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QUEST RARE MINERALS LTD.

NI 43-101 TECHNICAL REPORT FOR THE UPDATED MINERAL RESOURCE ESTIMATE FOR THE STRANGE LAKE PROPERTY QUÉBEC, CANADA

Report Date: March 8, 2017
Effective Date of
Updated Resource Estimate: February 15, 2017

Richard M. Gowans, P.Eng.
William J. Lewis, P.Geo.
R. V. Zalnieriunas, P.Geo.

SUITE 900 - 390 BAY STREET, TORONTO ONTARIO, CANADA M5H 2Y2
Telephone (1) (416) 362-5135 Fax (1) (416) 362 5763

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1.0 SUMMARY

1.1 INTRODUCTION

Micon International Limited (Micon) has been retained by Quest Rare Minerals Ltd. (Quest) to compile a Technical Report under Canadian National Instrument 43-101 (NI 43-101) which discloses the results of a desktop review and update to the mineral resource estimate on Quest's Strange Lake Project (the Project), based upon a change in commodity prices since 2012 and the changes to the CIM definitions in 2014.

The previous Technical Report compiled for the project was a 2014 preliminary economic assessment study (PEA) Technical Report. However, since 2014, significant changes have been made to the logistics, infrastructure and flotation processing aspects of the Project and this process is ongoing. Quest has not yet completed all of the work necessary to update the 2014 PEA study but it believes that it will be able to update that study later in 2017.

The Project is generally based on the mining and beneficiation of a rare earth element (REE)-rich deposit at Strange Lake in northern Québec, and processing a flotation concentrate at a facility at Bécancour in southern Québec. Processing will recover rare earths and yttrium as separated oxides.

This report is intended to be used by Quest subject to the terms and conditions of its agreement with Micon. That agreement permits Quest to file this report as a Technical Report with the Canadian Securities Administrators pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

1.1.1 Rare Earth Elements

The REE, a group of metals also known as the lanthanides, comprise the 15 elements in the periodic table with atomic numbers 57 to 71. Yttrium (Y), atomic number 39, is often included with the lanthanides since it has similar chemical and physical characteristics and often occurs with them in nature.

The 15 lanthanide elements are divided into two groups. The 'light' elements (LREE) are those with atomic numbers 57 through 62 (lanthanum to samarium) and the 'heavy' elements (HREE) from 63 to 71 (europium to lutetium). Generally, the light rare earth elements are more common and more easily extracted than the so-called 'heavies'. In spite of its low atomic weight, yttrium has properties more similar to the heavy lanthanides and is included within this group. Promethium, atomic number 61, does not occur in nature. The rare earth element content of ores and products is generally expressed in terms of the oxide equivalent, or REO.

1.2 LOCATION AND PROPERTY DESCRIPTION

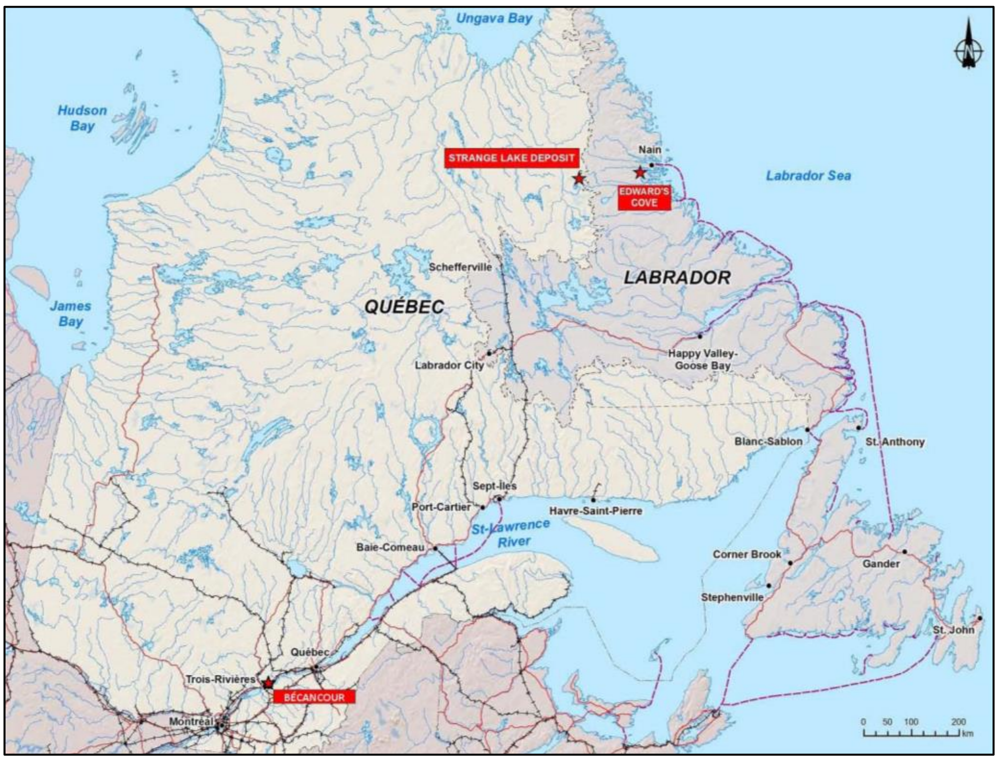
The Project is divided between two regional areas:

1. Northern Project Area, comprising:
    - The mine site, beneficiation plant and tailings and management facility (TMF) at Strange Lake, Québec.

2. Southern Project Area, situated at Bécancour Industrial Park, Québec comprising:
    - The Bécancour process plant site.
    - The process plant residue management facility (RMF).

See Figure 1.1 for locations of project facilities.

Figure 1.1
Strange Lake Project, Location of Mine Site, Port and Processing Facilities



1.2.1 Northern Project Area

The Strange Lake Property is situated on the provincial border between the Canadian provinces of Québec (QC) and Newfoundland and Labrador (NL). The Project is located on the southeast edge of Lac Brisson, approximately 235 km northeast of Schefferville, QC, approximately 150 km west of Nain, NL and 125 km west of the Voisey's Bay nickel-copper-cobalt mine, owned and operated by Vale. Administration for the region is covered by the Administrative Region of Nord-du-Québec and the Kativik Regional Government.

The Strange Lake Property is covered by Canadian National Topographic System (NTS) map sheets 24A08, 14D05, and 14D01. The latitude and longitude for the Property are approximately 56°21' N and 64°12' W, respectively.

1.2.2 Southern Project Area

The southern project area encompasses the proposed sites for the processing plant and residue management facilities (RMF) for the disposal of processing residue, located in the City of Bécancour, Québec. The facilities will be located in the Bécancour Waterfront Industrial Park, on the south shore of the St. Lawrence River, approximately 12 km southeast of Trois-Rivières and approximately 140 km northeast of Montreal. The site is located at 46º22'N, 72º17'W.

1.3 Mineral Claims, Ownership and Permits

The Strange Lake Property is comprised of 241 individual mineral claims covering a total area of approximately 10,117 ha. A total of 211 of these claims are in Québec and 30 are located in Newfoundland and Labrador. Quest has been letting claims expire on the peripheral edges of the property as they are not material to the integrity of the property.

The mineral claims in Québec cover the B Zone and a portion of the Main Zone REE deposits. The mineral claims in Newfoundland and Labrador cover an area immediately south of the Main Zone REE deposit, historically referred to as the A Zone by Iron Ore Mining Company of Canada (IOCC). Quest has informed Micon that all of the claims are current and there are no outstanding issues.

The mineral claims comprising the Strange Lake Project area around the B Zone deposit are 100% owned by Quest. Quest has informed Micon that all of the mineral claims are free of NSR and other encumbrances except one claim, CDC2123065, which has a 2% NSR. Claim CDC2123065 is located at approximately 1.2 km east of the B Zone deposit. The 211 Québec claims constitute the 100% Quest owned Strange Lake property, and, the 30 Labrador claims which used to form the 50-50 Quest-Search Minerals Alterra JV property are now 100% owned by Quest after the purchase of the remaining 50% of the property by Quest from Search Minerals Inc. (Search Minerals) in 2015.

Quest has informed Micon that it has obtained all permits required to conduct exploration activities on the property.

1.4 HISTORY AND GEOLOGICAL SETTING

The Strange Lake Project lies within the Paleoproterozoic Rae or Southeastern Churchill Province (SECP) located in the northeastern Canadian Shield of Québec and Labrador. The Strange Lake deposit is part of a post-tectonic, peralkaline granite complex which has intruded along the contact between older gneisses and monzonites of the Churchill Province of the Canadian Shield.

Mineralization of interest at Strange Lake occurs within peralkaline granite-hosted pegmatites and aplites and, to a lesser degree, within the host granites, particularly in intra-pegmatitic granites.

The Strange Lake Property has been covered by national and provincial government surveys between 1967 and 2009. In 1980, in partnership with the Geological Survey of Canada (GSC), the Newfoundland and Labrador Department of Mines and Energy, Mineral Development Division released a detailed lake sediment, water and radiometric survey. This survey was the first time the strong dispersion pattern of the Strange Lake mineralization was published and it led directly to the Iron Ore Company of Canada (IOCC) discovery of the Strange Lake Alkali Complex (SLAC) and associated REE and high field strength elements (HFSE) mineralization. Subsequent drilling up to 1984 culminated in the discovery of the Strange Lake REE and HFSE mineralization, which IOCC named the A Zone (renamed Main Zone by Quest).

Analytical data of ZrO_2 and Y_2O_3 obtained by IOCC from diamond drilling and bedrock mapping were used in the calculation of the age of the younger alkali granite in the central part of the Strange Lake area, and aided in the identification of the second anomalous zone of mineralization in the Strange Lake area, named the B Zone by IOCC.

Between 1980 and 2006, a succession of companies other than IOCC worked in the area or on the property encompassed by the current Strange Lake Property boundaries. In 2006, Freewest Resources Canada Inc. (Freewest) staked 23 non-contiguous claim blocks totalling 220,813 ha for the purpose of uranium exploration. In late 2007, Freewest transferred its George River Project claims to Quest. The Property is encompassed by Freewest's Block 1 exploration target and contiguous to Block 8.

In April 2010, Wardrop, a Tetra Tech Company, published a mineral resource estimate on the Strange Lake B Zone deposit in a Technical Report. Wardrop also completed a PEA on the Project in September, 2010 and updated the mineral resource estimate in May, 2011.

The previous mineral resource estimate on the Strange Lake B zone deposit, was published by Micon in December, 2012. Micon also completed a prefeasibility study on the Project in December, 2013 and a PEA in April, 2014 which was amended in June, 2014. The effective date of the updated mineral resource estimate included herein is February 15, 2017.

1.5 MINERAL RESOURCE ESTIMATE

1.5.1 Resource Classification

Micon has assigned the resources in the B Zone deposit to the Indicated and Inferred classification on the basis of data density. At this time, Micon has not assigned any Measured resources. The majority of the B Zone deposit has been drilled at a spacing of 50 m by 50 m with some areas drilled at 25 m by 50 m. At depth, the drill hole spacing becomes 200 m by 100 m since the majority of holes were drilled to less than 150 m depth. Indicated resources were assigned to all resource blocks which fall in areas with a drill spacing of at least 50 m by 50 m and were estimated using at least 16 samples from a minimum of four drill holes. All remaining resource blocks contained within the optimized pit shell and with an estimated grade greater than zero, were assigned to the Inferred classification.

1.5.2 Resource Estimate

The mineral resources at B Zone occur near to surface and are amenable to conventional open pit mining methods. An economic cut-off base case grade based on the updated technical and financial parameters of 0.6% TREO was considered appropriate for reporting the mineral resources.

Indicated Mineral Resources are estimated at 278 Mt at 0.93% TREO. Inferred Mineral Resources are estimated at 214 Mt at 0.85% TREO. Table 1.1 shows a breakdown of the mineral resource estimate above a 0.60% TREO cut-off grade.

Mineral resources which are not mineral reserves do not have demonstrated economic viability. It is Micon’s opinion however that no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues exist that would adversely affect the mineral resources presented above.

The quantity and grade of reported inferred resources in this estimation are conceptual in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource. It is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.

The effective date of the updated mineral resource estimate is February 15, 2017. The current mineral resource estimate replaces the estimate disclosed in the previously filed Technical Report dated December 14, 2012.

Table 1.1
B Zone Mineral Resources above 0.60%TREO Cut-off Grade

	Units	INDICATED		INFERRED
		Enriched Zone	Granite Domain	Granite Domain
Resource	000 t	20,020	257,968	214,348
La_2O_3	%	0.150	0.120	0.120
CeO_2	%	0.360	0.270	0.270
Pr_6O_{11}	%	0.039	0.030	0.029
Nd_2O_3	%	0.140	0.110	0.110
Sm_2O_3	%	0.036	0.024	0.023
Eu_2O_3	%	0.002	0.001	0.001
Gd_2O_3	%	0.039	0.023	0.022
Tb_4O_7	%	0.009	0.005	0.004
Dy_2O_3	%	0.066	0.032	0.028
Ho_2O_3	%	0.015	0.007	0.006
Er_2O_3	%	0.049	0.022	0.019
Tm_2O_3	%	0.008	0.003	0.003
Yb_2O_3	%	0.051	0.022	0.019
Lu_2O_3	%	0.007	0.003	0.003
Y_2O_3	%	0.470	0.220	0.190
LREO	%	0.72	0.55	0.55
HREO + Y	%	0.72	0.33	0.3
TREO	%	1.44	0.89	0.85
H:T Ratio	%	50	38	35
ZrO_2	%	2.59	1.87	1.71
HfO_2	%	0.06	0.05	0.04
Nb_2O_5	%	0.34	0.16	0.14
Be	ppm	575	234	184
Th	ppm	559	268	227
U	ppm	97	51	44

There is no mineral reserve at the Strange Lake Project.

1.6 INTERPRETATION AND CONCLUSIONS

This Technical Report has been compiled to discuss the results of a desktop review of the mineral resources that was conducted as the result of changes to commodity prices since the previous mineral resource estimate was conducted in 2012 and the changes to the CIM definitions in 2014. The desktop review of the mineral resources resulted in a change to the cut-off grade from 0.5 to 0.6% TREO, due to the rare earth commodity price differential between 2012 and 2017. The change in the cut-off grade has not resulted in a material change to the mineral resources for the Strange Lake Project. The mining, processing and G&A prices used for the pit shell to define the mineral resources are the same as those used in 2012, as they were determined to be still valid to demonstrate reasonable prospects for eventual economic extraction. Therefore, the mineral resource estimate appears to have remained fairly stable and can continue to be used as the basis of an economic study even with the slight increase in the cut-off grade to 0.6% TREO.

1.7 RECOMMENDATIONS

It is Micon's recommendation that the work required to advance the project continues and that Quest complete the necessary work required to update its previous PEA study, based upon the significant changes to the project that have occurred since 2014.

1.8 GEOLOGY AND RESOURCES

No additional resource definition drilling is recommended. The current indicated mineral resource is of sufficient quality to support the PEA and feasibility studies.

The high nugget effect in the lenses and the shape and distribution between sections of both the pegmatite and granite lithologies do not allow for separate interpretation on the current 50 m centred drilling. It is Micon's opinion that closer spaced drilling will not necessarily improve the confidence of the current mineral classification from an indicated to a measured category, without drilling on such closed spaced centres as to be cost prohibitive.

Micon recommends that the current mineral resource estimate be reviewed prior to conducting a prefeasibility or feasibility study to confirm that any updated economic and other NSR cut-off parameters will not materially affect the estimate.

1.8.1 Budget for Ongoing Work

As shown in Table 26.1, Quest has budgeted a total of $17.1 million for work on the Strange Lake Project over two phases. Phase 1 will cover the next 6 months during which Quest will update the geology/resource model, finish the flotation pilot testing at Corem, do additional sulphation testing at Outotec and continue with the EIA work. Phase 2 will take Quest into mid to late 2018 during which it will complete all the piloting testwork, including sulphation and hydromet, and a large component of the EIA. Quest believes that it will be able to revise the previous 2014 PEA after the Phase 1 work is completed.

Table 1.2
Budget for Ongoing Work

Description	Phase 1 $M	Phase 2 $M	Total $M
Revised PEA	0.1	-	0.1
Geology / revised resource model	0.5	0.1	0.6
Project optimization & full pilot plants	1.1	10.5	11.6
EIA	0.5	1.5	2.0
Project management team & technical support	0.8	2.0	2.8
Total	**3.0**	**14.1**	**17.1**

Micon has reviewed the proposed budget and considers that it is reasonable and appropriate.

2.0 INTRODUCTION

2.1 SCOPE OF WORK AND TERMS OF REFERENCE

Micon International Limited (Micon) has been retained by Quest Rare Minerals Ltd. (Quest) to compile a Technical Report under Canadian National Instrument 43-101 (NI 43-101) which discloses the results of a desktop review and update to the mineral resource estimate on Quest's Strange Lake Project (the Project), based upon changes in commodity prices since 2012 and the changes to the CIM definitions in 2014.

The previous Technical Report compiled for the Project was a 2014 preliminary economic assessment study (PEA) Technical Report. However, since 2014, significant changes have been made to the logistics, infrastructure and flotation processing aspects of the Project and this process is ongoing. Quest has not yet completed all of the work necessary to update the 2014 PEA study but it believes that it will be able to update that study later in 2017.

All of the mineral claims for the Strange Lake project are 100% owned by Quest.

2.1.1 Principal Components of the Project

The Strange Lake mine and processing plant comprise the following principal components:

- The Strange Lake Project site in northern Québec:

- The potential processing plant site at Bécancour, southern Québec.

The locations of the principal project components are shown in Figure 2.1.

2.2 QUALIFIED PERSONS AND SITE VISITS

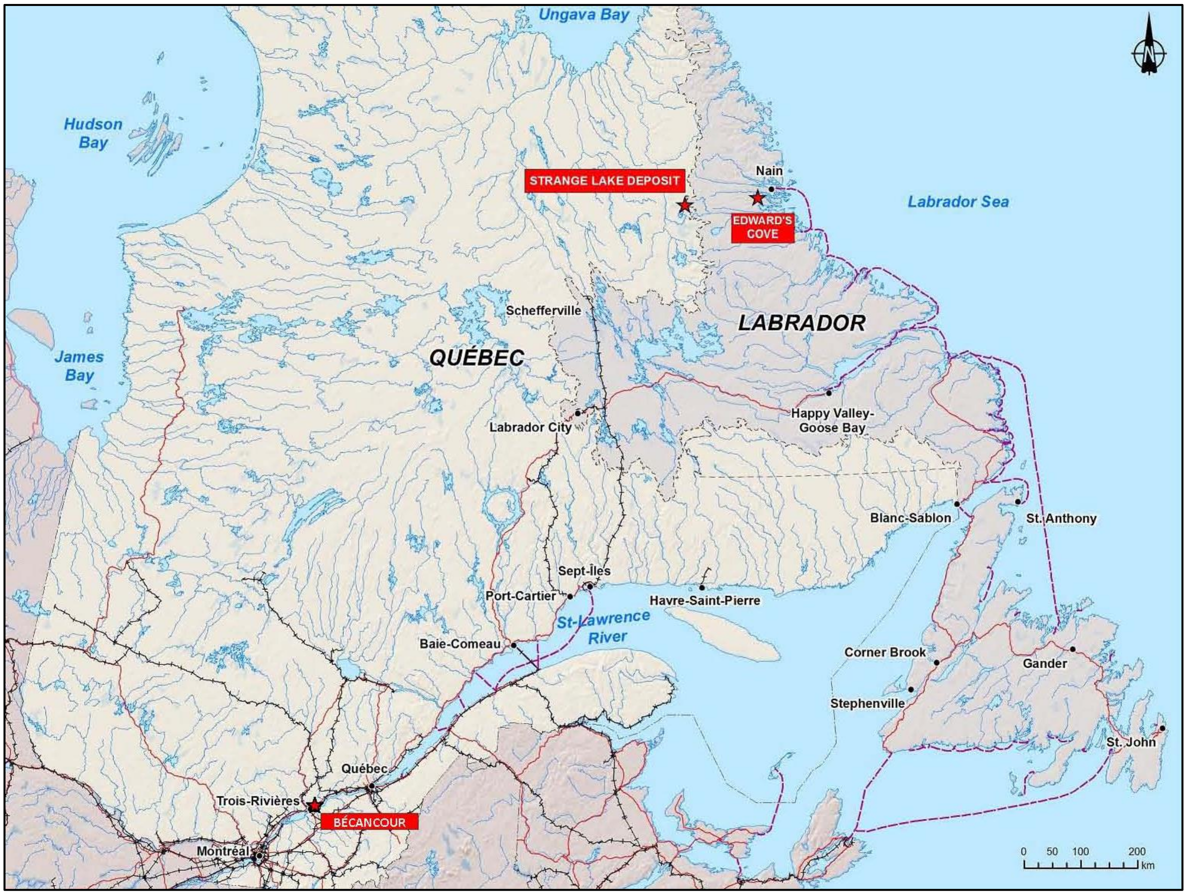
The Qualified Persons (QPs) for this Technical Report are the following:

- Richard Gowans, P.Eng.: metallurgical testwork.

- William Lewis, P.Geo.: geology, mineral resource estimate and all aspects of the resource database.

- Rimant (Ray) Zalnieriunas, B.Sc. (Hon), P.Geo.: sample preparation and QA/QC.

Figure 2.1
Strange Lake Project, Location of Mine Site, Port and Processing Facilities



Micon December, 2013 Technical Report.

Site visits to the Strange Lake Property have been carried out on the following dates:

- William Lewis: March 26 and 29, 2012.
- Ray Zalnieriunas: July 3 to 6, 2011, August 14 to 25, 2011 and March 27 to 28, 2012. Mr. Zalnieriunas also visited the commercial sample preparation laboratory at Goose Bay, Newfoundland, during the period December, 2011 to January, 2012.

2.3 Previous Technical Reports

The results from a preliminary economic assessment on the Project were reported by Micon in the NI 43-101 Technical Report issued on April 9, 2014, entitled "NI 43-101 Technical Report on the Preliminary Economic Assessment (PEA) for the Strange Lake Property, Québec, Canada," with an effective date of April 9, 2014. The PEA Technical Report was later amended as of June 26, 2014.

The results from a prefeasibility study on the Project were reported by Micon in the NI 43-101 Technical Report issued on December 6, 2013, entitled "NI 43-101 Technical Report on the Pre-Feasibility Study for the Strange Lake Property, Québec, Canada," with an effective date of October 23, 2013 (Micon, 2013).

The Strange Lake B Zone mineral resources on which the PEA was based were most recently reported by Micon in the NI 43-101 Technical Report issued on December 14, 2012, entitled "Technical Report for the Strange Lake B Zone REE Deposit, Québec, Canada, Updated Mineral Resource Estimate", with an effective date of August 31, 2012 (Micon, 2012).

A previous mineral resource estimate was prepared by Wardrop, a Tetra Tech Company (Wardrop), in the NI 43-101 Technical Report entitled "Strange Lake B Zone Resource Model Update," with an effective date of May 25, 2011 (Wardrop, 2011). An earlier resource estimate was described in the Wardrop Technical Report dated April 16, 2010 (Wardrop, 2010a).

An earlier PEA was completed on the Strange Lake Project, the results of which were disclosed in a Technical Report dated September 24, 2010 (Wardrop, 2010b).

These reports can be accessed from SEDAR's electronic database http://www.sedar.com.

2.4 USE OF REPORT

This report is intended to be used by Quest subject to the terms and conditions of its agreement with Micon. Subject to the authors' consent, that agreement permits Quest to file this report as a Canadian National Instrument 43-101 (NI 43-101) Technical Report on SEDAR (www.sedar.com) pursuant to Canadian provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

The requirements of electronic document filing on SEDAR necessitate the submission of this report as an unlocked, editable pdf (portable document format) file. Micon accepts no responsibility for any changes made to the file after it leaves its control.

The conclusions and recommendations in this report reflect the authors' best judgment in light of the information available to them at the time of writing. The authors and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

2.5 ACKNOWLEDGEMENT AND RELATIONSHIP WITH QUEST

Micon does not have, nor has it previously had, any material interest in Quest or related entities. The relationship with Quest is solely a professional association between the client and the independent consultant. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

2.6 FORWARD-LOOKING INFORMATION

This Technical Report discloses the results of the updated mineral resource estimate on the Strange Lake project and contains forward-looking information relating to metal recoveries and metal price assumptions. There is no assurance that the results will be realized.

2.7 UNITS AND ABBREVIATIONS

All costs are presented in Canadian dollars (Cdn$, CAD), unless otherwise noted. Prices for rare earth products are given in United States dollars (US$, USD).

This report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

All currency amounts are stated in Canadian dollars or as specified, with commodity prices typically expressed in US dollars. Unless otherwise noted, quantities are stated in Système International d'Unités (SI) units, the standard Canadian and international practice, including metric tonnes (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, and hectares (ha) for area. Wherever applicable, any Imperial units of measure encountered have been converted to metric units for reporting consistency.

References to TREO, unless otherwise stated, include Y_2O_3.

Table 2.1 provides a list of the abbreviations used in this report.

