are presented in Appendix B.

Core samples were collected from intersected graphite bearing gneisses and metasedimentary rock. The graphite bearing zones were typically sampled at 1-metre intervals, including 1-metre samples from the immediate hanging wall and footwall. When a final 1-metre interval within the mineralized zone could not be made, then the remaining interval was combined with the previous 1-metre interval. The core was split in half lengthwise using a rock saw. All core was photographed and logged prior to sampling. Relevant geological and geotechnical information including borehole number, sample interval, and a description of mineralization was recorded directly into a drilling logging software.

A total of 3,730 samples (3,629 metres) was collected by Rock Tech for assaying. Samples were submitted to Activation Laboratories Ltd. (Actlabs), Ancaster, Ontario, ACME Metallurgical Laboratories (ACME) in Vancouver, British Columbia, or Global Minerals Research Laboratories (Global Minerals) in Burnaby, British Columbia.

In April 2015, Great Lakes collected an additional 499 samples (485 metres) from the 2012 drilling program in 20 of the 37 boreholes. The purpose of the re-sampling program was to sample zones where graphite was visually observed but not sampled or where the preliminary three-dimensional graphite domains intersected unsampled intervals. The graphite bearing zones were typically sampled at 1-metre intervals. Samples were collected from half core sawed lengthwise. Samples were organized into batches and sent by freight to AGAT Laboratories (AGAT), in Sudbury, Ontario for preparation and assaying.

Drilling was carried out by Forages M. Roullier Inc., of Amos, Quebec. A Reflex down-hole survey was performed regularly at 50-metre intervals or less. The survey interval was dependent upon the borehole deviation and ground condition. The casing was either removed or left, depending on the borehole condition and future land use. At the end of the drilling program all of the boreholes were surveyed using a Trimble differential GPS. The average overburden depths is 3.6 metres. The core was placed in wooden core trays at the drill site, labelled with the borehole ID and box number and transported to the core logging facility, located approximately 10 kilometres from the drill site near Buckingham town. At the core logging facility, the core boxes were labelled with aluminium tags indicating the borehole number and the core interval stored in each box. The drill core is stored in a warehouse behind a locked fence in Buckingham, Quebec.

**Table 5: Characteristics of Core Boreholes Drilled by Rock Tech in 2012**

Borehole ID	Target	Easting* (m)	Northing* (m)	Elevation (m)	Azimuth (degree)	Plunge (degree)	Length (m)	Sample** (count)
PB-12-01	A	475,444	5,055,930	201.0	87.0	-44.0	138.0	130
PB-12-02	A	475,410	5,056,048	201.0	82.0	-46.0	184.0	159
PB-12-03	A	475,410	5,056,135	199.0	87.0	-45.0	257.0	141
PB-12-04	A	475,421	5,055,814	194.0	83.0	-51.0	145.0	55
PB-12-05	M1	475,596	5,055,837	210.4	91.0	-52.0	101.0	47
PB-12-06	C	474,800	5,055,373	195.1	110.0	-51.0	217.0	192
PB-12-07	C	474,805	5,055,496	199.0	95.0	-50.0	210.0	142
PB-12-08	C	474,801	5,055,291	192.5	89.0	-46.0	204.0	145
PB-12-09	C	474,844	5,055,585	196.0	89.0	-51.0	198.0	141
PB-12-10	C	474,875	5,055,666	191.4	88.0	-50.0	141.0	105
PB-12-11	C	474,885	5,055,768	192.3	88.0	-50.0	141.0	58
PB-12-12	E	474,782	5,056,711	208.0	91.0	-50.0	201.0	66
PB-12-13	A	475,410	5,056,048	201.0	91.0	-45.0	211.1	149
PB-12-14	A	475,375	5,055,832	195.3	85.0	-51.0	258.0	126
PB-12-15	A	475,435	5,055,987	201.7	96.0	-50.0	249.0	109
PB-12-16	A	475,517	5,056,093	199.0	95.0	-51.0	222.0	176
PB-12-17	A	475,536	5,055,971	203.5	117.0	-49.0	135.0	56
PB-12-18	A	475,482	5,056,047	200.2	78.0	-52.0	150.0	125
PB-12-19	A	475,406	5,056,208	189.4	80.0	-53.0	336.6	211
PB-12-20***	C	474,770	5,055,381	196.2	71.0	-56.0	33.0	18
PB-12-20A	C	474,770	5,055,381	196.2	95.0	-56.0	264.0	181
PB-12-21	A	475,422	5,055,749	185.5	78.0	-50.0	205.0	35
PB-12-22	C	474,763	5,055,331	194.5	77.0	-50.0	237.0	142
PB-12-23	C	474,752	5,055,252	191.4	95.0	-50.0	204.0	138
PB-12-24	B	475,344	5,055,433	187.5	42.0	-50.0	141.0	32
PB-12-25	C	474,804	5,055,421	197.0	86.0	-51.0	219.0	182
PB-12-26	A	475,344	5,055,432	187.5	241.0	-51.0	135.0	120
PB-12-27***	A	475,479	5,056,344	189.1	78.0	-51.0	48.0	0
PB-12-27A	A	475,479	5,056,344	189.1	78.0	-52.0	213.0	89
PB-12-28	C	474,818	5,055,544	196.9	87.0	-50.0	222.0	185
PB-12-29	C	474,867	5,055,636	193.2	97.0	-50.0	158.0	130
PB-12-30	A	475,420	5,056,283	190.8	92.0	-51.0	285.3	15
PB-12-31	C	474,862	5,055,731	189.5	87.0	-49.0	129.0	126
PB-12-32	C	474,895	5,055,835	197.9	85.0	-49.0	115.0	28
PB-12-33	A	475,600	5,056,564	184.8	103.0	-51.0	204.0	116
PB-12-34	A	475,643	5,056,400	177.7	279.0	-47.0	269.0	239
PB-12-35	A	475,669	5,056,468	177.8	282.0	-48.0	201.0	120
<b>Total</b>							<b>6,981.0</b>	<b>4,229</b>

\* UTM Coordinates (Nad83, Zone 18)

\*\* Sample counts include re-sampling of select unsampled intervals by Great Lake

\*\*\* Abandoned and re-drilled with "A" borehole

## 9.1.2 Trenching by Rock Tech

Ground geophysical survey interpretation reflected that conductor anomalies A and C are shallow and surface trenching was recommended for further exploration. A total of seven trenches were completed and 19 sampling channels cut for sampling exposed graphite mineralization. Trenching also provides surface continuity of graphite mineralization intercepted in drilling. Four channels were cut on electromagnetic conductor anomaly A and three were cut on conductor anomaly C. The characteristics of the sampling channels in the trenches are listed in Table 6 with the location of the trenches shown on Figure 10.

**Table 6: Characteristics of Sampling Channels in Trenching by Rock Tech in 2012**

Trench ID	Target	Easting* (m)	Northing* (m)	Elevation (m)	Azimuth (degree)	Plunge (degree)	Length (m)	Sample (count)
TR1-A	A	475,451	5,055,840	197.9	64.0	0.0	15.7	14
TR1-B	A	475,470	5,055,853	201.7	25.0	0.0	25.3	22
TR1-C	A	475,496	5,055,873	207.0	69.0	0.0	16.0	16
TR1-D	A	475,515	5,055,874	208.4	86.0	0.0	14.8	13
TR2-A	A	475,445	5,055,940	200.7	97.0	0.0	19.0	17
TR2-B	A	475,481	5,055,938	204.5	75.0	0.0	15.0	16
TR2-C	A	475,518	5,055,949	205.7	90.0	0.0	40.0	38
TR2-D	A	475,553	5,055,962	205.0	72.0	0.0	32.0	32
TR2-E	A	475,578	5,055,950	205.2	100.0	0.0	34.0	34
TR3-A	A	475,473	5,056,017	201.2	95.0	0.0	30.0	25
TR3-B	A	475,514	5,056,007	202.2	60.0	0.0	6.0	6
TR4-A	A	475,498	5,056,105	198.0	89.0	0.0	4.0	4
TR4-B	A	475,504	5,056,105	198.0	94.0	0.0	5.0	5
TR4-C	A	475,519	5,056,108	198.0	70.0	0.0	8.0	8
TR6-A	A	474,828	5,055,289	192.9	111.0	0.0	16.0	16
TR6-B	A	474,851	5,055,283	194.0	105.0	0.0	24.0	24
TR7-A	A	474,819	5,055,363	196.0	115.0	0.0	32.5	31
TR7-B	A	474,859	5,055,360	197.0	73.0	0.0	5.0	5
TR8-A	A	474,840	5,055,499	198.6	88.0	0.0	15.0	15
<b>Total</b>							<b>357.3</b>	<b>341</b>

\* UTM Coordinates (Nad83, Zone 18)

All channel samples were cut using a diamond saw and are typically 8 to 10 centimetres wide by 3 to 5 centimetres deep. The average length of each sample is 1 metre but can vary depending on geological boundaries. The samples were shipped to Global Minerals, in Burnaby, British Columbia for preparation and analysis.

## 9.2 Drilling by Great Lakes

In late 2014 and early 2015, eight NQ-sized core boreholes (1,130 metres) were completed on the Lochaber graphite project by Great Lakes. Drilling took place between December 2014 and January 2015 and was contracted to Wolf Mountain Drilling from Sudbury, Ontario.

The purpose of the 2014-2015 drilling program was to infill the geophysical conductor anomaly A. The boreholes are distributed on section lines spaced at 50 to 100 metres and borehole spacing on each section line of 25 to 100 metres. The physical characteristics of the boreholes are presented in Table 7. The distribution of the boreholes drilled in 2011 and 2012 is shown in Figure 10. Representative vertical cross-sections are presented in Appendix B.

A RANGER Discover down-hole survey tool from RANGER Survey Systems of Brisbane, Australia was used at 3-metre or greater intervals. The casing was either removed or left, depending on the borehole condition and future land use. Great Lakes surveyed the collar location using a Trimble differential GPS unit. The average overburden depth was 2.5 metres. The core was placed in wooden core trays at the drill site, labelled with the borehole ID and box number and transported to the core logging facility, located approximately 10 kilometres from the drill site near Buckingham town. At the core logging facility, the core boxes were labelled with aluminium tags indicating the borehole number and the core interval stored in each box. The core is stored in a warehouse behind a locked fence in Buckingham, Quebec.



A total of 768 samples (1,130 metres) were collected from half core sawed lengthwise with a rock saw. Samples are primarily at 1-metre intervals. Sampling intervals were determined by a geologist according to the uniformity of the graphite mineralization and the geological boundaries. Sample lengths vary from 0.6 to a maximum of 10 metres. The remaining half core was replaced in the core box and archived. Samples were organized into batches and sent by freight from Buckingham to AGAT in Sudbury, Ontario for preparation and testing.

**Table 7: Characteristics of Core Boreholes Drilled by Great Lakes in 2014 and 2015**

<b>Borehole ID</b>	<b>Target</b>	<b>Easting* (m)</b>	<b>Northing* (m)</b>	<b>Elevation (m)</b>	<b>Azimuth (degree)</b>	<b>Plunge (degree)</b>	<b>Length (m)</b>	<b>Sample (count)</b>
GLK-14-01	A	475,433	5,055,877	200.2	81.5	-45.0	142.0	104
GLK-14-02	A	475,456	5,055,873	201.4	89.5	-45.0	140.5	72
GLK-14-05	A	475,444	5,056,086	199.5	96.5	-45.0	160.5	122
GLK-15-03	A	475,448	5,056,021	201.0	99.5	-45.0	140.6	114
GLK-15-04	A	475,481	5,056,002	202.0	99.5	-45.0	142.0	103
GLK-15-06	A	475,500	5,056,074	199.9	96.5	-45.0	162.0	124
GLK-15-07	A	475,461	5,056,145	195.9	86.5	-45.0	121.0	53
GLK-15-08	A	475,522	5,056,139	198.0	99.5	-45.0	121.0	76
<b>Total</b>							<b>1,129.6</b>	<b>768</b>

\* UTM Coordinates (Nad83, Zone 18)

## 10 Sample Preparation, Analyses, and Security

### 10.1 Sample Preparation and Analyses

#### 10.1.1 Grab Sampling by Rock Tech in 2012

Samples from the May 2012 prospecting program by Rock Tech were submitted to TECHNI-LAB Abitibi Inc. (TECHNI-LAB), in Val d'Or, Quebec, a branch of Activation Laboratories Ltd. (Actlabs) and were assayed by using Package 5 D. Graphitic carbon is tested with infrared analysis to a detection limit 0.05 percent; plus total carbon with infrared analysis and a detection limit 0.01 percent. For graphitic carbon, the sample is subjected to a multistage furnace treatment to remove all forms of carbon with the exception of graphitic carbon; and for total carbon a procedure that determines the most volatile organic carbon species. In addition, samples were tested with Package 4E a multi-element litho geochemistry suite using X-ray fluorescence (XRF) and inductively coupled plasma mass spectrometry (ICP-MS).

TECHNI-LAB is currently accredited ISO/CEI 17025:2005 by the Standards Council of Canada for a number of specific test procedures, including the method used to assay samples submitted by Rock Tech. TECHNI-LAB is independent from Great Lakes.

#### 10.1.2 Drilling by Rock Tech in 2012

Samples from Boreholes PB-12-01 and PB-12-02 were submitted to Actlabs in Ancaster, Ontario for analysis. The core samples from Boreholes PB-12-03 to PB-12-13 were sent to ACME Metallurgical Laboratories (ACME) in Vancouver, British Columbia. In 2012, the ACME laboratories were acquired by Bureau Veritas and the laboratory assaying team working on graphite assaying joined Global Minerals Research Laboratories (Global Minerals) in Burnaby, British Columbia. Samples from the remaining Boreholes PB-12-14 to PB-12-35 were analyzed at Global Minerals for consistency purposes. The samples are prepped and assayed using double loss on ignition (double LOI). During assaying, the samples are dried, pulverized, leached, and roasted at 450 degrees Celsius and 1,200 degrees Celsius with measured weights taken between double ignitions. The laboratories also conduct duplicate and internal standard samples at intervals of ten as part of their analytical quality control program.

Samples submitted to Actlabs were analyzed with Package 5D where graphitic carbon is tested with infrared analysis to a detection limit 0.05 percent; plus total carbon with infrared analysis and a detection limit 0.01 percent. For graphitic carbon, the sample is subjected to a multistage furnace treatment to remove all forms of carbon with the exception of graphitic carbon; and for total carbon a procedure that determines the most volatile organic carbon species.

Actlabs is currently accredited ISO/CEI 17025:2005 by the Standards Council of Canada for a number of specific test procedures, but not the method used to assay samples for graphite as submitted by Rock Tech.

The core samples submitted to ACME and Global Minerals used a double LOI method where samples are dried, pulverized, leached using hydrochloric acid to leach carbonate, and roasted at 450 degrees Celsius to evaporate organic carbon which is referred to as first ignition. The sample is

weighed and roasted at 1,200 degrees Celsius when graphitic carbon is burnt off. The sample is weighed again; this is known as second loss on ignition.

ACME is accredited ISO/CEI 17025:2005 by the Standards Council of Canada but not for the method used to assay graphite. It is unclear if the laboratory was certified for this method in 2012. Global Minerals has not been accredited by an independent accreditation organisation.

In 2015, Great Lakes submitted select unsampled intervals to AGAT in Sudbury, Ontario for preparation and to Mississauga, Ontario for analysis. Samples submitted to AGAT were analyzed for graphitic carbon with infrared analysis to a detection limit of 0.01 percent; plus total carbon with infrared analysis and a detection limit of 0.01 percent (method code 201-109). For graphitic carbon, the sample is subjected to a multistage furnace treatment to remove all forms of carbon with the exception of graphitic carbon; and for total carbon a procedure that determines the most volatile organic carbon species.

AGAT in Mississauga, Ontario is accredited ISO/IEC 17025:2005 by the Standards Council of Canada but not for the method used to assay graphite. The AGAT laboratory is independent from Great Lakes.

### **10.1.3 Trenching by Rock Tech in 2012**

Channel samples in trenches were collected by Rock Tech staff in 2012. All channel samples were logged and split by diamond saw and were typically 8 to 10 centimetres wide by 3 to 5 centimetres deep. Samples were bagged and sent by freight to Global Minerals in Burnaby, British Columbia for preparation.

The samples submitted to Global Minerals also used a double LOI method where samples are dried, pulverized, leached using hydrochloric acid to leach carbonate, and roasted at 450 degrees Celsius to evaporate organic carbon which is referred to as first ignition. The sample is weighed and roasted at 1,200 degrees Celsius when graphitic carbon is burnt off. The sample is weighed again; this is referred to as second loss on ignition.

Global Minerals has not been accredited by an independent accreditation organisation. Global Minerals is independent of Great Lakes.

### **10.1.4 Drilling by Great Lakes in 2014 – 2015**

Sampling was done by Great Lakes staff. Half core samples were bagged and sent by freight to AGAT in Sudbury, Ontario for preparation. Pulps were couriered to AGAT in Mississauga, Ontario for analysis.

Samples submitted to AGAT were analyzed for graphitic carbon with infrared analysis to a detection limit of 0.01 percent; plus total carbon with infrared analysis and detection limit of 0.01 percent (method code 201-109). For graphitic carbon, the sample is subjected to a multistage furnace treatment to remove all forms of carbon with the exception of graphitic carbon; and for total carbon a procedure that determines the most volatile organic carbon species.

AGAT in Mississauga, Ontario is accredited ISO/IEC 17025:2005 by the Standards Council of Canada but not for the method used to assay graphite.

## 10.2 Specific Gravity Data

Specific gravity was measured by pycnometry by AGAT (method code 201-049) during the Great Lakes drilling program and re-sampling of Rock Tech core (discussed in Section 10.3) from 2012. Specific gravity was measured on every sixth sample. A total of 294 specific gravity measurements were taken with 157 located inside the graphite mineralized domains.

## 10.3 Quality Assurance and Quality Control Programs

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. These measures include written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management, and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

Analytical control measures typically involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation, and assaying. They are also important to prevent sample mix-up and to monitor the voluntary or inadvertent contamination of samples.

Assaying protocols typically involve regularly duplicating and replicating assays and inserting quality control samples to monitor the reliability of assaying results throughout the sampling and assaying process. Check assaying is normally performed as an additional test of the reliability of assaying results; it generally involves re-assaying a set number of sample rejects and pulps at a secondary umpire laboratory.

The review of the quality control measures described in this technical report focuses on the analytical results informing the mineral resources. This includes the 2012 Rock Tech drilling and trenching, the 2014 – 2015 Great Lakes drilling, and the 2015 re-sampling of select unsampled intervals from the 2012 Rock Tech drilling program by Great Lakes.

In 2012, Rock Tech implemented external analytical quality control measures on all drilling and channel sampling, consisting of using control samples (field blanks, certified in-house standards, and field duplicates) in all sample batches submitted for assaying. The field blank used by Rock Tech is of an unknown source. Rock Tech commissioned CDN Resources Inc. (CDN), of Langley, British Columbia to prepare in-house standards from graphite mineralized rocks from the Plumbago area of the Lochaber project. Two standards were produced: one high grade standard with the original composition of the graphite mineralization (STDH) and one that was diluted with pure quartz by 50 percent to produce a low grade standard (STDL). Means and standard deviations were calculated by Smee & Associates Consulting Ltd. (Smee & Associates) of North Vancouver, British Columbia from data supplied by six laboratories (Table 8). Instructions to the laboratories were for the laboratory to perform a graphitic carbon analysis using their internal method, either by infrared analysis or double LOI.