Table 2.1
List of Abbreviations

Name	Abbreviations
Acadia Mineral Ventures Ltd.	Acadia
Ammonia	NH_4
Ammonium hydroxide	NH_4OH
Ammonium nitrate fuel oil	ANFO
Armco Mineral Exploration Ltd.	AME
Beryllium	Be
Beryllium oxide	BeO
Becquerel per cubic metre (radon)	Bq/m^3
BQ 'thin-kerf' (drill size)	BQTX
BQ 'thin-wall' (drill size)	BTW
Calcium	Ca
Calcium fluoride	CaF_2
Canadian Institute of Mining, Metallurgy and Petroleum	CIM

Name	Abbreviations
Canadian Environmental Assessment Agency	CEAA
Canadian National Instrument 43-101	NI 43-101
Canadian National Topographic System	NTS
Canadian Nuclear Safety Commission	CNSC
Centimetre(s)	cm
Cubic metre(s)	m^3
Day(s)	d
Days per year	d/y
Dead weight tonnes	DWT
Decibel with A weighted filter	dBA
Degree(s)	º
Degrees Celsius	ºC
Department of Fisheries and Oceans (federal)	DFO
Digital elevation model	DEM
Dollar(s), Canadian and US	$, Cdn$ and US$
Electromagnetic	EM
Engineering, procurement and construction management	EPCM
Environmental Impact Assessment	EIA
Environmental Management Plan	EMP
Europium	Eu
Exempt Mineral Lands	EML
Fluorine	F
Fluorite-hematite breccia zone	FHBX
Foot/feet	ft
Freewest Resources Canada Inc.	Freewest
Gallons (US) per minute	gpm
General and Administrative	G&A
Geological Survey of Canada	GSC
Global Positioning System	GPS
Gram(s)	g
Grams per cubic centimetre (density)	g/cm^3
Grams per metric tonne	g/t
Greater than	>
Hafnium	Hf
Hafnia (hafnium oxide)	HfO_2
Hazen Research Inc.	Hazen
Heavy rare earth element(s)	HREE
Heavy rare earth oxide(s)	HREO
Hectare(s)	ha
High Field Strength Elements	HFSE
Hinterland Resources Ltd.	Hinterland
Hour(s)	h
Hydrochloric acid	HCl
Hydrofluoric acid	HF
Impact and Benefits Agreement	IBA
Indian and Northern Affairs Canada	INAC
Induced coupled plasma mass spectroscopy	ICP-MS
Induced polarization resistivity	IP-RES
Internal rate of return	IRR
Inverse distance cubed	ID^3

Name	Abbreviations
Inverse distance squared	ID^2
Iron Ore Mining Company of Canada	IOCC
James Bay and Northern Québec Agreement	JBNQA
Joint Review Panel	JRP
Kativik Environmental Quality Commission (Québec)	KEQC
Kilogram(s)	kg
Kilometre(s)	km
Kilometres per hour	km/h
Kilowatthours per tonne	kWh/t
Labrador Inuit Lands	LIL
Lanthanum	La
Lerchs-Grossmann	LG
Less than	<
Life-of-mine	LOM
Light rare earth element(s)	LREE
Light rare earth oxide(s)	LREO
Litre(s)	L
Litres per day	L/d
Metre(s)	m
Metres above sea level	masl
Metres per second	m/s
Micon International Limited	Micon
Microgram(s)	µg
Microgram per cubic metre	$\mu g/m^3$
Micron(s)	µm
Million	M
Million cubic metres	Mm^3
Million tonnes	Mt
Million ounces	Moz
Million years	Ma
Million metric tonnes per year	Mt/y
Milligram(s)	mg
Milligrams per litre	mg/L
Millilitre(s)	mL
Millimetre(s)	mm
Ministère du Développement durable, de l'Environnement et des Parcs	MDDEP
Ministère des Ressources Naturelles, de l'Environnement et de la Faune	MNRF
Mitsui Mining & Smelting Co. Ltd.	Mitsui
Motor control centre	MCC
MPX Geophysics Ltd.	MPX
National Topographic System	NTS
Net present value	NPV
Net smelter return	NSR
Newfoundland and Labrador	NL
Newfoundland Department of Natural Resources, Mines and Energy	NLDNR
Niobium	Nb
Niobium pentoxide	Nb_2O_5
Non-governmental organization	NGO
Northeastern Québec Agreement	NEQA
North American Datum	NAD

Name	Abbreviations
Not available/applicable	n.a.
Process Research Ortech Inc.	Ortech
Ounce(s)	oz
Ounces per year	oz/y
Parts per billion	ppb
Parts per million	ppm
Percent(age)	%
Peak ground acceleration	*g*
Potassium	K
Prefeasibility study	PFS
Pregnant leach solution	PLS
Preliminary economic assessment	PEA
Programmable logic controller	PLC
Proposed Airport 6	PA6
Quality Assurance/Quality Control	QA/QC
Québec	QC
Québec land surveyor	QLS
Québec Ministry of Natural Resources and Wildlife	MRNF
Quest Rare Minerals Ltd.	Quest
Rare earth element	REE
Rare earth oxide	REO
Residue management facility	RMF
Rock Quality Designation	RQD
Run-of-mine	ROM
Second(s)	s
Sodium	Na
Solvent extraction	SX
Specific gravity	SG
Southeastern Churchill Province	SECP
Société du parc industriel et portuaire de Bécancour	SPIPB
Strange Lake Alkali Complex	SLAC
Sulphuric acid	H_2SO_4
System for Electronic Document Analysis and Retrieval	SEDAR
Système International d'Unités	SI
Thorium	Th
Three-dimensional	3D
Tonne(s) (metric, 1,000 pounds)	t
Tonnes per day	t/d
Tonnes per month	t/m
Tonnes per year	t/y
Total rare earth element	TREE
Total rare earth oxide, unless otherwise stated, include Y_2O_3	TREO
Universal Transverse Mercator	UTM
Uranium	U
United States	USA
United States dollar	US$
Very low frequency electromagnetic	VLF-EM
Wardrop, a Tetra Tech Company	Wardrop
WMC International Limited	WMC
X-ray fluorescence	XRF

Name	Abbreviations
Year(s)	y
Yttrium	Y
Yttrium oxide	Y_2O_3
Zirconium	Zr
Zirconia (zirconium oxide)	ZrO_2

2.8 SOURCES OF INFORMATION

The descriptions of geology, mineralization and exploration used in this report are taken from reports prepared by various companies or their contracted consultants, as well as from various government and academic publications. The conclusions of this report rely in part on data available in published and unpublished reports supplied by the companies which have conducted exploration on the property, and information supplied by Quest. The information provided to Quest was supplied by reputable companies and Micon has no reason to doubt its validity. Sources of information used in this report are contained in Section 28, References.

Micon is pleased to acknowledge the helpful cooperation of Quest management and consulting field staff, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

Some of the figures and tables for this report were reproduced or derived from historical reports written on the property by various individuals and/or supplied to Micon by Quest. In the cases where photographs, figures or tables were supplied by other individuals or Quest they are referenced below the inserted item.

3.0 RELIANCE ON OTHER EXPERTS

Micon has reviewed and analyzed data provided by Quest relating to the current Technical Report for the Strange Lake Project, and has drawn its own conclusions therefrom, augmented by its direct field examination. While exercising all reasonable diligence in checking, confirming and testing it, Micon has relied upon Quest for data relevant to this Technical Report.

Micon has not carried out any independent exploration work, drilled any holes or carried out any program of sampling and assaying on the property. Micon has relied on the previous sampling conducted by Wardrop discussed in its May, 2011 Technical Report and the 2011 Quest re-sampling of diamond drill hole BZ10040, as verification of the mineralization on the Strange Lake deposit, as well as its own observations during the site visit.

Micon has not reviewed or independently verified any of the documents or agreements under which Quest holds title to the Strange Lake Property and the underlying mineral concessions and Micon offers no legal opinion as to the validity of the mineral titles claimed. Micon has not reviewed or independently verified any of the documents or agreements under which Quest may hold title to property within the Bécancour Waterfront Industrial Park. A description of the properties, and ownership thereof, is provided in Section 4.0 for general information purposes only.

Micon has relied upon the expertise of Quest's environmental consultants for any information concerning environmental issues.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Project is divided between two regional areas:

1. Northern Project Area, comprising:
    - The mine, beneficiation plant and tailings storage facility at Strange Lake, Québec.

2. Southern Project Area, situated at Bécancour Industrial Park, Québec, comprising:
    - The Bécancour process plant site.
    - The process plant residue management facility.

4.1 NORTHERN PROJECT AREA

The following description has been extracted from the June, 2014 Micon Amended Technical Report (Micon, 2014) and updated where applicable

4.1.1 Location and Description

The Strange Lake Property is situated on the provincial border between the Canadian provinces of Québec and Newfoundland and Labrador. The property is located on the southeast edge of Lac Brisson, approximately 235 km northeast of Schefferville, QC, approximately 150 km west of Nain, NL, 125 km west of the Voisey's Bay nickel-copper-cobalt mine, owned and operated by Vale SA, and approximately 1,100 km northeast of Québec City, QC. Administration for the region is covered by the Administrative Region of Nord-du-Québec and the Kativik Regional Government.

The Strange Lake Property is covered by Canadian National Topographic System (NTS) map sheets 24A08, 24A09, and 14D05. The latitude and longitude for the Project is approximately 56°21' N and 64°12' W.

Figure 4.1 shows the location of the Strange Lake Project.

Figure 4.1
Location of the Strange Lake Property

Micon December, 2013 Technical Report.

The Strange Lake Property is comprised of the 241 individual mineral claims covering a total area of approximately 10,116.93 ha, as summarized in Table 4.1 and illustrated in Figure 4.2. The details for each individual claim are contained in a Table located in Appendix 1. Quest has been letting claims on the peripheral edges of the property expire if they are not material to the integrity of the property.

The mineral claims in Québec cover the B Zone and a portion of the Main Zone rare earth element (REE) deposits. Quest has informed Micon that all of the claims are current and there are no outstanding issues.

Table 4.1
Summary of the Strange Lake Mineral Claims by Province

Province	Number of Claims	Area (ha)	Ownership
Québec	211	9,366.93	100% owned
Newfoundland and Labrador	30	750	100% owned
Total	**241**	**10,116.93**	

Figure 4.2
Strange Lake Property Mineral Claim Map

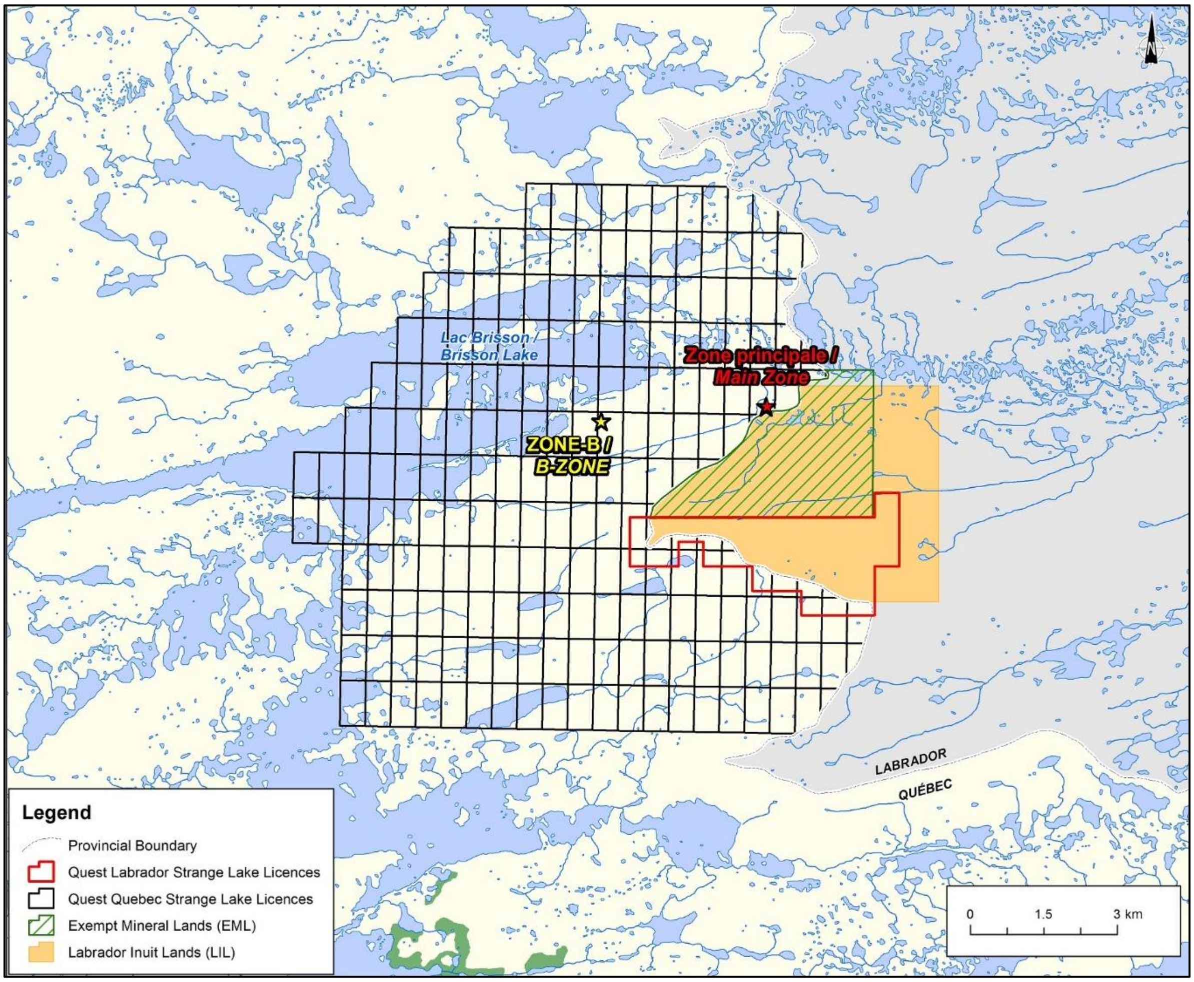


Figure supplied by Quest, dated February, 2017.

The mineral claims in Newfoundland and Labrador cover an area immediately south of the Main Zone REE deposit, historically referred as the A Zone by the Iron Ore Mining Company of Canada (IOCC). Mineral tenure in Newfoundland and Labrador allows for contiguous claims to be held under a single licence number. There are also several mineral claims that overlap the Québec and Newfoundland and Labrador claims due to the disputed location of the provincial border.

With regards to the mineral rights in Newfoundland and Labrador adjacent to the east of the Property, there are two blocks of claims designated Exempt Mineral Lands (EML) and Labrador Inuit Lands (LIL). The EML is currently off limits for exploration and mining, while the LIL may be explored with permitting and consultation with the Inuit of the Nunatsiavut Government.

4.1.2 Ownership and Permits

The mineral claims comprising the Strange Lake Project area around the B-Zone deposit are 100% owned by Quest. Quest has informed Micon that all of the mineral claims are free of NSR and other encumbrances except one claim, CDC2123065, which has a 2% NSR and for the claims in the EML designation and those designated LIL. Claim CDC2123065 is located at approximately 1.2 km east of the B Zone deposit.

Quest has informed Micon that it has obtained all permits required to conduct exploration activities on the property.

Quest Rare Minerals Ltd, (formerly Quest Uranium Corporation), was incorporated under the Canada Business Corporations Act on June 6, 2007, as a wholly-owned subsidiary of Freewest Resources Canada Inc. (Freewest), with the intention of taking over the uranium exploration activities previously conducted by Freewest.

On December 7, 2007, Freewest transferred its 100%-owned uranium properties to Quest for 8,000,000 common shares of Quest, for a total consideration of Cdn$2,400,000. The uranium properties included the George River property, five uranium properties in Ontario and one uranium property in New Brunswick. Freewest retained rights to certain precious metals and base metals with respect to certain properties transferred.

On December 11, 2007, Freewest distributed an aggregate amount of 6,256,979 common shares of Quest held by Freewest to its shareholders.

On May 8, 2009, Quest entered into a purchase and sale agreement with two prospectors, namely Messrs. Réal Gauthier and Terrence P. O'Connor, pursuant to which Quest acquired a 100% interest in a single block of mining claims in the Strange Lake area of northeastern Québec (the Strange Lake Property) by issuing an aggregate of 50,000 common shares of Quest to the two vendors. In addition, the vendors hold a 2.0% net smelter return (NSR) on the Strange Lake Property, which Quest can purchase in full for $1.5 million.

On June 15, 2010, Quest entered into an exploration and option agreement with Search Minerals Inc. (Search) and Alterra Resources Inc. (Alterra), a wholly-owned subsidiary of Search, pursuant to which Quest has an option to acquire up to a 65% undivided working interest in 30 mining claims located on the southeastern contact of the Strange Lake Alkalic Complex in western Labrador, in the Province of Newfoundland and Labrador. Pursuant to the exploration and option agreement, Quest may earn a 50% undivided working interest in the 30 mining claims by issuing an aggregate of 90,000 common shares of Quest to Alterra and by incurring mining exploration expenditures of $500,000 in the aggregate, both over a period of three years. If Quest does so, it will have an option to acquire an additional 15% undivided working interest in the 30 mining claims by making a payment of $75,000 before the fourth anniversary date of the exploration and option agreement, and by issuing an additional 150,000 common shares to Alterra and incurring mining exploration expenditures of $1,250,000 in the aggregate on or before the fifth anniversary date of the exploration and option agreement.

Pursuant to the exploration and option agreement, Quest entered into an assignment agreement with Search and Alterra pursuant to which Quest transferred and assigned to Search nine claims located in western Labrador in consideration for 10,000 common shares of Search. Immediately following the transfer by Quest to Search, Search transferred these nine claims to Alterra. These nine claims, together with 21 claims already owned by Alterra, comprise the 30 claims that are the subject of the exploration and option agreement. The 30 mining claims are subject to a 1.5% net smelter return royalty in favour of Alterra. Quest may, at any time, purchase two-thirds of the 1.5% net smelter return royalty for $1 million.

On November 7, 2012, Quest entered into an agreement with Search and Alterra under which Quest agreed to exchange the Operator fees receivable from Search of $67,141 against its obligation to issue 40,000 common shares of Quest to Alterra in order to earn its 50% undivided working interest.

As at July 31, 2013, Quest had issued a total of 40,000 common shares under the agreement, at a price of $1.887 per share and incurred $751,572 in exploration expenditures. As a result, Quest has acquired a 50% undivided working interest in the claims. The right of Quest under the original agreement to earn an additional 15% interest remained unchanged.

As per a press release dated September 17, 2015, Quest acquired the remaining 50% ownership interest in the Alterra-Strange Lake property. As a result of this transaction, Quest owns a 100% interest and becomes the sole owner of the 30 mining claims that comprise the Alterra-Strange Lake property in Labrador. As set out in the purchase and sale agreement, Quest issud 1,500,000 common shares to Search in consideration for the acquisition of the remaining 50% ownership interest in the Alterra-Strange Lake property. Following this transaction, Quest, now has a 100% ownership interest in the Alterra-Strange Lake Property and control over a greater proportion of the Strange Lake complex.

Micon is unaware of any outstanding environmental liabilities at the Strange Lake Property, other than those normally associated conducting exploration programs in Canada. Micon is unable to comment on any remediation which may have been undertaken by previous companies.

Micon is unaware of any other significant factors or risks that may affect access, title or the right or ability of Quest to perform work on the Strange Lake Property.

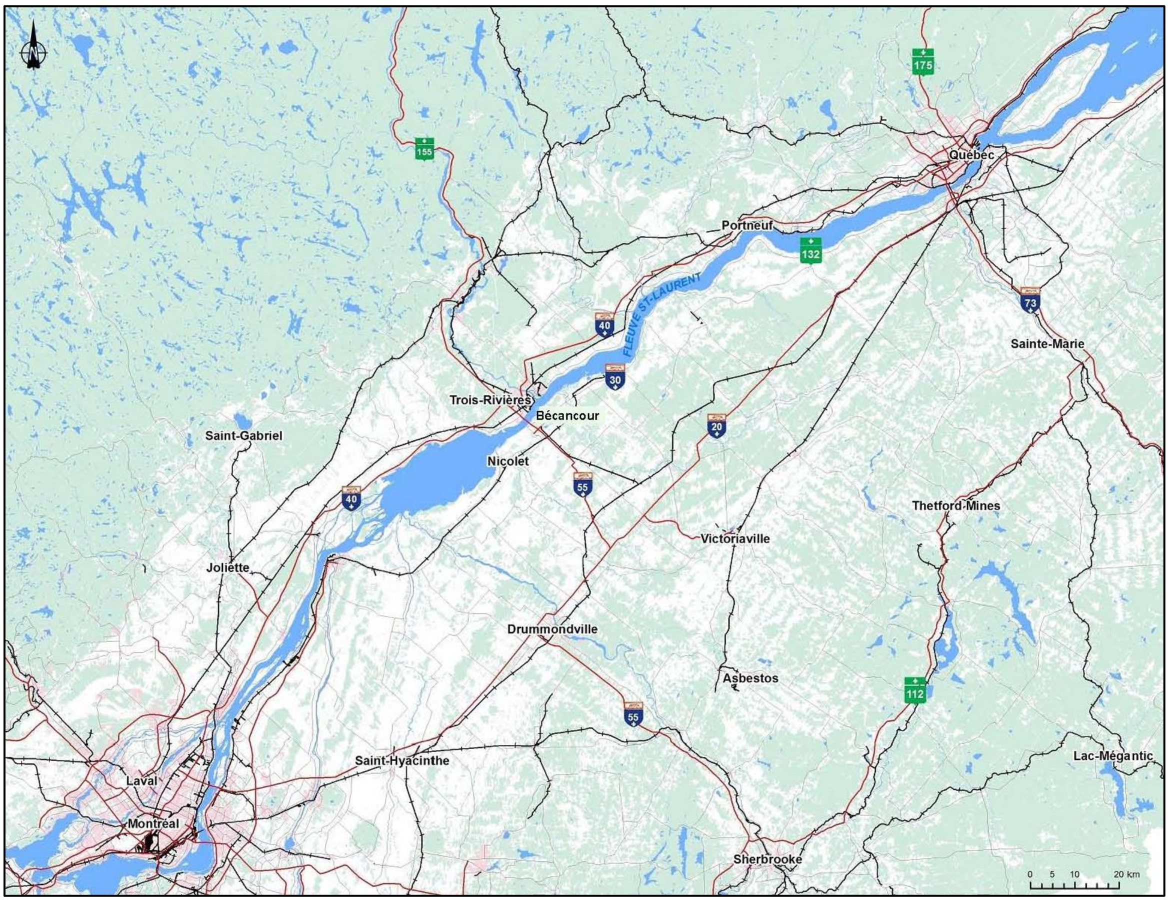
Other than those discussed in this report, Micon is not aware of any royalties, back-in rights, payments or other agreements and encumbrances which apply to the Strange Lake Property.

4.2 SOUTHERN PROJECT AREA

4.2.1 Location and Description

The southern project area encompasses the proposed sites for concentrate processing and residue management facilities (RMF) for the disposal of processing residue, located in the City of Bécancour, Québec. See Figure 4.3.

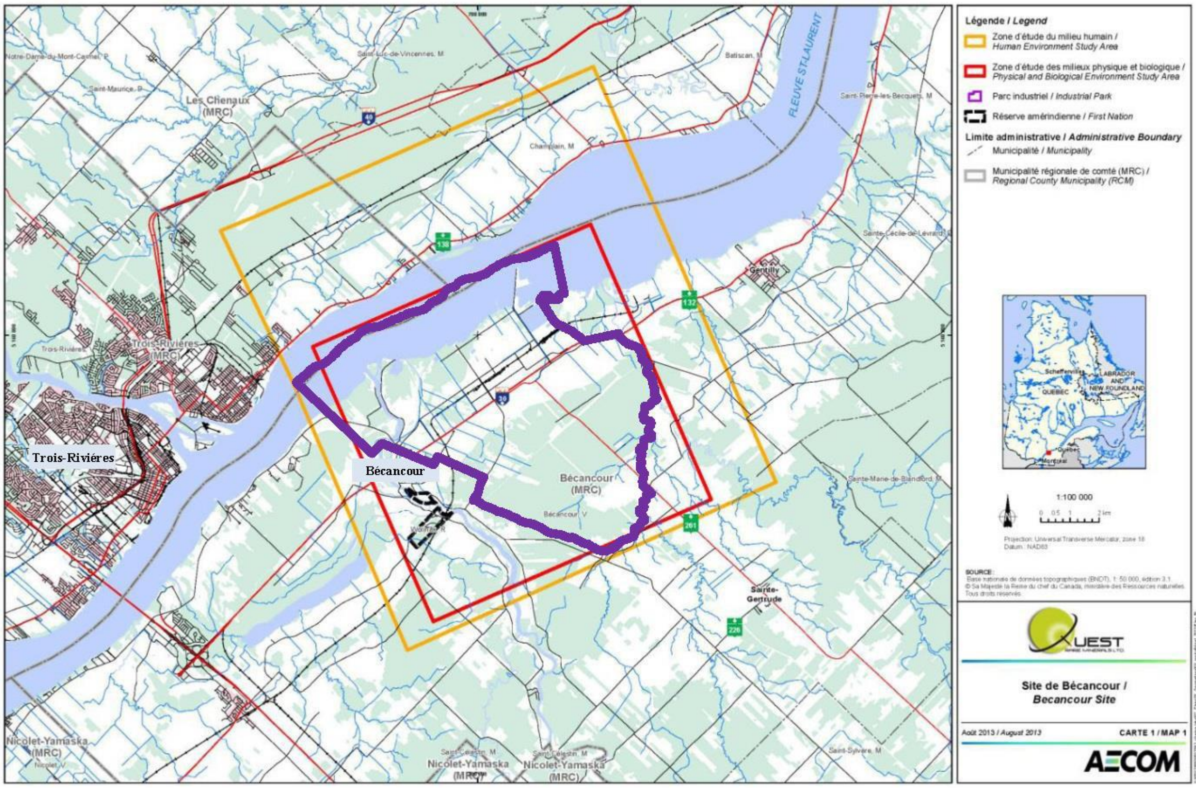
Figure 4.3
Bécancour General Location Map



Micon December, 2013 Technical Report.

The facilities will be located in the Bécancour Waterfront Industrial Park, on the south shore of the St. Lawrence River, approximately 12 km southeast of Trois-Rivières and approximately 140 km northeast of Montreal. The site is located at 46°22’N, 72°17’W. See Figure 4.4.

Figure 4.4
Location of Bécancour Waterfront Industrial Park



Micon December, 2013 Technical Report.

The Bécancour industrial park is managed by the provincially-owned Société du parc industriel et portuaire de Bécancour (SPIPB) and covers an area of 6,900 ha, of which around one-third is used by industrial or service companies. Existing operations are concentrated in the portion of the industrial park located north of Highway 30.

Within the industrial park, companies own the land they occupy. The SPIPB owns most of unoccupied lands within the industrial park, although a few properties are privately owned.

4.2.2 Ownership

The process plant and RMF will be owned and operated by Quest under the terms of specific written agreements to be developed with SPIPB for the nominal operating life of 30 years.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 NORTHERN QUÉBEC PROJECT AREA

The following Section has been extracted from the June, 2014 Amended Technical Report by Micon and amended where applicable.

5.1.1 Accessibility

The Strange Lake property is situated roughly 1,100 km northeast of Québec City, the provincial capital of Québec. It is only accessible by aircraft from Schefferville, Québec, and Nain or Goose Bay, Newfoundland. There are several regularly scheduled daily flights to Schefferville, Nain and Goose Bay from major cities in eastern Canada. Aircraft may also be chartered out of those northern communities.

Fixed-wing flights from Schefferville are typically 60 minutes and flights from Goose Bay are typically 90 minutes. Staging for the Strange Lake Project is done from both Schefferville and Goose Bay. Flight time to Nain from Strange Lake is approximately 40 minutes.

5.1.2 Climate and Physiography

Northern Québec and Labrador are characterized by a cool subarctic climatic zone where summers are short and cool, and winters are long and cold with heavy snowfall.

The minimum and maximum mean annual temperatures are -10°C and 0°C, respectively. The average July minimum and maximum temperatures are 7°C and 17°C and the average January minimum and maximum temperatures are -29°C and -19°C (WorldClimate, Indian House Lake, Québec, www.worldclimate.com). Annual average precipitation is approximately 660 mm (WorldClimate, Border, Québec). The region receives up to 350 cm of snow annually and the ground is snow-covered for six to eight months of the year. Exploration activities may be conducted during the summer and autumn months (June to November) and during the winter to early spring (January to April).

The property is situated in a glacially scoured terrain of rolling hills with low to medium relief where elevations vary from roughly 420 masl to 570 masl. The property is situated on west side of the major watershed that forms the border between Québec and Newfoundland.

The exposure and lack of vegetation in the area contributes to strong winds that generally have an easterly or westerly direction. Trees are confined to sheltered valleys or enclaves where mean temperatures may be higher.

Ericaceous shrubs and herbs, which are typical of tundra or heathland vegetation, consist mainly of willow, sedges, grasses, alders, sweet gale and juniper.

The property is dominantly covered by a layer of glacial till of variable thickness with abundant rock outcroppings. Glacial esker deposits are also common and range between 5 to 25 m thick. Vegetation throughout the property consists mainly of short tundra growth of shrubs and caribou moss, interspersed with low tamarack trees.

5.1.3 Seismic Activity

The Strange Lake mine site is located in a relatively quiet earthquake zone. There has been no recorded earthquake within a radius of 180 km around the project site, as recorded in the Seismic Hazard Earthquake Epicentre File (Halchuk, 2009).

5.1.4 Local Resources and Infrastructure

There are no local resources in or around the Strange Lake property. Some local labour may be hired out of Goose Bay, Nain or Schefferville, but most skilled and professional labour will need to be sourced from other regions within Canada.

The nearest mine to the property is the nickel-copper mine of Vale SA at Voisey's Bay, roughly 125 km to the east, on the coast of Labrador.

The property and environs have no developed infrastructure. The nearest developed infrastructure is located in the community of Nain. Nain is a coastal community that also serves as the local supply and service centre for the nearby Voisey's Bay mine. There is no road access to Nain and it is serviced by regular, year-round flights from Goose Bay and by coastal freighters during the summer months. Schefferville is also a small community that is serviced by regular daily flights and twice-weekly by rail from Sept-Îles on the Bay of St. Lawrence.

There is an 800-m gravel airstrip located on the property that provides access to the Strange Lake Project.

The nearest seaport is in Nain, 125 km east of the property and the nearest railhead in Schefferville, 235 km southwest of the property, with access to the seaport at Sept-Îles.

There is no source of electricity on or near the property and power must be generated on site. The nearest sources of electricity are in Voisey's Bay, Churchill Falls and Menehek Lake.

Water sources are abundant on and adjacent to the property.

5.2 SOUTHERN QUÉBEC PROJECT AREA

5.2.1 Accessibility

The proposed plant and RMF are located in the Bécancour Waterfront Industrial Park, on the south shore of the St. Lawrence River in the physiographic area known as the St. Lawrence

Lowlands. The terrain is generally flat and rises gently from the river, from approximately 20 m to 40 m above sea level at the southern edge of the park. Several minor watercourses drain the area to the St. Lawrence, with wetlands concentrated near the river, as well as near the local height of land in the southern portions of the industrial park.

5.2.2 Seismic Activity

The Bécancour industrial park lies in an area of moderate seismic activity. Events below magnitude 5 on the Richter scale will not result in any damage or failure of any engineered industrial structures, systems and components even if they have not been explicitly designed to resist earthquakes. Recorded events along the St. Lawrence River valley between Québec City and the vicinity of Montreal have been in the range 5.0 to 5.9 on the Richter scale. (NRCan interactive website).

5.2.3 Climate and Physiography

The Bécancour region experiences a humid continental mid-latitude climate characterized by warm summers and cold winters with frequent periods of very cold temperatures and clear skies. Temperature variations are moderated somewhat by the presence of the St. Lawrence River, especially in the winter when the river is not frozen. Between 1971 and 2000, the average summer temperature was 16.8°C (May to August) with a recorded maximum of 35.6°C. The average winter temperature (November to February) was -7.8°C with a minimum recorded low of -39°C. The coldest month is typically January, and the warmest is typically July.

Normal precipitation (snow and rainfall) for Bécancour from 1971 to 2000 varied from a low of 63 mm in February (water equivalent of snowfall) to a high around 120 mm in August. The annual average precipitation was approximately 1,085 mm per year during this period. Dominant wind directions are from the southwest (25% of the time), from the north (19% of the time, and northeast (17% of the time).

Vegetation around the site consists of abandoned croplands dominated by young trees or shrubs, swamps and marshes, some cultivated fields and some tree plantations.

5.2.4 Local Resources and Infrastructure

The Bécancour Waterfront Industrial Park is located within the City of Bécancour (population 12,438 in 2011) and the Regional County Municipality (RCM) of Bécancour (population 20,081 in 2011 including the City of Bécancour) on the south shore of the Saint-Lawrence River. The Aboriginal reserve of the Abenaquis community of Wôlinak (population 180 in 2011) is located in close proximity on the south side of the City of Bécancour. The City of Trois-Rivières (population 131,338 in 2011) is located some 12 km away on the north shore of the St. Lawrence River.

The industrial park has excellent, well-established, all-weather transportation links to provincial and national road and rail systems. Highway 30 runs through the northern part of the park serving the south shore of the St. Lawrence River. It connects with Highways 20 and 40 via Highway 55, and which provide links to Montreal and Québec City. Highway 261 runs from southeast to northwest across the industrial park, between Highways 30 and 20. The industrial park builds and maintains its own network of roads that meet the specific standards of heavy carriers. The park is served by the Canadian National Railway (CN).

Shipping facilities at the port of Bécancour are open year-round. Ships requiring up to 10.67 m water depth can be docked at five berths. In addition to storage, services including stevedoring, towage, customs, and a marine agency are available.

Electricity is provided from the Churchill Falls and James Bay hydroelectric facilities, as well as the network of power stations along the St. Maurice River. A 550 MW cogeneration plant is located in the park. The park is also serviced by natural gas, industrial water, fire protection, potable water and sewer systems.

A preliminary analysis of the labour pool in Bécancour shows that the region has a sufficient number of well-trained workers to support the construction and operation of the plant and RMF. Over 75% of the population of the RCM have attained a high school certificate or higher education. There are also several local training institutions, although specific training may be required for development of the specialized skills associated with rare earth mineral processing.

Existing commercial occupants of the industrial park include Aluminerie de Bécancour Inc. (Alcoa Inc. and Rio Tinto PLC), Silicium Québec SEC, Olin Canada ULC and TRT-ETGO.

6.0 HISTORY

The following has been extracted primarily from the June, 2014 Amended Technical Report by Micon and updated where necessary. The June, 2014 amended report noted that the most of the following historical information was derived from Chamois and Cook (2007).

6.1 GEOLOGICAL SURVEYS

6.1.1 Geological Survey of Canada (1967 to 1993)

From 1967 to 1971, the Strange Lake and George River area was mapped at a scale of 1:250,000 by the Geological Survey of Canada (GSC). In 1979 to 1980, a regional lake sediment study was conducted, in partnership with the Newfoundland and Labrador Mineral Development Division. A regional lake sediment survey covering the Québec portion of the area was completed during 1982 and a regional lake sediment and water sampling survey was completed over the Labrador portion of the project area in the early 1990s.

Several areas within the George River region, northwest of the Property, were mapped in more detail throughout the 1970s and 1980s by the Québec Ministry of Energy and Resources, along with some regional stream sediment sampling.

6.1.2 Newfoundland and Labrador Department of Natural Resources (1980 to 2009)

Between 1980 and 2009, the Newfoundland and Labrador Department of Natural Resources (NLDNR), Geological Survey Division, and Department of Mines and Energy conducted numerous studies in the Strange Lake area.

In 1980, in partnership with the GSC, the NLDNR released a detailed lake sediment, water and radiometric survey. This survey was the first time the strong dispersion pattern of the Strange Lake mineralization was published and it led directly to the discovery by IOCC of the Strange Lake Alkali Complex and associated rare earth elements (REE) and high field strength elements (HFSE) mineralization.

In 1984, as exploration continued at Strange Lake by IOCC, the NLDNR conducted an aggregate resource assessment that investigated a possible transportation route from Strange Lake to the east coast of Labrador.

In 1988, additional lake sediment and water geochemistry sampling was carried out with a focus on rare metal mineralization in granitoid terranes in the Churchill Province. All geochemical data for the Strange Lake area were re-analyzed in 2009.

Extensive geomorphological and surficial geology studies were conducted by NL government geologist Martin Batterson with D.M. Taylor in 1988, 1991, 2001, 2005, and 2009. Bedrock geology mapping was conducted by Ryan (2003) on NTS map sheets

14D/03, 04, 05 and 06 and 24A/08 and NLDNR geologists published research papers on the Strange Lake Alkali Complex.

6.2 MINING COMPANIES

6.2.1 Iron Ore Company of Canada, 1979 to 1984

From September, 1979 to March, 1981, IOCC completed several exploration programs on, and to the northeast of the Property. The exploration programs included:

- Reconnaissance geological mapping.
- A helicopter-borne radiometric survey.
- A ground radiometric survey.
- A limited amount of geochemical sampling including:
- Eight soil samples.
- Six lake and stream sediment samples and one rock sample.
- A small track-etch survey on eight sites.
- One 35.97-m diamond drill hole.

During this initial period of exploration, the Strange Lake Alkali Complex was discovered and subsequent drilling up to 1984, of a total of 373 diamond drill holes, culminated in the discovery of the Strange Lake REE and HFSE mineralization, which IOCC named the A Zone (renamed Main Zone by Quest).

From September, 1981 to September, 1982, IOCC completed geological, geophysical and geochemical work on the NL side of the Strange Lake discovery. The geological mapping was completed at 1:50,000 and 1:10,000 scales with traversing on 200-m spacing where gneisses were observed in a few scattered outcrops to the east and north of the alkali granite complex. Alkalic rock units (locally medium grained, fine grained and altered) were mainly observed; outcrop is sparse with less than 10% outcrop exposure in the vicinity of the Strange Lake Alkali Complex.

Various geophysical surveys were conducted in the Strange Lake area in an attempt to delineate differences in lithology, alteration and/or mineralization within the bedrock covered by extensive overburden. These included ground magnetometer, VLF-EM and IP-RES geophysical surveys. The magnetometer and VLF-EM surveys were useful at defining and updating the geological contacts between the gneisses and the alkali rocks, as well as detecting gouge-rich, water-saturated fault zone breaks and fracture zones highlighted by offsets and truncations. The IP-RES surveys permitted correlation with zones of greater porosity within the altered peralkaline granite. The geochemical surveys consisted of soil surface outcrop rock and water drill core analysis. Analytical data for ZrO_2 and Y_2O_3 obtained from diamond drilling and bedrock mapping were used in the calculation of the age of the younger alkali granite in the central part of the Strange Lake area, and aided in the identification of the second anomalous zone of mineralization in the Strange Lake area, named the B Zone by IOCC.

A total of 373 diamond drill holes were completed and surveyed with the drill locations reported in the UTM coordinate system. The elevations are reported in metres. A glacial boulder survey was carried out to trace the boulders to their sources. The survey was done by systematically checking every alkali boulder in the area with a portable GIS-4 integrating gamma-ray spectrometer. Two boulder trains were recognized; the northern train consisting of fine grained pegmatitic and medium grained granitic; the southern train is mainly composed of pegmatite granite. A total of 133 boulders were sampled and assayed for yttrium, zirconium and niobium oxides.

From July, 1979 to September, 1980, IOCC completed geological and geochemical surveys. The geological survey was carried out at the reconnaissance scale. Only gneisses were encountered. The geophysical survey was carried out by a helicopter-borne radiometric survey at 100-ft terrain clearance and was followed by ground radiometric and magnetometer surveys.

Between January, and December, 1983, IOCC completed geological, geophysical and geochemical surveys on the Québec portion of the Strange Lake property. The alkali granite was remapped at a scale of 1:10,000-scale in order to better incorporate the drill hole and outcrop data and to search for new outcrop areas.

The ground spectrometer geophysical survey was conducted in the western part of the property to help trace anomalous till associated with the radioactive mineralized boulders previously located. Lines were surveyed 50-m apart with survey stations every 25 m. Boulders were discovered up-ice to all known bedrock sources and precisely located.

The geochemical survey consisted of outcrop sampling. Rock samples were analyzed systematically for minor elements and selectively for major elements. A frost soil survey was carried out over the anomalous areas detected by the spectrometer survey. Only beryllium and yttrium returned significant anomalies. Geochemical surveys consisted of soil sediment and water samples. Air photo interpretation was completed of terrain and structural features. East-west lineations, crags and tails were observed to be expressions of faults. Northeast and southwest lineations were also observed.

IOCC commissioned several metallurgical, conceptual and economic studies throughout the 1980s to determine the potential economic viability of the deposit.

In 1982, IOCC retained Witteck Development Inc. of Mississauga, Ontario, to conduct hydrometallurgical testwork on Strange Lake concentrates for the extraction of zirconium, beryllium and REEs. In 1983, IOCC contracted K.D. Hester & Associates of Oakville, Ontario, to review the hydrometallurgical testwork and update reagent costs. In March 1983, IOCC retained the Warren Spring Laboratory, in Hertfordshire, England, to report on the beneficiation of Strange Lake mineralization and the liberation of Y_2O_3, Nb_2O_5, ZrO_2, BeO and REO.

In 1984, Hazen Research Inc. (Hazen) was retained to review the metallurgical testwork and propose a preliminary process design and layout to treat 30,000 t/d of Strange Lake mineralized material, focusing on the extraction of yttrium, zirconium, beryllium and niobium.

Also in 1984, IOCC completed a preliminary feasibility study on Strange Lake based on an open pit scenario, 250,000 t/y operation with processing facilities located in Schefferville. The products of this study included zirconium, yttrium and niobium.

In January and February, 1985, IOCC completed a cost estimate study and economic evaluation study. The economic evaluation study considered two scenarios:

1. Selling 200 t/y Y_2O_3 (99.99% grade).
2. Selling 300 t/y Y_2O_3 (at two different grades).

Each scenario also included LREO and HREO based on market prices at that time.

In March, 1985, Arthur D. Little, Inc. (ADL) completed a marketing and economic viability study on the Strange Lake Project on behalf of IOCC. ADL concluded that yttrium demand was unlikely to increase fast enough for start-up of operations in 1989 and recommended further economic studies.

6.2.2 Armco Mineral Exploration Ltd., 1980

Between June and July, 1980, Armco Mineral Exploration Ltd. (AME) conducted a helicopter-supported exploration program within an area covered by IOCC 1979 airborne survey to the south of the property. Limited geochemical sampling included 51 soil samples, two esker sand samples, and nine rock samples.

6.2.3 Acadia Mineral Ventures Ltd., 1990

In 1990, Kilborn Inc. was retained by Acadia Mineral Ventures Ltd. (Acadia) to conduct a preliminary economic analysis on the Strange Lake mineralization based on historic metallurgical testwork.

6.2.4 Mitsui Mining & Smelting Co., Ltd., 1992 to1995

From 1992 to 1995, Mitsui Mining & Smelting Co., Ltd. (Mitsui) conducted a metallurgical research project on the Strange Lake Main Zone REE deposit. Between 1992 and 1993, Mitsui carried out a geological survey and study and preliminary chemical and physical tests. From 1994 to 1995, mineral processing and chemical processing tests were conducted on the Strange Lake Main Zone minerals (then referred to as the 'A Zone'). The testwork focused on recovery of yttrium, zirconium, niobium, cerium and fluorine. The report proposes future testwork on REE purification; however, it is unknown whether this work was conducted.

6.2.5 WMC International Limited, 2000 to 2001

During 2000 and 2001, WMC International Limited (WMC) completed a multi-faceted exploration program for copper and nickel over a very large area generally located northwest of the property. Work included regional geological mapping and sampling, a greater than 60,000 line-km aeromagnetic survey, a greater than 15,000 line-km airborne EM survey, regional heavy mineral concentrate stream sediment sampling, a limited amount of ground EM and diamond drilling consisting of seven holes totalling 2,225 m and borehole EM surveying. According to the reports at the time, the results from this exploration did not warrant additional work.

6.2.6 Freewest Resources Canada Inc., 2006 to 2007

In 2006, Freewest staked 23 non-contiguous claim blocks totalling 220,813 ha for the purpose of uranium exploration. From August to September, 2006, Freewest completed an exploration program that included a helicopter-borne magnetic, electromagnetic and spectrometer geophysical survey and a prospecting and mapping program over seven of the claim blocks. The results of these exploration programs found anomalous uranium (U_3O_8) values in Blocks 1, 2, and 8 and anomalous copper-nickel in Block 3.

In late 2007, Freewest spun out its George River project claims to Quest. The Strange Lake property is encompassed by Freewest's Block 1 exploration target and is contiguous to Block 8.

Where available, detailed descriptions of the exploration conducted on the property are contained in provincial assessment reports or in Technical Reports filed on SEDAR by the various companies which worked on the Strange Lake Property prior to its acquisition by Quest.

6.2.7 Quest Rare Minerals Ltd., 2007 to 2011

Since late 2007, when the George River Project claims were transferred to Quest, Quest has been conducting an extensive exploration program of mapping, surface sampling, geophysical and geochemical surveys and drilling to outline the extent of the mineralization located on its Strange Lake Property. To this end, Quest has outlined a large near-surface REE deposit which has the potential to be both economic and a long-term producer, should it enter into development and production.

6.2.7.1 Geophysical Surveys, 2008 to 2011

During the 2008 exploration season, Quest conducted a campaign of helicopter-borne geophysical surveys that consisted of airborne radiometric and magnetic geophysical surveys.

During the 2009 exploration season, Quest conducted an airborne geophysical survey over two other exploration targets to the west and to the south of the Property. The B Zone deposit was not included in this survey.

No additional geophysical surveys were carried out in either 2010 or 2011.

6.2.7.2 Exploration, 2008 to 2011

During the 2009, 2010 and 2011 exploration seasons, Quest collected a total of 1,170 samples from the Property. The samples were collected during prospecting, bedrock mapping and channel sampling.

6.2.7.3 Geological Mapping, 2009 to 2011

Geological mapping conducted during the 2009, 2010 and 2011 exploration programs was focused within the extents of the Strange Lake Alkalic Complex (SLAC). The purpose of mapping was to increase the accuracy of historical geology maps of the SLAC and to provide context for channel samples in an area of complex structure and geology south of the B Zone termed the “fluorite-hematite breccia zone” (FLBX). Mapping samples were generally restricted to outcrop.

6.2.7.4 Drilling, 2009 to 2011

Quest completed a drill program on the Property between July and September, 2009. The drill program consisted of 3,930.5 m of drilling including 19 drill holes completed on the B Zone, totalling 2,180.7 m of drilling and 30 drill holes conducted on the Main Zone. All 19 drill holes in the B Zone encountered pegmatite-hosted REE mineralization with thicknesses ranging up to 36 m and averaging 13 m.

From July to October 2010, Quest completed approximately 14,270 m of drilling over the B Zone, as well as the deepening of some the 2009 drill holes. The objectives of the 2010 drill program were to infill and continue to define the known deposit and resource. All 78 drill holes from the 2010 drill program encountered pegmatite-hosted REE mineralization with true thicknesses ranging up to 53 m and averaging 15 m.

Quest conducted winter and summer drilling at Strange Lake during 2011 on a variety of areas within the intrusion. A total of 25,425.3 m of drilling was completed over 224 holes. During the winter of 2011, 22 holes, including one designed specifically for metallurgy, were drilled at the B Zone for a total of 3,005.6 m. Drilling at the B Zone successfully intersected pegmatite-hosted REE mineralization in all 22 holes. The summer drilling program at the B Zone was focused on definition drilling, infilling areas between the 2009 and 2010 holes, and also following unconstrained mineralization in the southwest, east and north of the deposit. Drilling totalled 167 holes, including 29 for metallurgical purposes, for 20,772.15 m.

6.2.8 Quest Rare Minerals Ltd., 2012 to 2013

The exploration and drilling programs conducted by Quest in 2012 and 2013 are discussed in Sections 9 and 10 of this report. These sections were extracted from Sections 9 and 10 of the December 14, 2012 Technical Report by Micon.

The 2012 drilling program did not add any further information to the data set for the B-Zone mineral resource estimate and there was no drilling conducted on the Strange Lake Project in 2013.

6.3 PREVIOUS MINERAL RESOURCE ESTIMATES

Wardrop conducted mineral resource estimates for Quest in 2010 and 2011. The results are contained in Technical Reports entitled "Strange Lake Project B Zone Deposit, Québec. National Instrument 43-101 Resource Estimate", dated April, 2010 (Wardrop, 2010a) and "Strange Lake B Zone Resource Model Update", with an effective date of May 25, 2011 (Wardrop, 2011). These reports have been filed on SEDAR by Quest.

The most recent historical mineral resource estimate for Quest was conducted by Micon. It has an effective date of August 31, 2012, and was disclosed in a Technical Report dated December 14, 2012.

A review of the 2012 resource estimate was conducted for this Technical Report, due to change in both commodity prices since 2012 and the CIM definitions in 2014. As a result of the review, the estimate was updated using the new commodity prices as provided by Quest. The updated resource estimate has an effective date of February 15, 2014 and is discussed in Section 14 of this report.

6.4 PREVIOUS TECHNICAL AND ECONOMIC STUDIES

Quest engaged Wardrop to conduct a Preliminary Economic Assessment (PEA) on the Strange Lake Properties B Zone. The Technical Report for this PEA is dated September 24, 2010 (Wardrop, 2010b).

A Technical Report authored by Micon, dated December 6, 2013, was issued to report the results of a prefeasibility study (Micon, 2013). This study was based on the shipping of 1.46 Mt/y of crushed ore for processing at a facility at Bécancour in southern Québec to recover a concentrate containing heavy rare earth elements (HREE) and yttrium, zirconium in zirconium basic sulphate (ZBS), niobium pentoxide (Nb_2O_5) and a mixed light rare earth element (LREE) double sulphate concentrate.

The results from a preliminary economic assessment on the Project were reported by Micon in the NI 43-101 Technical Report issued on April 9, 2014, entitled "NI 43-101 Technical Report on the Preliminary Economic Assessment (PEA) for the Strange Lake Property, Québec, Canada", with an effective date of April 9, 2014. The PEA Technical Report was later amended as of June 26, 2014. The PEA was issued in light of significant changes to the Project since the publication of the prefeasibility results in December, 2013.

Quest entered into a memorandum of understanding (MOU) with Tugliq Energy Company to evaluate and ultimately manage the installation of wind turbines as a source of power at the mine site. Tugliq is preparing to install equipment at the mine site to gather pertinent climatic data. In the MOU, Tugliq and the Company have agreed to work together to develop an energy strategy aimed at supplying the power needs at the Strange Lake project and implement such strategy, if feasible and mutually advantageous.

On November 16, 2016 the Company entered into a MOU with Straightline Aviation (SLA) to potentially provide dedicated air services for the transport of ore concentrate, supplies and personnel using Lockheed Martin's Hybrid Airships. The airships could provide shuttle transportation between Quest's Strange Lake mine site in Northern Québec and Schefferville, a town with a direct rail link to the Port of Sept-Iles.

Under the MOU, SLA could potentially operate a fleet of seven of the world's first heavy-lift cargo Hybrid Airships, the LMH-1. The airships could transport personnel and critical supplies for mine operations, and carry rare earth ore concentrate for delivery to Quest's Bécancour refining facilities.

Developed and built by Lockheed Martin, the LMH-1 is potentially well suited to Quest's transportation challenges due to its remote northern Québec mine site location. The airship has been designed to land on virtually any surface including snow, ice, gravel and even water, with no runways required or other expensive infrastructure. The helium-filled, heavier-than-air airship has been designed to carry 21 metric tons of cargo and up to 19 passengers. Both the U.S. Federal Aviation Administration (FAA) and Transport Canada have reportedly agreed on the newly developed Hybrid Airship certification criteria, which is being used to complete the type certification. First commercial deliveries are scheduled for 2019.

The airships potentially present a cost-effective and environmentally-friendly solution to Quest's transport challenges. The LMH-1 is designed to use less fuel, emit less carbon dioxide and produce less noise than conventional aircraft. It also could eliminate the need for costly ground-level infrastructure, avoiding impact on the area's wildlife habitat compared to road transport and trucking along a road corridor to the Labrador Sea coast.

Due to the significant changes to the Project in the areas of logistics, infrastructure and processing, the 2014 PEA Technical Report report is now out of date and Quest is in the process of compiling all of the information such that this report can be updated later in 2017.

6.5 MINING PRODUCTION OR EXTRACTION

There has been no mining or processing of any of the mineralization located on the Strange Lake Property, other than bulk-samples extracted from the deposit using BQTK-size drill holes.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

The following Section has been extracted from the June, 2014 Amended Technical Report by Micon, with minor modifications.

7.1 REGIONAL GEOLOGY

The Strange Lake Project lies within the Paleoproterozoic Rae or Southeastern Churchill Province (SECP) located in the northeastern Canadian Shield of Québec and Labrador. The SECP is thought to have formed as a result of oblique collisions involving the Superior and Nain cratons with a third intervening Archean block. Mapping has defined a number of distinctive, north-south trending lithotectonic domains within the SECP east of the Labrador Trough. From west to east these domains include: the Labrador Trough, the Laporte, the Lac Tudor Shear Zone, the De Pas, the George River Shear Zone, the Mistinibi-Raude and the Mistastin.

The majority of the property is located in the Mistastin domain in the east and the Mistinibi-Raude domain to the west. Figure 7.1 is a regional geology map of the area surrounding the B Zone and Main Zone on the Strange Lake Property.

The following is taken from Chamois and Cook (2007).

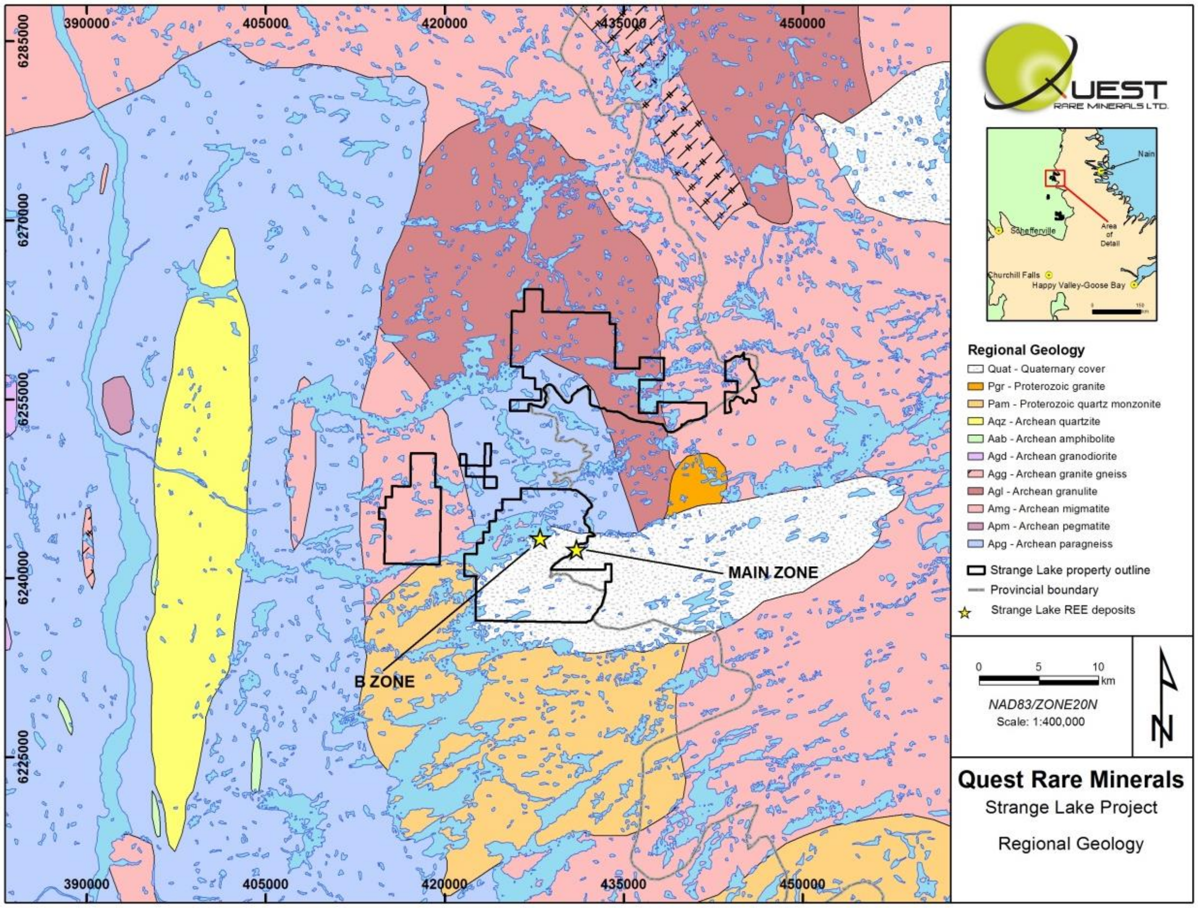
> "The Labrador Trough underlies the westernmost portion of the area and has been described in detail by Dimroth et al. (1970). The Labrador Trough is interpreted to be a passive margin wedge located along, and overlying, the eastern edge of the Superior craton. It consists of a western, dominantly sedimentary succession with some alkali basalts and an eastern, generally younger, dominantly mafic to ultramafic igneous succession comprised of tholeiitic basalts, gabbros, spilites and ultramafics."