In 2014 and 2015, Great Lakes implemented external analytical quality control measures on all sampling, both new drilling and re-sampling of 2012 core, involving using control samples consisting of field blanks and certified standards. Field blanks were sourced from unsampled core of a lead-zinc project in northern Ontario devoid of graphite. Great Lakes used a total of five

commercial standard reference materials, four prepared by CDN and one prepared by Geostats Pty Ltd. (Geostats) from O'Connor, Western Australia (Table 8).

**Table 8: Specifications of Control Samples Used on the Lochaber Project**

Reference Material	Operator	Source	Expected Value (Cg %)	Standard Deviation (Cg %)	Sample Count
STDL	Rock Tech	CDN/Smee Assoc.	1.51	0.09	159
STDH	Rock Tech	CDN/Smee Assoc.	4.81	0.21	152
CDN-GR-1	Great Lakes	CDN Resources	3.12	0.06	37
CDN-GR-2	Great Lakes	CDN Resources	1.93	0.11	8
CDN-GR-3	Great Lakes	CDN Resources	2.39	0.06	5
CDN-GR-4	Great Lakes	CDN Resources	1.01	0.05	8
GGS-05	Great Lakes	Geostats	8.60	0.55	4

Cg = graphitic carbon

## 10.4 SRK Comments

SRK reviewed the field procedures and analytical quality control measures used by Great Lakes and historical operator Rock Tech where possible. The analysis of the analytical quality control data is presented in Section 11 below. In the opinion of SRK, Great Lakes personnel used care in the collection and management of the field and assaying exploration data. Based on historical reports and data, SRK has no reason to doubt the reliability of exploration and drilling information provided by Rock Tech.

In the opinion of SRK, the sampling preparation, security and analytical procedures used by Great Lakes and Rock Teck are consistent with generally accepted industry best practices and are, therefore, adequate to support mineral resource estimation. SRK found no evidence of sampling or analytical bias.

## 11 Data Verification

### 11.1 Verifications by Rock Tech and Great Lakes

The exploration work carried out on the Lochaber property was conducted by Great Lakes personnel and qualified subcontractors. Rock Tech and Great Lakes implemented a series of routine verifications to ensure the collection of reliable exploration data. All work was conducted by appropriately qualified personnel under the supervision of qualified geologists. In the opinion of SRK, the field exploration procedures used at Lochaber generally meet industry practices.

The quality assurance and quality control program implemented by Rock Tech and Great Lakes is comprehensive and supervised by adequately qualified personnel. Exploration data were recorded digitally to minimize data entry errors. Core logging, surveying, and sampling were monitored by qualified geologists and verified routinely for consistency. Electronic data were captured and managed using an internally-managed database.

Assay results were delivered by the primary laboratories electronically to Rock Tech and Great Lakes and were examined for consistency and completeness. Sample batches that failed the external analytical quality control tests were requested for re-assaying, if necessary.

### 11.2 Verifications by SRK

#### 11.2.1 Site Visit

In accordance with National Instrument 43-101 guidelines, Sébastien Bernier, PGeo (OGQ#1034) of SRK visited the Lochaber graphite project on December 22, 2014 accompanied by Mr. Terry Loney, a technical consultant for Great Lakes. The purpose of the site visits was to review the exploration database and validation procedures, review exploration procedures, define geological modelling procedures, examine core from selected borehole intervals, interview project personnel, and collect all relevant information for the preparation of an initial mineral resource model and the compilation of a technical report.

SRK was given full access to relevant data and conducted interviews with Great Lakes personnel to obtain information on the past exploration work, to understand procedures used to collect, record, store, and analyze historical and current exploration data.

#### 11.2.2 Verification of Electronic Analytical Data

Great Lakes provided electronic assay certificates in the form of Adobe pdf documents for all batches of samples analyzed at Actlabs, ACME, Global Minerals, and AGAT over the course of the project. SRK verified the sample numbers and carbon graphite values within the assay certificates against digital data in the electronic assay database. SRK checked approximately 10 percent of the analytical database entries.

Some discrepancies were found in the values for the Rock Tech drilling in 2012 for samples analysed at ACME. Following some investigating, SRK and Great Lakes understand that the discrepancies are due to variances in the preliminary results and the final pdf certificates. In some instances the preliminary results were not overwritten by the final results. The discrepancies are

generally minor, though in one 6-metre interval of Borehole PB-12-10 the preliminary results were in the 3.91 to 10.93 percent graphitic carbon range and the final certificate results are in the 0.16 to 1.41 percent graphitic carbon range. SRK recommends that the database be thoroughly checked by Great Lakes and that specific intervals be re-analyzed, if necessary.

SRK did not audit other electronic data (surveying and logging tables) contained in the Lochaber exploration database.

### 11.2.3 Verifications of Analytical Quality Control Data

SRK analyzed the analytical quality control data produced by both Rock Tech and Great Lakes between 2012 and 2015 and informing the mineral resources discussed herein. This includes the 2012 Rock Tech drilling and trenching, the 2014 – 2015 Great Lakes drilling, and the 2015 re-sampling of select unsampled intervals from the 2012 Rock Tech drilling program by Great Lakes.

Great Lakes provided SRK with external analytical control data containing the assay results for the quality control samples for the Lochaber graphite project. All data were provided in the form of Microsoft Excel spreadsheets. SRK aggregated the assay results of the external analytical control samples for further analysis. Control samples (blanks and certified reference materials) were summarized on time series plots to highlight their performance. Paired data (field duplicates) were analyzed using bias charts, quantile-quantile, and relative precision plots. For this period, no duplicate samples were analyzed.

The external analytical quality control data produced by Great Lakes and Rock Tech are summarized in Table 9 and presented in graphical format in Appendix C. The external quality control data produced on this project represent approximately 17 percent of the total number of samples assayed with a large portion from the 2012 Rock Tech drilling program.

**Table 9: Summary of Analytical Quality Control Data Produced for the Lochaber Project**

	Rock Tech Drilling		Rock Tech Trenching		Great Lakes Drilling		Great Lakes Re-sampling*		Comment
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	
Sample Count	3,730		341		768		499		
Blanks	220	5.9%	12	3.5%	40	5.2%	29	5.8%	
Field Blank	220		12		9		29		Various sources
Gold Blank & Stds	-		-		31		-		CDN: BL-10, GS-P3C, GS-7E
Standards	297	8.0%	14	4.1%	30	3.9%	32	6.4%	
STDL	152		7		-		-		CDN/Smee Assoc. (1.51% Cg)
STDH	145		7		-		-		CDN/Smee Assoc. (4.81% Cg)
CDN-GR-1	-		-		30		7		CDN Resources (3.12% Cg)
CDN-GR-2	-		-		-		8		CDN Resources (1.93% Cg)
CDN-GR-3	-		-		-		5		CDN Resources (2.39% Cg)
CDN-GR-4	-		-		-		8		CDN Resources (1.01% Cg)
GGS-05	-		-		-		4		Geostats (8.60% Cg)
Field Duplicates	217	5.8%	0	0.0%	0	0.0%	0	0.0%	
<b>Total QC Samples</b>	<b>734</b>	<b>19.7%</b>	<b>26</b>	<b>7.6%</b>	<b>70</b>	<b>9.1%</b>	<b>61</b>	<b>12.2%</b>	

\* Re-sampling of select unsampled intervals from 2012 drilling by Rock Tech

Cg = graphitic carbon

In general, the performance of the control samples inserted with samples submitted for assaying is acceptable. Blanks consistently yielded values near or below the detection limit. In the 2012 drilling data, the field blank used is unknown; SRK suspects that the field blank used at the beginning of the program contained approximately 1 percent graphitic carbon. At the beginning of the 2014 drilling program Great Lakes did not yet have certified standards so the company inserted some gold standards that have been considered as blank pulps for this study. Overall the sample blanks performed satisfactorily.

In 2012, Rock Tech commissioned CDN and Smee & Associates to prepare two in-house standards with mean and standard deviations calculated from results received from six laboratories. Two standards were produced: one high grade standard (STDH) and one lower grade (STDL). The graphitic carbon analysis measurements to calculate the mean grade and variance of the two standards varied between infrared analysis or double LOI, depending on the preferred method of the lab. Both standards faired rather poorly with the expected limits derived from this round robin test. The majority of the STDL and STDH samples analyzed at ACME and Global Minerals using the double LOI method during the 2012 drilling campaign returned values above the expected value consistently by two to three times the standard deviation. SRK considers that this discrepancy is likely due to the limited round robin testing and varying methods used to derive the expected values.

In 2014 and 2015, Great Lakes used certified standards produced by CDN primarily, and also one standard by Geostats. The sole standard used during the eight borehole core drilling program consisted of CDN-GR-1 with an expected value of 3.12 percent graphitic carbon. Some 80 percent of the samples analyzed at AGAT with the infrared method returned values above two standard deviations with a mean grade of 3.27 percent graphitic carbon. The CDN and Geostats standards used during the re-sampling of select unsampled intervals from the 2012 program performed well with AGAT delivering results within expected limits of two standard deviations with a few failures.

Globally, the reference material results show that the primary laboratories had difficulty in returning analytical results within expected limits for the control samples tested. Despite this, the laboratories were able to return consistent results over time.

SRK examined the external field duplicates data compiled by Rock Tech from the 2012 core drilling program. The samples are believed to be quarter core duplicates. In general, the reproducibility is worse nearing the detection limit, as to be expected. A total of 80.2 percent of the field duplicate assay pairs tested had a half absolute relative difference (HARD) below 10 percent. The correlation coefficient was calculated at 0.97. This indicates excellent analytical reproducibility of the carbon graphite grades.

In general, SRK considers that analytical quality control data reviewed by SRK attest that the assay results delivered by the primary laboratories used on the Lochaber graphite project are sufficiently reliable for the purpose of resources estimation. The data sets examined by SRK do not present evidence of obvious analytical bias.



## 12 Mineral Processing and Metallurgical Testing

### 12.1 Testwork by Rock Tech in 2012

Rock Tech carried out preliminary metallurgical testing on a representative composite core sample from the 2012 drilling campaign. The mineral processing and metallurgical testing was carried out on core samples by Global Mineral Research Limited in Burnaby, British Columbia.

Seven hundred and fifty grams of the sample was first ground to 95 percent passing 3.35 millimetres and then subjected to gravity separation to recover coarse graphite flakes. The gravity middling and tails were combined and reground to a smaller particle size to further liberate the graphite; this was followed by another gravity separation stage. The process of grinding followed by gravity separation was carried out a total of four times sequentially. The test results are summarized in Table 10.

Each concentrate was fused to remove the gangue minerals in order to measure the size distribution of the graphite flakes. The fused graphite concentrates were screened at different sieves and assayed separately. The flake size distribution on combined concentrates is presented in Table 11.

**Table 10: Gravity Test Summary from 2012 Metallurgical Testing by Rock Tech**

Products	Weight		Grades (% Graphite)	Distribution (% Graphite)
	(g)	(%)		
Stage 1 Conc.	127.5	16.8	21.90	44.80
Stage 2 Conc.	107.4	14.2	10.53	18.15
<b>Stage 1 + 2 Conc.</b>	<b>234.9</b>	<b>31.0</b>	<b>16.70</b>	<b>62.95</b>
Stage 3 Conc.	33.8	4.5	22.99	12.48
<b>Stage 1 + 2 + 3 Conc.</b>	<b>268.7</b>	<b>35.5</b>	<b>17.49</b>	<b>75.43</b>
Stage 4 Conc.	8.9	1.2	18.06	2.57
<b>Total Conc.</b>	<b>277.5</b>	<b>36.7</b>	<b>17.51</b>	<b>77.99</b>
Middling + Tailing	479.5	63.3	2.86	22.01
<b>Calculated Head</b>	<b>757.0</b>	<b>100.0</b>	<b>8.23</b>	<b>100.00</b>
Assayed Head			8.68	

**Table 11: Flake Size Distribution on Combined Concentrates 1, 2, and 3 from 2012 Metallurgical Testing by Rock Tech**

Sieve Size		Weight		Grades (% Graphite)	Distribution (% Graphite)
Tyler Mesh	Microns	(g)	(%)		
+30	+600	3.61	7.69	97.35	5.80
30 x 50	600 x 300	9.32	19.84	98.78	14.96
50 x 80	300 x 180	9.68	20.59	98.69	15.53
80 x 100	180 x 150	3.63	7.72	98.48	5.83
100 x 200	150 x 75	10.72	22.8	98.59	17.20
-200	-75	10.03	21.35	97.20	16.11
<b>Calculated Total</b>		<b>46.99</b>	<b>100.00</b>	<b>98.25</b>	<b>75.43</b>

## 12.2 Testwork by Great Lakes in 2014

Initial metallurgical testwork completed by Great Lakes has centred on grinding and flotation characteristics of the potential mill feed samples. The material for the initial tests was visually selected from waste piles at the historical Plumbago mine site, located on the Lochaber property, with the objective of retrieving high grade material. The material selected was not intended to be broadly representative of the mineral resources summarized in Section 13. A total of 300 kilograms of material was collected.

In November 2014, Process Research ORTECH Inc. (ORTECH) of Mississauga, Ontario attempted concentration / separation of graphite by flotation from the bulk sample. Two reports were prepared by ORTECH.

Five 300-gram batches of feed material were subjected to flotation, using a Wemco laboratory flotation machine. The feed material was added in the flotation cell. Water was added to fill about 60 percent of the cell. The mixer was then turned on to produce an even suspension. Four drops of Ekof 14526 (Ekof Flotation GmbH) were added and the sample was conditioned for five minutes. Air was turned on and flotation was carried out for approximately 15 minutes. Half way through, an additional two drops of Ekof 14526 were added. The rougher tail was filtered and a cleaner flotation was performed on the concentrate, using the same procedure.

The cleaner concentrates thus obtained were weighed and a sample was taken from each one. The concentrates were then mixed and a screen analysis was carried out on the mixture.

A sixth sample was subjected to flotation. In an attempt to raise the purity of the graphite in the concentrate, two cleanings were carried out in this case.

The results of the sieve analysis carried out on the mixture of the cleaner concentrates from Tests 1 to 5 are presented in Table 12. The results demonstrate that a graphite concentrate from waste piles at the historical Plumbago mine site contains over 57 percent large flakes (greater than 180 microns). In addition over 45 percent of the concentrate was classified as jumbo flake (greater than 300 microns) (Table 13).

**Table 12: Mass Distribution of Flotation Fractions**

Sample	Rougher Tail (g)	Cleaner Tail (g)	Cleaner Tail (g)	Cleaner Concentrate (g)	Total (g)
1	235.3	13.7	-	45.9	294.9
2	235.3	17.3	-	44.5	297.1
3	236.1	14.5	-	45.6	296.2
4	230.7	25.6	-	51.5	307.8
5	234.0	16.5	-	46.9	297.4
6	225.9	20.0	8.9	43.8	298.6

**Table 13: Flake Size Distribution on Combined Concentrates Through Sieve Analysis**

<b>Mesh</b>	<b>Sieve Size Microns</b>	<b>Weight (g)</b>	<b>Weight (%)</b>	<b>Cumulative Percentage (%)</b>
+30	+500	2.9	1.44	1.44
30 x 50	500 x 300	88.7	44.00	45.44
50 x 70	300 x 180	24.6	12.20	57.64
70 x 100	180 x 150	27.4	13.59	71.23
100 x 140	150 x 106	15.6	7.74	78.97
-140	-106	42.4	21.03	100.00
<b>Total</b>		<b>201.6</b>		

In addition, one batch of potential feed material (300.8 grams) was ground by ORTECH in a ball mill having a charge of 10.65 kilogram steel balls. Grinding was conducted for 20 minutes. The ground material was subjected to flotation using a Wemco laboratory flotation machine. The ground feed material was added in the flotation cell. Water was added to fill approximately 60 percent of the cell. The mixer was then turned on to produce an even suspension. Five drops of Ekof 14526 (Ekof Flotation GmbH) were added and the sample was conditioned for five minutes. Air was turned on and the flotation was carried out for 10 minutes. Five minutes through the flotation, an additional three drops of Ekof 14526 were added. The rougher tail was filtered.

A cleaner flotation was performed on the concentrate, by adding five drops of Ekof 14526 and followed by five minutes of conditioning. Air was turned on and the flotation time was five minutes while no additional Ekof was added. The cleaner tail was filtered.

The cleaner concentrates thus obtained was cleaned once more by adding an additional five drops of Ekof 14526, followed by five minutes of conditioning. Flotation time was four minutes and no additional Ekof 14526 was added. The fractions, second cleaner tail and concentrate were filtered. All fractions were oven dried and then weighed.

A sample of the feed material and the flotation concentrate were assayed at AGAT Laboratories, for graphitic carbon. Subjecting the head material to grinding and flotation resulted in concentrating 96.5 percent of the graphitic carbon, present in the head material, in the second cleaner concentrate. The purity of this fraction was 93.4 percent graphitic carbon (Table 14).

**Table 14: Graphitic Carbon Recovery**

<b>Sample</b>	<b>Weight (g)</b>	<b>Graphitic Carbon (%)</b>	<b>(g)</b>
Head	300.8	11.1	33.4
Cleaner Concentrate 2	34.5	93.4	32.2
<b>Recovery 96.5 %</b>			

## 12.2.1 Findings

Bench scale scoping tests examining physical beneficiation techniques (grinding followed by either gravity or flotation) on composite core samples and samples collected from the waste piles of the Plumbago mine site area were performed. The testing performed by Rock Tech indicates the graphite flake recovered from the composite core sample is of high grade (+97 percent) through the different sizes. Testing performed by ORTECH has indicated that flotation upgrading of the material achieves a graphite grade of 93.4 percent to 96.5 percent recovery. These results indicate that the graphite bearing material is amenable to physical upgrading techniques and more detailed studies will improve recoveries along with retaining flake integrity.

## 13 Mineral Resource Estimates

Graphitic carbon mineralization on the Lochaber property is associated with Precambrian-age gneissic rock along sheared contacts with limestone / marble. The distribution of graphitic carbon is irregular and discontinuous. The Lochaber project is considered to be prospective for flake graphitic carbon, based on flake graphitic carbon reported in core and outcrop samples.

This section summarizes the assumptions considered by SRK in the preparation of a geology and mineral resource model for the Lochaber project. This is the first mineral resource evaluation prepared for the Lochaber project pursuant to Nation Instrument 43-101. The mineral resources were estimated in conformity with *CIM Mineral Resource and Mineral Reserves Estimation Best Practices Guidelines* (November 2003) and are classified according to *CIM Standard Definition for Mineral Resources and Mineral Reserves* (May 2014) guidelines. Mineral resources are not mineral reserves and have not demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves. SRK is unaware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant issues that may materially affect the mineral resources. The effective date of the Mineral Resource Statement is June 17, 2015.