The descriptions of the following domains are modified from Van der Leeden et al. (1999).

The Laporte domain consists of immature metasedimentary rocks including pelitic and semipelitic schists, gneisses, meta-arkoses and mafic metavolcanics and metagabbros, along with minor quartzite, metaconglomerate, marble metamorphosed ultramafics. Lenses of migmatized ortho- and paragneisses of granodioritic composition occur regionally within the assemblage.

The Lake Tudor Shear Zone is a regional feature of up to 20 km wide, which can be traced for over 150 km. It affects rocks of the Laporte domain to the west and of the De Pas domain to the east. Deformation within the zone is complex. Evidence exists for regional dextral shearing as well as contraction, bringing rocks in the east over rocks to the west.

Figure 7.1
Regional Geological Map of the Area Surrounding the B and Main Zones on the Strange Lake Property



Provided by Quest, November, 2013 and extracted from the December, 2013 Micon Technical Report.

A small peralkaline intrusion called the Strange Lake Alkalic Complex (SLAC) intrudes the northeastern margin of the Elsonian aged Napeu Kainiut pluton and heterolithic gneiss, possibly of Aphebian age (Salvi and Williams-Jones, 1990). This peralkaline granite commonly has been the focus of numerous academic and industry research and exploration studies (e.g. Miller, 1986; Salvi & Williams-Jones, 1990; Salvi and Williams-Jones, 1996; Salvi and Williams-Jones, 2006). The SLAC comprises several distinct magmatic units that vary in modal abundance of rock forming minerals and the relative concentrations of REE and HFSE.

Historically, IOCC geologists differentiated granitic units within the complex by texture, absence or presence of dark grey fine-grained inclusions and abundance of so-called “exotic” minerals (Miller, 1986), typically REE or HFSE bearing minerals. Accordingly, they describe three general phases: an early “exotic-poor” (i.e. REE and HFSE poor) granite, “exotic-rich” granite and pegmatitic peralkaline granite (e.g. Miller, 1986).

Subsequent examination by academic researchers differentiated these granitic phases by petrographic phase relationships: the exotic-poor granite was termed hypersolvus granite (one-feldspar system) and the exotic-rich granite was termed subsolvus (two-feldspar system). The highest concentrations of REE and HFSE are in the subsolvus granite and pegmatite-aplite phases. Recent research indicates that widespread high temperature (≥350°C) orthomagmatic sodium (Na)-rich fluids initially altered the subsolvus granites, which was followed by low temperature (≤200°C) externally derived calcium (Ca)-rich alteration fluids.

7.2 MINERALIZATION

Mineralization of interest at Strange Lake occurs within peralkaline granite-hosted pegmatites and aplites and, to a lesser degree, within the host granites, particularly in intra-pegmatitic granites.

Pegmatites and minor aplite (fine-grained pegmatite) comprise the gangue, with feldspar (potassic>sodic), glassy to white quartz, arfvedsonite, gittinsite, fluorite and various minor accessory minerals including titanite, allanite, pyrochlore and gadolinite, which are readily identifiable in core. Gittinsite and amphibole appear to have generally formed contemporaneously and both exhibit euhedral to subhedral morphologies. Feldspar exhibits a variable paragenetic relationship relative to arfvedsonite and gittinsite, but is commonly somewhat later in complex pegmatites and earlier in simpler, late pegmatites. Quartz is late and interstitial and fluorite, which is commonly dark purple to black, is commonly later than quartz. Arfvedsonite is typically strongly replaced by either coarse bottle green aegirine or red-brown earthy hematite and may be strongly leached to form vugs that are sometimes quartz-hematite lined. Gittinsite is typically altered to a mottled orange-pink to beige colour and spotted with very fine grey-green LREE-bearing allanite, giving a spotted salt and pepper texture. Feldspar is often altered as concentric oscillating zones or mixed hematite and fluorite, giving a mottled, often fractured appearance.

Subsolvus granite, which typically contains very fine-grained dark grey to black rounded inclusions of hypersolvus granite, is the most voluminous unit in the Strange Lake Alkali Complex (SLAC) and is the principal host to REE-bearing pegmatites. Minor white-grey mm-scale reaction rims locally wrap around these inclusions. It is typically fine- to medium-grained (i.e., less than 1 cm), comprising variably altered feldspar (sodic>potassic?), intergranular white-grey quartz, subhedral variably altered arfvedsonite, interstitial/poikilitic gittinsite and euhedral ghosts of narsarsukite; wispy pale purple or interstitial dark purple fluorite is ubiquitous. Extensive albitization of the granite creates an overall granular to sugary appearance in the groundmass, while arfvedsonite, which commonly exhibits a bimodal grain size of fine mm-scale anhedral grains and relatively coarser-grained euhedral crystals, is variably altered or may be fresh. Similar to arfvedsonite in pegmatites, arfvedsonite is commonly altered either by aegirine, particularly proximal to pegmatites, or earthy brown-red hematite; large portions of the B Zone exhibit fresh arfvedsonite in a variably altered matrix. Narsarsukite, which is grey when unaltered, is often tan-beige, indicating replacement by titanite. Gittinsite is variable in colour, but is commonly partially replaced by dark grey-green LREE-bearing allanite; replacement may take the form of salt and pepper spotting as in pegmatites or as amorphous patches. Alteration typically developed in the host subsolvus granite is not typically developed in the inclusions.

Table 7.1 illustrates the elements and common oxides that occur in the B Zone deposit and Table 7.2 contains a list of pegmatite minerals. Unless otherwise stated, references to TREO include Y_2O_3.

Table 7.1
List of Elements and Oxides Associated with Rare Earth Metal Mineralization

Element	Element Acronym	Common Oxides	
Associated Elements and Oxides			
Zirconium	Zr	ZrO_2	
Niobium	Nb	Nb_2O_5	
Hafnium	Hf	HfO_2	
Beryllium	Be	BeO	
Uranium	U	U_3O_8	
Thorium	Th	ThO_2	
Yttrium	Y	Y_2O_3	
Light Rare Earth Elements and Oxides			
Lanthanum	La	La_2O_3	
Cerium	Ce	CeO_2	
Praseodymium	Pr	Pr_6O_{11}	
Neodymium	Nd	Nd_2O_3	
Samarium	Sm	Sm_2O_3	
Heavy Rare Earth Elements and Oxides			
Europium	Eu	Eu_2O_3	**TREO**
Gadolinium	Gd	Gd_2O_3	
Terbium	Tb	Tb_4O_7	
Dysprosium	Dy	Dy_2O_3	
Holmium	Ho	Ho_2O_3	
Erbium	Er	Er_2O_3	
Thulium	Tm	Tm_2O_3	
Ytterbium	Yb	Yb_2O_3	
Lutetium	Lu	Lu_2O_3	

Provided by Quest.

Table 7.2
List of Minerals and Formulae Found in the B Zone

Mineral Name	Mineral Formula
Quartz	SiO_2
K-Feldspar	$KAlSi_3O_8$
Aegirine	$NaFe^{+3}Si_2O_6$
Zircon	$ZrSiO_4$
Gittinsite	$CaZrSi_2O_7$
Titanite	$CaTiSiO_5$
Feldspar (Albite)	$NaAlSi_3O_8$
Fe-oxide/hydroxide	FeOOH
Fluorite	CaF_2
REE-Epidote (allanite)	$(Ce,Ca,Y)_2(Al,Fe^{+3})_3(SiO_4)_3(OH)$
Pyrochlore	$(Na,Ca)_2Nb_2O_6(OH,F)$
Arfvedsonite	$NaNa_2(Fe^{+4}Fe^{+3})Si_8O_{22}(OH)_2$
Milarite	$K_2Ca_4Al_2Be_4Si_{24}O_{60}\bullet(H_2O)$
Gerenite/Gadolinite/Kainosite	$(Ca,Na)_2(Y,REE)_3Si_6O_{18}\bullet 2(H_2O)$/ $Y_2Fe^{+2}Be_2Si_2O_{10}$/ $Ca_2(Y,Ce)_2Si_4O_{12}(CO_3)\bullet(H_2O)$
Chlorite	$(Mg,Fe^{+2})_5Al(Si_3Al)O_{10}(OH)_8$
Thorite	$ThSiO_4$
Calcite	$CaCO_3$
Apatite	$Ca_5(PO_4)_3(OH,F,Cl)$
Monazite	$(La,Ce,Nd)PO_4$

Provided by Quest.

8.0 DEPOSIT TYPES

The following has been extracted from the June, 2014 Amended Technical Report by Micon.

The Strange Lake deposit is part of a post-tectonic, peralkaline granite complex which has intruded along the contact between older gneisses and monzonites of the Churchill Province of the Canadian Shield.

The granite complex is sub-circular and comprises a series of compositionally and petrographically distinct granites, which can be differentiated based on petrography (one feldspar versus two) and relative concentrations of the REE and HFSE, which generally exhibit unique ranges that are characteristic of each granite. These granites (see Figure 7.1, above) are in sharp contact with the surrounding country rocks and the apparent contact between the granite complex and country rocks is outward dipping at 20º to 30º. A structural zone comprising stockwork fluorite-hematite veining and hematite-fluorite breccia occurs discontinuously along the contact between the SLAC and country rocks. The least fractionated granite is a fine-grained, massive hypersolvus granite and it exhibits the lowest concentrations of REE and HFSE in the complex; it occurs in the geometric centre of the complex. This granite is surrounded by a medium-grained, massive subsolvus granite that exhibits a distinct enrichment in REE and HFSE. Within the subsolvus granite, pegmatite and aplite sheets and dikes occur, and these are the main host to REE and HFSE mineralization and represent the latest, most fractionated phase of magmatism in the complex.

8.1 GENETIC MODEL

Within the SLAC, there is a progressive enrichment in REE and HFSE, from a relatively low abundance in the hypersolvus granites, to a relative enrichment in the subsolvus granites. During the crystallization sequence, high-temperature, Na-rich fluids altered portions of the subsolvus granite, resulting in a relative depletion in Zr, Y and REE, relative to subsolvus granites that were not enriched in Na. It has been postulated that during the evolution of the subsolvus granites in the SLAC, the above elements were mobilized by Ca-free, fluorine-rich fluids, forming REE-fluorine complexes. Subsequently, externally-derived Ca-rich low-temperature fluids began mixing with F-rich fluids that were concentrated in the carapace of the intrusion; the calcium caused a destabilization of the fluorine complexes and resulted in the precipitation of low temperature REE and HFSE bearing phases and fluorite. Thus, formation of the SLAC (or other peralkaline-hosted REE deposits) requires multiple phases of alteration including the evolution of a fluorine-rich fluid to concentrate and mobilize REE and HFSE and the subsequent introduction of destabilizing Ca-rich fluids resulting in REE precipitation in order to form potentially economically exploitable mineralization.

The SLAC is comparable to other REE deposits such as the Khaldzan-Buregte REE-Nb-Zr deposit in Western Mongolia. This deposit has similar mineralogy both in the granite hosts and ore mineralogy consisting of Na-K feldspar, quartz, albite, arfvedsonite, aegirine, fluorite in the host granite and mineralized material made up of elpidite, gittinsite and zircon, as well as pyrochlore and rare metal fluorcarbonate minerals, monazite and polylithionite. The Khaldzan-Buregte REE deposit is thought to have formed at least in part due to metasomatism of the REE-rich peralkaline granite after its emplacement. The surrounding and REE-poor peralkaline granites and mafic rocks did not concentrate REE, similar to the SLAC where the mineralization is predominantly in the more evolved, REE-rich, subsolvus granite, aplite and pegmatites and not in the REE-poor, hypersolvus or surrounding quartz monzonite and gneisses. Although the SLAC is similar in (bulk) composition and overall formational processes to the Khaldzan-Buregte REE deposit, it differs in that it is not associated with mafic igneous rocks and does not have many discrete magmatic pulses, whereas the Khaldzan-Buregte REE deposit has several documented pulses.

Zr-Nb-REE mineralization in the peralkaline granites of the Amis Complex in Namibia also exhibits similar REE and HFSE enriched magmas and mineralogy to the SLAC but on a much smaller scale. This Zr-Nb-REE mineralization is thought to be magmatic in origin with post magmatic alteration demonstrated by replacement reactions and interstitial and vein-filling REE+Y rich fluorocarbonates.

The underlying similarity between these deposits and the SLAC is that they are peralkaline, A-type granites with magmas that were originally enriched in REE and HFSE prior to the metasomatism, which allowed for mobilization of the immobile elements though halogen-rich fluids, resulting in further concentration and subsequent precipitation of secondary of REE rich minerals.

The exploration programs at the Strange Lake Project have been planned and executed on the basis of the deposit model discussed above.

9.0 EXPLORATION

The following has been extracted from the 2014 Technical Reports and updated where applicable by Micon.

9.1 GEOPHYSICAL SURVEYS, 2008 TO 2012

During the 2008 exploration season, Quest conducted a campaign of helicopter-borne geophysical surveys that consisted of airborne radiometric and magnetic geophysical surveys. MPX Geophysics Ltd. (MPX) was contracted by Quest to conduct the surveys over the Property. A total of 614.7 line km of north-south lines were flown, on 400-m flight line spacing, at a nominal height of 40 m. An additional 71.0 line km of east-west lines were flown as tie-lines, for a total of 685.7 line km.

The instrumentation included a differential real time Global Positioning System (GPS), a Pico-Envirotec GRS-10 multi-channel gamma-ray spectrometer system, and a high sensitivity magnetometer installed on a single sensor fixed boom, seven feet in front of the helicopter rotor blade. The helicopter used was an AS350BA.

During the 2009 exploration season, Quest also conducted an airborne geophysical survey over two other exploration targets to the west and to the south of the Property. The B Zone deposit was not included in this survey.

No additional geophysical surveys were carried out in either 2010 or 2011.

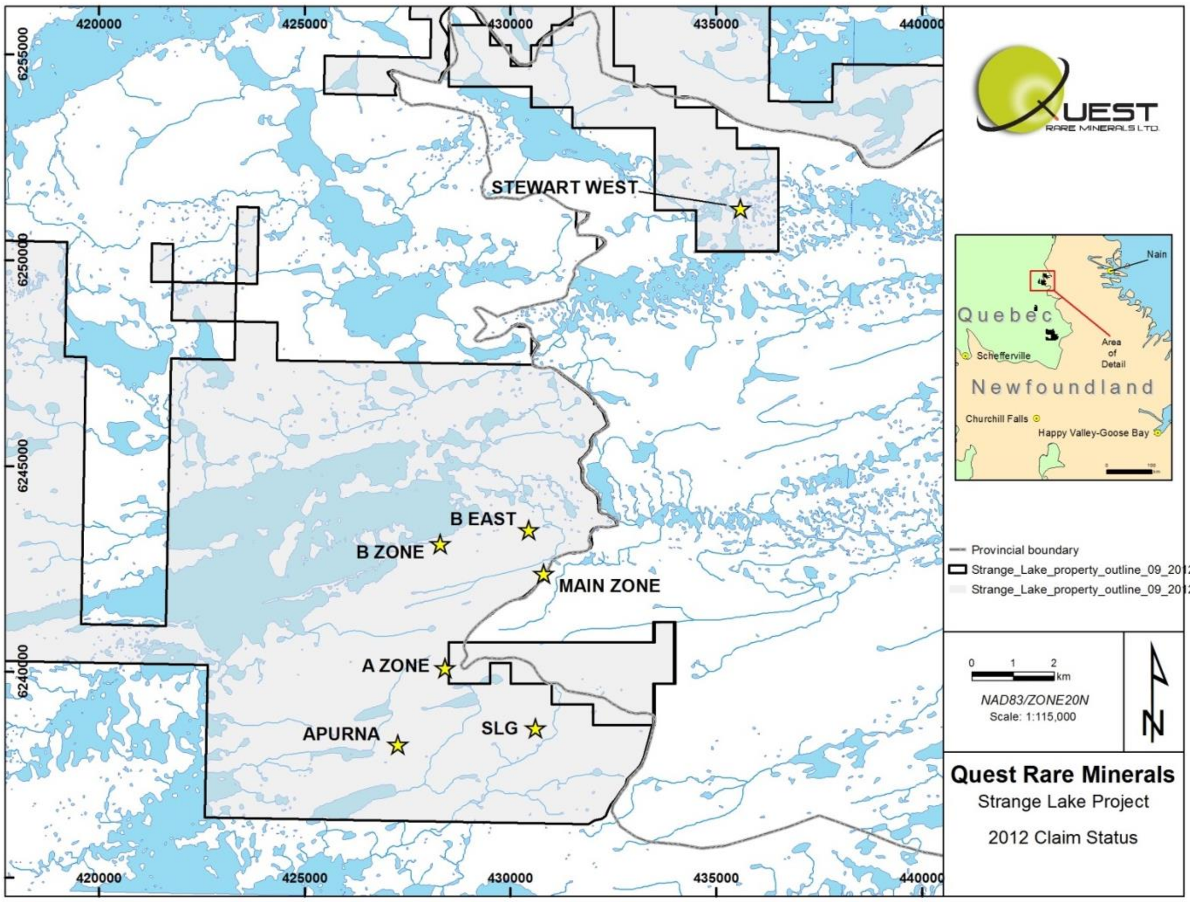
In March and April, 2012, the Geological Survey of Canada conducted a high resolution airborne gravity and magnetics survey over the Strange Lake Property as part of the TGI-4 initiative. The results of this survey are publically available.

Quest, with the assistance of Abitibi Geophysics Inc. of Val d'Or, Québec conducted a geophysical investigation of the B Zone to define geophysical signatures of the deposit that can be applied to the identification of new REE deposits both at Strange Lake and elsewhere. The survey comprised a ground dipole-dipole IP-resistivity survey and a walking magnetics survey. The IP-resistivity survey was conducted at 100 m spacing and covered approximately 62 line-km. The magnetics survey covered approximately 57 line-km. The results indicate that IP resistivity is capable of broadly distinguishing REE mineralization compared to unmineralized granite, but there are conflicting results between the geometry of the intrinsic and interpreted geology and that of the geophysical models.

9.2 EXPLORATION, 2009 TO 2011

During the 2009, 2010 and 2011 exploration seasons, Quest collected a total of 1,170 samples from the Property, comprising 326 in 2009, 388 in 2010 and 456 in 2011. Samples were collected during prospecting, bedrock mapping and channel sampling. Geological mapping was conducted to further delineate historical geological maps, while channel sampling was done as follow-up on anomalous bedrock areas proximal to the B Zone. Figure 9.1 shows the exploration target areas on the property. Table 9.1 is a summary of the samples collected during 2009, 2010 and 2011 exploration and Figure 9.2 illustrates the locations of all 2009, 2010 and 2011 surface samples collected from the property. Many samples outside the current property boundary reflect recent reductions in the property limits.

Figure 9.1
Exploration Target Location Map



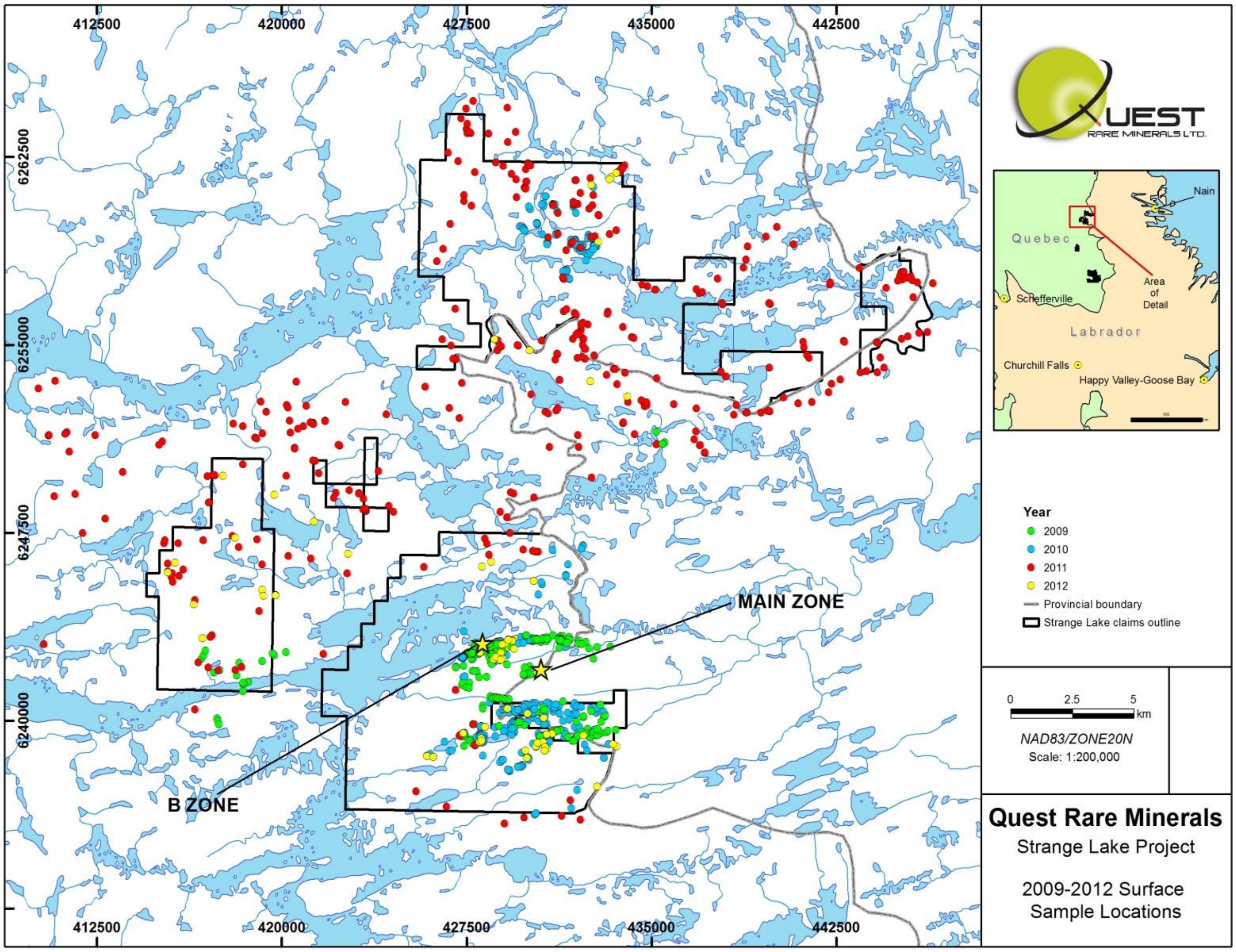
Micon December, 2013 Technical Report.

Table 9.1
Summary of 2009 to 2011 Surface Sampling

Year	Mapping/Prospecting		Channel Sampling	Total
	Outcrop	Float	Outcrop	
2009	89	224	13	326
2010	142	158	77	377
2011	265	149	42	456
2012	83	1	-	84
Total	579	532	132	1,243

Provided by Quest.

Figure 9.2
Exploration Surface Sample Location Map



Micon December, 2013 Technical Report.

9.3 GEOLOGICAL MAPPING, 2009 TO 2011

Geological mapping conducted during the 2009, 2010 and 2011 exploration programs was focused within the extents of the SLAC. The purpose of mapping was to increase the accuracy of historical geology maps of the SLAC and to provide context for channel samples in an area of complex structure and geology south of the B Zone, termed the fluorite-hematite breccia zone (FLBX). Mapping samples were generally restricted to outcrop.

9.4 GEOLOGICAL MAPPING 2012

In 2012, Quest conducted a property-wide bedrock mapping program to rule out any undiscovered REE or other types of mineralization on the Strange Lake Property. A total of 84 samples were collected during this program. The results do not affect the resource estimation.

9.4.1 Strange Lake B-Zone Prefeasibility Study Work

A 1,000-m drilling program was planned by AMEC of Mississauga, Ontario, to drill geomechanical and geotechnical monitoring holes for the prefeasibility study. These holes were drilled within the proposed pit shell and along its northern edge. In addition, a 150 m condemnation drilling program was planned, south of the B Zone deposit, to assist with the location of the potential mine's infrastructure.

Prefeasibility field work on the B-Zone project commenced in July, 2012, with completion later in 2012. AECOM conducted environmental and off-site infrastructure surveys. All field work in the northern project area was completed in 2012.

9.4.2 Strange Lake B Zone PEA Study Work

A PEA was completed in 2014 to evaluate the potential economic and technical benefits of significant changes to the mining and processing aspects of the Project originally outlined in the prefeasibility study, the results of which were published in a NI 43-101 Technical Report dated December 6, 2013 (Micon, 2013). By definition, the PEA can only indicate the potential viability of mineral resources and cannot be used to support mineral reserves.

The Project is based on the mining and beneficiation of a rare earth element (REE)-rich deposit at Strange Lake in northern Québec, and processing a flotation concentrate at a facility at Bécancour in southern Québec. Processing will recover the rare earths and yttrium contained in the Strange Lake deposit as separated oxides

9.5 2015 AND 2016, RENAUD GEOLOGICAL CONSULTING FIELDWORK

In 2015, Renaud Geological Consulting Ltd. (RGC Ltd.) was retained to prepare a 100 t bulk sample and to conduct a preliminary review of the B-Zone drill core. The bulk sampling program included blasting and collecting a total of 94 t of blasted coarse boulder-sized rock from three surface pits. The breakdown of samples collected include 15.5 t from Pit 1N, 38.7 tonnes from Pit 1S and 11 t from Pit 2. The remainder of the sample was composed of 16.9 t of MET drill core and 11.8 t from a bulk sample previously collected by Quest personnel. The selected MET holes and older bulk sample were collected from a secure storage facility in Sept-Iles, QC. All samples were submitted to COREM, QC, for mineral processing and metallurgical testing. The results are pending. Figure 9.3 shows the location of the surface pits and MET holes.

During the 2015 field season, select drill core were chosen for a preliminary review of the B-Zone resource. The drill core was visually inspected and selected drill core intervals were chosen for review of lithological and mineralogical characterization. In 2016, RGC Ltd. conducted a field season to complete the review of the B-Zone resource. A total of 254 of 256 drill holes were visually inspected for the purpose of collected data to upgrade the geological model. Selected drill core intervals were sampled and submitted for mineralogical investigations that will support the geological model and assist mineral processing and metallurgical testing. Results are pending.