### 13.1 Mineral Resource Estimation Methodology

The mineral resources reported herein have been estimated using a geostatistical block modelling approach informed from core borehole and surface channel samples data and constrained by graphitic carbon mineralization domains. Graphitic carbon mineralization domains were defined using a traditional wireframe interpretation constructed from explicit modelling and sectional interpretation of the drilling data.

The evaluation of the mineral resources involved the following procedures:

- Database compilation and verification
- Construction of three-dimensional wireframe models and their verification
- Data extraction and processing (compositing and capping), statistical analysis, and variography
- Selection of estimation strategy and estimation parameters
- Block modelling and grade estimation
- Validation, classification, and tabulation
- Assessment of “reasonable prospects for eventual economic extraction,” and selection of the reporting assumptions
- Preparation of the Mineral Resource Statement

## 13.2 Resource Database

The Lochaber exploration database up to May 13, 2015 comprises 37 core boreholes (6,981 metres and 4,229 samples) drilled in 2012 by the previous operator, who also completed seven trenches with 19 sampling channels (357 metres and 341 samples) in the Plumbago mine area. During 2014 and 2015, Great Lakes drilled an additional 8 core boreholes (1,130 metres and 768 samples) designed to verify and validate parts of the historical data and to infill some areas. SRK received the borehole and trench sampling data as a Microsoft Excel database and subsequently converted the data into a series of CSV files for import into Leapfrog and Datamine Studio 3 software. All the values were provided as graphitic carbon in percentage, issued directly from the analytical laboratory. No recalculation of the graphitic carbon content was required. SRK performed the following validation steps:

- Checked minimum and maximum values for each quality value field and confirmed / edited those outside of expected ranges
- Checked for gaps, overlaps and out of sequence intervals assays tables

No errors were found and SRK is satisfied with the database received from Great Lakes. Unsampled intervals are assumed to be barren and were assigned a value of 0.0 percent graphitic carbon for estimation.

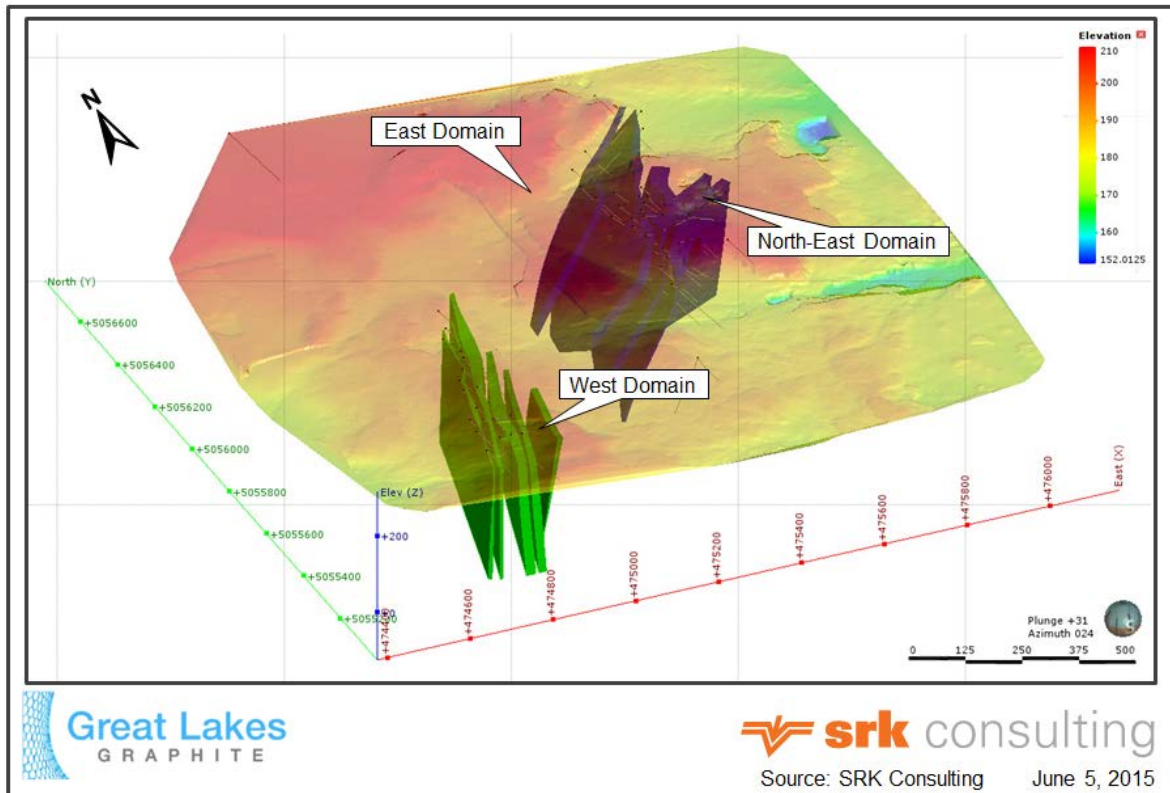
SRK audited approximately 10 percent of the electronic assay table against original assay certificates for the boreholes drilled by Great Lakes. Some discrepancies were found for the 2012 Rock Tech drilling data that Great Lakes should investigate further. SRK does not believe these minor discrepancies are material.

The database also includes a topography survey covering the deposit. The visual spectrum remote airborne survey was performed in 2015 by North Country Aerial using an unmanned aerial vehicle.

## 13.3 Geological Modelling

The graphitic carbon mineralization is hosted in a north-south shear zone developed along the contact between gneissic rocks and limestone / marble. Graphitic carbon occurs as crystalline large flaky texture with a shiny metallic luster; flake size ranges from 1 to 3 millimetres and sometimes reaches up to 5 millimetres. The distribution of graphitic carbon is irregular and mostly occurs as fracture filling or metre-scale pockets and along the gneissic banding.

In collaboration with Great Lakes, SRK developed a series of wireframes defining the extent of the graphite mineralization and these were used to constrain the mineral resource estimation. Two distinct domains, West and East, were modelled with multiple mineralization wireframes in each domain, all defined at a threshold of 1.00 percent graphitic carbon. A smaller zone, trending north-east, was also identified in the East domain and modelled independently (Figure 11). In total, three main zones and 13 subdomains were modelled. Representative vertical cross-sections across the deposit are presented in Appendix B.



**Figure 11: Oblique Section Looking Northeast**

Distribution of resource domains modelled for the Lochaber project with the West domain in green and the East and North-East domains in dark blue.

## 13.4 Compositing and Capping

Borehole and trench sample data were extracted for each of the three resource domains (West, East and North-East) and examined for determining an appropriate composite length. Block model cell dimensions and anticipated mining methods were also considered in the selection of the composite length. A modal composite length of 1.0 metre was applied to all data (Figure 12).

The impact of outliers was examined on composite data in all three domains individually using log probability plots and cumulative statistics. A three-dimensional visual validation of the selected capping levels was also performed to assess the three-dimensional distribution of the higher grade values.

Basic statistics for assays, composites, and capped composites are summarized in Table 15. Basic statistics, histograms, and cumulative probability plots examined for each domain are provided in Figure 13 to Figure 15. These plots do not suggest any higher grade subdomain requirements, but do confirm a relatively high variation of the graphitic carbon content.

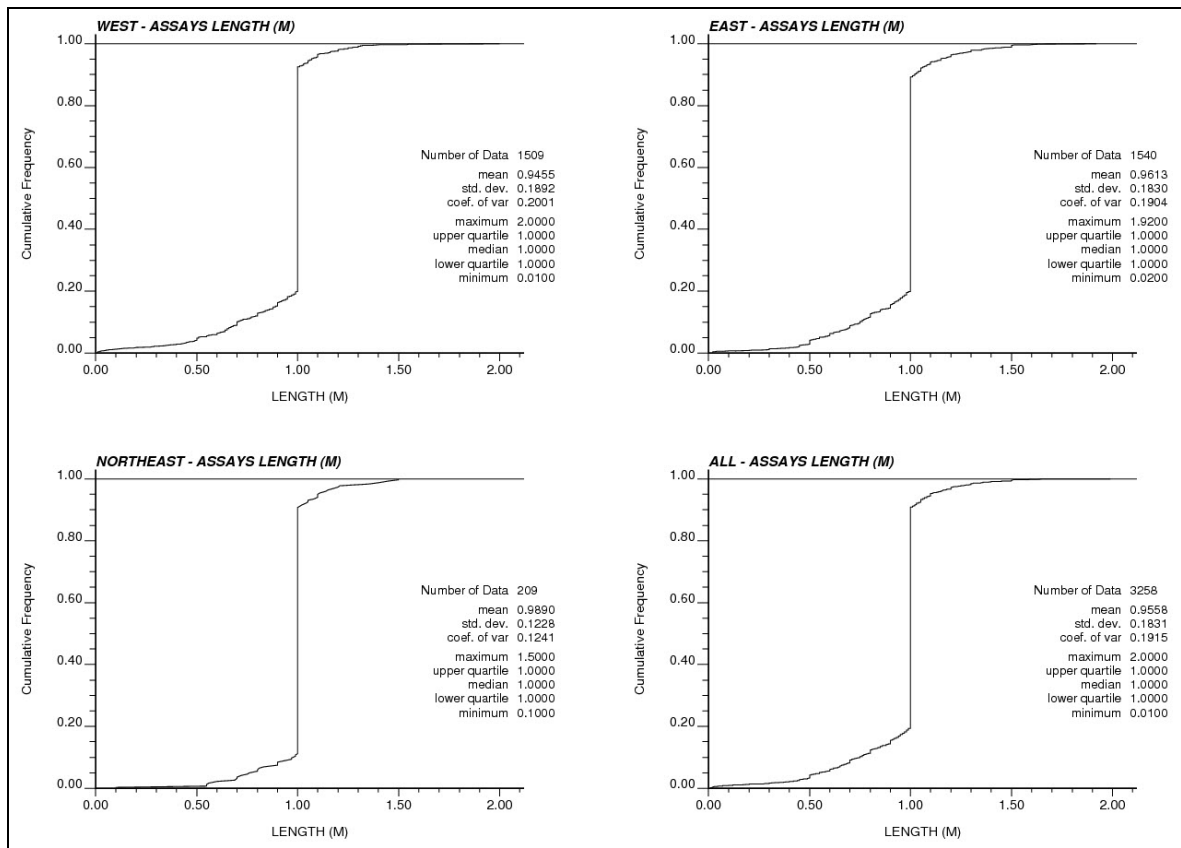


Figure 12: Sampling Length by Domains

Table 15: Basic Statistics – Graphitic Carbon

Source	Units	Sample Count	Capped Count	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
<b>Original Data</b>								
West	%	1,522	-	0.00	14.59	2.25	2.14	0.95
East	%	1,560	-	0.00	14.82	2.38	2.41	1.01
North-East	%	212	-	0.00	10.96	2.08	1.72	0.83
<b>Composite Data</b>								
West	%	1,436	-	0.02	14.51	2.25	2.02	0.90
East	%	1,543	-	0.00	14.68	2.38	2.29	0.96
North-East	%	211	-	0.00	10.87	2.08	1.65	0.79
<b>Capped Composite Data</b>								
West	%	1,436	4	0.02	11.60	2.24	2.00	0.89
East	%	1,543	2	0.00	13.30	2.38	2.29	0.96
North-East	%	211	2	0.00	7.70	2.05	1.54	0.75