While the results from the 2016 fieldwork are pending, RGC Ltd. made the following recommendations;

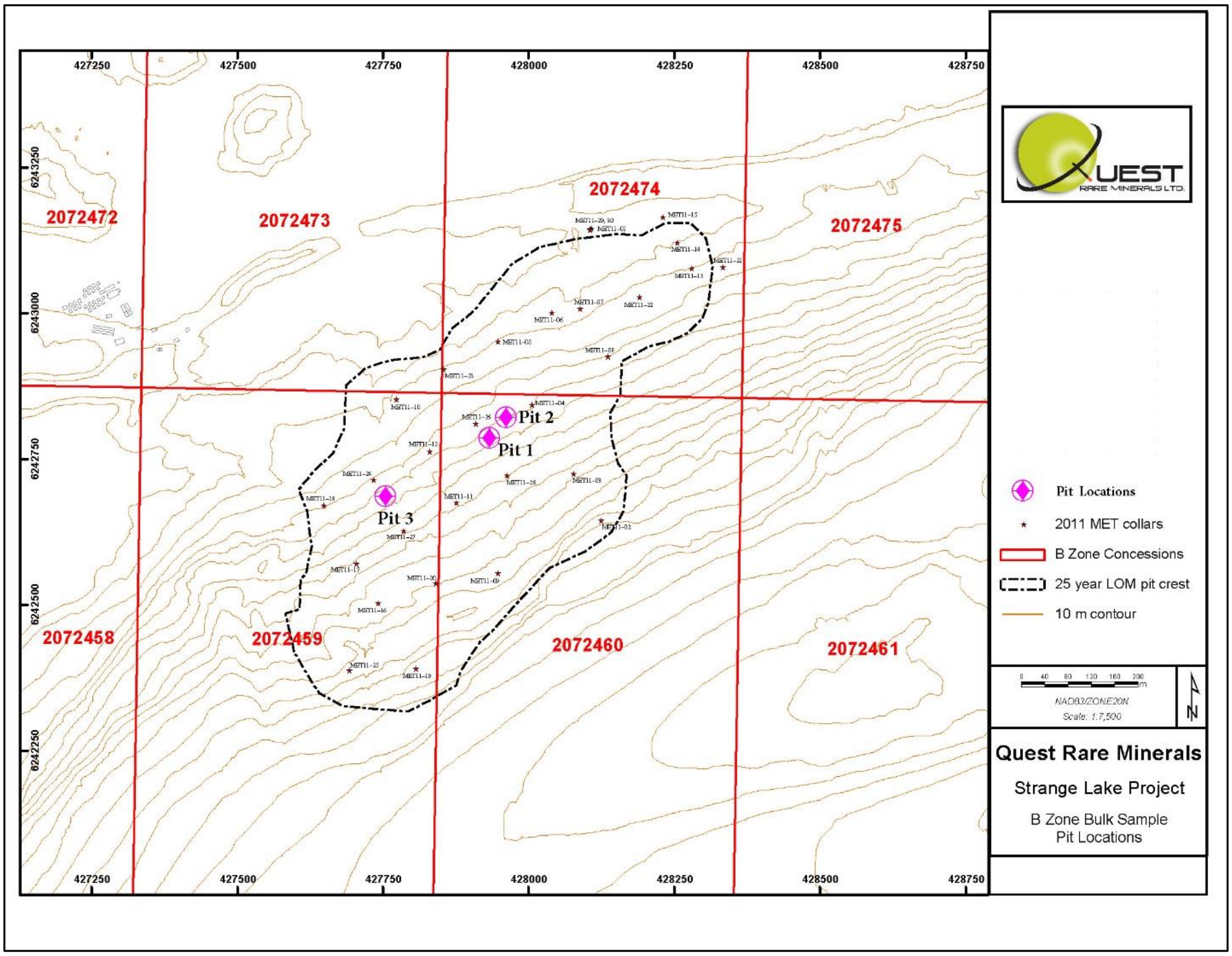
- Complete the review and synthesis of the data collected during the 2015 and 2016 field seasons.
- Upgrade the geological model.
- Complete the mineralogical investigations of the sample collected in 2015 and 2016.

9.6 MICON COMMENTS

Exploration surface sampling is generally restricted to the outcrops mapped on surface. In general, the surface sampling is used to identify the mineralization, if any, contained in the rocks exposed in the outcrop. While some samples may contain significant mineralization, they are generally used to identify potential extensions of previously identified zones or, in some cases, new zones. In all cases, the surface sampling was not used in the resource estimation process. Significant assays for the surface sampling were not tabulated or identified since they are only an exploration tool.

In general terms, the surface samples are representative of the mineralized material that is identified on the Strange Lake Property. The grade of the individual samples appropriately reflects the variability of the mineralization contained in the deposit and within the various rock types at the Strange Lake Project.

Figure 9.3
Location of the Surface Pits and MET holes



From Renaud Geological Consulting Ltd., dated February 2017.

10.0 DRILLING

The following has been extracted from the June, 2014 Amended Technical Report by Micon. There has been no drilling conducted on the Strange Lake Project since 2013.

10.1 DRILLING, 2009

10.1.1 2009 Drilling Program

Quest completed a drill program on the Strange Lake Property between July and September, 2009. The drill program consisted of 3,930.5 m from 49 BQ 'thin-kerf' (BQTK) size drill holes over the B Zone and Main Zone deposits. A total of 19 drill holes were completed on the B Zone, totalling 2,180.7 m of drilling. Their locations are shown in Figure 10.1 and listed in Table 10.2. The remaining 30 drill holes were conducted on the Main Zone and are not the subject of this report. An additional five drill holes, totalling 340.0 m, were conducted for bulk sampling purposes.

Quest contracted Boreal Drilling, based in Val d'Or, Québec, to carry out the drilling for the 2009 drill program. The drilling was conducted using two Versadrill 0.8 drills. The drill program was supported by helicopters from Canadian Helicopters, based out of Sept-Îles, Québec, using a Bell206L and a Eurocopter B2 (A-Star). Boreal Drilling is an independent drilling contractor which works on a fee for service basis.

The drill program over the B Zone was conducted to confirm historic drilling by IOCC and to test a significant airborne radiometric anomaly, approximately 2,000 m by 500 m, that surface sampling indicated was related to REE-mineralized boulders and outcrop.

All 19 drill holes in the B Zone encountered pegmatite-hosted REE mineralization, with the mineralization thickness ranging up to 36.17 m and averaging 13.45 m. The core length of the mineralization is approximately the true thickness as the drill holes are, with the exception of BZ09015, all sub-vertically dipping and the lithological and mineralized units appear to dip gently (5° to 10°) to the northwest.

The drill core was logged on site and entered directly into Gemcom Gemslogger™. All drill core was photographed prior to sampling. The drill core was sampled on intervals ranging from 0.2 m to 2.0 m, and split in two halves, with one half collected for analysis and the second half replaced in the core box for record keeping. The drill core boxes from the 2009 drill program are stored at Quest's Mistinibi camp, located 45 km south of the B Zone deposit.

Figure 10.1
B Zone 2009 Drill Hole Location Map

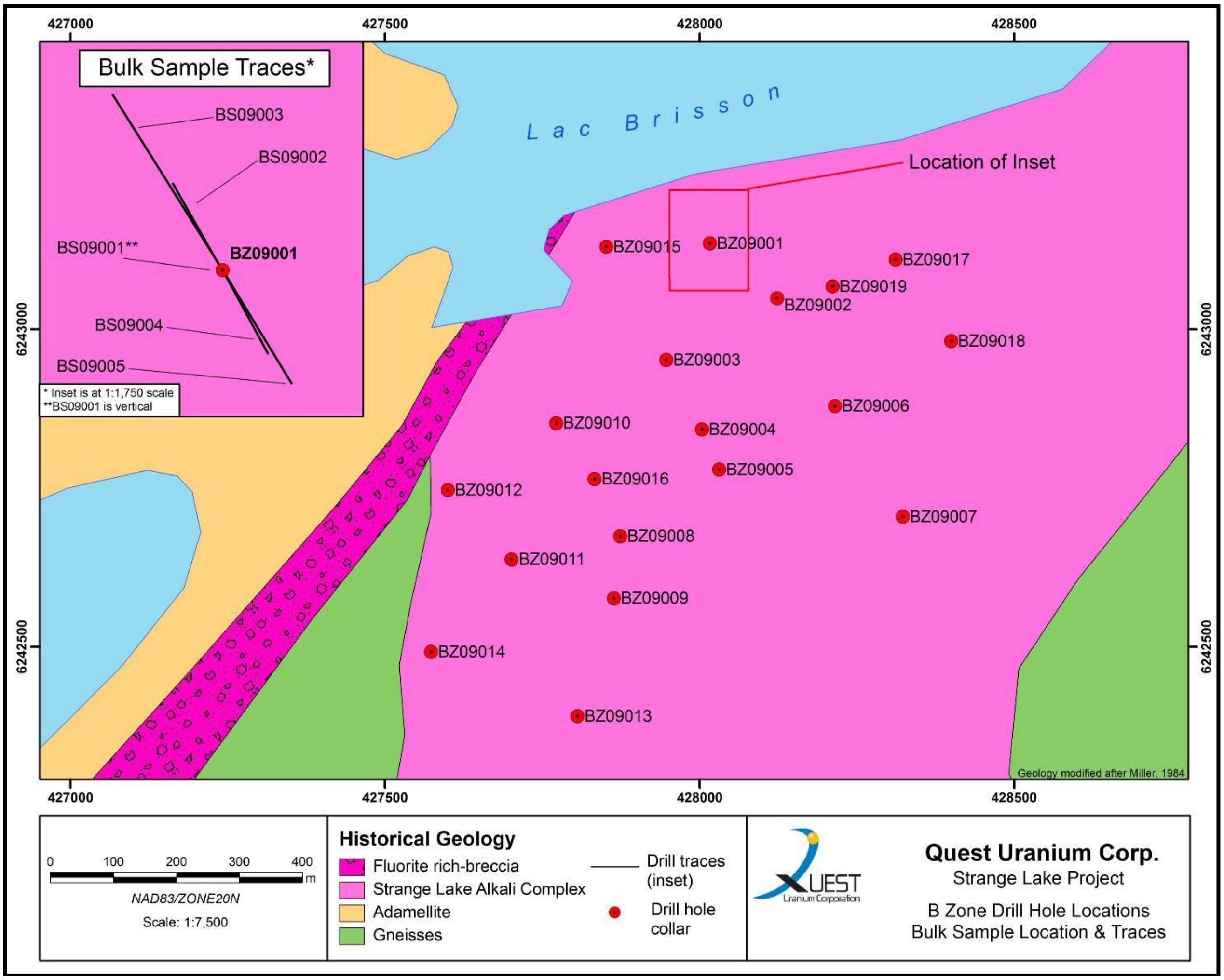


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Table 10.1
Summary of 2009 B Zone Drilling

Drill Hole	UTM[1] Easting	UTM[1] Northing	Elevation (masl)	Bearing (°)	Dip (°)	Length (m)
BZ09001[2]	428016.069	6243135.246	449.004	0	-90	101.0
BZ09002	428123.161	6243049.776	455.807	0	-90	75.0
BZ09003	427946.934	6242952.709	460.367	0	-90	75.5
BZ09004[2]	428003.607	6242842.408	474.385	0	-90	101.0
BZ09005	428031.147	6242779.245	486.724	0	-90	125.0
BZ09006	428215.196	6242879.106	482.379	0	-90	112.5
BZ09007	428322.788	6242704.763	518.328	0	-90	152.0
BZ09008[2]	427873.632	6242674.166	488.948	0	-90	93.5
BZ09009[2]	427863.717	6242576.185	500.547	0	-90	136.0
BZ09010	427771.970	6242852.044	461.225	0	-90	101.0
BZ09011	427701.191	6242637.601	478.877	0	-90	112.7
BZ09012	427599.707	6242746.605	463.167	0	-90	102.5

Drill Hole	UTM[1] Easting	UTM[1] Northing	Elevation (masl)	Bearing (º)	Dip (º)	Length (m)
BZ09013	427805.865	6242390.381	521.959	0	-90	144.5
BZ09014	427573.176	6242491.753	492.824	0	-90	150.5
BZ09015[2]	427851.484	6243130.114	446.379	147	-60	111.0
BZ09016[2]	427832.723	6242764.085	472.420	0	-90	104.0
BZ09017	428311.257	6243109.844	458.376	0	-90	110.0
BZ09018	428399.866	6242981.378	476.914	0	-90	120.0
BZ09019	428211.257	6243067.634	459.027	0	-90	101.0

[1] UTM coordinates are based on the NAD83 datum, Zone 20.
[2] Drill hole deepened in 2010.
Provided by Quest.

All 2009 drill hole collars were surveyed by Groupe Cadoret, based in Baie-Comeau, Québec. All collars were surveyed with an R6 and R8 Trimble real time differential GPS and were surveyed to an accuracy of 0.001 m. Groupe Cadoret is an independent surveying contractor which works on a fee basis.

Down-hole surveys were conducted on all drill holes using a Reflex EZ-AQ, a magnetic surveying instrument. The Reflex instrument was calibrated at the factory before being used in the field.

10.1.2 Bulk Sample Drilling, 2009

In addition to the diamond drill program, a bulk sample was collected in 2009 from an additional five-hole drill program, for the purpose of metallurgical testwork.

Bulk sampling drilling was conducted by the same drilling contractor at the BZ09001 drill site. A total of five BQTK-size drill holes were completed for the bulk sample, for a total of 340.0 m, drilled in a fan pattern (see Figure 10.1) and are listed in Table 10.2. The bulk sample drilling was conducted from one drill site at various intersecting angles to the lithology and mineralization trend to minimize the costs of moving the drill to other sites.

Table 10.2
Summary of the 2009 Bulk Sample Drilling

Drill Hole	UTM Coordinates		Hole Description			
	Easting	Northing	Elevation (masl)	Bearing (º)	Dip (º)	Length (m)
BS09001	428016	6243135	449	0	-90	45.5
BS09002	428016	6243135	449	330	-75	50.0
BS09003	428016	6243135	449	330	-50	119.0
BS09004	428016	6243135	449	150	-75	50.0
BS09005	428016	6243135	449	150	-50	75.5
Total						**340.0**

Provided by Quest.

The core was logged without detail, photographed, and sampled into three separate categories of high grade, low grade, and altered; the difference between low grade and altered is small. The grade category was determined using a Niton XRF analyzer. The logged core weights were approximated on site by using the core volume multiplied by a density of 2.85. The bulk sample weight was approximately 1,014 kg.

The whole drill core was taken for the bulk sample. The drill core was logged at the drill site, bagged on sample intervals and placed in metal 200-L fuel drums. The drums were wire-sealed and sent by de Havilland DHC-2 Beaver aircraft directly to Schefferville from Lac Brisson. From Schefferville, the drums travelled by train to Sept-Îles where they were transferred to truck transport to Val d'Or, under the care of Boreal Drilling. From Val d'Or, the samples were trans-shipped to Montreal and from Montreal to Boulder, Colorado, where they were received by Hazen.

These samples were used for metallurgical testwork by Hazen under a program completed in November, 2010.

10.2 DRILLING, 2010

From July to October, 2010, Quest completed an extensive diamond drill program on the Strange Lake Property that consisted of approximately 14,270 m of 78 BQ 'thin-wall' (BTW) size drill holes in the B Zone deposit, as well as deepening of some the 2009 drill holes. The aims of the 2010 drilling program were both to infill and continue to define the limits of the known deposit and resource base. The drill program brought the total number of drill holes, excluding the 2009 bulk sample holes, completed on the B Zone to 97, for a total of approximately 17,474 m. The drill hole collar locations for the 2010 drill programs are shown in Figure 10.2. A summary of the drill holes is contained in Appendix B of the May, 2011, Wardrop Technical Report.

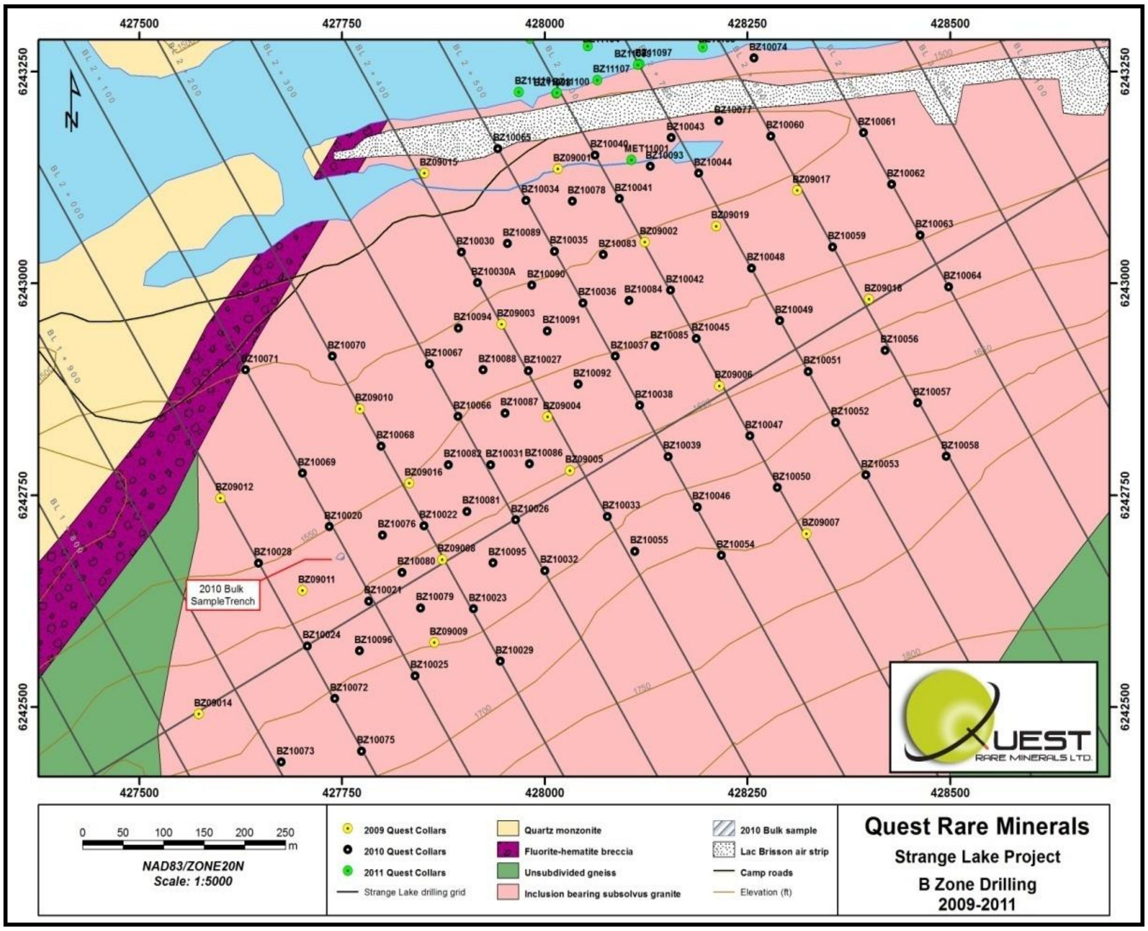
Quest retained Boreal Drilling (Boreal) to conduct the 2010 diamond drilling program. Boreal is an independent contract drilling company based out of Val-d'Or. The drilling was conducted using Versadrill 0.3 drills and was supported by Eurocopter BA (A-Star) helicopter from Canadian Helicopters, based in Sept-Îles.

All 78 drill holes from the 2010 drill program encountered pegmatite-hosted REE mineralization with thickness ranging up to 53 m (BZ10040) and averaging 15 m. The thickness is approximately the true thickness, as the drill holes plunge sub-vertically (with the exception of BZ09015 and BZ10030), while the lithology and mineralized units are sub-horizontal or dip, approximately 5° to 10°, to the northwest.

Drill core was logged on site, entered directly into Gemcom Gemslogger™ software and sampled on intervals ranging from 0.2 m to 2.0 m. Once completed, the drill core was sawn in half, with one half collected for analysis and the second half replaced in the core box for permanent record keeping. All drill core was photographed after the core was sawn in half.

The drill core boxes from the 2010 drill program are stored on site, in outdoor core racks at Quest's Strange Lake exploration camp. This is located adjacent to the B Zone, on the edge of Lac Brisson.

Figure 10.2
2010 Drill Program, Drill Hole Location Map



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All 2010 drill hole collars, at the Strange Lake Project, were surveyed by Corriveau J.L. & Associates Inc., (Corriveau), based in Val-d'Or, Québec. All collars were surveyed with an R8 Trimble real time differential GPS to an accuracy of ±0.03 m horizontal (X-Y) and ±0.05 m vertical (Z). Corriveau is an independent licensed federal and provincial Québec land surveyor which works on a fee for service basis.

10.3 DRILLING, WINTER 2011

In 2011, Quest conducted winter and summer drilling at Strange Lake on a variety of areas within the intrusion. A total of 25,425.3 m of drilling was completed over 224 holes.

A winter drilling program was conducted between March and April, 2011 at two different locations. At the B Zone, 22 holes, including one designed specifically for metallurgy, were drilled for a total of 3,005.6 m. In Labrador, a joint venture program between Quest and Search Minerals and its subsidiary, Alterra, drilled four holes for a total of 310.3 m on the Alterra project. Drilling at the B Zone, except the metallurgical hole, was conducted on the ice at Lac Brisson to target the extension of pegmatite mineralization under the lake. Drilling at the B Zone successfully intersected pegmatite-hosted REE mineralization in all 22 holes. At the Alterra project, drilling intersected pegmatite in three of four holes drilled.

10.4 DRILLING, SUMMER 2011

During the 2011 summer program at the Strange Lake Project, drilling expanded beyond the B Zone. Drilling at the B Zone was focused on definition drilling, infilling areas between the 2009 and 2010 holes, and also following unconstrained mineralization in the southwest, east and north of the deposit. B Zone definition drilling totalled 17,257.0 m over 138 holes and 3,515.1 m over 29 additional holes for metallurgical purposes. Drilling at the B Zone was successful in further delineating the pegmatite continuity as well as determining the edges of the pegmatite system. Although not all holes intersected pegmatite mineralization, background TREO in the granites was consistent with results from the previous seasons. Drilling in 2011 was conducted at a high enough resolution to allow for generalized three-dimensional geological modelling of the pegmatites and alteration types.

Drilling at the FLBX target included three holes for a total of 360.0 m. The FLBX drilling was focused on intersecting the subsurface projection of REE-mineralized veins, fractures, aplite dikes and quartz-rich pegmatites, all of which cross-cut the Archean country rock augen gneisses. Drilling successfully intersected narrow REE-mineralized aplite dikes and pegmatites from the SLAC in all three holes.

Drilling at an area called “Proposed Airport 6”, or PA6, was planned to test for REE mineralization along the strike length of a proposed permanent airstrip required for future development. This condemnation drilling was planned for four holes but only a single hole was drilled in 2011, the remaining three being completed in 2012. Hole PA611002, 63.0 m deep, did not intersect any pegmatite, but pervasive hematite alteration similar to the B Zone occurred from top to bottom and average TREO grades for the granite were similar to those of the B Zone granites.

Condemnation and geotechnical drilling was undertaken in the summer of 2011. Condemnation drilling at an area named Proposed Tailings 1 was conducted to test for pegmatite-hosted REE mineralization in an area proposed for tailings storage and totalled 679.2 m over 10 holes. Geotechnical drilling was conducted at the B Zone. Groundwater monitoring wells were drilled west of the proposed tailings storage area and several condemnation holes in the Proposed Tailings 1 storage area were twinned for installation of monitoring wells. In total, geotechnical and groundwater drilling totalled 217 m in 17 holes. Groundwater monitoring holes did not penetrate bedrock and contribute zero metres to this total. It should be noted that the prefeasibility study did not envisage processing and tailings disposal at the mine site.

Winter drilling at the B Zone is presented in Figure 10.3 and summer drilling areas are shown in Figure 10.4.

Figure 10.3
2011 Winter Drill Program, Drill Hole Location Map for B Zone

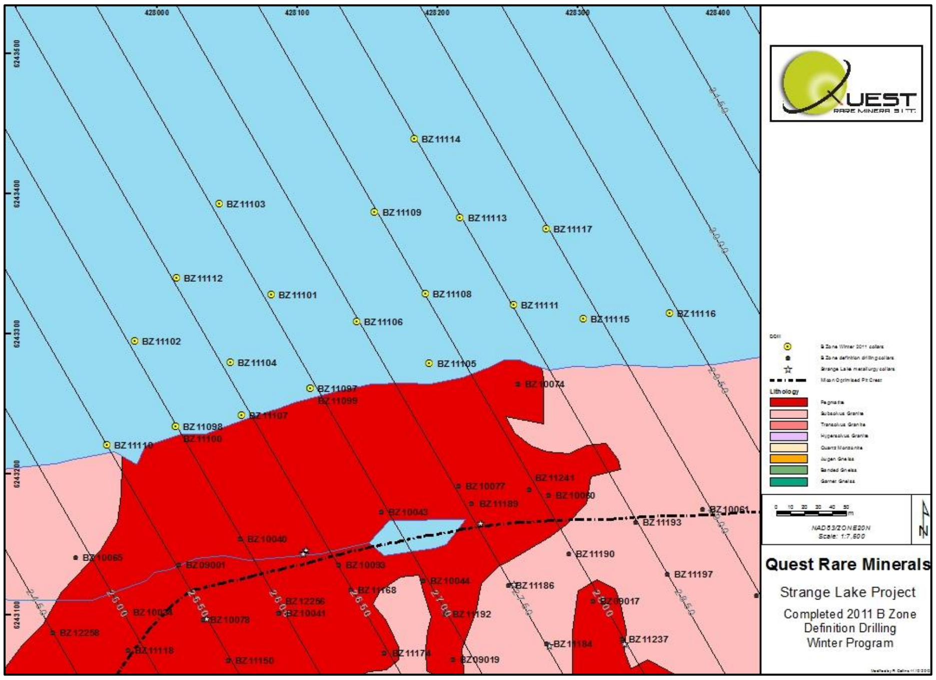

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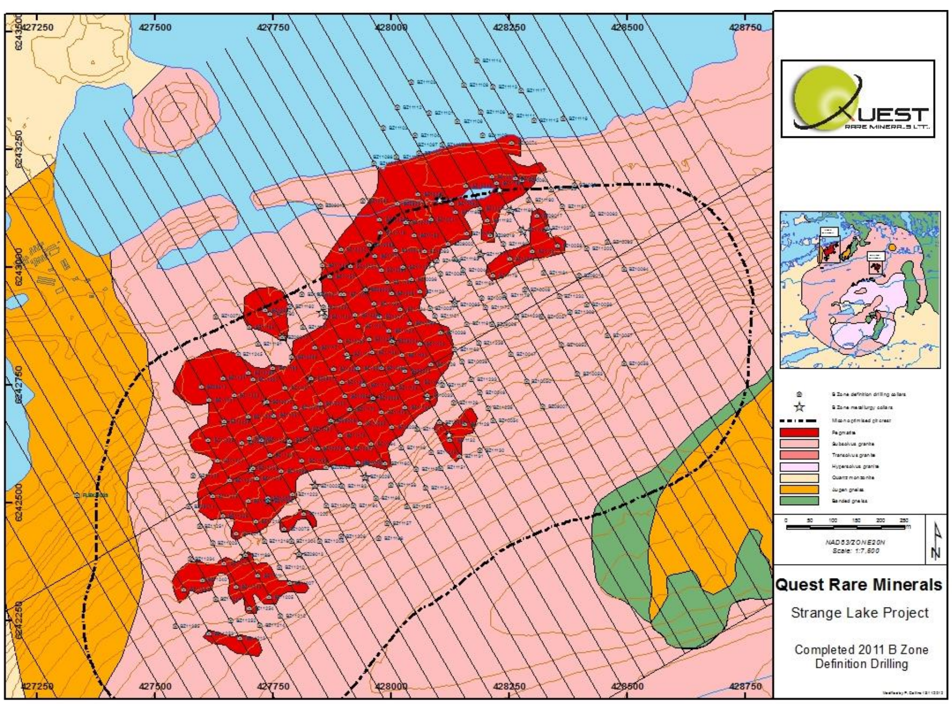
Figure 10.4
2011 Summer Drill Program, Drill Hole Location Map for B Zone



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The 2011 drilling at Strange Lake is summarized in Table 10.3, with the detailed drill hole collar data presented in Appendix 2 of Micon, 2012.

Table 10.3
Summary of 2011 Winter and Summer Drilling Programs

Zone	Meterage	Number of Holes
Alterra	310.31	4
B Zone	20,110.62	159
Metallurgy	3,667.11	30
FLBX	360.00	3
Geotechnical	217.00	17
Proposed Airport 6	63.00	1
Proposed Tailings	697.24	10
Grand Total	**25,425.28**	**224**

The 2011 drill program was contracted to Boreal Drilling. The drilling was conducted using Versadrill KmB 0.3 drills and was supported by up to two Eurocopter B2 (A-Star) helicopters from Canadian Helicopters, based out of Sept-Îles, Québec. The helicopter and crews were stationed at Quest's exploration camp.

Drill core was logged on site, entered directly into Gemcom Gemslogger™ software and subsequently exported to Quest's SQL drilling database. Sampling was conducted in intervals ranging from 0.5 m to 2.0 m. The drill core was sawn in half with one half collected for analysis and the second half replaced in the core box for record keeping. All drill core was photographed prior to the core being sawed in half, but after sample intervals had been marked on the core.

As in 2010, the core boxes containing the half-core from the 2011 program were stored on site, at Quest's Strange Lake exploration camp.

As in 2010, all 2011 drill collars were surveyed by Corriveau. All collars were surveyed with a Leica VIVA 2 mobile real-time differential GPS system linked to a Trimble 5700 base station and Zephyr antenna and were surveyed to an absolute accuracy of ±0.05 m horizontal (X-Y) and ±0.10 m vertical (Z) and a relative accuracy of ±0.02 m horizontal (X-Y) and ±0.04 m vertical (Z).

10.5 DRILLING, 2012

Subsequent to the 2011 drilling program on the B-Zone, the results of which were incorporated into the 2012 updated resource estimate, Quest conducted further drilling in 2012 that did not impact the resource estimate.

During the winter of 2012, drilling was conducted at Alterra, south of the Main Zone, to follow up from results obtained during the 2011 winter drilling program there. Fourteen holes were drilled at Alterra for a total of 1,541.85 m. Drilling successfully intersected REE-hosted pegmatite mineralization in thirteen of fourteen holes.

In the summer of 2012, exploration drilling was expanded beyond the B Zone to follow up on previously identified surficial mineralization. Initially, drilling was conducted at the B Zone in the southwestern extension of the deposit. Here, 1,406.35 m was drilled over 10 holes. This drilling was a combination of step-out drilling and infill, where spacing in 2011 was 100 m rather than 50 m. Pegmatite mineralization was intersected where expected during infill, increasing the confidence levels in geological modelling. Step-out drilling also intersected new mineralization in the southwest, though not all holes successfully intersected pegmatites.

Outside the B Zone, drilling for REE exploration purposes was conducted at ALTW, FLBX and SLW. Geotechnical drilling was conducted in a number of additional areas nearby to the B Zone and also more distal, such as at PA6, the proposed airport site. ALTW is a geophysically anomalous area defined by a 2012 IP-resistivity survey conducted by Abitibi Geophysics. Results here were poor and no obvious cause for the conductivity and resistivity anomalies was defined. The FLBX area is immediately south of the B Zone and may be spatially related to the B Zone. Drilling was designed to test a number of surface features including mineralized pegmatites that breach the host augen gneiss. Drilling successfully intersected the expected targets, though thicknesses were less than expected and REE grades lower than expected. SLW is a zone approximately 1,500 m southwest of the furthest south drilled holes at the B Zone. This zone was drilled on the basis of two IOCC holes that intersected pegmatites but were never followed up. Quest drilling successfully intersected pegmatites in all three holes, ranging from a total of 1.33 m to 5.94 m of pegmatites. Table 10.4 summarizes the 2012 drilling.

Table 10.4
Summary of 2012 Drilling

Zone	Metreage	Number of Holes
Alterra	1,089.9	11
ALTW	306.0	3
B East	452.0	3
B Zone	1,406.4	10
FLBX	348.0	3
Geotechnical	950.0	24
Proposed Airport 6	194.0	3
SLW	328.6	3
Total	**5,074.8**	**60**

10.5.1 Strange Lake B-Zone Prefeasibility Study Work

A 1,000 m drilling program was planned by AMEC to drill geomechanical and geotechnical monitoring holes for the previous prefeasibility study. These holes were drilled within the proposed pit shell and along its northern edge. In addition, a 150 m condemnation drilling program was also planned, south of the B Zone Deposit, to assist with the location of the proposed mine infrastructure. This drilling did not affect the 2012 updated mineral resource estimate conducted by Micon.

10.6 MICON COMMENTS

Micon visited the core logging facilities, reviewed the documentation and sampling procedures for the core during its 2012 visit to the site and held discussions with the geological personnel. Micon concludes that the drilling and core sampling at the Strange Lake Project are conducted in a manner which provides representative samples of the mineralization and that the sampling procedures meet current industry best practice guidelines. Therefore, Micon concludes that the samples can reliably be used for resource estimations.

The 2012 drilling program did not add any further information to the data set for the B-Zone mineral resource estimate and there was no drilling conducted on the Strange Lake Project in 2013 or in subsequent years. Therefore, the August, 2012 database remains valid and can be used as the basis for a mineral resource estimate.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

The following has been extracted from the Micon June, 2014 Amended Technical Report.

Written guidelines for core logging and field sampling are outlined in a Quest procedures document (Quest, 2010b, 2011 revised version). Quest supervisory staff maintains that these guidelines are rigorously followed and, while in camp, Micon did not note any deviation from these stipulated procedures and methodologies.

11.1 SAMPLING METHODS, INITIAL QUALITY CONTROLS AND SAMPLE SECURITY

Following delivery of core by the drilling contractor to the secure core shack at the Strange Lake Project camp, the core boxes and core are routinely examined for damage or mislabelling and the core is entered into the local database log file for processing. A technician washes and degreases the core and then enters core and RQD (rock quality designation) measurements into the digital drill form. A geologist logs the hole using Gemcom Gemslogger™ software, taking appropriate photographic records and marking out samples for later cutting. Individual core samples are identified by a sequentially numbered sample tag, part of which is later affixed to the core tray and part which accompanies the cut sample to the assay laboratory. Samples with a nominal length of 1 m to 0.5 m are normally marked out for sections of core visually deemed to be “mineralized” or “pegmatitic”, while the remaining core is usually sampled at 2-m interval lengths.

Quest stipulates that all sample assay tag books are entered into a master sample tracking database and assigned to individual geological staff, so that each person will be linked to the samples they collected. This database lists where standards, blanks and duplicates are inserted and differentiates drill core samples from rock samples. Sample tag books are pre-labelled to ensure that QA/QC samples are not missed or placed out of sequence. The second tag in the books should be marked, not the first. The first tag goes with the sample to the laboratory.

The Quest sampling procedure, as noted in the May, 2011 Technical Report (Wardrop, 2011), is as follows:

> “Samples should not overlap between different rock and/or sharply defined alteration types, such as dark green alteration in the granite (this does not include presence or absence of melacratic inclusions at Strange Lake); therefore, where geological and/or alteration contacts occur, the sample should be split at the contact. Mineralized or anomalous zones, including all pegmatites but otherwise defined as having elevated radioactivity and or focused zones of alteration, should aim to be 1 m or less but greater than 20 cm, while unmineralized (average background radioactivity or weakly altered) samples should aim to be 2 m long; exceptions to this may be at the end of the drill hole (last sample) if there is minimal alteration; samples should never exceed 3 m. For each sample, the from-to interval shall be marked on the core using yellow grease pencils by putting arrows at the start pointing down-hole and at the finish of the interval pointing up-hole (e.g. [□ your sample # here □]). The sample number shall be clearly marked on the core. In the case of duplicate samples, a line shall be drawn down the middle of the core and each sample number marked on either side of the line. The line is a

> guide for the technicians so that they can saw the core first in half as per normal sampling and then split that half – each duplicate is thus a quarter of the core. When entering sample info for duplicates into the drilling database, duplicates should be named "Duplicate A" and "Duplicate B" – the former being the sample duplicated and the latter being the duplicate. Sample tags shall be inserted at the beginning of a sample interval and where duplicates occur, sample tags can be placed adjacent to each other at the start of the interval. All core samples are split by core saw."

Once the geological logging process has been completed, the core is moved to the sampling room, where technicians saw the core in half using water-cooled diamond-impregnated saw blades. Half of the sawn sample is placed into a plastic sample bag with the respective sample tag, while the remaining core half is returned to the core tray for archiving in core racks at a designated area of camp. The bagged samples are placed into rice bags, for a total of no more than five samples per bag so that the rice bag does not exceed 23 kg in weight, and are sealed using a nylon cinch. The individual rice bags are labelled with the sample interval, company and contact information. Once entered into the shipping database, the rice bags are transported to a secure container to await air shipment to the laboratory.

Diamond drill core and the resulting diamond drill core samples are treated in a secure manner. Drill contractors are contractually obligated to the safeguarding of collected core, until delivered to Quest at a mutually agreed to site, which is the Strange Lake camp core shack. Once core is logged, sampled and samples packaged for shipment, they are temporarily stored at the core shack or another sheltered facility. Samples are batch transported by charter aircraft and delivered directly to the Activation Laboratories Ltd. (Actlabs) preparation laboratory in Goose Bay, Labrador. Once the samples have been prepared for analysis, they are shipped directly by commercial courier to the Actlabs facilities in Ancaster, Ontario for analysis. Coarse and pulp sample rejects are stored in Goose Bay, Newfoundland, at a secure Quest storage facility.

11.2 ANALYTICAL PROCEDURES AND LABORATORIES USED

Quest uses Actlabs, located at 1348 Sandhill Drive, Ancaster, Ontario, L9G 4V5, as the primary independent commercial assaying provider. The laboratory maintains an information web site at www.actlabs.com. Quest submits cut core samples to the Actlab preparation laboratory located in Goose Bay, under strict sample protocol procedures. Actlabs routinely runs its own series of blanks, duplicates and certified reference materials. The frequency of each depends on the analytical method. Actlabs is accredited to ISO 17025 for specific registered tests as per their scope of accreditation Lab# 266. It has also achieved accreditation to CAN-P-15779 which is specific to mineral analysis laboratories.

After sample preparation, core samples for the Quest Project undergo several analyses for elements and lithogeochemistry, namely Actlabs codes:

- Code-8 REE Assay F Option.
- Code-4Litho-Quant (11+) Major Elements fusion.
- Code-4E – XRF (for niobium).

A description of these individual assaying techniques is provided within the laboratory's "Schedule of Services and Fees". The current Canadian schedule is available at http://www.actlabs.com/files/Canada_2013_Reduced.pdf. The 2011 protocol, company sample handling, analytical methodology and sample security was reviewed and accepted by Wardrop (Wardrop, 2011), which went on to note the following:

> "All drill core and rock samples are sent by aircraft directly to Actlabs preparation laboratory in Goose Bay. Employees, officers, and directors of Quest have not conducted any sample preparation prior to the samples being sent to Actlabs.
>
> "Upon arrival at ActLabs preparation laboratory in Goose Bay, as a routine practice with rock and core, the entire sample is crushed to a nominal minus 10 mesh (1.7 mm), mechanically split (riffle) to obtain a representative sample and then pulverized to at least 95% minus 150 mesh (106 microns).
>
> "Quest's samples were prepared under ActLabs Code RX 1. This is a crush of the sample (of less than 5 kg) with up to 75% of the material passing a 2 mm screen, split to 250 g, and pulverized under hardened steel to 95% passing through 105 micron screen.
>
> "Actlabs, also as a routine practice, automatically uses cleaner sand between each sample. The quality of crushing and pulverization is routinely checked as part of Actlabs quality assurance program.
>
> "The prepared samples were then sent, by Actlabs, to their laboratory in Ancaster, Ontario, for analysis. The remaining sample pulps and sample rejects are stored at the preparation facility in Goose Bay."

A description of the sample analyses carried out by Actlabs at its Ancaster facility is as follows:

Actlab Code: 8 REE ASSAY PACKAGE; F OPTION

Samples of 0.2-g are fused with a combination of lithium metaborate and lithium tetraborate in an induction furnace to release the fluoride ions from the sample matrix. The fuseate is dissolved in dilute nitric acid. Prior to analysis the solution is complexed and the ionic strength adjusted with an ammonium citrate buffer. Subsequent analysis is by Induced Coupled Plasma Mass Spectroscopy (ICP-MS).

The fluoride ion electrode is immersed in this solution to measure the fluoride-ion activity directly. An automated fluoride analyzer from Mandel Scientific is used for the analysis. The detection limit on fluorine is 0.01% F.

Actlab Code: 4LITHO-Quant (11+) Major Elements Fusion

A 1-g sample is digested with aqua regia and diluted to 250 mL volumetrically. Appropriate international reference materials for the metals of interest are digested at the same time. The samples and standards are analyzed on a Thermo Jarrell Ash ENVIRO II simultaneous and sequential ICP, Varian Vista 735 ICP or Thermo 6500 ICP.

Actlab Code: 4E – XRF (For Niobium)

Niobium was analyzed separately by X-ray fluorescence (XRF) due to the low upper detection limit in the ICP-MS method. The trace elements analyses are done on pressed powder pellets made from 6 g of sample. Spectral interferences are corrected from pre-calculated interfering factors. Because of the trace level (<1,000 ppm) of the analytes, only the mass absorptions are corrected for matrix effects. The mass absorption coefficients are derived from measuring the Compton scatter of the rhodium (Rh)-tube. The background and mass absorption corrected intensities are then calculated against the calibrations constructed from 24 international geological reference materials.

For the exploration and resource development samples, Quest has not designated a secondary umpire laboratory and continues to use Actlabs for its routine QA/QC sample analysis for blanks, standards and duplicates. As part of the 2012 Micon review, one diamond drill hole was selected and sent out for "umpire duplicate" sampling to ALS-Chemex (ALS Global).

Umpire quarter core samples were delivered to the ALS Chemex preparation laboratory at 1512 Old Falconbridge Road, Sudbury, Ontario P3A 4N8. After crushing and pulverization, pulp samples were couriered to the ALS Chemex primary laboratory facilities in Vancouver, British Columbia for final analysis using analysis code ME-MS81h. This analysis uses ICP-MS methods after carrying out a lithium borate fusion prior to acid dissolution and a high sample to volume ratio in an analytical protocol that is relevant for mineralized rare earth samples. Digital data and the corresponding certificate for this work were issued as 11193099.

Actlabs and ALS-Chemex are independent of Quest.

11.3 SUMMARY OF QA/QC PROCEDURES AND RESULTS

A Quest core sampling procedure and QA/QC protocol was developed in 2009 and was used without change to the beginning of 2011. Some minor modifications for the summer-fall drilling season on sample minimums and adherence to strict contact controls was implemented, but, in the main, remained unchanged through the 2012 drilling program.

A primary objective is to achieve a 5% insertion rate of QA/QC samples (i.e., standards, blanks and duplicates) into the data stream. This is done on a regular pre-set sample number basis and a frequency of every 50 samples (i.e., staggered but regularly spaced duplicate, blank and standard every sample book of 50 samples) by inserting two standard samples per hundred samples, two blank samples per hundred samples and also cutting two duplicate quarter-core samples on a per 100 sample basis.

On occasion, an additional blank may have also been inserted into the data stream following an interval of high-grade mineralization that is greater than 2 m in core length, in order to track any possible contamination that may be resulting from high grade samples. In order for all QA-QC samples to be “blind”, the names of the standard and blank are not marked on the sample bag or the tag that is sent to the laboratory. Likewise, duplicate samples are not labelled as duplicates on the tags that go to the laboratory.

A similar rate of QA/QC samples is used for rock samples, with standards, blanks and duplicates inserted once per 50 samples. For exploration and resource development samples, as in the case of the drill core samples, sample tag books are pre-marked with the QA/QC samples to ensure that they are not used for rock samples.

11.4 MICON COMMENTS

Micon has reviewed or observed the procedures and protocols used for sample preparation, security and analytical procedures and finds that they meet or exceed industry standards and norms.

12.0 DATA VERIFICATION

12.1 GENERAL COMMENTS FOR THE 2017 UPDATED TECHNICAL REPORT

Due to significant changes in proposed logistics, infrastructure and processing facilities, Quest has asked Micon to provide an updated Technical Report for the Strange Lake Project. Not all of the necessary information is available to conduct a full update of the 2014 PEA Technical Report. Thus this Technical Report is limited to an update on the Strange Lake Project, along with a desktop update to the resource estimate to account for changes in commodity prices and CIM definitions to resource classifications since the previous report was issued in 2014. Once Quest has reviewed and accounted for all of the significant logistical, infrastructure and processing changes to the Project, it will update the 2014 PEA Technical Report. Quest anticipates, that at this time, it will possibly be able to update the PEA later in 2017.

The following subsections were extracted from the Micon December, 2013 Technical Report and later included in the original and amended 2014 PEA Technical Reports.

12.2 MICON SITE VISIT

Micon site visit to the Strange Lake Project was conducted between March 26 and 29, 2012. Micon was assisted during the 2012 visit by a number of employees working for Quest. During this trip, the drilling was reviewed and discussed, core sampling QA/QC was reviewed, and general exploration programs past, present and future were discussed, as well as the goals and objectives of the programs.

Micon has reviewed and analyzed data provided by Quest and its consultants, and has drawn its own conclusions therefrom, augmented by its direct field examination. Micon has not carried out any independent exploration work, drilled any holes or carried out any program of sampling and assaying on the Property. Micon has relied on the previous sampling conducted by Wardrop discussed in its May, 2011, Technical Report (Wardrop, 2011) as verification of the mineralization on the Strange Lake deposit, as well as its own observations during the March, 2012 site visit.

12.3 QUALITY ASSURANCE/QUALITY CONTROL VERIFICATION

Data verification of the analytical results consisted of a desktop and statistical review, a data audit in which 10% of the assay records were manually compared to signed official assay certificates and a comparative re-assaying of a randomly selected diamond drill hole.

12.3.1 Blanks

During 2011, Quest used commercially available bagged quartz silica sand as its blank sample. Prior to and during 2009, other blank materials were used, such as an internal material referred to as “Blank-Q”

An initial review of analytical results for all of the Strange Lake drilling carried out on the Main and B Zones indicates that possibly 44 samples out of a total of 276 blanks (i.e., 16%) may show some signs of sample cross-contamination. At least one sample (307750) is definitely not a blank. It was recommended in the 2014 Technical Report that the sample results proceeding and following this sample be examined in order to verify that it had not been accidently switched in the original assay certificate.

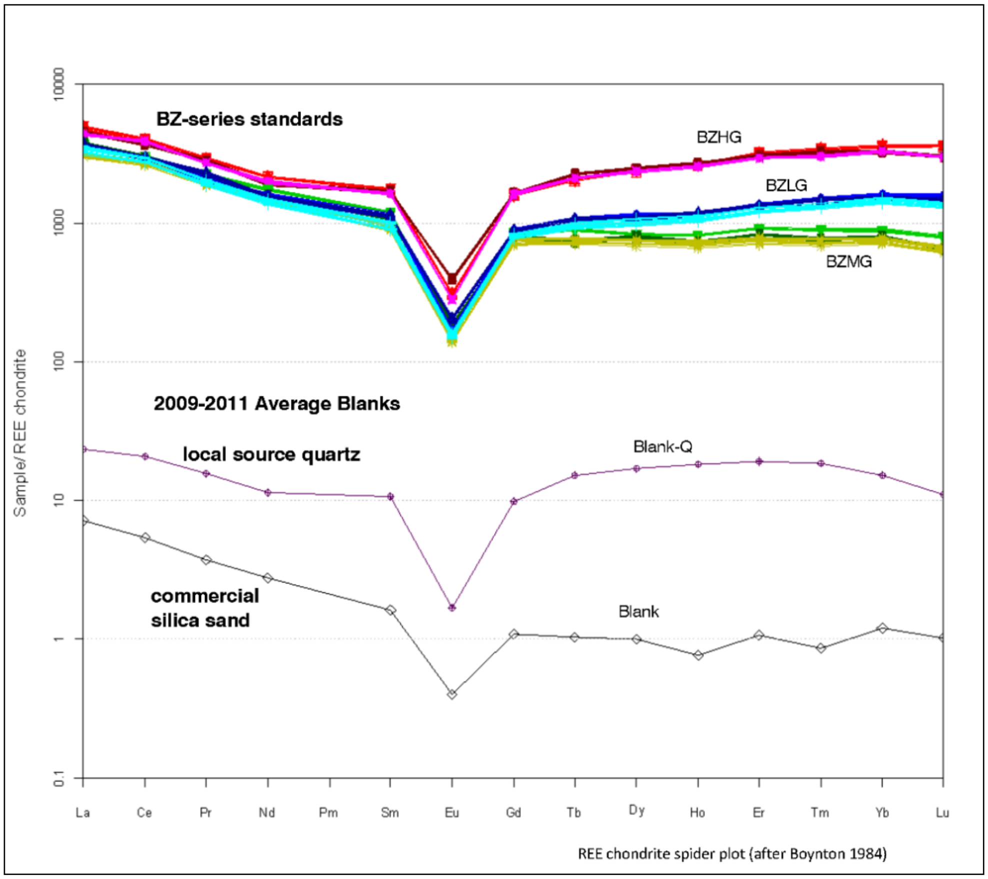
The majority of the contaminated “blanks” show elevated values of Zr, LREE and Hf. Overall, the HREE values are acceptable. All of these samples were collected in 2009. It was recommended that an expanded audit be completed to check if these samples are not simply mislabeled Blank-Q.

Blank-Q represents a visually clean quartz vein sample that was collected from a “metapelite outcrop” pit and used as a pragmatic blank during the initial exploration work in 2009 when the high purity silica blanks had been exhausted. This locally derived blank gives an acceptable average baseline to which individual sample results can be compaired. A total of 30 such samples were identified in the diamond drilling database.

A plot of the mean Blank and Blank-Q normalized REE values is provided in Figure 12.1. A set of the mean suggested values for the three in-house Quest standards is also presented in this figure.

Overall, the analyzed blanks were found to be of sufficient quality and no significant problems with the analytical database have been identified.

Figure 12.1
Plot of Quest Blanks and Standards



12.3.2 Control Standards

Quest has used in-house control standards, of which several have been implemented over the years.

Prior to 2009, an internal set of standards termed STD-1 and STD-2 were prepared from material collected at a pit (at Main Zone?). Reportedly, four reference assays were performed for each sample in order to establish the nominal assay values. In total, 40 STD-1 and 48 STD-2 samples were found in the B Zone (BZ) database.

The current series of BZ-series control standards was prepared by Hazen Research Inc. (Hazen) as cut subsets from material collected in 2009 by a diamond drilling bulk sampling program. As described by Wardrop (2011), this metallurgical sample was collected by a five-hole, 340 m drill program at the BZ09001 drill site, oriented at various dips and azimuths in DDH's BS09001 to BS09005 (inclusive).

> "The core was logged without detail, photographed, and sampled into three separate categories of high grade, low grade, and altered; the difference between low grade and altered

> is small. The grade category was determined using a Niton XRF analyzer. The logged core weights were approximated on site by using the core volume multiplied by a density of 2.85. The bulk sample weight was approximately 1,014 kg.
>
> The whole drill core was taken for the bulk sample. The drill core was logged at the drill site, bagged on sample intervals and placed in metal 200 L fuel drums. The drums were wire sealed and sent by de Havilland DHC-2 Beaver aircraft directly to Schefferville from Lac Brisson; only two trips were required for three drums of samples. From Schefferville the drums travelled by train to Sept-Îles where they were transferred to truck transport to Val d'Or, under the care of Boreal Drilling.
>
> From Val d'Or the samples were trans-shipped to Montreal and from Montreal to Boulder, Colorado where they were received by Hazen."

Of the three original logging categories, for purposes of the Quest control standards, the following apply:

> "high grade" corresponds now to standard BZHG.
> "low grade" corresponds to standard BZLG.
> "altered" corresponds to BZMG.

In total, 45 samples of each of the three Quest standard categories were submitted for a round robin series of analysis to three laboratories (15 samples per laboratory) in order to determine the "best value" (certified value) of the standards. These samples were sent to Actlabs, ALS-Chemex and Acme Analytical Laboratories Ltd. (Acme). The recommended average values have been calculated.

The overall conclusion is that the results of the round robin testing are of an acceptable level of accuracy, for this level of in-house standards. Normal standard practice, for "in-house standards" round robin assaying is to use five independent and reputable laboratories. The 2012 set of work only used three independent laboratories for the in-house standards but the results are considered valid.

In comparing the Hazen head grades to the results obtained by the round robin, there is very good correlation of results at the weight percent level. This indicates that there had been very good homogenization of the bulk sample and/or very good subsampling protocols used by Hazen in splitting out material to be used for the standards. The material supplied to Hazen was primarily provided by Actlabs.

12.3.3 Control Duplicates

The Quest duplicate protocol used in 2009-2010 was to cut two quarter cores of the top-half cut of sawn core when a duplicate sample was deemed to be needed and indicated by a sample numbering scheme. The physical upper quarter, when viewed in a core box, was flagged as DUP-A, while the lower quarter was flagged DUP-B. DUP-B was also given the immediate following assay number to that of DUP-A. This system was implemented as an attempt to minimize introduced biases due to volume differences.

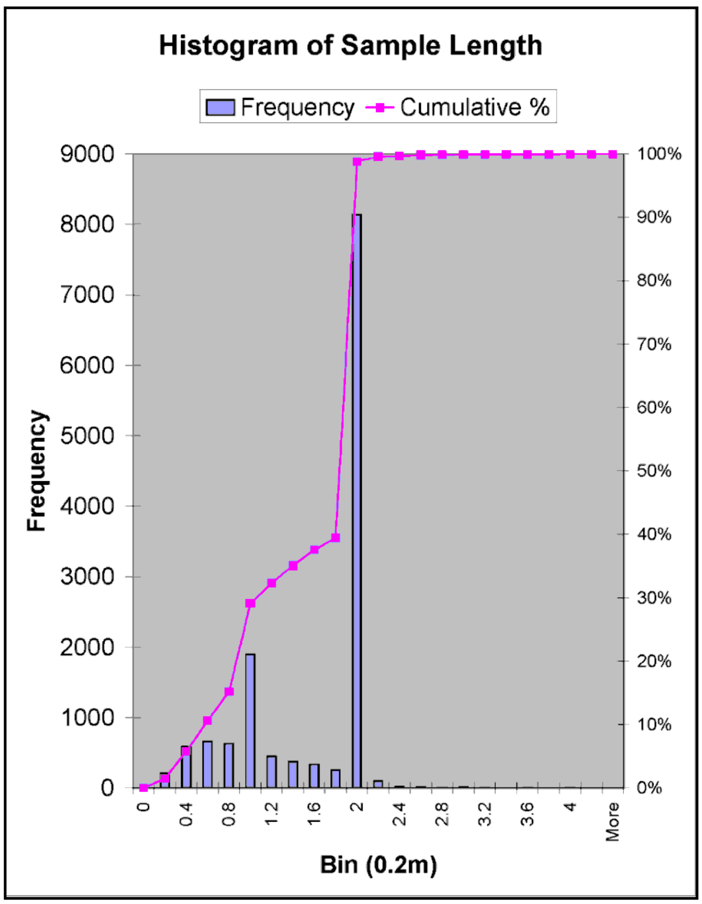
In the summer of 2011, when data were transferred from Target to the GEMS SQL database system, samples which had been flagged as DUP-A were listed as part of the normal data sample stream. DUP-B samples now reside in the QA/QC table as an indicated duplicate. At that time, the duplicate sampling protocol was changed to a more traditional method of cutting and submitting complete half core for assay and quartering the remaining core in the box for duplicate sample purposes.