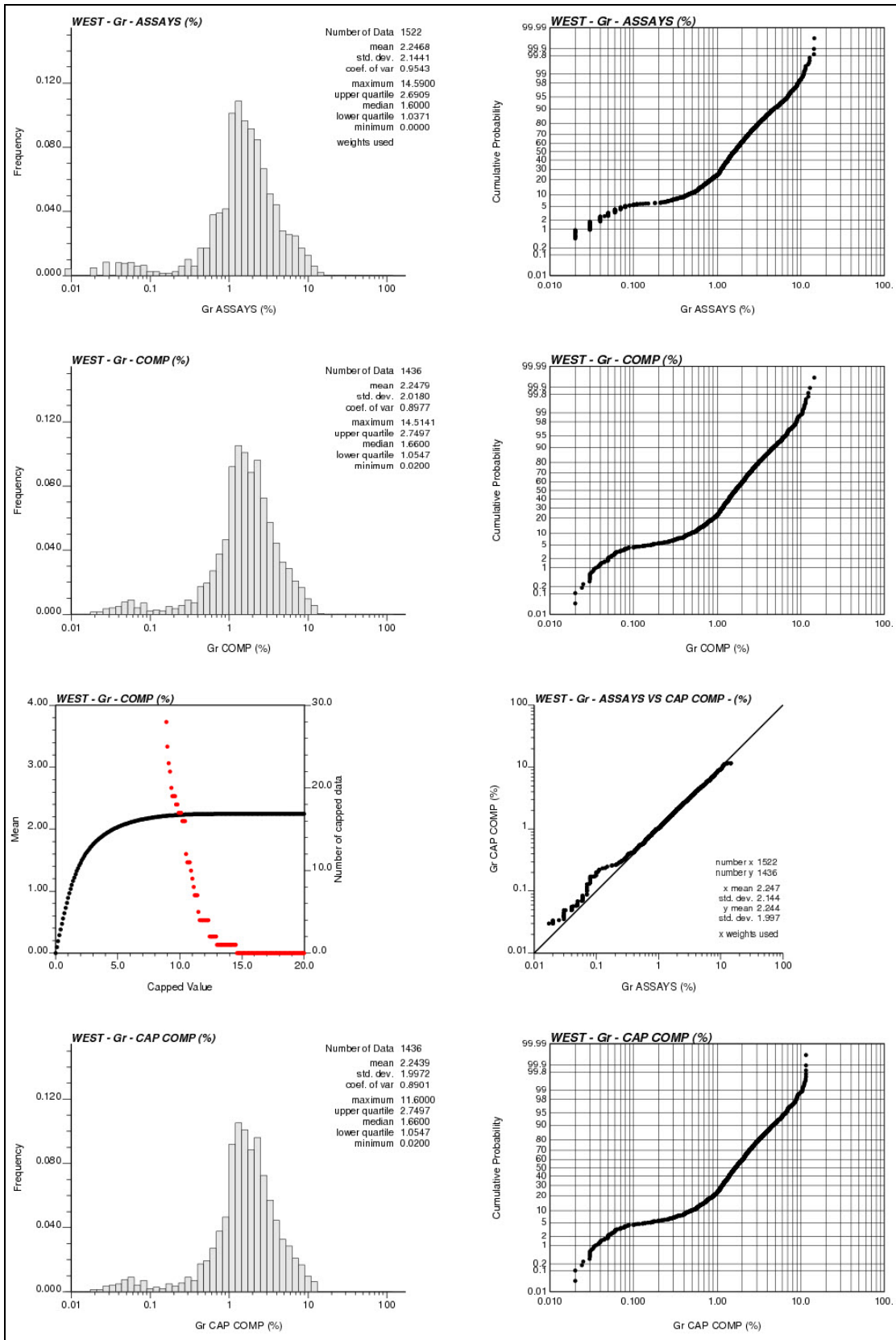


Figure 13: Basic Statistics – West



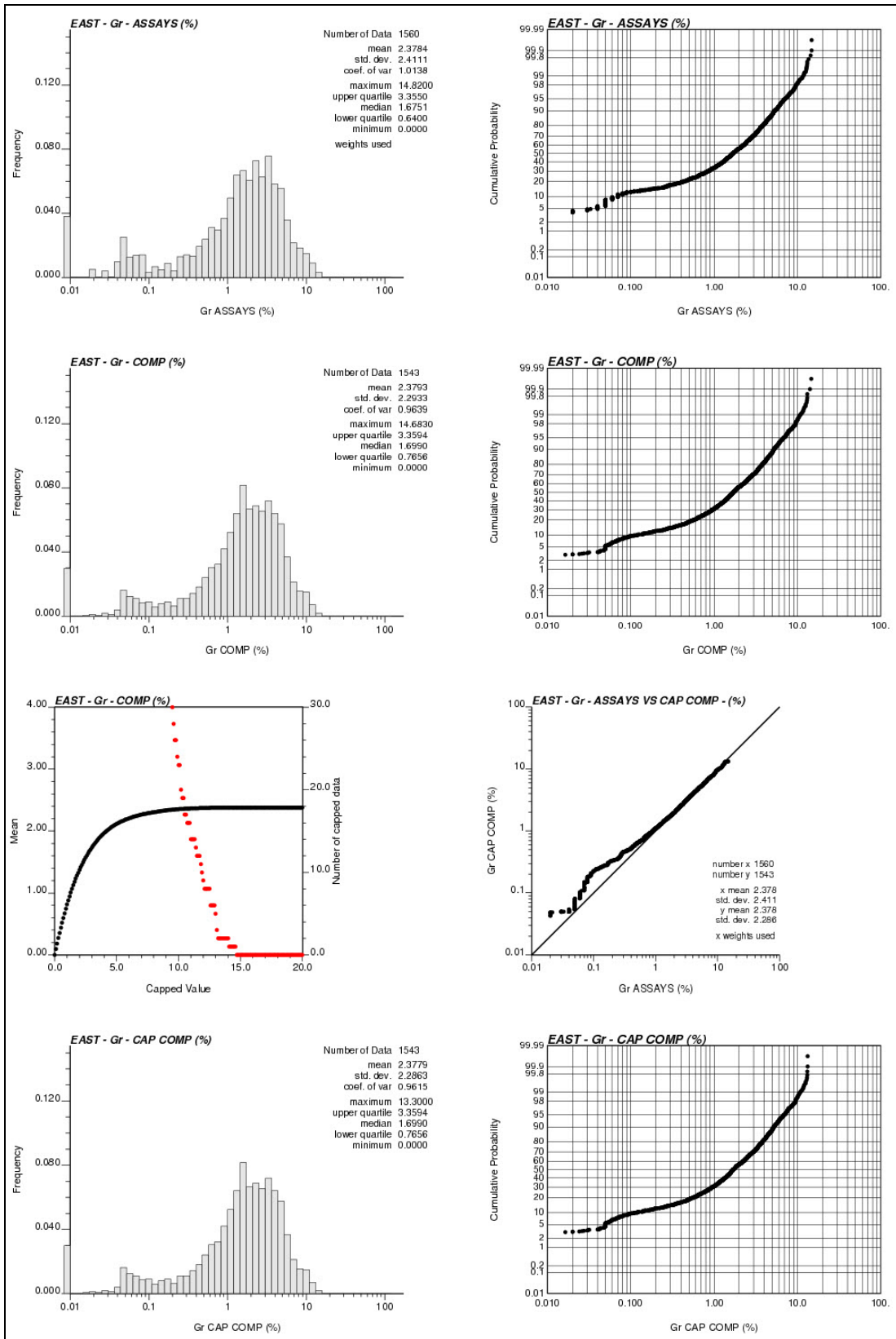


Figure 14: Basic Statistics – East

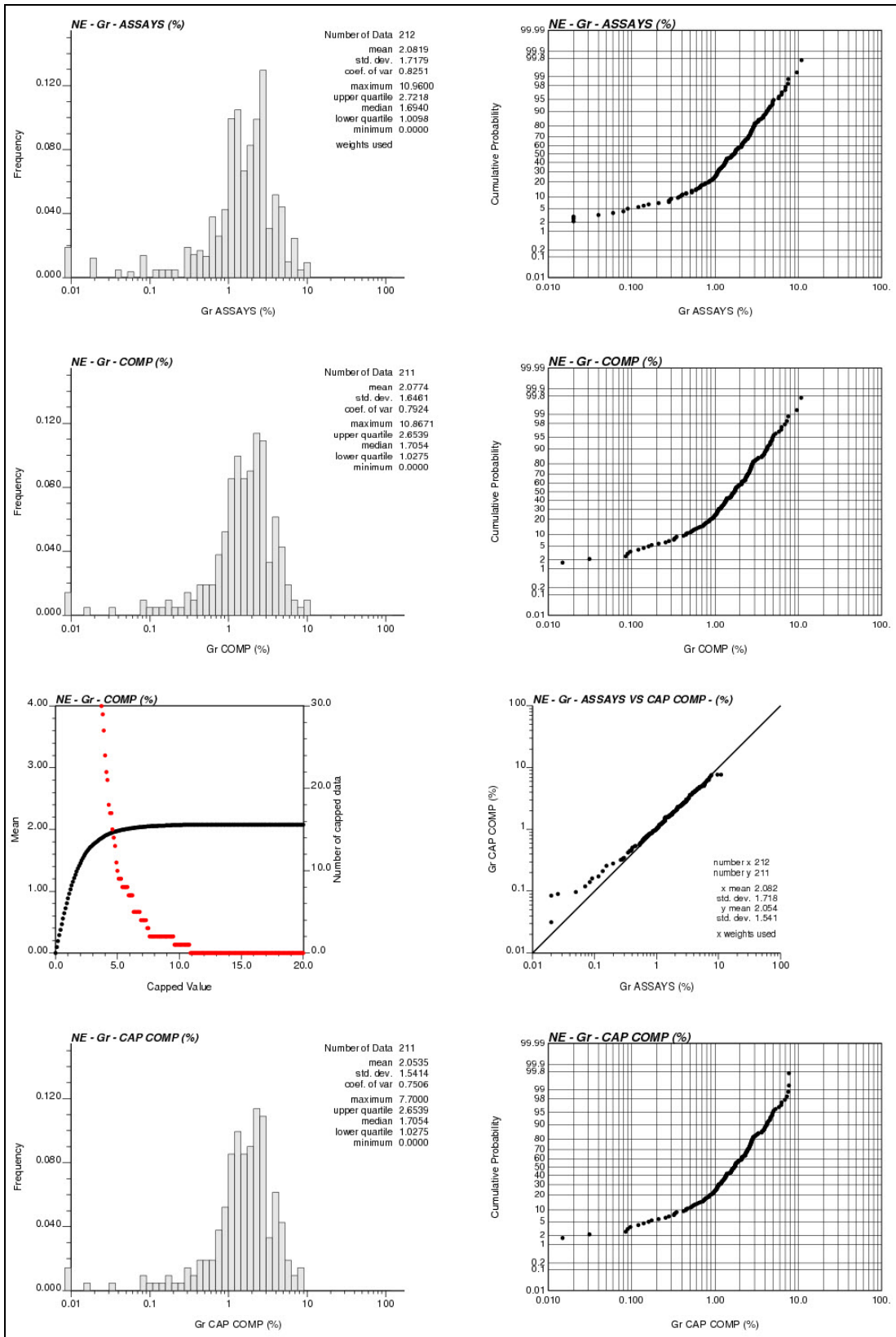


Figure 15: Basic Statistics – North-East

### 13.5 Specific Gravity Database

Specific gravity was measured on every sixth sample using a gas pycnometer at AGAT Laboratories Inc. (AGAT) in Sudbury (Ontario) as part of the assaying routine. A total of 157 specific gravity measurements were taken in the mineralized domains (Figure 16). An average specific gravity was applied to each domain (2.82, 280, and 2.85 for the West, East, and North-East domains, respectively) based on the mean of the measurements from samples in each domain.

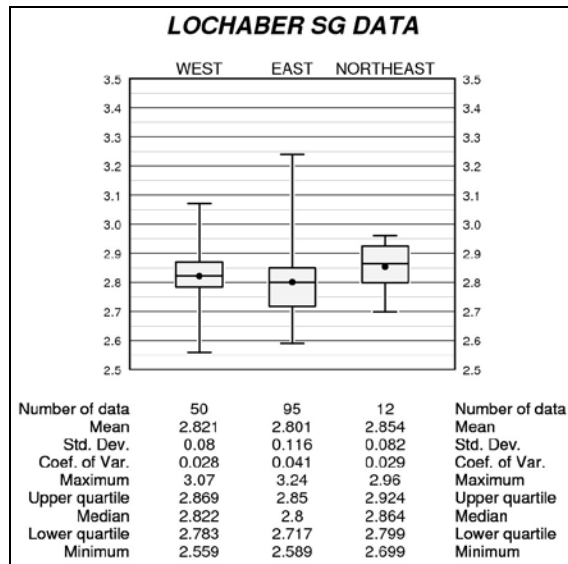


Figure 16: Specific Gravity

### 13.6 Variography and Block Interpolation

SRK evaluated the spatial distribution of graphitic carbon using variograms and correlograms and its normal score transform in the West and East domain independently. A total of four spatial metrics were considered to infer the correlation structure.

Continuity directions were assessed based on the orientation of the resource domains, composites, and their spatial distribution. Further, variogram calculation considered sensitivities on orientation angles prior to finalizing the correlation orientation.

All variogram analysis and modelling was performed using Datamine Studio 3 and the Geostatistical Software Library (GSLib). The variogram modelling was based on the combination of the four metrics of the capped composites and the correlogram. The use of original data yielded reasonably clear long range structures allowing fitting variogram models. The variogram developed for the East domain was applied to the North-East domain, but the orientation was adjusted to reflect the wireframe orientation. The variogram parameters are summarized in Table 16.

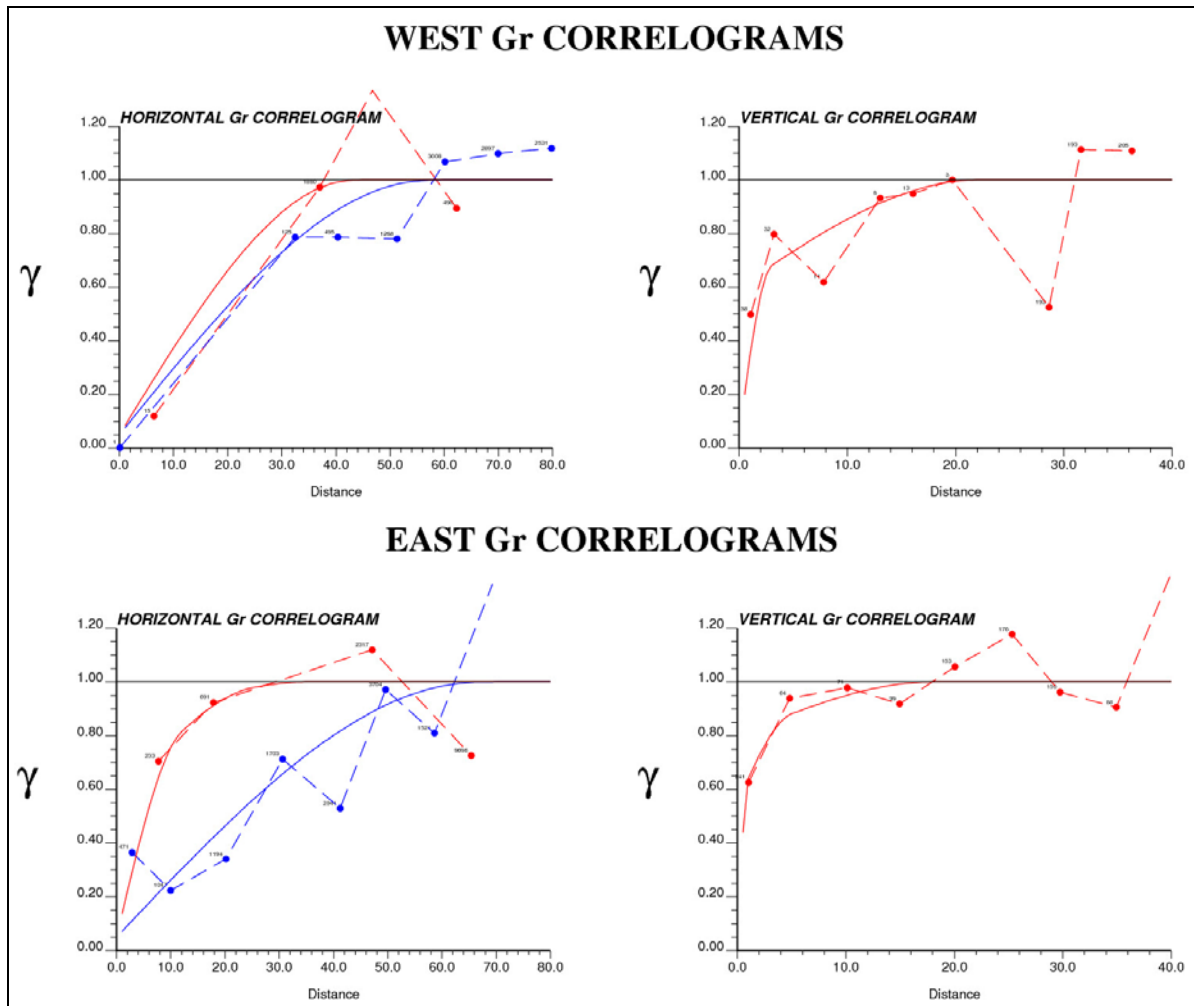
These models are oriented in the plane of the graphitic carbon mineralization, representing the direction of maximum continuity. Consequently in Figure 17, the horizontal red model corresponds to the long axis of the variogram, while the blue horizontal model is the perpendicular to this direction. The vertical model represents the short axis and is orientated perpendicular to the

horizontal plane. Considering that the borehole orientation is generally at a high angle to the zone, the vertical model can be considered as a proxy to a down-hole variogram.

**Table 16: Graphitic Carbon Correlogram Parameters for the Lochaber Project**

Domain	Structure	Contribution	Model	R1x	R1y	R1z	Angle <sup>1</sup>			Axis		
				(m)	(m)	(m)	1	2	3	1	2	3
West	C0	0.05	Nugget	-	-	-	105	85	-12	3	1	3
	C1	0.55	Sph	42	55	3	105	85	-12	3	1	3
	C2	0.40	Sph	45	60	22	105	85	-12	3	1	3
East	C0	0.05	Nugget	-	-	-	116	-68	-18	3	1	3
	C1	0.50	Sph	12	65	1	116	-68	-18	3	1	3
	C2	0.25	Sph	25	68	5	116	-68	-18	3	1	3
	C3	0.20	Sph	35	70	18	116	-68	-18	3	1	3
North-East	C0	0.05	Nugget	-	-	-	150	-82	-18	3	1	3
	C1	0.50	Sph	12	65	1	150	-82	-18	3	1	3
	C2	0.25	Sph	25	68	5	150	-82	-18	3	1	3
	C3	0.20	Sph	35	70	18	150	-82	-18	3	1	3

<sup>1</sup> The rotation angles are shown in Datamine Studio 3 convention



**Figure 17: Graphitic Carbon Correlograms for West and East Domains**

Note: The correlogram is inverted for the purposes of variogram modelling. The solid lines correspond to the fitted model, while the dashed lines correspond to the experimental variogram in those same directions.

## 13.7 Block Model Definition

The criteria used in the selection of the block size included the borehole spacing, geometry of the modelled graphitic carbon mineralization, and the anticipated mining method. In collaboration with Great Lakes, SRK chose a block size of 10 by 10 by 2 metres for all resource domains.

Subcells were used with 10, 10, and 4 splits in the X, Y, and Z directions, respectively, allowing a resolution of 1 metre on X and Y and 0.5 metre on Z to honour the geometry of the modelled mineralization. Subcells were assigned the same grade as the parent cell. The model is not rotated. The characteristics of the final block model are summarized in Table 17.

**Table 17: Lochaber Project Block Model Specifications**

Domain	Axis	Block Size (m)		Origin*	Number of Cells	Rotation Angles	Rotation Axis
		Parent	Subcell				
All	X	10	1.0	474,600	130	-	-
	Y	10	1.0	5,055,000	170	-	-
	Z	2	0.5	-100	200	-	-

\* UTM NAD 83, Zone 18

## 13.8 Estimation Strategy

The estimation parameters developed for the Lochaber project are summarized in Table 18. In all cases, grade estimation considered ordinary kriging and four passes informed by capped composites. The first pass was the most restrictive in terms of search radii and number of boreholes / trenches composites required. Successive passes usually populated areas with less dense drilling / trenching, using relaxed parameters with generally larger search radii and less data requirements (Table 19). SRK assessed the sensitivity of the graphitic carbon block estimates to changes in minimum and maximum number of data, use of octant search and the number of informing boreholes. Results from these studies show that the model is relatively insensitive to the selection of the estimation parameters and data restrictions. A hard boundary was applied between the various resource domains.

**Table 18: Summary of Estimation Parameters for all Resource Domains**

Parameter	1st Pass	2nd Pass	3rd Pass	4th Pass
Interpolation method	OK*	OK	OK	OK
Search range X (relative to variogram range)	1x	1x	1.5x	1.5x
Search range Y (relative to variogram range)	1x	1x	1.5x	1.5x
Search range Z (relative to variogram range)	1x	1x	1.5x	1.5x
Minimum number of composites	7	2	2	1
Maximum number of composites	12	16	16	16
Octant search	Yes	No	No	No
Minimum number of octant	3	-	-	-
Minimum number of composites per octant	1	-	-	-
Maximum number of composites per octant	12	-	-	-
Maximum number of composites per borehole	3	3	3	3

**Table 19: Volume Estimated per Passes**

Domain	Estimation Pass	Volume Estimation (m <sup>3</sup> )	Proportion Estimated (%)
All	1	2,396,209	36
	2	2,225,902	33
	3	2,035,634	30
	4	25,548	<1
All	1	1,987,612	27
	2	2,531,760	35
	3	2,737,232	37
	4	67,064	1
All	1	333,476	30
	2	329,199	30
	3	442,524	40
	4	4,108	<1

### 13.9 Block Model Validation

The block model estimates were validated through:

- Comparison of the basic statistics of ordinary kriging estimates with nearest neighbour estimates, change-of-support correction and with the original source data (Figure 18 to Figure 21)
- Comparison of ordinary kriging estimates against an inverse distance (power of two) estimates to assess potential impact of negative kriging weights (Figure 22)
- Visual comparison of block estimates to original borehole data on plans and sections

Validation checks confirm that block estimates for all resource domains are a reasonable representation of the informing data considering the current level of geological and geostatistical understanding of the deposit.

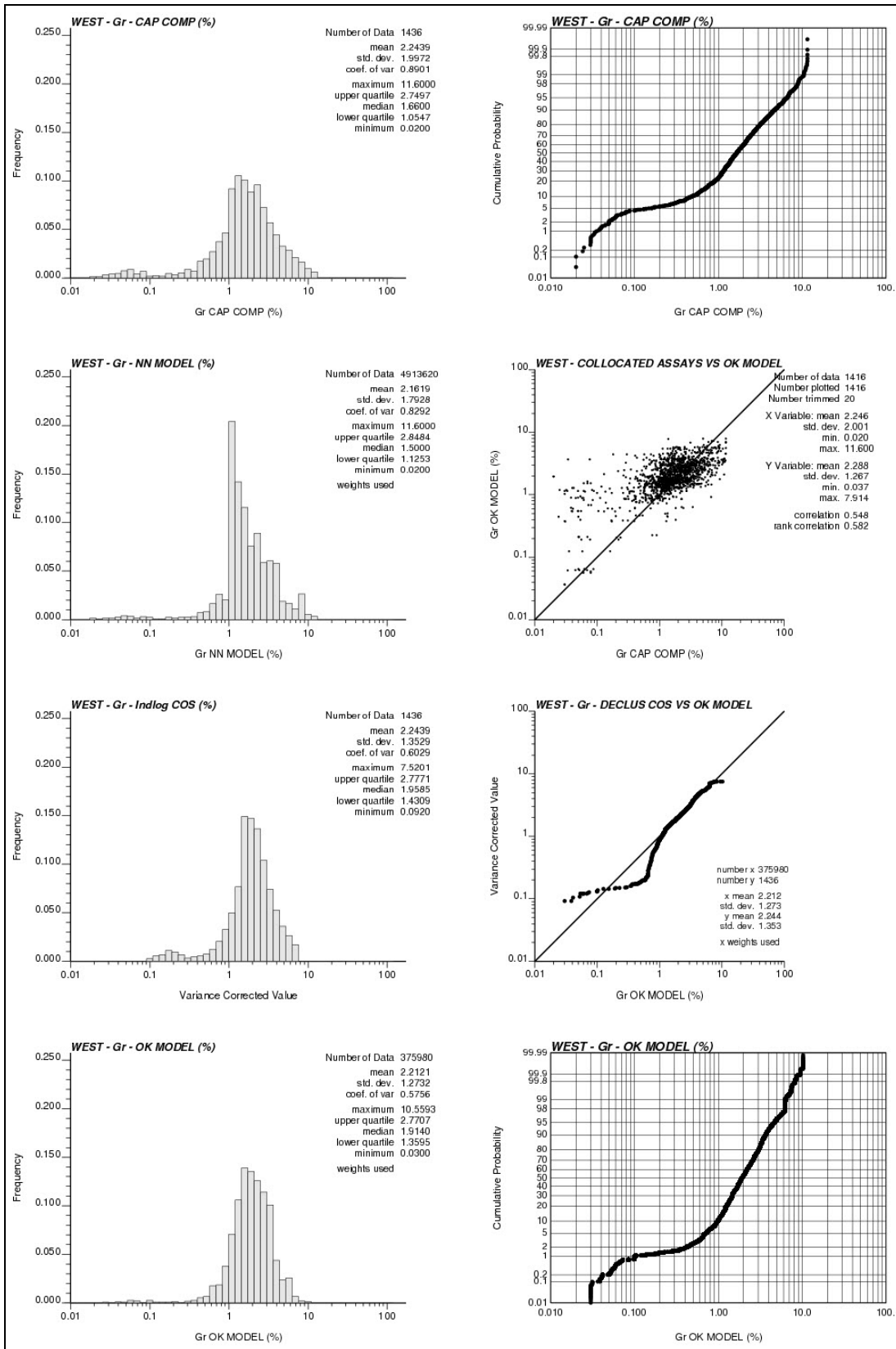


Figure 18: Validation of the Block Estimates for the West Domain

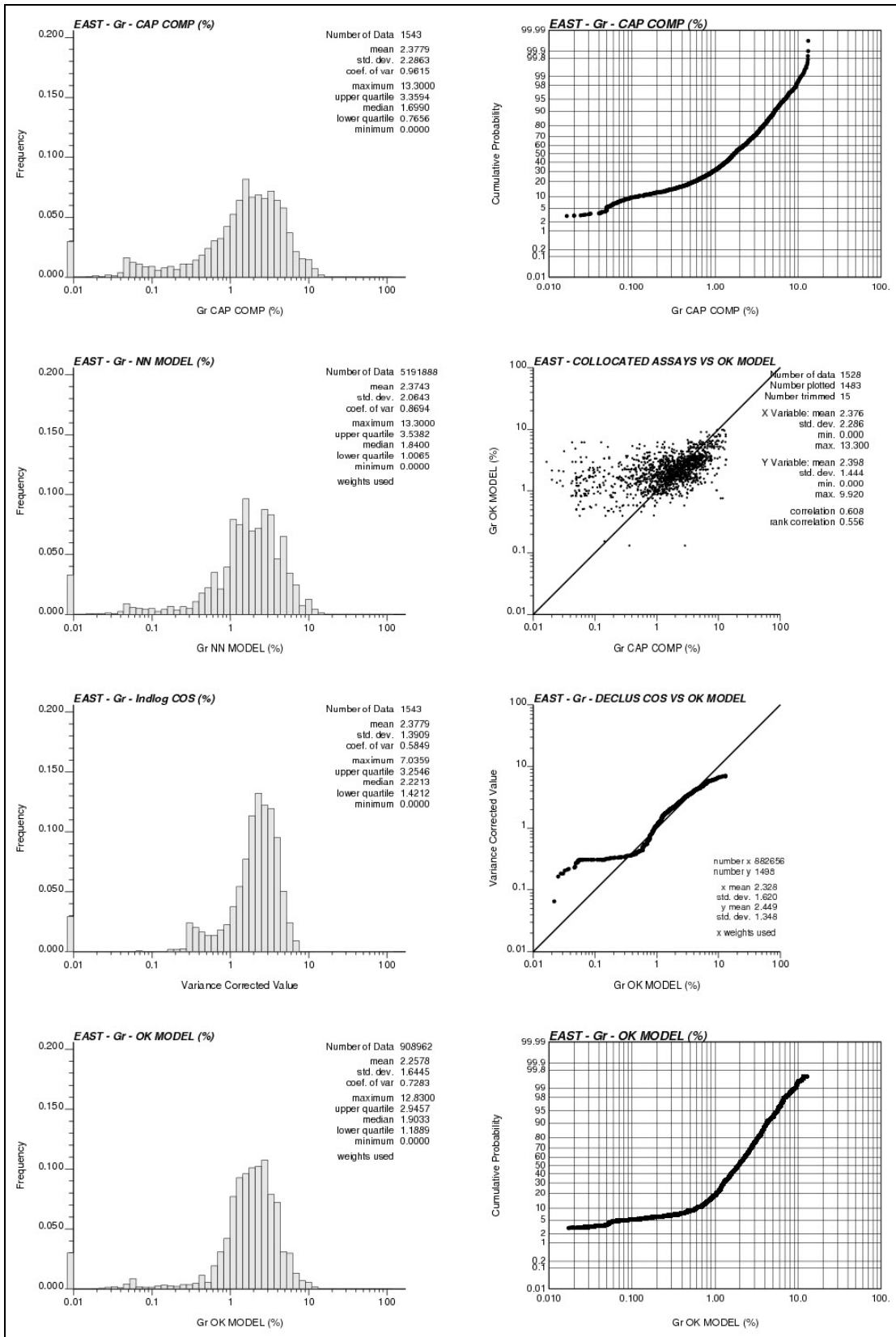


Figure 19: Validation of the Block Estimates for the East Domain



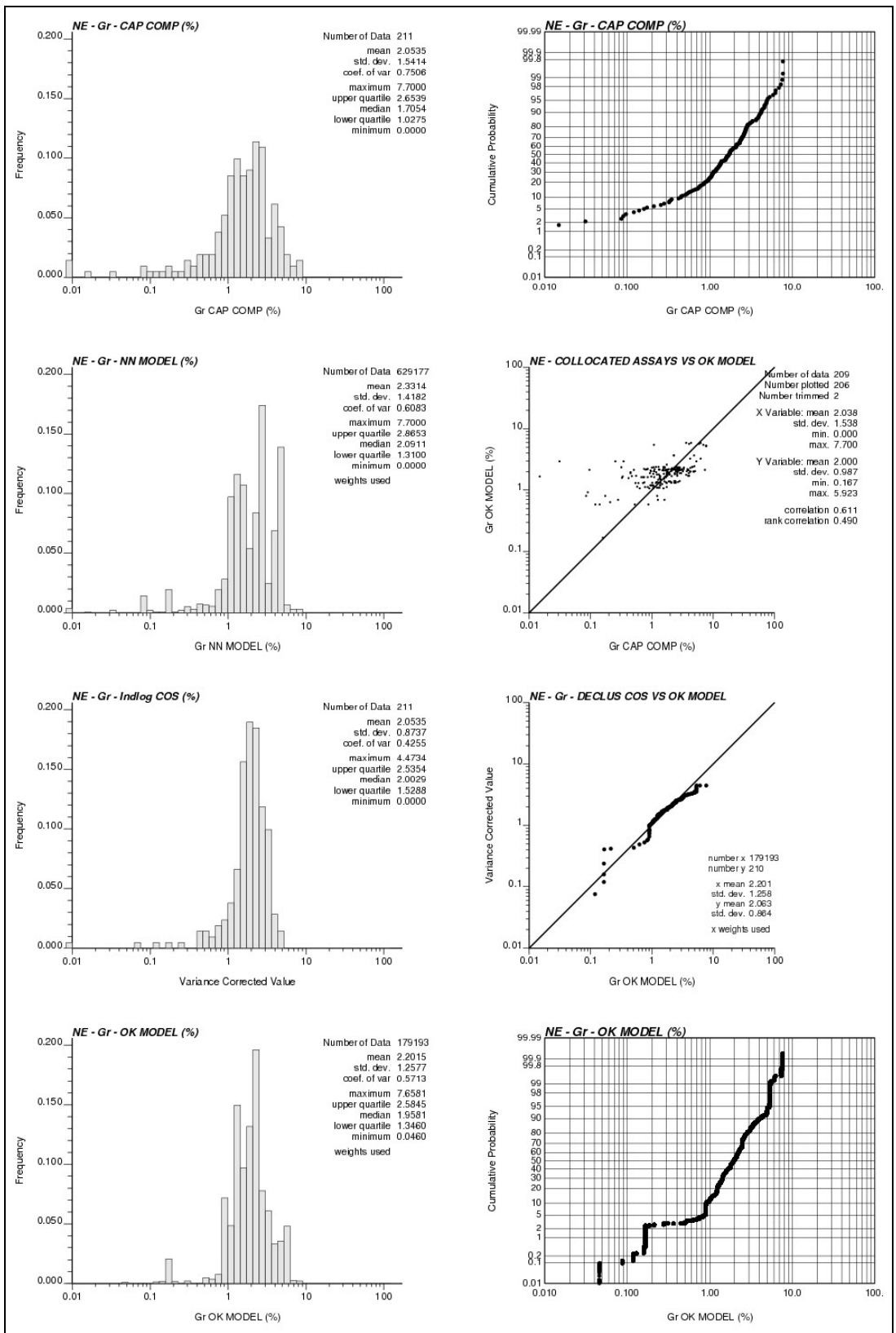


Figure 20: Validation of the Block Estimates for the North-East Domain

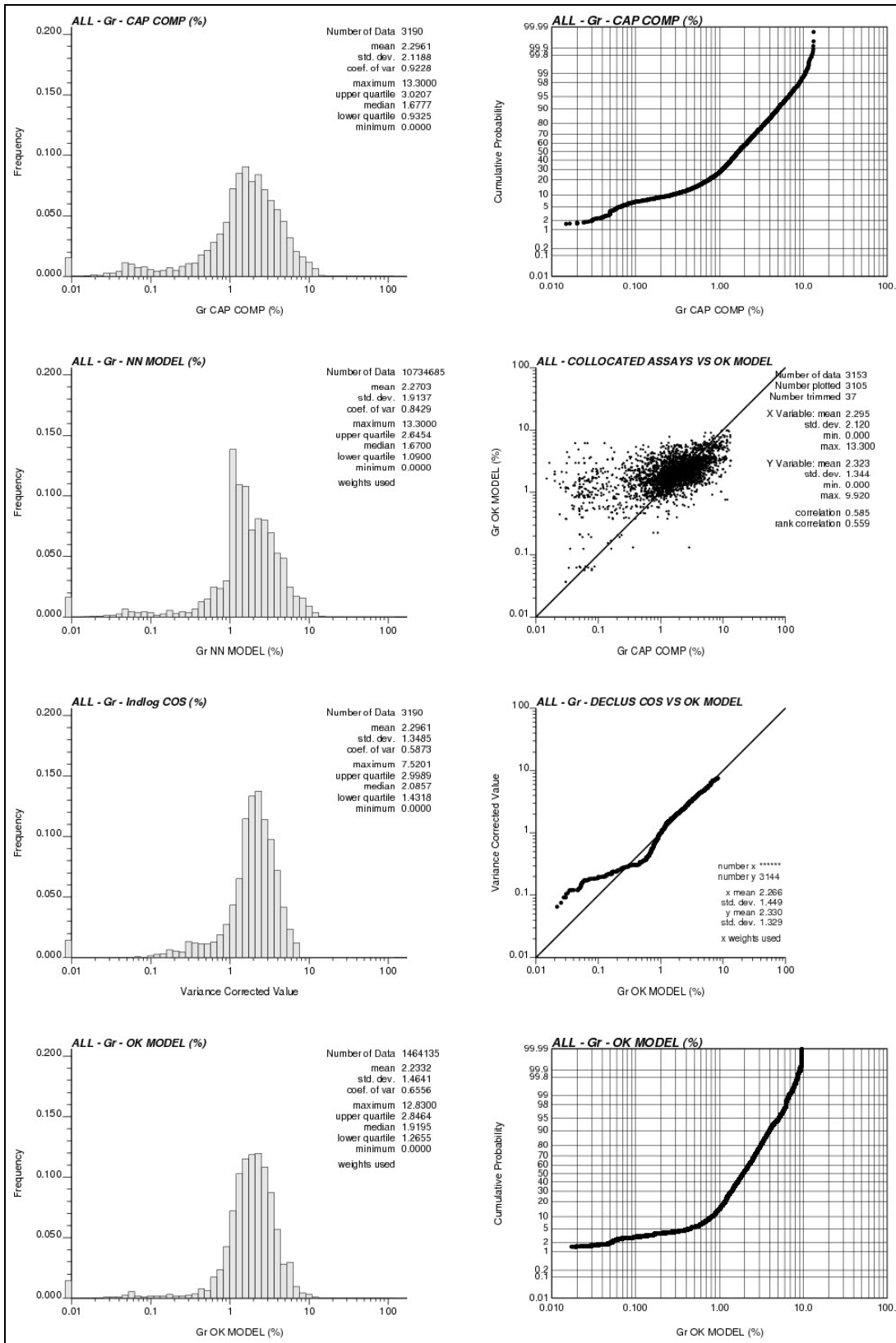
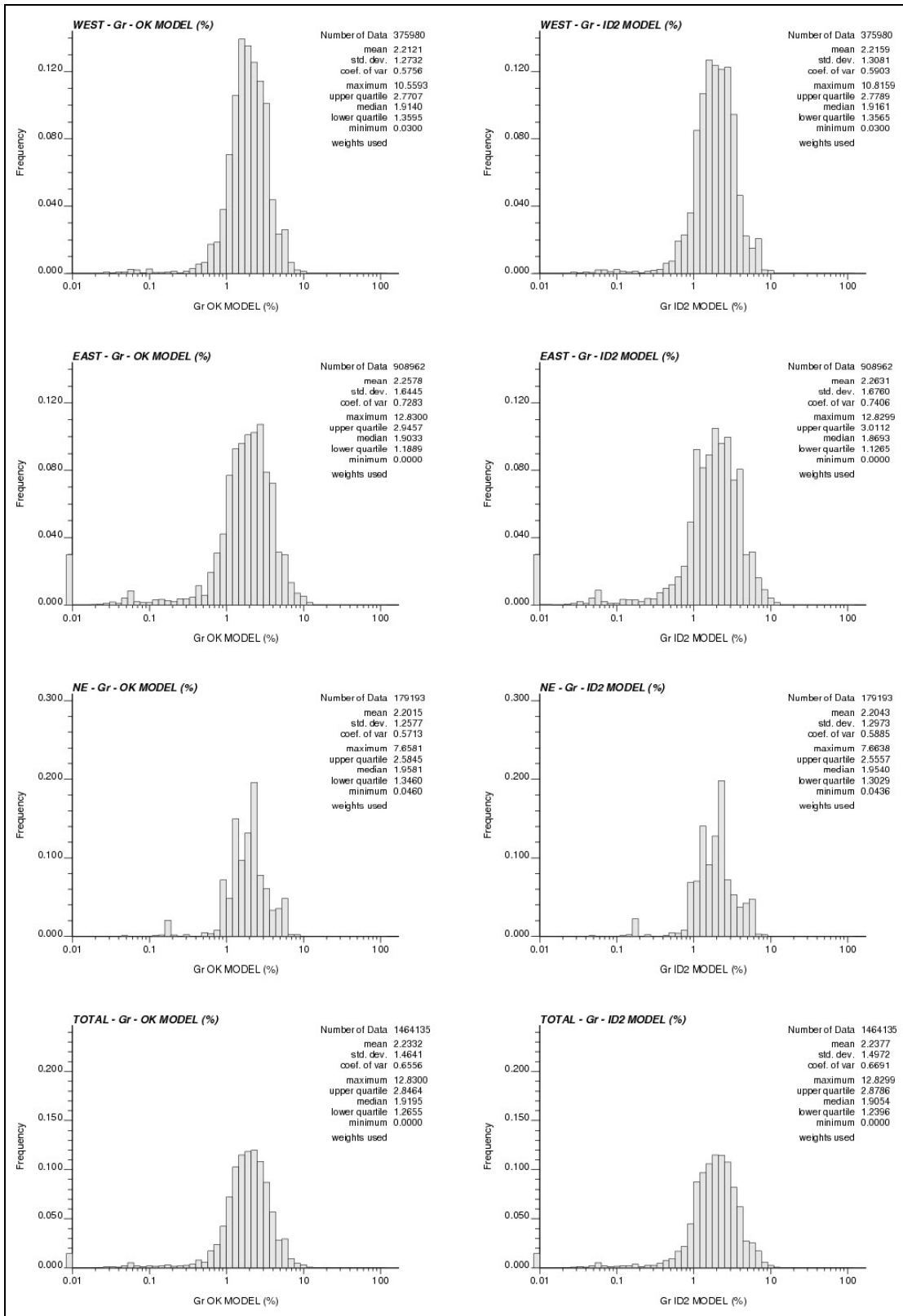


Figure 21: Validation of the Block Estimates for all the Resource Domains Combined



**Figure 22: Block Estimates Comparing Ordinary Kriging and Inverse Distance Estimation Results**

## 13.10 Mineral Resource Classification

Block model quantities and grade estimates were classified by Sébastien Bernier, PGeo (OGQ#1034) according to the *CIM Definition Standards for Mineral Resources and Mineral Reserves* (May 2014).

Mineral resource classification is typically a subjective concept, and industry best practices suggest that resource classification should consider the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimates, the geostatistical confidence in the tonnage and grade estimates, and the continuity at the reporting cut-off grade. Appropriate classification criteria should aim at integrating these concepts to delineate regular areas at a similar classification.

SRK is satisfied that the geological model constructed for the Lochaber project honours the current geological information and knowledge. However, the drilling spacing remains wide and few channel samples were collected in the West domain. As a result, the confidence in the geometry and continuity of the graphite mineralization remains poor at the current sampling spacing. With the information available, grade was used as a proxy to define the graphitic zones. In all domains, the grade of the graphitic carbon mineralization is quite variable. Nonetheless, SRK considers that the sampling information is sufficiently dense to infer a reasonable continuity of the graphitic carbon mineralization between sample points. Further the quality of the sampling information is not a risk that should be considered for classification.

Considering the overall widely spaced sampling information and the uncertainty in the continuity of the graphite mineralization between sampling points, SRK considers that all modelled blocks should be classified in the Inferred category within the meaning of the *CIM Definition Standards for Mineral Resources and Mineral Reserves*. SRK believes that the confidence in the estimates is insufficient to allow for the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure.

## 13.11 Preparation of Mineral Resource Statement

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a mineral resource as:

*“[A] concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.”*

The “reasonable prospects for eventual economic extraction” requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recoveries. SRK considers that the graphitic carbon mineralization at the Lochaber project is amenable to open pit extraction.

In order to determine the quantities of material offering “reasonable prospects for eventual economic extraction” by an open pit, SRK used a pit optimizer and reasonable assumptions to evaluate the proportions of the block model that could be reasonably expected to be mined from an open pit. It should be noted that the pit optimization results are used solely for the purpose of testing the “reasonable prospects for eventual economic extraction” by an open pit and do not represent an attempt to define mineral reserves. There are no mineral reserves on the Lochaber project.

The assumptions considered are summarized in Table 20.

**Table 20: Assumptions Considered for Reporting Cut-Off Grade Determination**

<b>Parameter</b>	<b>Open Pit</b>
Processing cut-off grade (% graphitic carbon)	2.45
Mining cost (C\$/tonne)	\$3.50
General and administration (C\$/tonne)	\$4.00
Process cost (C\$/tonne of ore)	\$22.00
Stockpile cost (C\$/tonne of ore)	\$1.00
Graphitic carbon recovery (%)	96.5%
Mining recovery / mining dilution (%)	95 / 5
Graphitic carbon price (US\$/tonne)	\$1,600
Exchange rate US\$:C\$	0.95
Revenue factor	1.00
Pit slope angle	45

After review of optimization results, SRK considers that it is appropriate to report as a mineral resource those classified blocks located within the conceptual pit shell and above a cut-off grade of 2.45 percent graphitic carbon. The effective date of the Mineral Resource Statement is June 17, 2015 (Table 21).

**Table 21: Mineral Resource Statement\*, Lochaber Graphitic Carbon Project, Ontario, SRK Consulting (Canada) Inc., June 17, 2015**

Resource Category	Quantity	Grade	Contained	
	('000 t)	Graphitic Carbon (%)	(000' t)	(Millions lbs)
<b>Inferred**</b>	4,090	4.01	160	362

\* Mineral resources are not mineral reserves and have not demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

\*\* Open pit mineral resources reported at a cut-off grade of 2.45 percent graphitic carbon within a conceptual pit shell. Cut-off grades are based on a graphitic carbon price of US\$1,600 per ton and a metallurgical recovery of 96.5 percent.

## **14 Adjacent Properties**

There are no adjacent properties that are considered relevant to this technical report.

## **15 Other Relevant Data and Information**

There is no other relevant data available about the Lochaber graphite project.

## 16 Interpretation and Conclusions

A total of 45 boreholes (8,110 metres) have been drilled and seven trenches excavated (357 metres of channel sampling) by Great Lakes and Rock Tech on the Lochaber property since 2012, all of which were considered for mineral resource estimation.