In reviewing the 2012 GEMS databases against the 2009-2010 Target database, there appear to be five more DUP-As in Target than there are QA/QC duplicates in GEMS. This would tend to indicate that possibly five duplicate samples are missing from the current database. No significant errors or biases were detected by duplicate sampling checks.

12.3.4 Sample Characteristics

The average sample length taken by Quest staff during the period of 2009 through the first quarter of 2011 was 1.56 m and a mode of 2 m (Figure 12.2). In addition, 537 measured samples returned an average density of 2.73.

Figure 12.2
Quest Sample Length Distribution

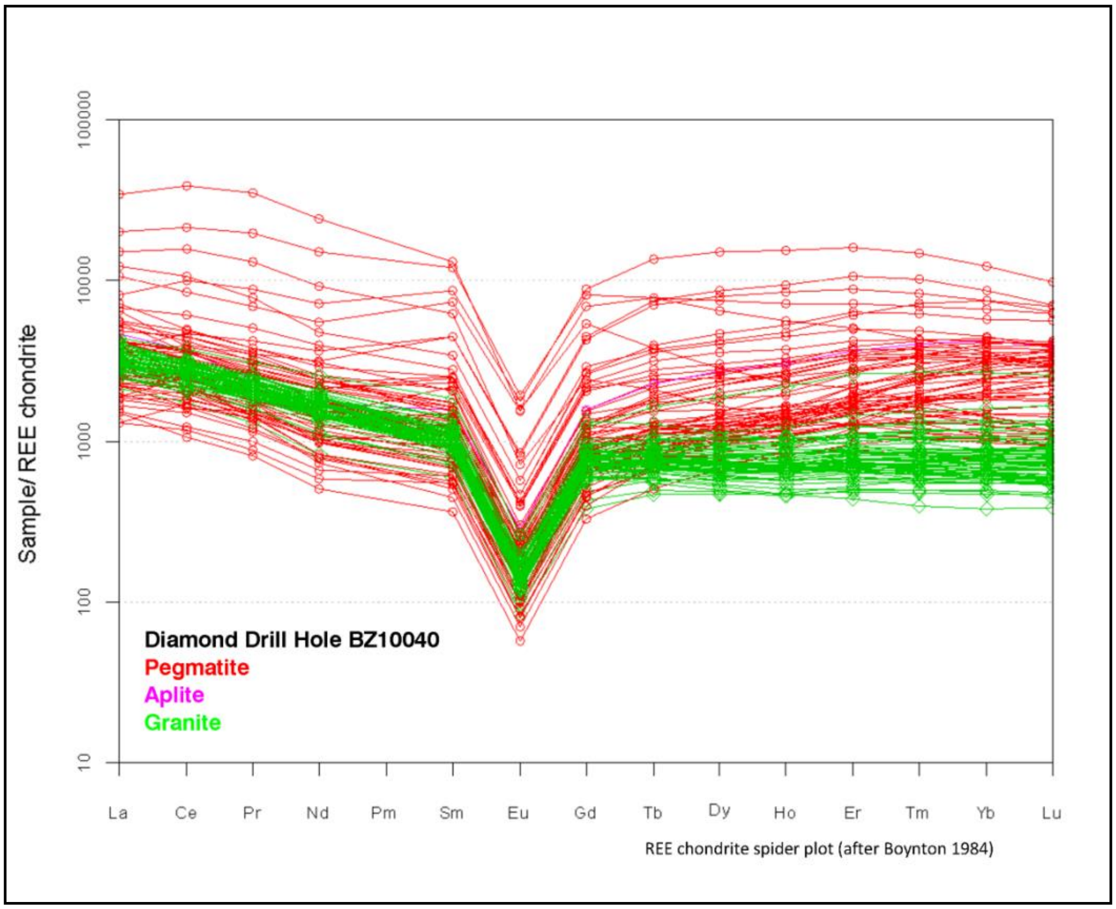


12.3.5 Umpire Sampling

A total of 131 samples were sub-sampled by quarter-sampling one drill hole selected at random and sent to ALS-Chemex, as part of due diligence umpire checks under the direction of Micon. In addition to the quarter core, staff also inserted a set of QA/QC blanks and standards to reproduce the original data submittal set. Data are contained in an ALS-Chemex certificate numbered TM11193099 and dated October 17, 2011.

Plots of the original DDH BZ10040 results (Figure 12.3) show a typical negative Eu dip anomaly and horizontal "bat-wing" REE pattern developed due to elevated HREE. The sampling also clearly shows that the intersected BZ10040 samples of pegmatite versus the granite are in general elevated in HREE, but in some cases are depleted in LREE relative to granite. Note that a single aplite sample is also quite elevated in REE content.

Figure 12.3
Normalized REE Pattern of DDH BZ10040 Sampling (N = 129)



Of the 131 umpire duplicate samples submitted to ALS-Chemex, 123 samples represent fresh quarter core from the remaining original half core that was in the core racks on site; 3 samples represent Duplicate B quarter cores; 2 samples are silica sand blanks; 2 samples are BZLG standards; and 1 sample was initially submitted as a BZMG standard in 2010, but was replaced by a 2011 BZHG standard. The 2011 resampling retains the same sample numbering system as the original. Table 12.1 summarizes the characteristics of the control samples.

Table 12.1
2011 Submitted Control Samples BZ10040

Sample	Initial 2010 Sample Type	Duplicate 2011 Sample Type
105998	DUP B	flagged insufficient
106000	BZLG	BZLG
106025	Blank	Blank
106048	DUP B	flagged insufficient
106050	BZMG	BZHG
106075	Blank	Blank
106098	DUP B	flagged insufficient
106100	BZLG	BZLG

A preliminary A/B comparison of the resampling results involved calculating the "Half Absolute Residual" (HARD) values. This involves taking half of the absolute value of the relative difference of the initial and subsequent assay as a function of the assay sample average, and is expressed by the formula:

HARD = ½ * ABSOLUTE [(A-B) / (A+B)]

Table 12.2 summarizes the calculated HARD values for resampling.

Table 12.2
2011 Summary of Calculated HARD Values, BZ10040 Re-sampling

Element	Maximum (%)	Minimum (%)	Average (%)	Median (%)	Mode
Y	26.3	0.0	4.0	2.6	-
Zr	30.8	0.1	3.8	2.7	-
La	20.2	0.0	4.5	3.2	0.002488
Ce	21.3	0.0	4.2	3.1	0.071429
Pr	22.7	0.0	4.6	3.3	-
Nd	26.8	0.1	4.7	3.1	-
Sm	20.1	0.1	4.8	2.9	0.045045
Eu	30.0	0.0	5.1	3.0	0
Gd	24.2	0.0	5.0	3.7	0
Tb	22.7	0.1	4.7	3.1	0.035714
Dy	25.3	0.0	4.3	2.5	0.038462
Ho	28.1	0.0	3.9	2.2	-
Er	29.2	0.0	4.3	3.4	0
Tm	29.2	0.0	4.3	3.2	0.166667
Yb	29.9	0.0	4.1	3.0	0.044379
Lu	30.5	0.0	4.2	3.1	-
Hf	34.3	0.1	5.2	4.4	0.125

The maximum HARD values are all returned by four of the inserted control standards, namely the two blanks which have initial low REE values and will typically return a large relative value on re-assay; sample106048 DUP_B, which may be showing a pegmatite nugget effect, and the mis-matched control standard sample 106050 which compared BZMG with BZHG. Several other samples show HARD values in the order of 10%, which is assumed to be due to a sampling nugget effect.

The A/B analytical results indicate that the Actlab results are of acceptable quality and show no significant systemic bias when compared to the ALS-Chemex results. The R^2 values generated from these charts are shown in Table 12.3.

Table 12.3
Summary of 2010 A/B Comparison BZ10040 Umpire Re-assaying Results

Element	Linear Fit (y=)	R-squared Value
Y	1.017x	0.9161
Zr	0.896x	0.8595
La	0.9257x	0.8064
Ce	0.8984x	0.8865
Pr	0.8571x	0.882
Nd	0.8401x	0.9049
Sm	0.9668x	0.8906
Eu	0.9256x	0.8689
Gd	0.9928x	0.8595
Tb	1.0314x	0.8971
Dy	1.006x	0.9094
Ho	1.0251x	0.9162
Er	0.9609x	0.9125
Tm	0.9414x	0.908
Yb	0.9677x	0.8974
Lu	0.9748x	0.8882
Hf	1.1823x	0.8595

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The flowsheet selected for the Project is based on crushing, grinding, flotation, acid bake and water leach, impurity precipitation, rare earth precipitation, and solvent extraction (SX) to recover separated rare earth oxides. Most of these processing steps, with the exception of rare earth separation, have been tested on mineralized samples from the Strange Lake B Zone.

13.1 HISTORICAL TESTWORK

A number of metallurgical testing and engineering studies have been completed on mineralized samples from the Strange Lake deposits. Most of the early work was undertaken on the Main Zone deposit, which is located mainly on the Newfoundland and Labrador side of the provincial divide, with more recent studies concentrated on the B Zone deposit, which is located in Québec.

Historical studies undertaken on Main Zone mineralization include the following:

- Witteck Development Inc, (WDI) of Mississauga, Ontario, on behalf of IOCC; hydrometallurgical testing (1982), mineralogical study and beneficiation (flotation) testing (1983) and leaching, solid/liquid separation and preliminary SX tests (1983).

- IOCC, economic evaluation study (1985).

- Lakefield Research, scoping flotation tests and leaching testwork on samples of Strange Lake mineralization and flotation concentrate for Arcadia (1990).

- Kilborn Consulting Engineers and Architects (Kilborn), preliminary technical and economic study for the recovery of yttrium and zirconium on behalf of Arcadia (1991).

- Mitsui Mining and Smelting Company Limited (Mitsui), detailed study into the extraction of REE and zirconium from Strange Lake samples. Testwork included mineralogy, beneficiation (magnetic separation), leaching, precipitation and selective dissolution (1992 to 1996).

More studies have been completed recently on the B zone mineralization located in Québec.

13.2 RECENT TEST PROGRAMS

Since 2010, process development testwork studies on samples of Strange Lake B zone mineralization have been completed at Hazen Research of Denver, USA (Hazen), Research and Productivity Council in Fredericton, New Brunswick (RPC), Process Research Ortech Inc’s in Mississauga, Ontario (Ortech), and SGS Lakefield Research in Lakefield, Ontario

(SGS-L). Testwork that will form the basis of an updated PEA was carried out primarily at SGS-L.

13.2.1 Metallurgical Samples

A number of metallurgical composite samples representing B Zone mineral resources have been used for metallurgical testing. These include:

- Master Composites sample P1, representing the first 10 years of mine life.
- Master Composites sample P2, representing the subsequent years of mine life.
- Metallurgical Core Sample – Met Hole 11001.
- Blend of Metallurgical Core Samples – Met Holes 11029 and 11030.
- Medium Grade Outside (MGO), composite of 98 medium grade samples from 10 drill holes.
- Enriched Zone Outside (EZO), composite from the enriched zone, 32 samples from 5 drill holes.

The Master Composite P1 and P2 samples were prepared by selecting and combining coarse reject material from diamond drill cores from the 2009 - 2010 programs that fell within an envelope of a proposed initial phase 1 open pit (P1) and the subsequent phase 2 pit (P2), which are illustrated in Figure 13.1.

The Met Hole 11001 sample weighting a total of about 700 kg was from a single drill hole that was completed in March, 2011. The average assay of this sample was a reasonable representation of the expected 25 year life of mine average across nearly all of the elements. The location of this hole was at the north eastern end of the deposit.

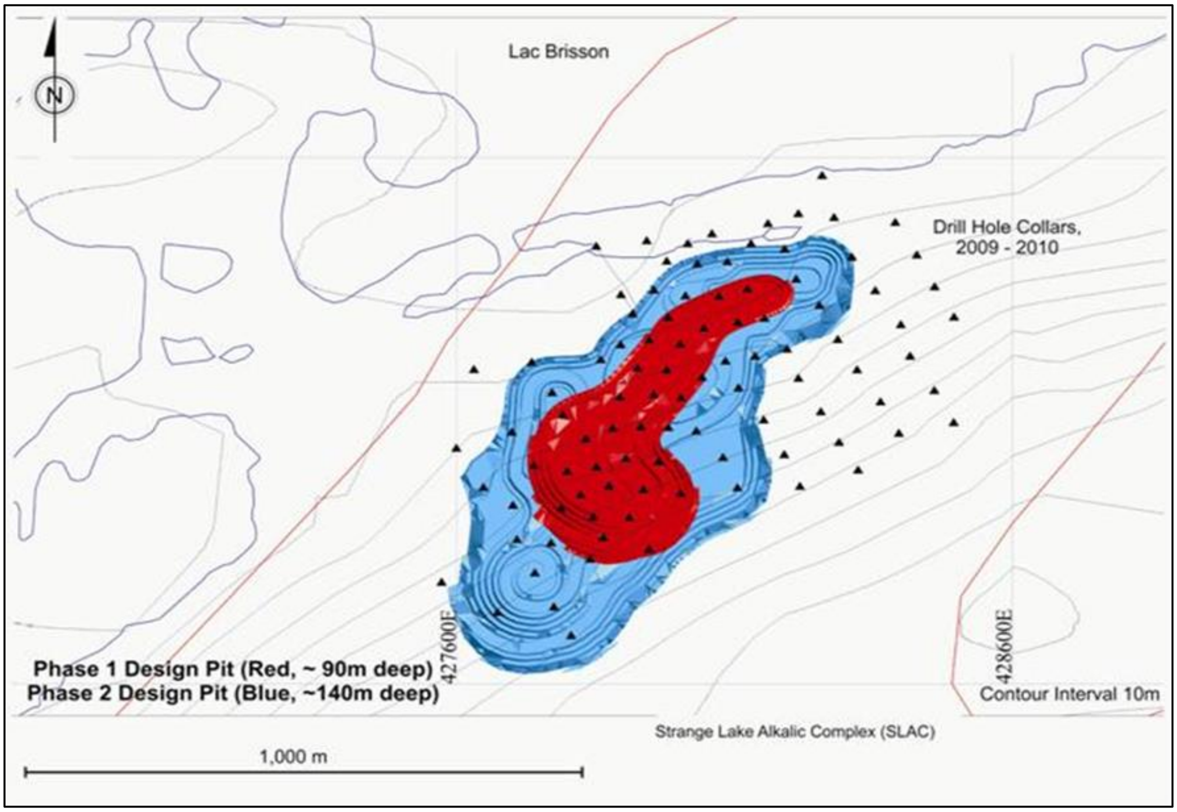
The Met Holes 11029 and 11030 were twin holes of Met Hole 11001. The combined sample weight from these two holes was approximately 1,000 kg.

The mineralogical characterization reports by Hazen of Met Hole 11001, P1 and P2 stated that these samples contain, on average, approximately 85% silicate gangue including about 33% quartz, 33% feldspar (K-feldspar and albite) and 17% other silicates, including mainly aegirine, riebeckite, magnesio–riebeckite, magnesium–iron silicate, titanite, and chlorite.

The mineralization of these metallurgical samples consisted of fine-grained assemblages of REE-bearing minerals. The samples contained approximately 9% REE silicates and 1% REE-bearing minerals. The REE + yttrium were distributed mainly between gadolinite, kainosite, allanite, calcium–yttrium–REE silicates, calcium–LREE–yttrium silicates and zircon, which, with gittinsite, was also the source of zirconium. Pyrochlore was the main niobium bearing mineral.

The P1 composite had a slightly higher TREO content than the P2 and Met Hole 11001 composites, mainly due to the higher yttrium and cerium content. The total content of zirconium-bearing minerals and the pyrochlore levels in P1 and P2 were higher than in Met Hole 11001.

Figure 13.1
P1 and P2 Composite Sample Locations and Conceptual Pit Designs



Provided by Quest, 2012.

The P2 composite has been used in most of the flotation and hydrometallurgical testing performed to date at SGS-L. In recent 2015 SGS-L program of testwork, two additional composites were prepared. These were identified as Medium Grade Outside (MGO) and Enriched Zone Outside (EZO). The samples used for the MGO composite were from areas outside the PEA life-of-mine open pit. The samples used for the EZO composite were from the enriched zone and also fell outside the LOM pit design.

13.2.2 Hazen, 2010

In 2010, Hazen completed a preliminary program of testwork using samples that represented B Zone mineralization. This testwork included quantitative mineralogical characterization of the rare earth occurrence in three samples, investigation of physical beneficiation and a preliminary investigation into bench scale leaching. The three samples, weighing a total of about 1 t, were collected by Quest. One composite sample, termed high-grade mineralization reportedly representing the pegmatitic zone, was used for the major part of the investigation.

The other two samples were lower grade with respect to rare earth content and were referred to as low-grade and altered ore.

The historical testwork using samples of Main Zone mineralization gave the following preliminary results:

- Typical flotation recoveries from a de-slimed sample of approximately average resource grade (0.9% Y_2O_3, 3.0% ZrO_2 and 0.7% Nb_2O_5) of around 80% Y_2O_3, 60% ZrO_2 and 90% Nb_2O_5 with 40% mass recovery.

- Preliminary magnetic separation recovery of 60% Y_2O_3 with 25% weight recovery.

- Bond ball mill work index of around 16 kWh/t.

- Sulphuric acid leaching extractions of about 70% for both yttrium and zirconium with the acid addition of 200 kg/t of feed, temperature of 80 ºC, leach time of 24 hours and sample grind size of 95% passing 200 mesh.

The mineralogical investigation consisted of detailed QEMSCAN® analyses to characterize the REE mineralization and associated gangue constituents. These analyses revealed that the REE mineralization is complex, consisting of several REE mineral species, as well as REE–yttrium-bearing gangue minerals, i.e., not actual REE mineral species.

The initial mineralogical analyses showed that yttrium and REE were mainly contained in (pyrochlore $(Na,Ca)_2Nb_2O_6(OH,F)$), phosphates (monazite), and carbonates (bastnaesite and possibly parasite ($Ca(Ce,La_2(CO_3)_3F_2)$), gadolinite ($(REE,Y)_2Fe_2+Be_2Si_2O_{10}$), gerenite ($(Ca,Na)_2(Y,REE)_3Si_6O_{18}.2H_2O$), kainosite ($Ca_2(Y,Ce)_2Si_4O_{12}(CO_3)\bullet H_2O$) and other yet-unidentified calcium–yttrium–REE-bearing silicates.

Other yttrium- and REE-bearing minerals identified included zircon (probably partially hydrated), gittinsite ($CaZrSi_2O_7$), thorite ($(Th,U)SiO_4$), and epidote (probably allanite ($Ca(Y,La,Y)Fe_2+Al_2(Si_2O_7)(SiO_4)O(OH)$)).

The main gangue minerals were quartz and feldspar (K-feldspar and albite) with minor occurrences of amphiboles and pyroxenes, mica, chlorite, titanite and milarite ($K_2Ca_4Al_2Be_4Si_2O_4O_{60}.(H_2O)$)).

Physical upgrading tests included gravity concentration using diagnostic heavy-liquid separation, tabling, centrifugal concentration, froth flotation, and magnetic separation.

Heavy liquid tests showed that, at a separation SG of 2.85, the rejection of quartz and feldspar was 62% with a loss of about 14% for yttrium, zirconium, and cerium. The gravity tables, centrifugal concentrator and flotation tests did not successfully produce reasonable separations but the magnetic separation tests gave yttrium losses of between 14% to 30% and TREE losses of between 16% to 21%, with a weight loss of sample of around 50%.

The results of preliminary acid dissolution tests conducted on the three sample types showed extractions of yttrium plus heavy REE in the 80–90% range.

13.2.3 Research and Productivity Council (RPC), New Brunswick, 2012

The flotation batch testing program completed at Research and Productivity Council (RPC), Fredericton, New Brunswick on P2 composite samples from the Strange Lake B Zone demonstrated the effectiveness of flotation in rejecting a substantial portion of the quartz, feldspar and other gangue minerals, while concentrating as high as possible the rare earth elements, as well as yttrium, zirconium and niobium, in a concentrate suitable for further hydrometallurgical processing.

A total of 50 bench scale flotation tests were completed to investigate the effect of parameters such as reverse flotation alternative, reagent scheme, particle size distribution, de-sliming, pulp density and temperature.

13.2.4 Hazen, 2011 -2013

Pegmatite and granite samples were used as proxies for P1 and P2 composites for determination of Bond ball mill, rod mill, abrasion and crusher impact work indices, and unconfined compressive strength testing. The results showed that both samples were of moderate hardness.

Beneficiation testwork was also carried out with the objective of rejecting a barren portion of the mineralization rather than a high grade concentrate. Magnetic separation tests were conducted at Hazen but this unit process is not included in the current beneficiation flowsheet.

13.2.4.1 Acid Bake Feed Filtration Test

Solid-liquid separation testwork on ground feed material for the acid bake testwork was carried out by Bokela GmbH of Karlsruhe, Germany, in October, 2012.

Vacuum and pressure filtration tests were carried out on P1 material, with and without steam. The filtration tests showed that the moisture content in feed material can be reduced to less than 10% in a steam pressure filtration unit, compared with 19% in vacuum filters.

13.2.4.2 Acid Bake and Water Leach (ABWL)

Initial sulphuric acid leaching tests were completed at Hazen in 2010. Relatively poor results led to testwork on acid bake and water leach processes at Hazen between March, 2012 and August, 2013 on the P1, P2, Met Hole 11001 and blend of Met Hole 11029 and 11030 composite samples. The acid bake water leaching tests were followed by leach liquor evaporation work to reduce the volume of solution proceeding to the hydrometallurgical plant while precipitating LREE as sodium double salt concentrate.

The following was concluded from ABWL testwork at Hazen:

- Extractions of REE, yttrium, zirconium and niobium decreased with increasing particle size, with zirconium and HREE being most sensitive. A particle size of 80% passing (P_{80}) 40 µm was required to achieve high extractions.

- Addition of 500-600 kg acid per tonne of feed was required to achieve high extractions and testwork suggested that about 35-45% of the addition can be recovered at high strength (90% H_2SO_4).

- A baking time of 1.5-3.0 h was required to achieve high extractions and approximately one additional hour was required to recover the excess unreacted acid.

- Products of the acid bake (sulphates and bisulphates) could be dissolved in water at ambient temperature and at 5°C within 10 min. Longer dissolution times (up to 60 min) resulted in slight loss of LREE, which was thought due to the formation of sodium-LREE double salt. Zirconium extraction was not sensitive to leaching time although there was a slight improvement in niobium extraction.

- Due to the propensity of REE to form double alkali salts, and the presence of sodium and potassium in the Strange Lake B Zone mineralization, the effect of sodium concentration in the leach was also studied. Extractions to solution were not significantly changed when sodium was not added to the leach water at 22°C or 5°C and extraction of zirconium and niobium was not affected. In the presence of sodium, leaching of REE decreased significantly at 22°C leaching temperature, but only slightly at 5°C, as a result of the higher solubility of sodium-LREE double salts at lower temperatures. It was concluded that leaching at 5°C would maximize REE solubility and extractions to solution.

- Studies on residue washing and soluble losses concluded that 98.9% washing efficiency and 0.8% soluble loss can be achieved by washing the leach residue in 0.9 m^3 water per tonne or in displacement washing mode. The use of pressure filtration is expected to improve these values.

- Deportment of acid from several bake tests conducted at 500 kg H_2SO_4/t using a number of composite samples gave acid consumptions in the sulphation reaction of between 136 and 205 kg H_2SO_4/ t feed or 27% to 41% of total acid addition. The acid consumed in the sulphation reactions tended to increase with increase in TREE+ yttrium, Zr and Nb grades.

- Acid recovery test results suggested that maximum acid recovery could be achieved within 1 h of evaporation.

13.2.4.3 Solid-Liquid Separation Tests

Solid-liquid separation tests, including thickening and filtration, were conducted by FL Smidth at Hazen on the following five process streams from the Strange Lake B Zone testwork:

- Wet ore ground to P_{80} of 40 µm.
- Water-leached residue from the acid bake tests.
- Neutralized residue.
- Precipitate from synthetically-generated SX raffinate.
- Combination of neutralized residue and synthetically-generated SX raffinate to simulate tailings residue.

Rheology tests were completed on the underflow from the thickening tests at the FL Smidth laboratory at Midvale, Utah.

A High Rate Thickener was recommended for the ground ore material as the first stage of solid-liquid separation from which the underflow could be further dewatered in Bokela Hi-bar pressure steam filters to less than 10% moisture. Pressure filters with cake wash were selected for the leach residue as they showed lower moisture content compared with horizontal belt filters.

13.2.5 Ortech, 2011 -2013

Pregnant leach solution (PLS) generated at Ortech and Hazen using the acid bake water leach (ABWL) process was used for the development of a hydrometallurgical process for recovery of zirconium, niobium, REE and yttrium, and the removal of uranium and thorium. The hydrometallurgical flowsheet for Quest's 2013 PFS was selected using the results from metallurgical testwork completed during 2012 and 2013 at Ortech's test laboratory in Mississauga, Ontario, under the supervision of Quest.

13.2.6 SGS-L (2013-2014)

Testwork completed at SGS-L from December 2013 to March 2014 identified an improved and simplified metallurgical flowsheet that focused only on the recovery of rare earth elements and, compared to the prefeasibility study, reduced the number of processing steps required. The results from this work were used as the basis for the 2014 PEA process design.

13.2.6.1 Flotation

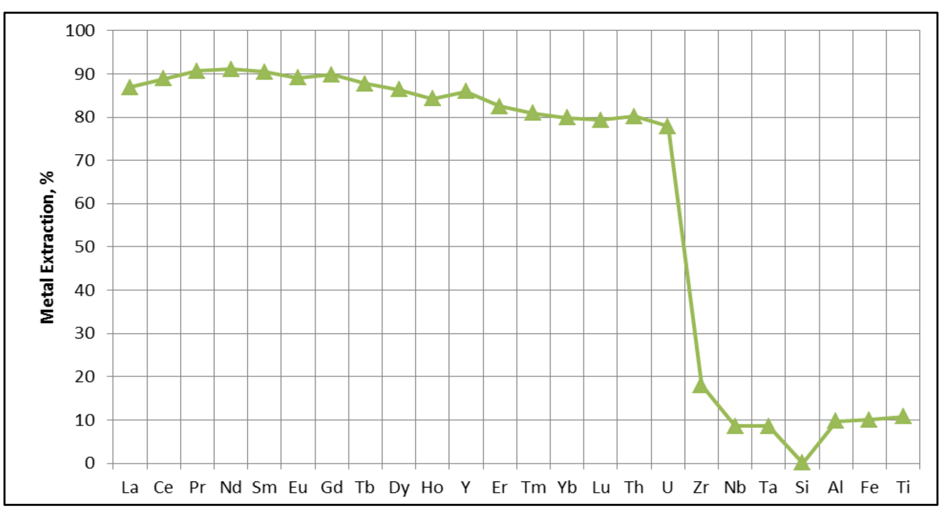
Recent flotation testwork completed at SGS-L confirmed the result of the initial scoping tests done at RPC in 2012. A reagent scheme and simple rougher flotation circuit have been identified to show reasonable mass reduction while achieving good REE and yttrium recovery.