SRK witnessed the extent of the exploration work during a site visit conducted in December 2014, and can confirm that Great Lakes exploration work is conducted using field procedures that meet generally accepted industry best practices. SRK is of the opinion that the exploration data are sufficiently reliable to interpret with reasonable confidence the boundaries of the graphite mineralization and support the evaluation and classification of mineral resources in accordance with *CIM Estimation of Mineral Resource and Mineral Reserve Best Practices* and *CIM Definition Standards for Mineral Resources and Mineral Reserves*.

An exploration database comprising 4,997 core and 341 surface channel samples assayed for graphite was used to prepare the geology and mineral resource model using a conventional geostatistical block modelling approach constrained by mineralization wireframes. The block model was populated with graphite grades estimated using ordinary kriging informed from capped composited data and estimation parameters derived from variography.

The sampling spacing is wide and few channel samples were collected in the West domain. As a result, the overall confidence in the geometry and continuity of the graphite mineralization remains poor at the current sampling spacing. With the information available, grade was used as a proxy to define the graphitic zones. In all domains, the grade of the graphitic carbon mineralization is quite variable. Nonetheless, SRK considers that the sampling information is sufficiently dense to infer a reasonable continuity of the graphitic carbon mineralization between sample points. Further the quality of the sampling information does not impose a risk that would impact classification. SRK is satisfied that the geological model constructed for the Lochaber project honours the current geological information and knowledge. As a result, all modelled blocks were classified in the Inferred category within the meaning of the *CIM Definition Standards for Mineral Resources and Mineral Reserves*. SRK believes that the confidence in the estimates is insufficient to allow for the meaningful application of technical and economic parameters or to enable an evaluation of economic viability adequate for public disclosure.

SRK is not aware of any significant risks and uncertainties that could be expected to affect the reliability or confidence in the early stage exploration information and the mineral resource statement discussed herein.

SRK draws the following conclusions:

- Infill and step-out drilling, both in the West and East domains, to improve the confidence in the continuity of the graphite mineralization and improve classification. Most sections on the West domain only contain one borehole whereas in the East contain only one to three boreholes.
- There is a good potential to expand the mineral resources along strike to the north in the East and West domains because the new geological model suggests that the graphite mineralization domains continues in these directions. The domains remain open to the South outside of the Lochaber property boundary.



- There is also potential for expanding the mineral resources on the property by further exploring existing anomalous conductors in the Plumbago mine area. These could be tested by trenching and channel sampling.

SRK notes that the mineral resources discussed herein occupy only a small footprint within the Lochaber property and the graphite mineralized zones in the Plumbago area are open to the north along the main graphite mineralization trend identified by Great Lakes. Exploration outside of the extents of the current modelled mineralization should be considered.

To date, bench scale scoping tests examining physical beneficiation techniques consisting of grinding followed by either gravity or flotation, has been performed on composite core samples and samples collected from the waste piles of the Plumbago mine site area. The testing completed by Global Mineral indicates that the graphite flake recovered from the composite core sample is of high grade (+97 percent) through the different sizes. Testing completed by ORTECH has indicated that flotation upgrading of the mine waste material achieves a graphite grade of 93.4 percent to 96.5 percent recovery. These results indicate that the graphite bearing material is amenable to physical upgrading techniques and more detailed studies will improve recoveries along with retaining flake integrity.

## 17 Recommendations

The geological setting and character of the graphite mineralization delineated to date on the Lochaber project are of sufficient merit to justify additional exploration expenditures.

SRK recommends a work program that includes trenching and delineation drilling. Additional drilling and trenching to further improve the confidence in the geological continuity and expand the mineral resources in the Plumbago mine area is recommended. The proposed work program includes:

- Infill and step-out core drilling within the East and West domains
- Trenching and channel sampling over the East and West domains

**Table 22: Estimated Cost for the Exploration Program Proposed for the Lochaber Property**

Description	Amount	Units	Unit Cost (C\$)	Total Cost (C\$)
<b>Delineation Drilling (infill and step out)</b>				
Core drilling (all inclusive)	2,500	metres	\$250	\$625,000
<b>Trenching</b>				
Channel sampling (all inclusive)	400	metres	\$500	\$200,000
<b>Resource Modelling</b>				
Geology and Resource Modelling				\$75,000
<b>Total</b>				<b>\$900,000</b>
Contingency (10%)				\$90,000
<b>Total</b>				<b>\$990,000</b>

As part of data validation, SRK identified minor discrepancies between the electronic assay certificates and the assay database for some boreholes drilled by Rock Tech. SRK and Great Lakes understand that the discrepancies are due to variances in the preliminary results and the final PDF certificates. SRK recommends that the database be thoroughly checked by Great Lakes to rectify the analytical database.

Further metallurgical test work on representative samples of the deposit to confirm preliminary upgrading results is recommended. A detailed mineralogical analysis of the graphite concentrates by optical or scanning electron microscopy (SEM) showing the structure and location of gangue material will help define required processing parameters, such as grind size, to obtain maximum large flake product. Additionally, information on gangue materials contained in the graphite will help to determine other processing techniques that may be applied, such as chemical purification techniques to improve graphite purity.

The Lachaber property contains a series of old historical workings dating back to the late 1800s and early 1900s. While there are no known liabilities arising from these historical workings, SRK recommends that Great Lakes completes an inventory of these workings and characterizes the disturbances associated with these historical workings.

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- Taylor Jr., H.A., 2006: Graphite. In: Industrial Minerals and Rocks, 7<sup>th</sup> edition, Society for Mining, Metallurgy, and Exploration, Inc. (SME), Littleton, Colorado, USA. pp 507-518.

## **APPENDIX A**

### **Mineral Tenure Information**

Note: Information about titles located in the Province of Quebec was extracted from the GESTIM registry on July 28, 2015.

Mineral Titles for the Lochaber Graphite Property.

*Claims registered to Great Lakes Graphite Inc.*

Mineral Resources are located within the four claims highlighted.

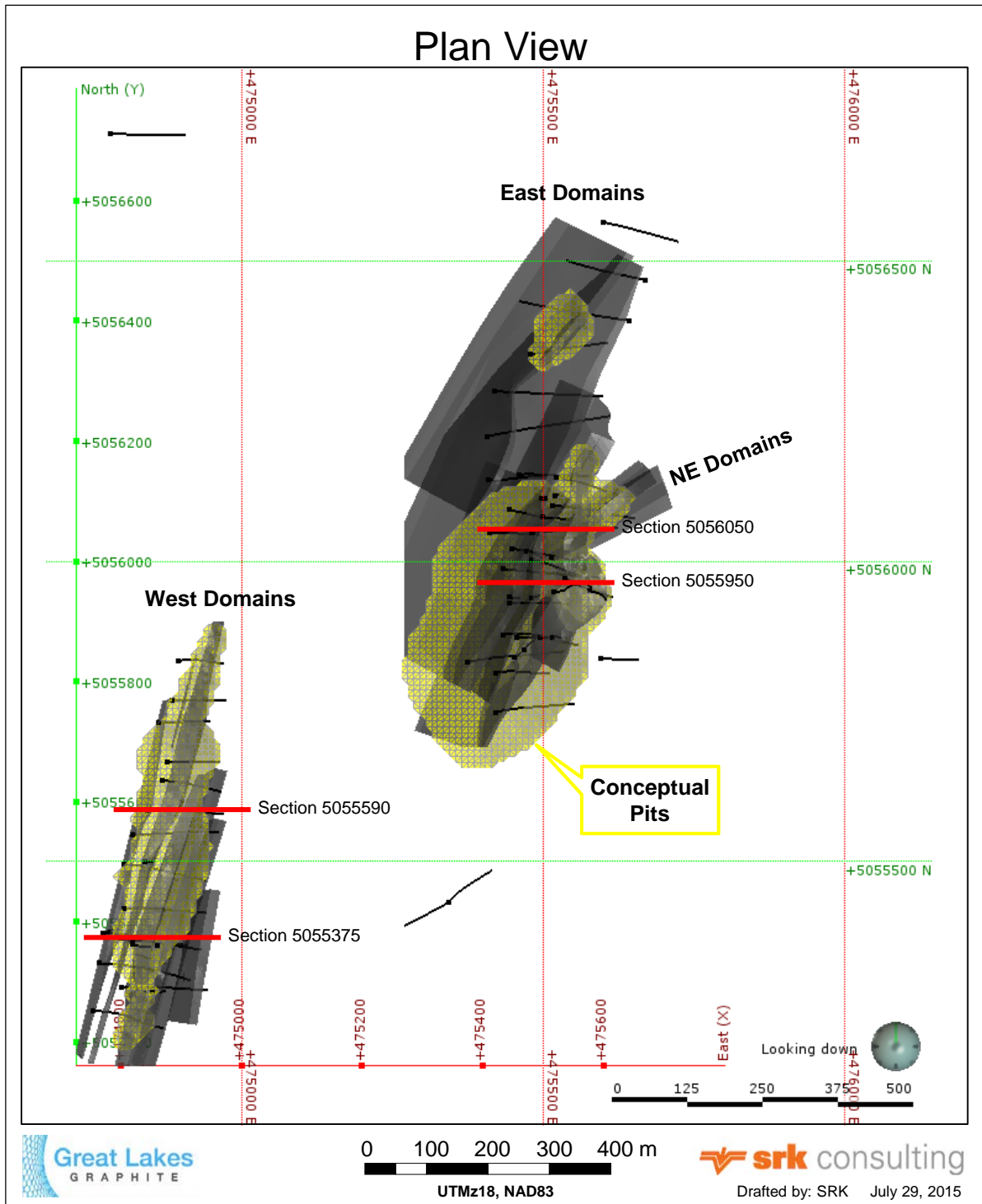
	NTS Sheet	Title No.	Status	Registration Date	Expiry Date	Area (Ha)	Assessment Work and Fees		
							Excess (C\$)	Required (C\$)	Fees (C\$)
1	31G11	2303790*	Active	27/07/2011	26/07/2015	60.06	0.00	1,200	55.25
2	31G11	2303791*	Active	27/07/2011	26/07/2015	60.05	0.00	1,200	55.25
<b>3</b>	<b>31G11</b>	<b>2303793</b>	<b>Active</b>	<b>27/07/2011</b>	<b>26/07/2015</b>	<b>60.11</b>	<b>0.00</b>	<b>1,200</b>	<b>55.25</b>
<b>4</b>	<b>31G11</b>	<b>2303794</b>	<b>Active</b>	<b>27/07/2011</b>	<b>26/07/2015</b>	<b>60.11</b>	<b>406.23</b>	<b>1,200</b>	<b>55.25</b>
5	31G11	2303809	Active	27/07/2011	26/07/2015	60.07	0.53	1,200	55.25
6	31G11	2303810	Active	27/07/2011	26/07/2015	60.07	0.00	1,200	55.25
7	31G11	2303811	Active	27/07/2011	26/07/2015	60.06	0.00	1,200	55.25
8	31G11	2325808	Active	29/11/2011	28/11/2015	60.11	0.00	1,200	55.25
9	31G11	2325809	Active	29/11/2011	28/11/2015	60.10	0.00	1,200	55.25
10	31G11	2325810	Active	29/11/2011	28/11/2015	60.10	0.00	1,200	55.25
11	31G11	2325811	Active	29/11/2011	28/11/2015	60.10	0.00	1,200	55.25
12	31G11	2325812	Active	29/11/2011	28/11/2015	60.10	0.00	1,200	55.25
13	31G11	2325813	Active	29/11/2011	28/11/2015	60.09	0.00	1,200	55.25
14	31G11	2325814	Active	29/11/2011	28/11/2015	60.08	0.00	1,200	55.25
15	31G11	2325815*	Active	29/11/2011	28/11/2015	60.07	0.00	1,200	55.25
16	31G11	2325816*	Active	29/11/2011	28/11/2015	60.05	0.00	1,200	55.25
17	31G11	2325817	Active	29/11/2011	28/11/2015	60.05	0.00	1,200	55.25
18	31G11	2326012	Active	01/12/2011	30/11/2015	60.12	0.00	1,200	55.25
19	31G11	2326013	Active	01/12/2011	30/11/2015	60.12	0.00	1,200	55.25
20	31G11	2326014	Active	01/12/2011	30/11/2015	60.11	0.00	1,200	55.25
<b>21</b>	<b>31G11</b>	<b>2334259</b>	<b>Active</b>	<b>05/03/2012</b>	<b>04/03/2016</b>	<b>60.10</b>	<b>3,148.10</b>	<b>1,200</b>	<b>55.25</b>
<b>22</b>	<b>31G11</b>	<b>2334260</b>	<b>Active</b>	<b>05/03/2012</b>	<b>04/03/2016</b>	<b>60.10</b>	<b>0.00</b>	<b>1,200</b>	<b>55.25</b>
23	31G11	2334261	Active	05/03/2012	04/03/2016	60.10	0.00	1,200	55.25
24	31G11	2334262	Active	05/03/2012	04/03/2016	60.10	0.00	1,200	55.25
25	31G11	2334263	Active	05/03/2012	04/03/2016	60.09	0.00	1,200	55.25
26	31G11	2334264	Active	05/03/2012	04/03/2016	60.09	0.00	1,200	55.25
27	31G11	2334265	Active	05/03/2012	04/03/2016	60.09	0.00	1,200	55.25
28	31G11	2334266	Active	05/03/2012	04/03/2016	60.08	0.00	1,200	55.25
29	31G11	2334267	Active	05/03/2012	04/03/2016	60.08	0.00	1,200	55.25
30	31G11	2334268	Active	05/03/2012	04/03/2016	60.08	0.00	1,200	55.25
31	31G11	2400893	Active	03/03/2014	02/03/2016	60.05	0.00	1,200	55.25
32	31G11	2415128	Active	24/10/2014	23/10/2016	60.13	0.00	1,200	55.25
33	31G11	2415129	Active	24/10/2014	23/10/2016	60.13	0.00	1,200	55.25
34	31G11	2415130	Active	24/10/2014	23/10/2016	60.13	0.00	1,200	55.25
35	31G11	2415131	Active	24/10/2014	23/10/2016	60.13	0.00	1,200	55.25
36	31G11	2415132	Active	24/10/2014	23/10/2016	60.12	0.00	1,200	55.25
37	31G11	2415133	Active	24/10/2014	23/10/2016	60.11	0.00	1,200	55.25
38	31G11	2415134	Active	24/10/2014	23/10/2016	60.10	0.00	1,200	55.25
39	31G11	2415135	Active	24/10/2014	23/10/2016	60.10	0.00	1,200	55.25
40	31G11	2415136	Active	24/10/2014	23/10/2016	60.09	0.00	1,200	55.25
41	31G11	2415137*	Active	24/10/2014	23/10/2016	60.06	0.00	1,200	55.25
42	31G11	2415254**	Active	29/10/2014	28/10/2016	36.31	0.00	1,200	55.25
43	31G11	2415255**	Active	29/10/2014	28/10/2016	27.29	0.00	1,200	55.25
44	31G11	2426409	Active	10/04/2015	09/04/2017	60.07	0.00	1,200	55.25
45	31G11	2426410	Active	10/04/2015	09/04/2017	60.06	0.00	1,200	55.25
<b>Totals</b>						<b>2,647.52</b>	<b>3,554.86</b>	<b>54,000</b>	<b>2,486</b>

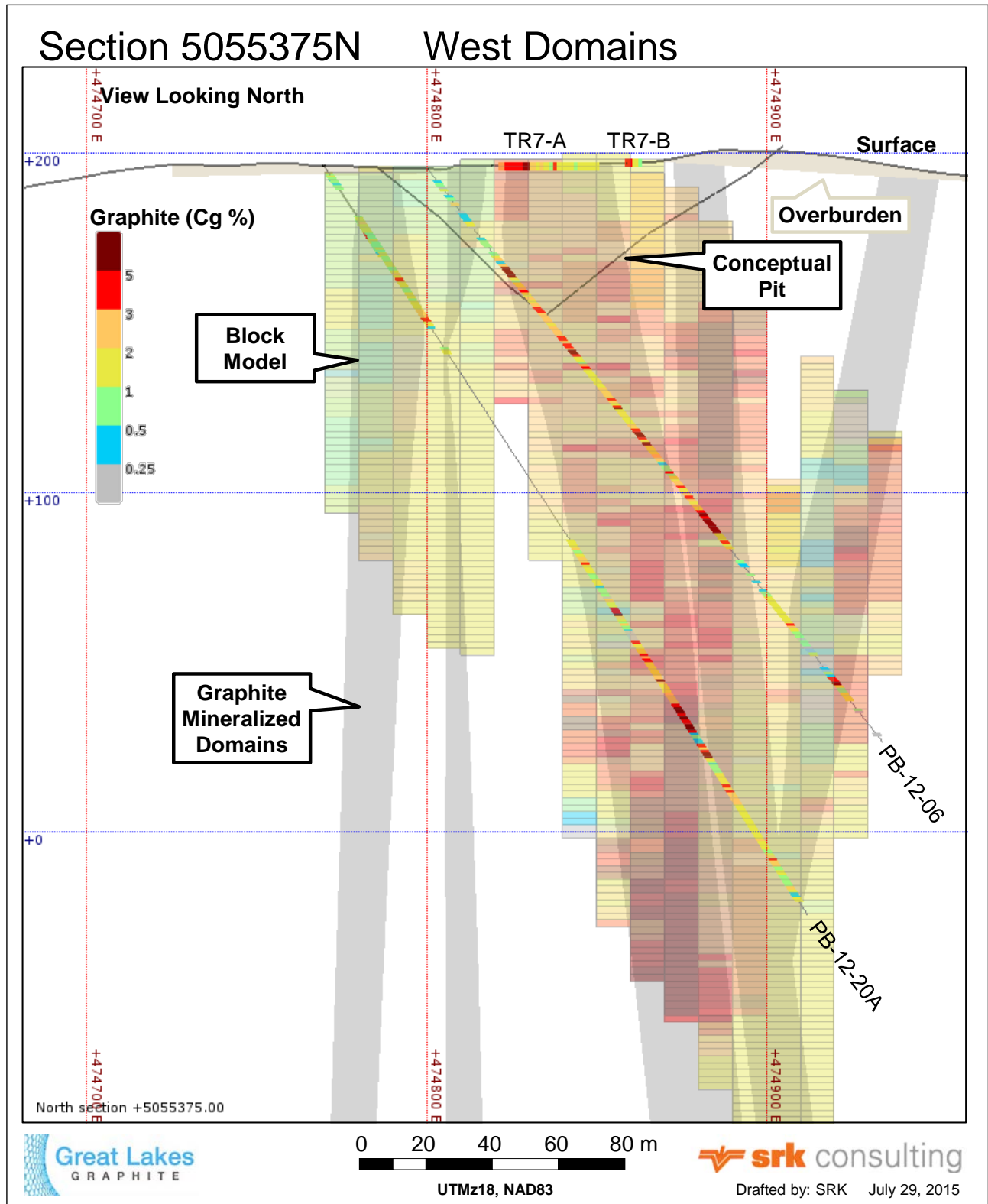
\* Restriction comment: Affected by wildlife habitat

\*\* Limited by : Forestry education centre, ecological reserve

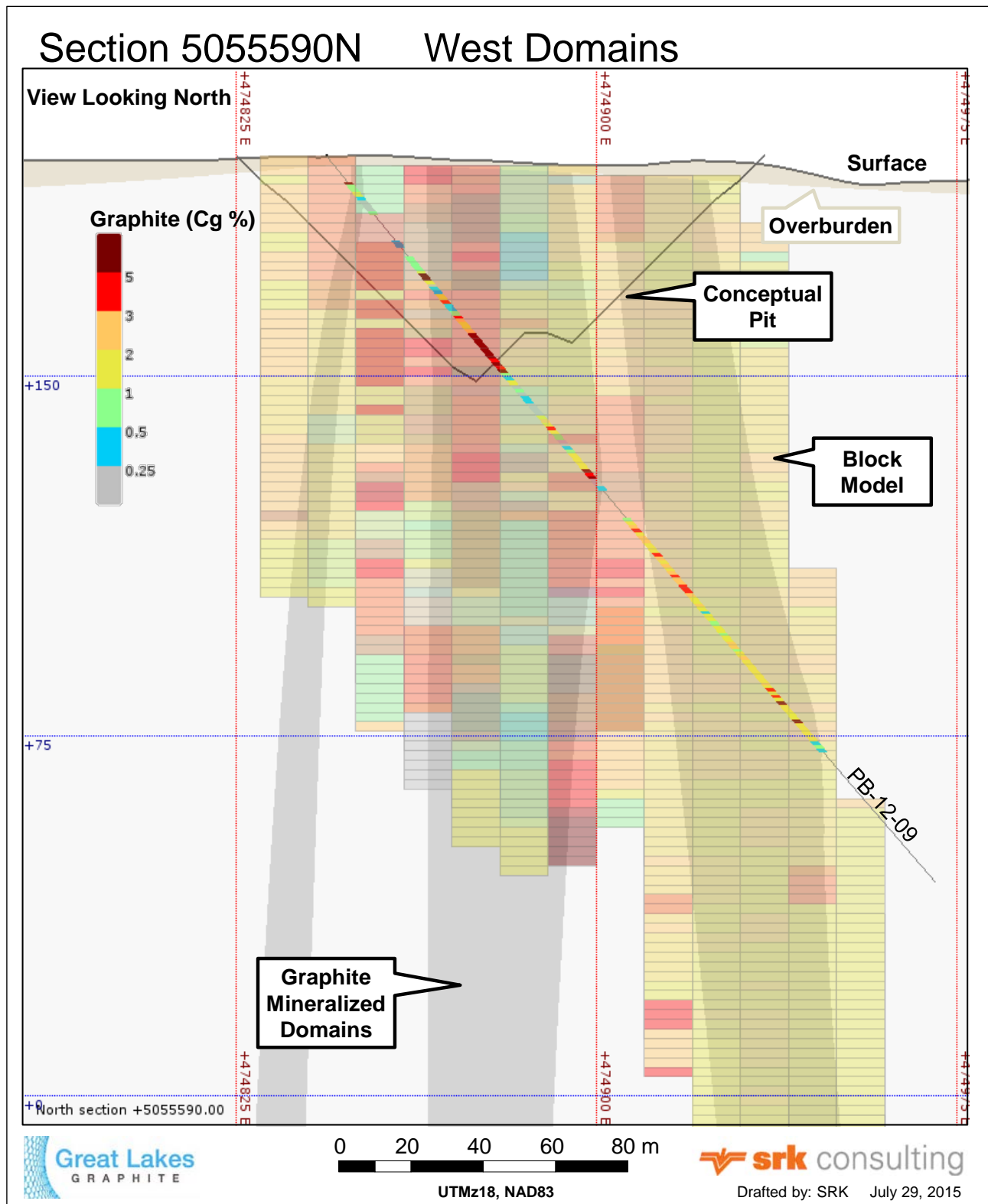
## **APPENDIX B**

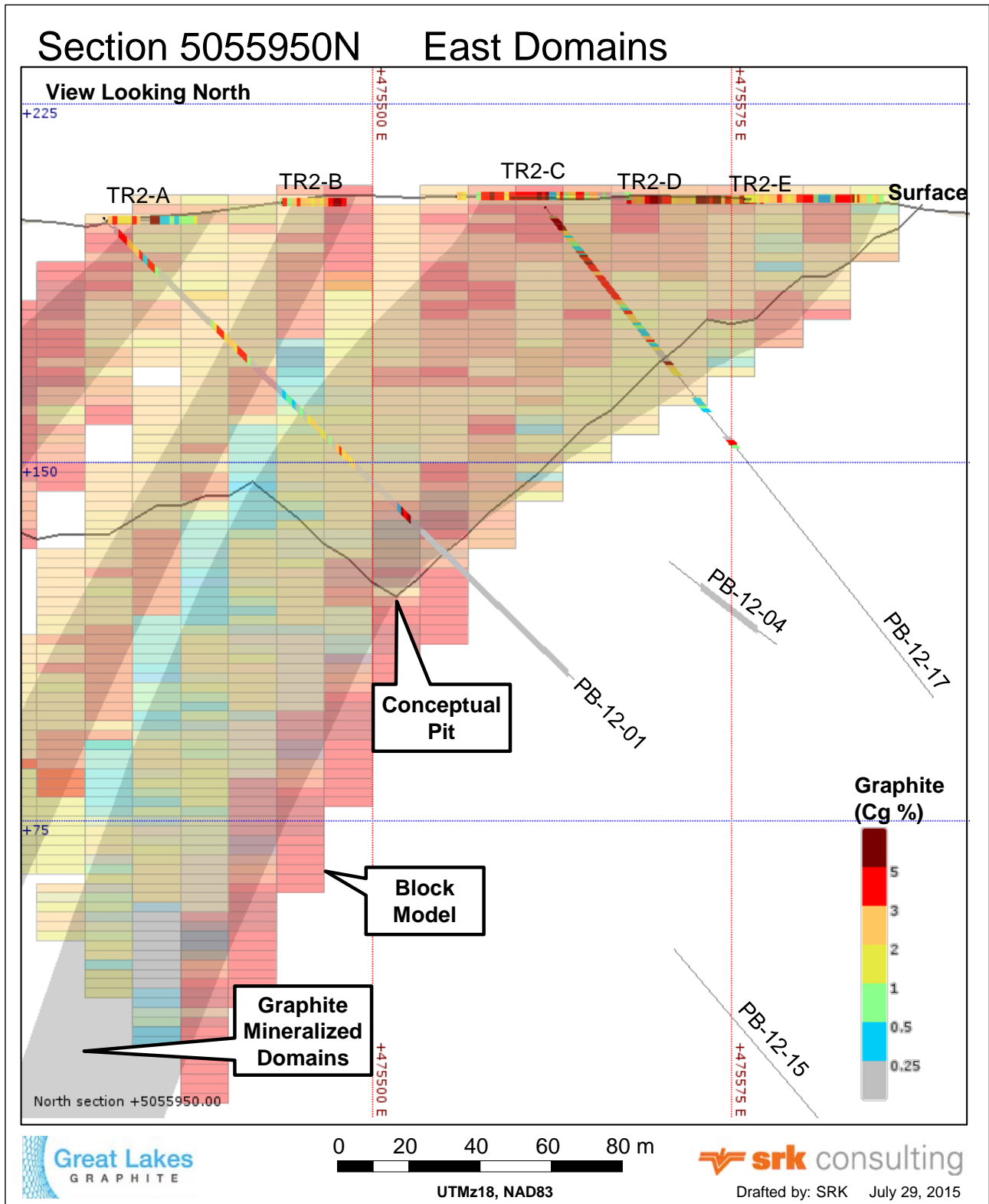
### **Vertical Cross Sections Displaying Boreholes, Trenches, Geological Model, and Block Model**

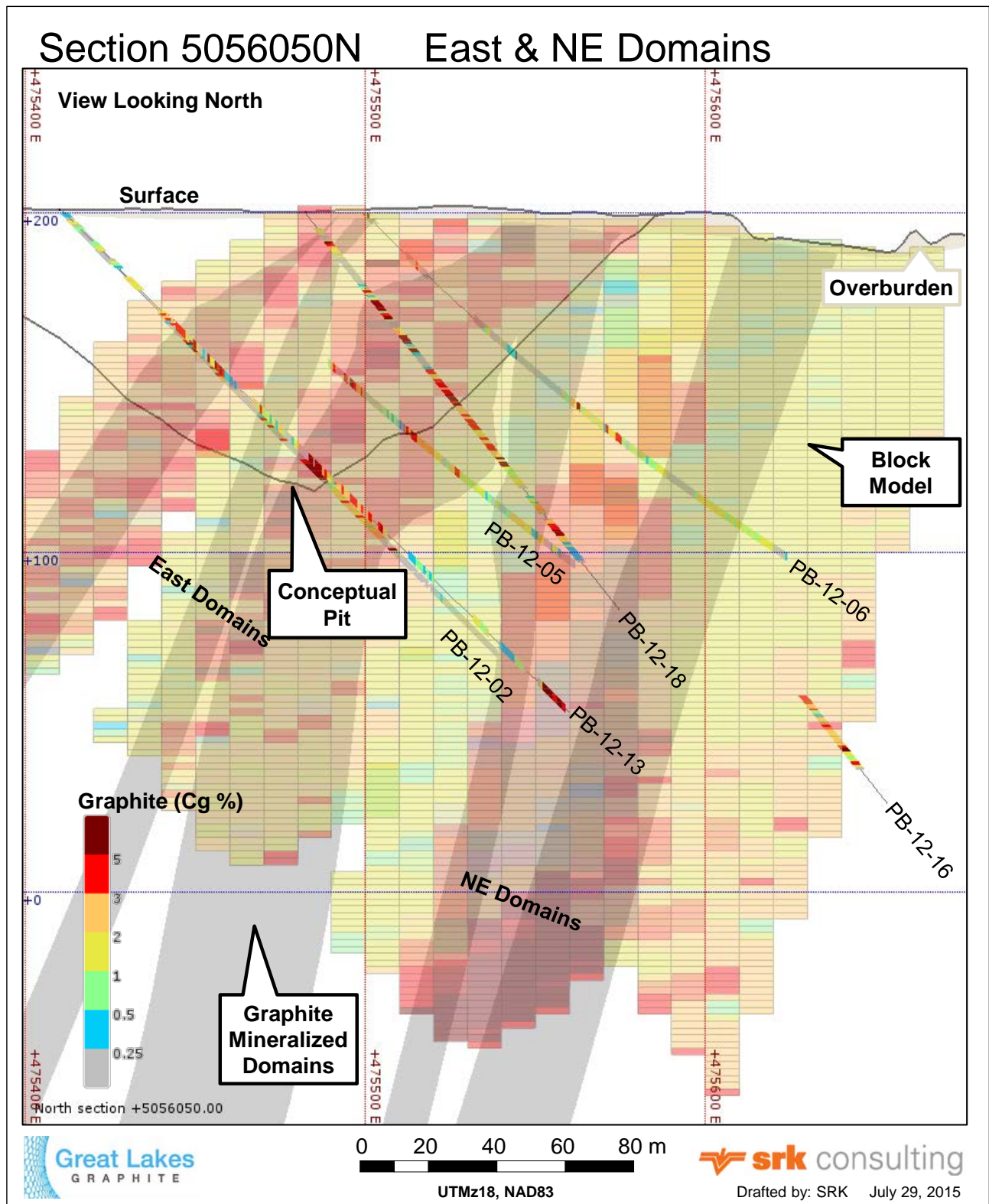










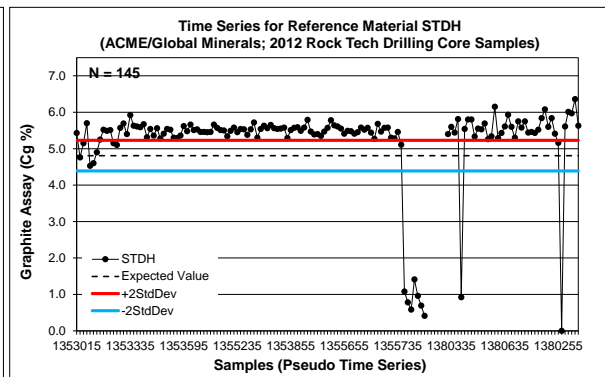
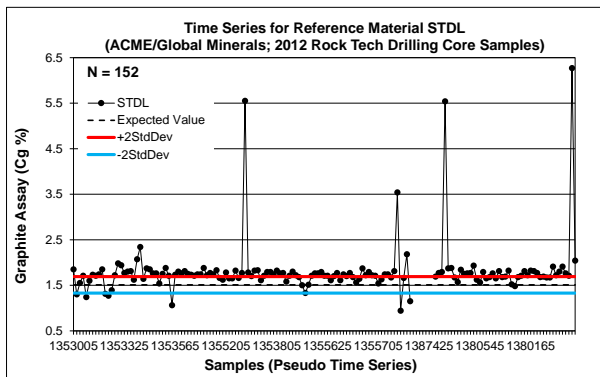
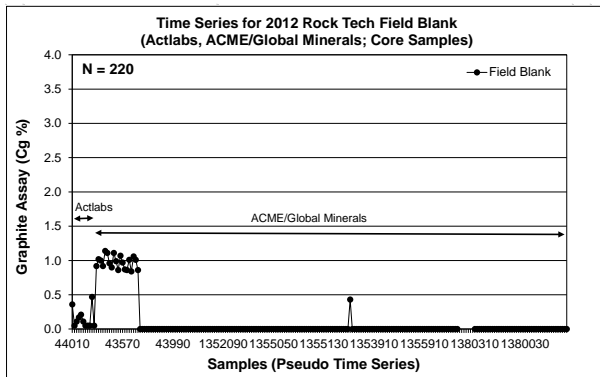


## **APPENDIX C**


### **Analytical Quality Control Data and Relative Precision Charts**

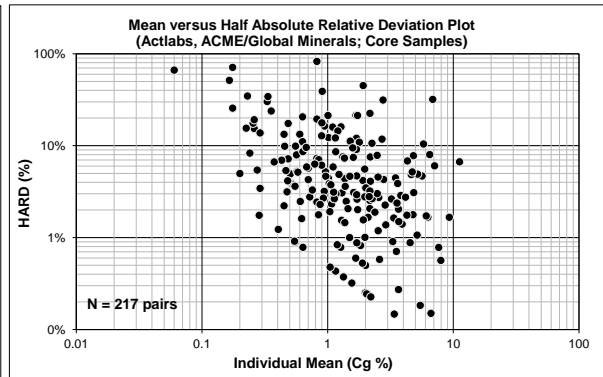
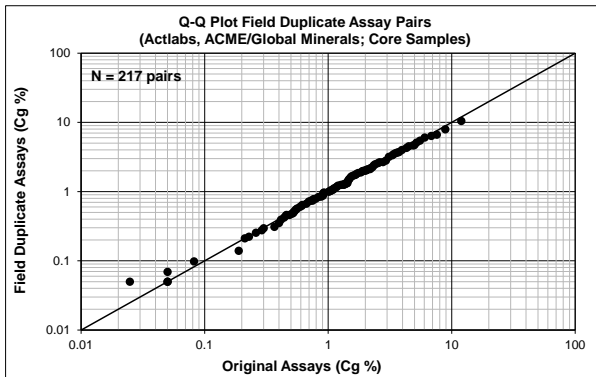
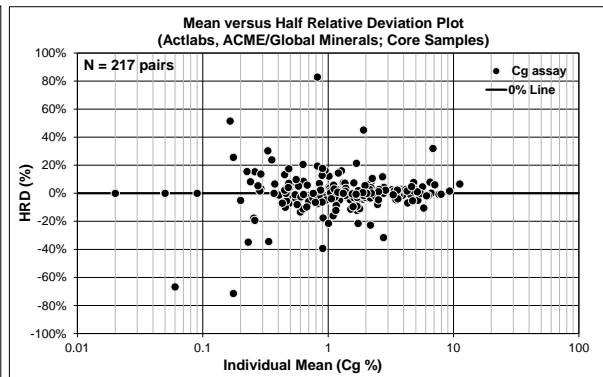
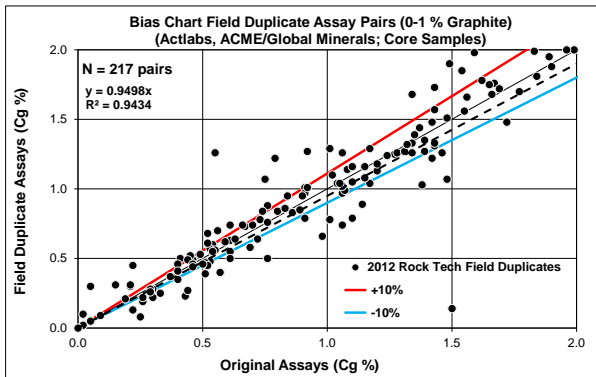
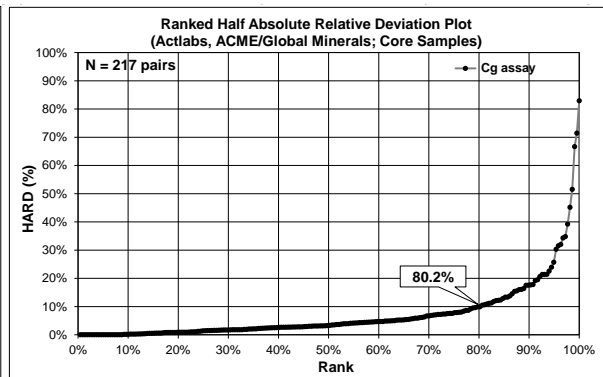
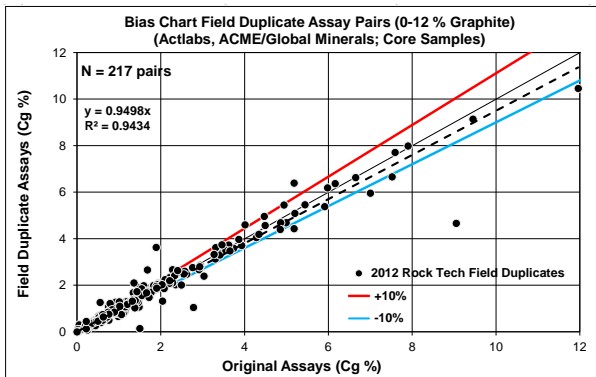
Time Series Plots for Blank and Certified Reference Material Samples Assayed by Actlabs, ACME and Global Minerals for the Rock Tech Drilling of 2012

		Statistics			
		Blank	STDL	STDH	
<b>Project</b>	Great Lakes Lochaber	<b>Sample Count</b>	220	152	145
<b>Data Series</b>	2012 Rock Tech Core Drilling	<b>Expected Value</b>	0.050	1.51	4.81
<b>Data Type</b>	Blanks and Standards	<b>Standard Deviation</b>	-	0.09	0.21
<b>Commodity</b>	Graphite (Cg) in %	<b>Data Mean</b>	0.098	1.80	5.21
<b>Laboratory</b>	Actlabs, ACME/Global Minerals	<b>Outside 2StdDev/UL</b>	9%	72%	94%
<b>Analytical Method</b>	IR (Actlabs) Double LOI (ACME/Global)	<b>Below 2StdDev</b>	-	7	9
<b>Detection Limit</b>	0.05 % Cg (Actlabs); 0.00% Cg (ACME/ Global)	<b>Above 2StdDev</b>	-	102	127




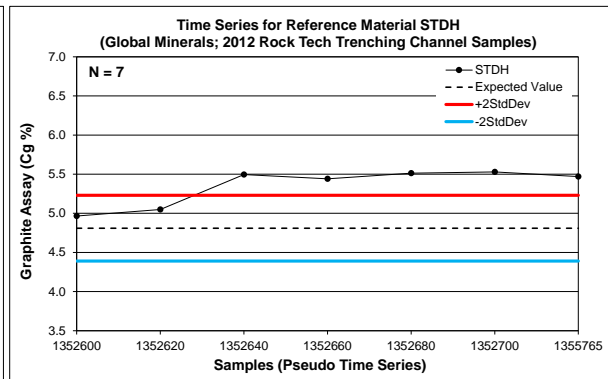
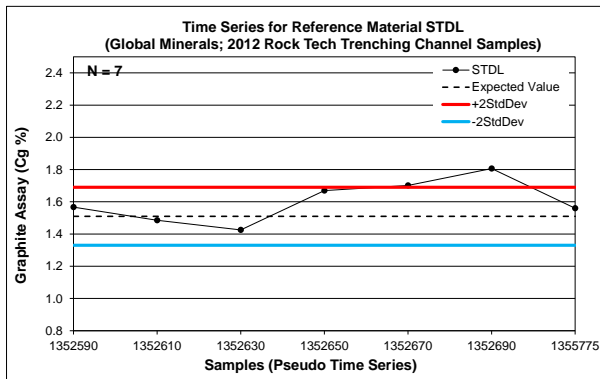
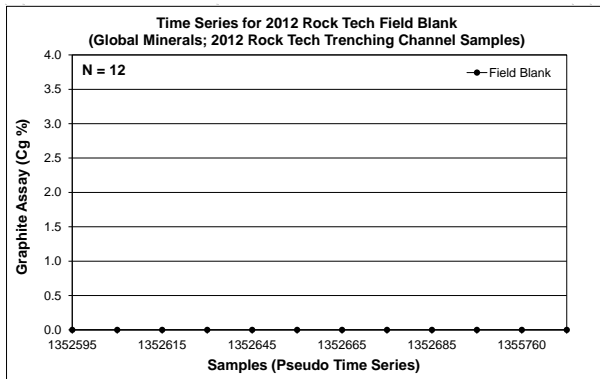
Bias Charts and Precision Plots for Field Duplicate Pairs Sampled During the 2012 Drilling Program by Rock Tech

		Statistics	
		Original	Field Duplicate
<b>Project</b>	Great Lakes Lochaber	<b>Sample Count</b>	217
<b>Data Series</b>	2012 Rock Tech Field Duplicates	<b>Minimum Value</b>	0.00
<b>Data Type</b>	Core Samples	<b>Maximum Value</b>	11.96
<b>Commodity</b>	Cg in %	<b>Mean</b>	1.83
<b>Analytical Method</b>	IR (Actlabs) Double LOI (ACME/Global)	<b>Median</b>	1.31
<b>Detection Limit</b>	0.05 % (Actlabs); 0.00% (ACME/Global)	<b>Standard Error</b>	0.127
<b>Original Dataset</b>	Original Assays	<b>Standard Deviation</b>	1.875
<b>Paired Dataset</b>	Field Duplicate Assays	<b>Correlation Coefficient</b>	0.9725
		<b>Pairs ≤ 10% HARD</b>	80.2%




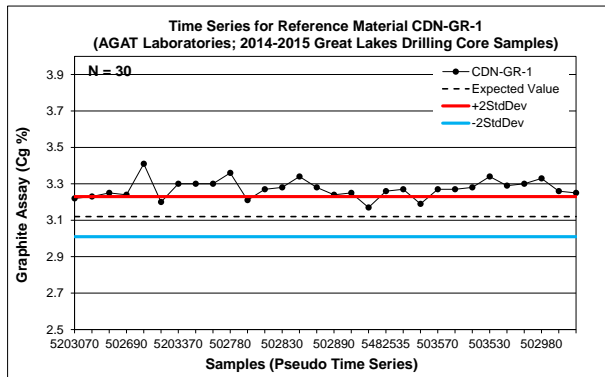
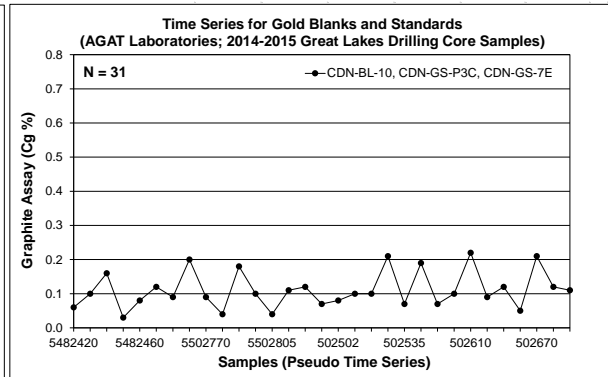
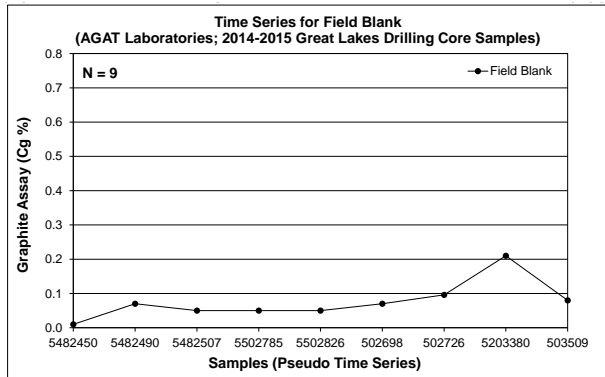
Time Series Plots for Blank and Certified Reference Material Samples Assayed by Global Minerals for the Rock Tech Trench Channel Samples of 2012

		<b>Statistics</b>			
		<b>Blank</b>	<b>STDL</b>	<b>STDH</b>	
<b>Project</b>	Great Lakes Lochaber	<b>Sample Count</b>	12	7	7
<b>Data Series</b>	2012 Rock Tech Trenching	<b>Expected Value</b>	0.050	1.51	4.81
<b>Data Type</b>	Blanks and Standards	<b>Standard Deviation</b>	-	0.09	0.21
<b>Commodity</b>	Graphite (Cg) in %	<b>Data Mean</b>	0.000	1.60	5.35
<b>Laboratory</b>	Global Minerals	<b>Outside 2StdDev/UL</b>	0%	29%	71%
<b>Analytical Method</b>	Double LOI	<b>Below 2StdDev</b>	-	0	0
<b>Detection Limit</b>	0.00% Cg	<b>Above 2StdDev</b>	-	2	5




Time Series Plots for Blank and Certified Reference Material Samples Assayed by AGAT Laboratories for the Great Lakes Drilling of 2014-2015

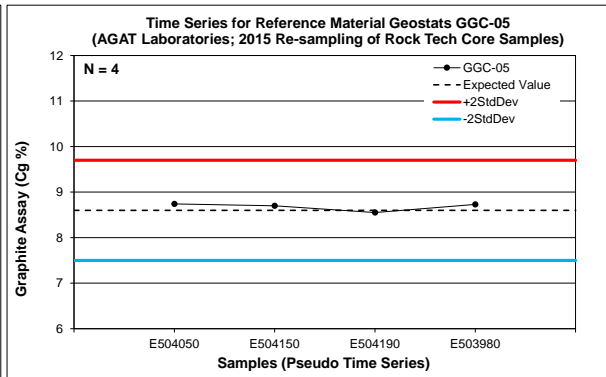
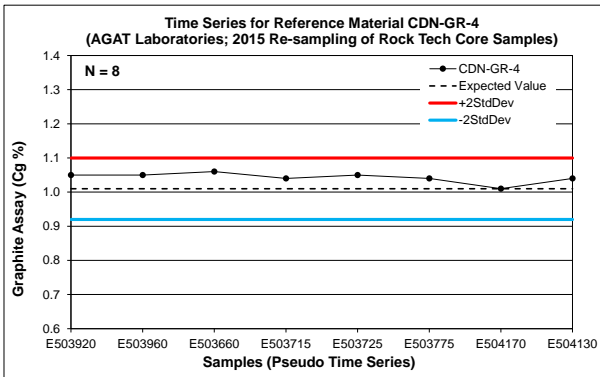
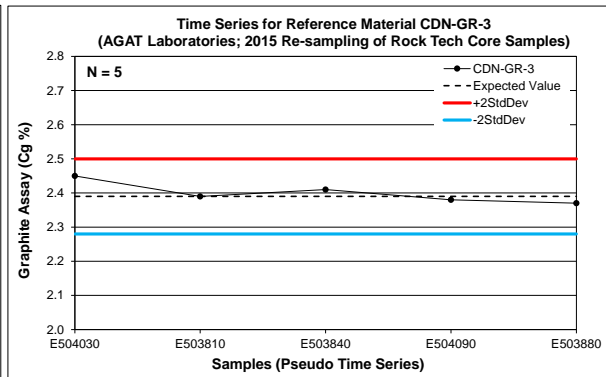
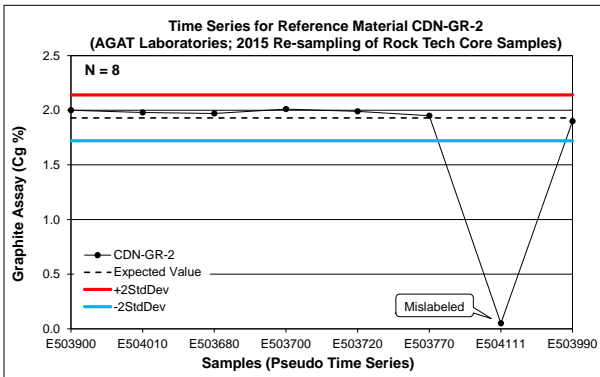
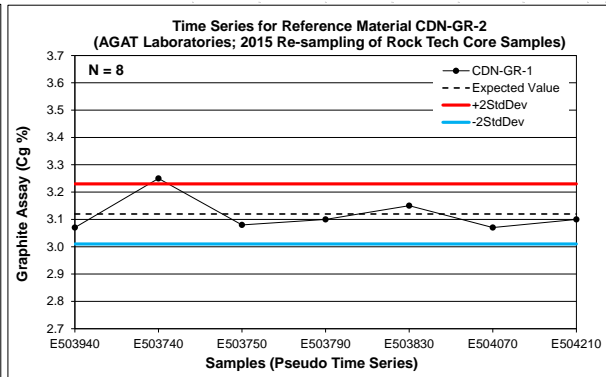
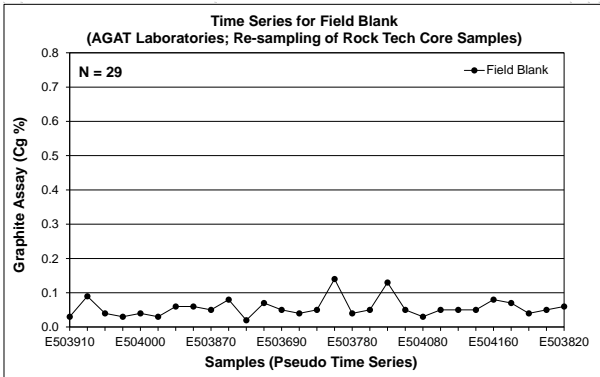
		<b>Field</b>	<b>Gold</b>	<b>CDN-</b>	
		<b>Blank</b>	<b>Bl+st</b>	<b>GR-1</b>	
<b>Project</b>	Great Lakes Lochaber	<b>Statistics</b>			
<b>Data Series</b>	2012 Rock Tech Core Drilling	<b>Sample Count</b>	9	31	30
<b>Data Type</b>	Blanks and Standards	<b>Expected Value</b>	0.010	0.100	3.12
<b>Commodity</b>	Graphite (Cg) in %	<b>Standard Deviation</b>	-	-	0.055
<b>Laboratory</b>	AGAT Laboratories	<b>Data Mean</b>	0.076	0.111	3.27
<b>Analytical Method</b>	IR	<b>Outside 2StdDev/UL</b>	11%	0%	80%
<b>Detection Limit</b>	0.01 % Cg	<b>Below 2StdDev</b>	-	-	0
		<b>Above 2StdDev</b>	-	-	24





Time Series Plots for Blank and Certified Reference Material Samples Assayed by AGAT Laboratories for the Re-sampling Program by Great Lakes of Rock Tech Drilling of 2012

		<b>Field</b>	<b>CDN-</b>	<b>CDN-</b>	<b>CDN-</b>	<b>CDN-</b>	<b>GGC-</b>
		<b>Blank</b>	<b>GR-1</b>	<b>GR-2</b>	<b>GR-3</b>	<b>GR-4</b>	<b>05</b>
<b>Project</b>	Great Lakes Lochaber	<b>Statistics</b>					
<b>Data Series</b>	2012 Rock Tech Core Drilling	<b>Sample Count</b>	29	7	8	5	8
<b>Data Type</b>	Blanks and Standards	<b>Expected Value</b>	0.010	3.12	1.93	2.39	1.01
<b>Commodity</b>	Graphite (Cg) in %	<b>Standard Deviation</b>	-	0.055	0.11	0.06	0.05
<b>Laboratory</b>	AGAT Laboratories	<b>Data Mean</b>	0.056	3.117	1.73	2.40	1.04
<b>Analytical Method</b>	IR	<b>Outside 2StdDev/UL</b>	7%	100%	13%	0%	0%
<b>Detection Limit</b>	0.01 % Cg	<b>Below 2StdDev</b>	-	0	1	0	0
		<b>Above 2StdDev</b>	-	1	0	0	0



## CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: Technical Report for the Lochaber Graphite Project, Quebec, July 31, 2015.

I, Sébastien B. Bernier, PGeo, residing at Sudbury, Ontario do hereby certify that:

- 1) I am a Principal Consultant (Resource Geology) with the firm of SRK Consulting (Canada) Inc. (SRK) with an office at Suite 101, Regent Street South, Sudbury, Ontario, Canada;
- 2) I am a graduate of the University of Ottawa in 2001 with BSc (Honours) Geology and I obtained a MSc degree in Geology from Laurentian University in 2003. I have practiced my profession continuously since 2002. I worked in exploration and commercial production of base and precious metals mainly in Canada. I have been focussing my career on geostatistical studies, geological modelling and resource modelling of base and precious metals since 2004;
- 3) I am a professional geoscientist registered with the Ordre des Géologues du Québec (OGQ# 1034);
- 4) I have personally visited the project area between December 22, 2014;
- 5) I have read the definition of Qualified Person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a Qualified Person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 7) I am the co-author of this report and am responsible for Section 13 and 16-17 as well as Appendices B of this technical report;
- 8) I have had no prior involvement with the subject property;
- 9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
- 10) SRK Consulting (Canada) Inc. was retained by Great Lakes Graphite Inc. to prepare a technical audit of the Lochaber graphite project. In conducting our audit, a gap analysis of project technical data was completed using CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines* and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a review of project files, and discussions with Great Lakes Graphite Inc. personnel;
- 11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Lochaber Project or securities of Great Lakes Graphite Inc.; and
- 12) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Sudbury, ON  
July 31, 2015

["signed and sealed"]  
Sébastien B. Bernier, PGeo  
Principal Consultant (Resource Geology)

## CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: Technical Report for the Lochaber Graphite Project, Quebec, July 31, 2015.

I, Dominic Chartier, PGeo, residing at Toronto, Ontario do hereby certify that:

- 1) I am a Senior Consultant (Geology) with the firm of SRK Consulting (Canada) Inc. (SRK) with an office at Suite 1300 - 151 Yonge Street, Toronto, Ontario, Canada;
- 2) I am a graduate of McGill University in Montreal, Quebec, with a BSc in Earth and Planetary Sciences in 2002. I have practiced my profession continuously since 2002. I have created geological and ore deposit 3D models, analyzed the geostatistics and variography of ore deposits, completed NI 43-101 compliant mineral resource estimations in GEMS software, evaluated the geotechnical and structural properties of ore deposits, reviewed analytical quality control sample results, and co-authored or contributed to numerous NI 43-101 technical reports focused on gold, base metal and precious metal projects in Canada, West Africa, and South America;
- 3) I am a professional geologist registered with the Ordre des Géologues du Québec (OGQ #874);
- 4) I have not personally visited the project area but relied on a site visit conducted by Mr. Sébastien Bernier, a co-author of this technical report;
- 5) I have read the definition of Qualified Person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a Qualified Person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 7) I am the co-author of this report and am responsible for Sections 1-11 and 14-17 as well as Appendices A-C of this technical report;
- 8) I have had no prior involvement with the subject property;
- 9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
- 10) SRK Consulting (Canada) Inc. was retained by Great Lakes Graphite Inc. to prepare a technical audit of the Lochaber graphite project. In conducting our audit, a gap analysis of project technical data was completed using CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines* and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a review of project files, and discussions with Great Lakes Graphite Inc. personnel;
- 11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Lochaber Project or securities of Great Lakes Graphite Inc.; and
- 12) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Toronto, ON  
July 31, 2015

["signed and sealed"]  
Dominic Chartier, PGeo  
Senior Consultant (Geology)

## CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: Technical Report for the Lochaber Graphite Project, Quebec, July 31, 2015.

I, Ernest Burga, residing at Mississauga, Ontario do hereby certify that:

- 1) I am an independent Engineer with Andeburg Consulting Services Inc. with offices at 3385 Aubrey Rd. Mississauga, Ontario, Canada;
- 2) I am a graduate of the National University of Engineering, Lima, Peru. In 1966 I obtained a bachelor's degree and I have practiced my profession continuously since 1966.
  - Worked as plant engineer for an industrial plant since graduation to 1975
  - Participated as design engineer for the Kidd Creek concentrator expansion project, Canada
  - Participated as chief mechanical engineer for the La Escondida concentrator expansion project, Chile
  - Worked for 18 years as design and project engineer for numerous hydro-metallurgical projects in Canada and abroad
  - Worked as engineering manager for a lithium carbonate project in Argentina
- 3) I am a professional engineer registered with the Professional Engineers of Ontario with membership number 6067011;
- 4) I have personally reviewed the subject project on July 10, 2015 and agreed to be a co-author of this technical report;
- 5) I have read the definition of Qualified Person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience I fulfill the requirements to be a Qualified Person for the purposes of National Instrument 43-101 and that this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a Qualified Person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 7) I am the co-author of this report and responsible for Section 12 of this report and accept professional responsibility for that sections of this technical report;
- 8) I have had no prior involvement with the subject property;
- 9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
- 10) SRK Consulting (Canada) Inc. was retained by Great Lakes Graphite Inc. to prepare a technical audit of the Lochaber graphite project. In conducting our audit, a gap analysis of project technical data was completed using *CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines* and Canadian Securities Administrators National Instrument 43-101 guidelines. The preceding report is based on a site visit, a review of project files, and discussions with Great Lakes Graphite Inc. personnel;
- 11) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Lochaber graphite project or securities of Great Lakes Graphite Inc.; and
- 12) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Mississauga  
July 10, 2015

["signed and sealed"]  
Ernest Burga, PEng  
Sr. Engineer