Twenty scoping flotation tests were conducted to confirm the result from the 2012 RPC test program. The scoping tests were completed using 2 kg aliquots of the P2 composite sample to establish the process conditions and to test alternative reagent schemes. The 2 kg batch test using KBX-3 as the main collector was then scaled up to 10 kg batches. Twenty additional batch tests were completed using 10 kg samples to confirm the initial 2 kg batch tests. These tests indicated that about 96% of the TREE+ yttrium can be recovered in a concentrate containing 60% of the mass in four rougher flotation stages with desliming the flotation feed at a particle size of 80% passing (P_{80}) 10 µm.

13.2.6.2 Acid Bake and Water Leach (ABWL)

Recent acid bake and water leach (ABWL) testwork completed on flotation concentrate generated from the SGS-L flotation test program discussed above suggested that the thermal sulphation process for converting the REE and yttrium in the ore acid mixture to water soluble sulphates can be managed such that limited impurity metals such as iron, aluminium and others are dissolved during subsequent water leaching. This process produced a PLS with low levels of impurity metals and free acid that would feed the direct precipitation process. Metal recoveries achieved during the acid bake and water leach testwork are presented in Figure 13.2. The rare earth elements can be recovered from the PLS by using a simple precipitation method.

Figure 13.2
Metal Recoveries to Solution for SGS-L ABWL Test 25.2
(Provided by Quest, March 2014)



13.2.6.3 Solution Treatment

PLS solution generated by the ABWL processing of P2 flotation concentrate at SGS-L was used for the solution treatment flowsheet development tests.

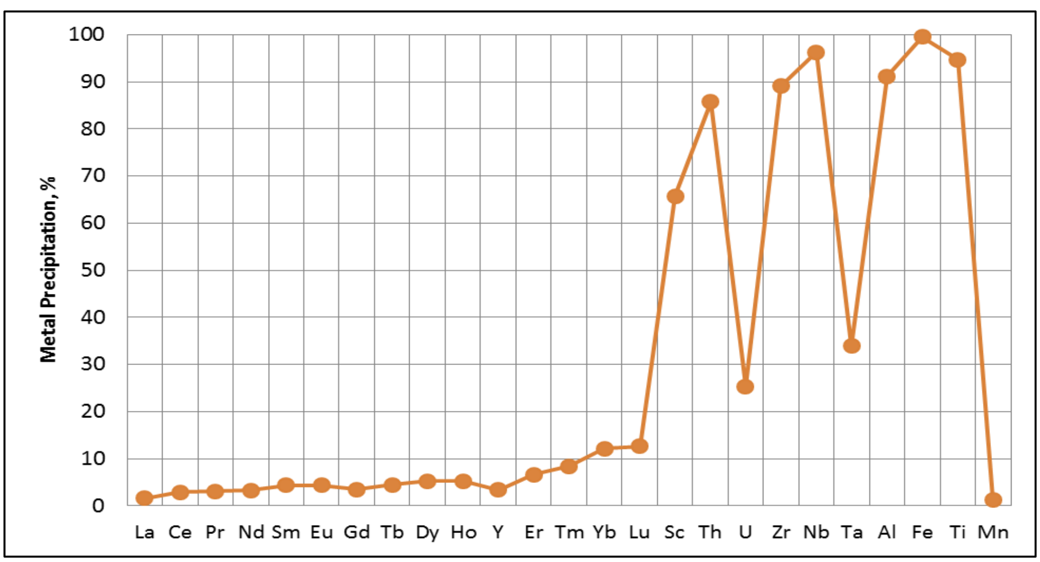
ABWL optimization testing, described above, resulted in production of relatively clean PLS containing low levels of iron, aluminum, titanium, zirconium, and niobium, and very low free acid (pH = 2). Batch tests at SGS-L demonstrated that this PLS solution was amenable to a simplified solution treatment process, consisting of an impurity removal (IR) step to precipitate the bulk of residual impurities (primarily iron, aluminum, thorium, titanium, zirconium, and niobium) and a crude concentrate precipitation step to recover rare earth values from solution.

The additional process steps that are envisioned in production of a mixed oxide separation plant feed (rare earth hydroxide re-dissolution, oxalic acid precipitation, and calcining) are well known and are planned to be tested during a subsequent program of testwork.

13.2.6.4 Impurity Removal (IR)

In impurity removal testing at SGS-L, the pH of a number of composite PLS solution test samples was adjusted using a variety of neutralizing agents, including $CaCO_3$ and MgO. The procedure involved the addition of the reagent slurry into an agitated reactor to achieve the target pH, followed by filtration and washing to remove the precipitate containing impurities. MgO was selected for the pH adjustment reagent based on the excellent selectivity it demonstrated in removing impurities with minimal rare earth losses to the precipitate. A sample impurity removal test result is presented in Figure 13.3.

Figure 13.3
Impurity removal precipitation extents in SGS-L IR test P6
(Provided by Quest, March 2014)



13.2.6.5 Crude Concentrate Precipitation

Filtrates from the impurity removal tests underwent further testing to produce crude rare earth concentrates which, in the PEA flowsheet, are planned to be re-leached before being re-precipitated with oxalic acid and calcined to a mixed rare earth oxide. Testwork demonstrated nearly complete recovery of the rare earths from the impurity removal filtrates (over 99%) to the crude concentrate.

13.2.7 Recent Testwork at SGS-L (2015)

13.2.7.1 Flotation

The scoping level beneficiation development and concentrate production program previously completed by SGS-L from November, 2013 to May, 2014 successfully achieved the metallurgical target of recovering ~95% Y_2O_3 in ~55% mass and generated a total of 265 kg of flotation concentrates for hydrometallurgical testwork.

The objectives of the 2015 flotation flowsheet development study were to:

i) Optimize the ‘KBX’ reagent scheme.
ii) Develop an alternative reagent scheme based on the benzoylhydroxamic acid collector.
iii) Achieve target REE metallurgical recoveries of ~80% in ~20% mass.
iv) Generate ~60 kg of concentrates for hydrometallurgical testing.

Three samples, P2, Medium Grade Outside (MGO), and Enriched Zone Outside (EZO) were composited for testing. The majority of testing was completed on the P2 and MGO composites.

The head grades of the prepared composite samples in terms of TREE, valuable elements, and major gangue elements are summarized in Table 13.1.

Table 13.1
Head Analysis of Composite Samples Used For the 2015 SGS-L Testwork Program

Elements/Compounds	Composite Sample Name.		
	P2 Composite	Medium Grade Outside Composite	Enriched Zone Outside Composite
TREE - %	0.88	0.82	1.20
Nb_2O_5 - %	0.25	0.19	0.40
ZrO_2 - %	2.19	2.13	2.34
SiO_2 - %	69.60	70.60	69.30
Al_2O_3 - %	7.97	8.21	7.33
Fe_2O_3 - %	5.94	6.23	5.75

Flotation feed was generated either by batch stage-grinding (10 kg) or by a continuous milling campaign. The feed particle size for the P2 and MGO composites were 80% passing 46-49 µm and 40-45 µm, respectively.

Two flotation reagent schemes were developed based on the two main collectors, Florrea 7510 and KBX (1682). A series of batch, rougher and cleaner flotation tests were conducted using these two selected suites of reagents. The development testwork on the 7510 reagent scheme used mainly the P2 composite, while the MGO composite was used in the KBX (1682) testwork.

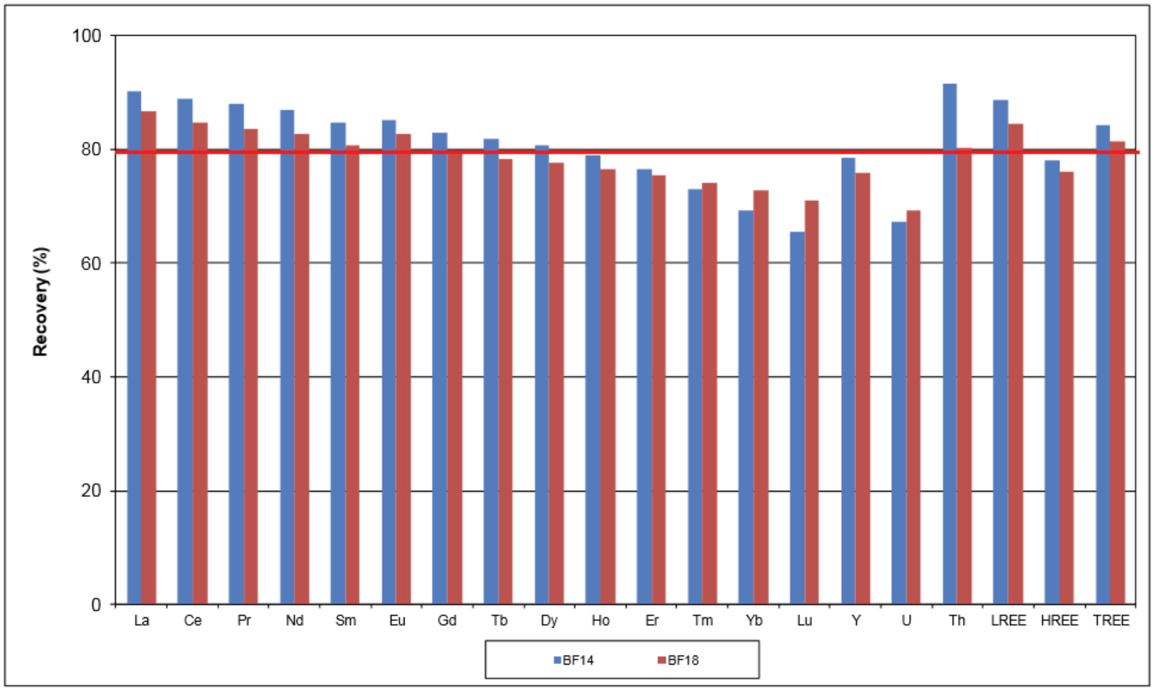
The results shown in Table 13.2 show TREE recoveries of 84% and 81% for the 7510 and KBX (1682) reagent schemes, respectively, with mass recoveries of around 20%. The results are comparable despite using different feed samples as the head grades and mineral compositions of the two composites are similar.

Table 13.2
Selected Metallurgical Results from the 2015 SGS-L Flotation Testwork Program

Test. No.	Collector	Product	Mass	Analyses				Distribution			
				ZrO_2	Ce_2O_3	Y_2O_3	TREE	ZrO_2	Ce_2O_3	Y_2O_3	TREE
			%	%	%	%	%	%	%	%	%
BF 14	7510	Cleaner con.	19.5	5.00	1.33	1.17	3.75	47.0	90.1	78.8	84.3
		Tailings	80.5	1.37	0.04	0.08	0.17	53.0	9.9	21.2	15.7
		Head (calc.)	100.0	2.08	0.29	0.29	0.87	100.0	100.0	100.0	100.0
BF 18	KBX (1682)	Cleaner con.	20.6	6.29	1.22	1.22	3.25	65.2	84.1	76.6	81.4
		Tailings	79.4	0.76	0.05	0.06	0.19	34.8	15.9	23.4	18.6
		Head (calc.)	100.0	1.99	0.30	0.24	0.82	100.0	100.0	100.0	100.0

Metallurgical balances for all of the rare earth elements revealed that the individual elements did not follow the proxies used (cerium and yttrium). As shown in Figure 13.4, the individual element recoveries into the cleaner concentrate with a 20% mass pull varied between the two reagent schemes. The results suggest that the KBX (1682) reagent scheme achieved higher recoveries for some of the heavy rare earth elements such as Yb and Lu.

Figure 13.4
Individual REE Recovery Profiles for the Batch Flotation Tests



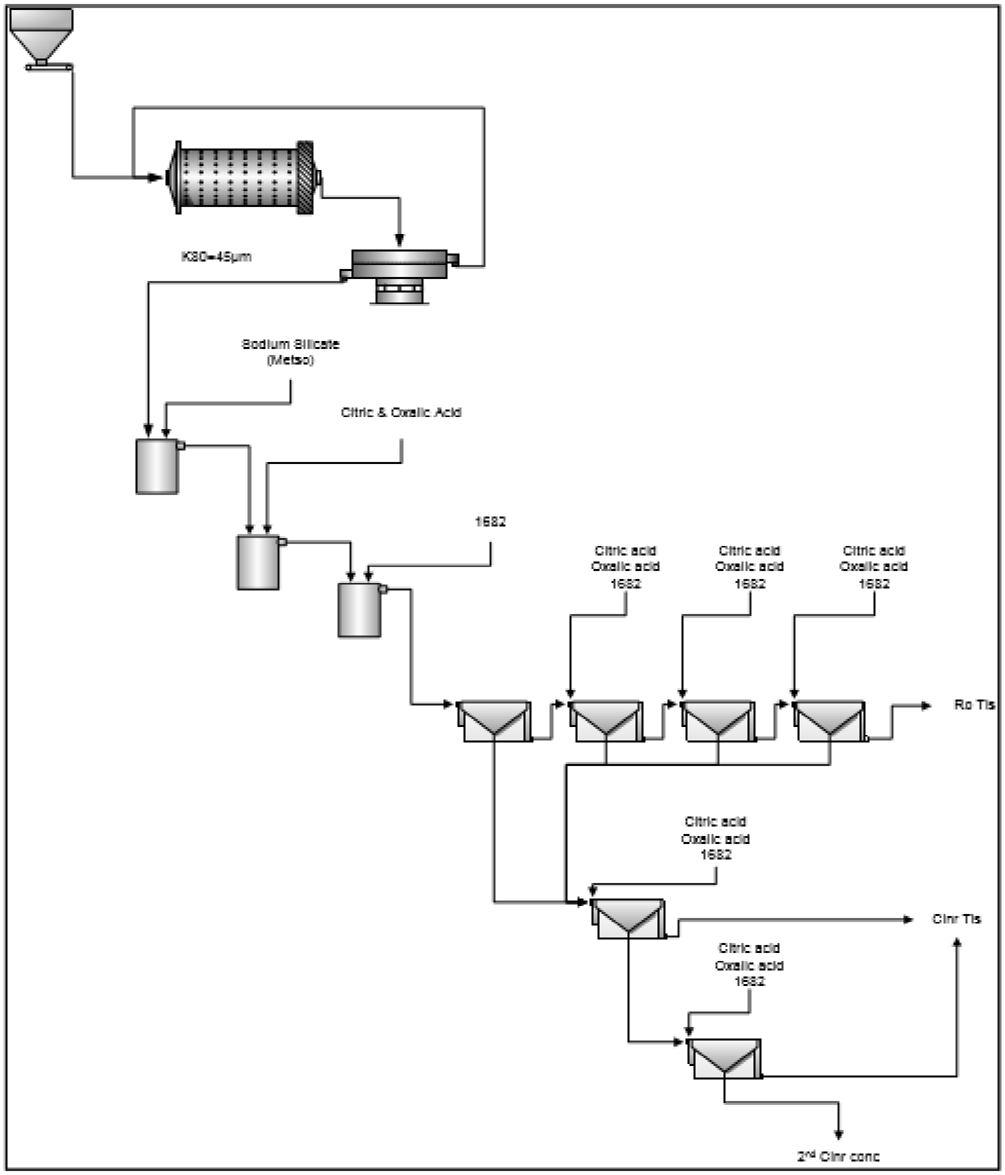
Source SGS-L Report (October, 2015)

The KBX (1682) reagent scheme is recommended for the following reasons:

i) Reagents are readily available in North America.
ii) KBX (1682) dosage is significantly lower than 7510.
iii) Flotation is carried out at room temperature.
iv) Relatively shorter retention times are required.
v) Comparatively higher recoveries for some of the heavy rare earth elements, such as Yb and Lu.

The recommended flotation flowsheet is shown in. Figure 13.5.

Figure 13.5
Recommended Flotation Flowsheet using KBX (1682)



Source SGS-L Report (2015a)

Rougher and cleaner products from both the 7510 and the KBX (1682) flotation tests were submitted for semi-quantitative mineralogy using XRD, SEM and QEMSCAN. The calculated modal distributions from the mineral balances between the P2 and MGO composites were similar. The major REE bearing minerals and gangue minerals for the two composite concentrates are listed in Table 13.3.

Table 13.3
Mineral Modal Distribution of Flotation Concentrates

Mineral	Composite	
	P2	Medium Grade Outside
Y-(REE)-Ca-Si - %	2.32	2.60
REE-(Y)-Ca-Si - %	0.17	0.17
Gittingsite - %	1.53	1.00
REE silicates-carbonates - %	0.04	0.02
Monazite -%	0.15	0.13
Allanite - %	0.50	0.61
Zircon - %	2.21	2.40
Quartz - %	30.2	28.0
K-feldspar - %	31.6	30.4
Albite - %	14.9	17.0
Aegirine/arfvedsonite	11.1	12.5

At a flotation feed size of 80% passing 49µm and 45µm for the P2 and MGO composites, respectively, liberation was generally poor for all REE carrying minerals (less than 60%) in all products, while gangue minerals such as quartz, feldspar, and amphibole were well liberated (80-98%). It was observed that liberation decreases in later rougher stages. The less liberated materials may be rejected or hinder upgrading during cleaning.

A total of 76 kg of flotation concentrate was generated during the batch flotation test program for hydrometallurgical testing. Mass and grades of the composites are shown in Table 13.4.

Table 13.4
Summary of Flotation Concentrate Generated for Hydrometallurgical Tests

Concentrate	Mass (kg)	Analyses (calc.) - %		
		ZrO_2	Ce_2O_3	Y_2O_3
Conc 1	1.51	4.35	0.98	0.84
Conc 2	3.58	3.54	0.95	0.65
Conc 3	4.71	4.23	1.23	1.05
Conc 4	59.07	5.58	1.26	1
Conc 5	6.87	4.82	1.82	1.57
Total	75.74	5.31	1.29	1.04

13.2.7.2 Bench Scale Sulphation Testing of REE From Concentrate Samples

The primary goal of the sulphation bench scale testwork program was to develop a method that achieves high rare earth element (REE) extractions from flotation concentrate while also maintaining a high degree of operability in commercial processing equipment.

Maximum extractions of 91% HREE and 96% LREE were achieved by single stage low temperature (LT) baking and water leaching (WL) using the bulk Conc 4 sample. The sulphuric acid dosage was 1,500 kg/t on a concentrate weight basis and the bake conditions were 75 minutes at 300°C (Test AB95). The Conc 4 sample had a TREE grade of 3.55%.

The mixture of concentrate and concentrated sulphuric acid (96% H_2SO_4) was a slurry/paste consistency which was not amenable to processing in conventional thermal processing equipment such as a rotary kiln. Bench scale testing of a multi stage LT bake method achieved good REE extractions while maintaining a solid, dry consistency that was amenable to processing in a rotary kiln. A two stage LT bake achieved extractions of 83% HREE and 96% LREE while maintaining desired physical properties. Test conditions comprised 1,152 kg/t combined acid dosage and 30 minutes LT bakes at 280°C and 300°C (Test AB92). A comparable single stage 75 minute LT bake at 300°C achieved the same HREE and LREE extractions from this sample but the acid/sample consistency was the undesirable slurry/paste type.

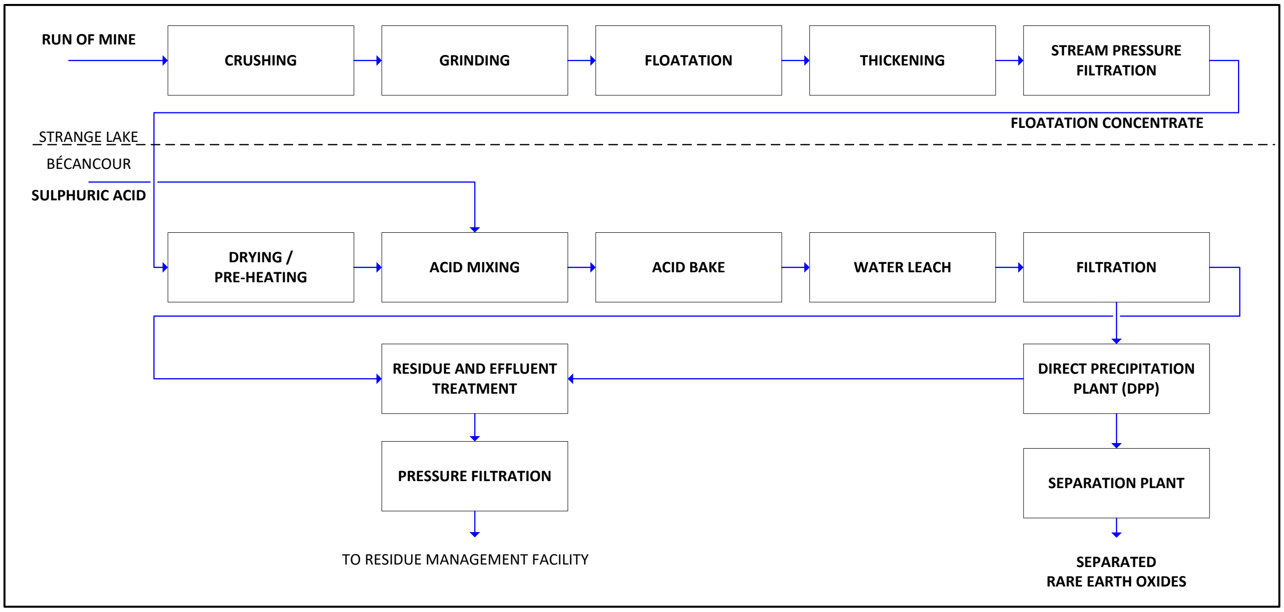
13.3 PROCESS FLOWSHEET SELECTION

The process selected for the forthcoming PEA is based on the recent metallurgical development testwork completed at SGS-L. It comprises crushing and grinding, flotation, and acid thermal processing (acid bake) and water leach to extract the payable metals into solution. The PLS will be partially neutralized with MgO to precipitate low levels of residual impurities, before further neutralization to produce a crude rare earth concentrate. The crude concentrate will be re-leached and the rare earths re-precipitated and finally calcined to produce a mixed rare earth oxide feed to rare earth separation.

In the separation plant, the mixed rare earth oxide will be digested and the solution fed to a series of solvent extraction batteries. The organic will be stripped and the rare earths precipitated. A portion of the stripped organic will undergo regeneration before being recycled back to the extraction batteries. The purified rare earth solids produced in the separation plant will be calcined to produce the final separated rare earth oxide products.

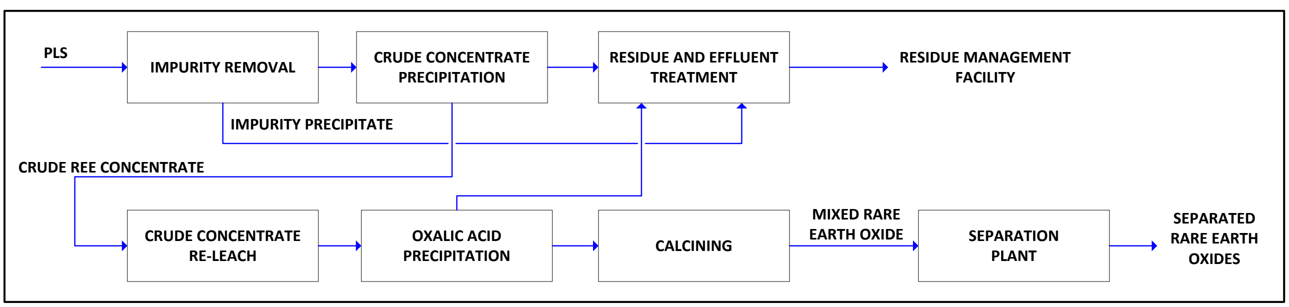
Simplified process block diagrams are presented in Figure 13.6 and Figure 13.7.

Figure 13.6
Simplified Process Block Flow Diagram



Provided by QUEST, March, 2014.

Figure 13.7
Simplified Hydrometallurgical Process Block Flow Diagram



Provided by QUEST, March, 2014.

13.4 PLANNED PILOT PLANT TESTWORK

Quest tested acid baking and water leaching on a whole ore sample at the mini-pilot plant scale at Ortech in 2013. Further work was undertaken on flotation and acid bake on a laboratory bench scale and mini plant scale in 2014 and 2015 at SGS-L. REE+ yttrium concentrate production from PLS has also been completed at laboratory bench scale. Three further stages of pilot plant testwork are planned to confirm laboratory bench-scale test results from the recent SGS-L program. These are:

- Hydrometallurgical testwork of REE +Y production at mini plant scale.
- Flotation pilot plant.
- Large scale pilot/demonstration unit of the sulphation process and PLS processing.

13.4.1 Flotation Pilot Plant

A flotation pilot plant program commenced in September, 2016, at COREM in Québec City and will continue until the second quarter 2017, with a target total throughput of 100 t of mineralized material, producing about 20 t of concentrate.

13.4.2 Large Scale Pilot/Demonstration Unit

Quest plans to test all flowsheet process steps, up to the production of a mixed REO concentrate, on a continuous basis.

The large-scale pilot/demonstration unit at Outotec GmbH in Frankfurt will be utilized at the full feasibility stage of the project. It is planned to process the flotation concentrate produced at COREM. Quest plans to process the calcine at Outotec's Pori facility and at COREM in Québec City.

14.0 MINERAL RESOURCE ESTIMATE

This Technical Report includes an updated review of the mineral resource estimate that was originally disclosed in the Micon Technical Report by Lewis et al., 2012. The 2017 review was conducted in light of the changes to the REE commodity prices and CIM definitions since the previous Technical Report was issued.

14.1 GENERAL

Micon has updated the estimated mineral resources for the B Zone deposit within the Strange Lake Property. The other occurrences within the Strange Lake Property are at an early exploration stage and have insufficient data to conduct resource estimations on them at this time. The B Zone mineral resource estimate was reviewed and updated in part to be in compliance with the 2014 CIM standards and definitions for the estimation of mineral resources and reserves. Surpac mining software was used for the mineral resource modelling.

This section of the report includes technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

14.2 DATA USED FOR THE MINERAL RESOURCE ESTIMATE

All of the digital data used in the mineral resource estimate have been supplied by Quest. The effective date of the previous mineral resource estimate was August 31, 2012. Due to changes in the commodity prices and the CIM definitions (in 2014), the 2012 resource statement was reviewed to ensure that it remained current. As a result of the 2017 review, the cut-off grade (COG) changed from 0.5 REO to 0.6 REO. The change to the cut-off grade has resulted in only a minor change to the mineral resource estimate which is not material to the Project. The effective date of the updated mineral resource estimate is February 15, 2017.The mineral resource estimate utilized assay data from 256 diamond drill holes completed by Quest between 2009 and 2011. The total drilled length is 37,434 m and the sample database contains sample assay information for 22,565 samples. The primary assay fields which were used in the resource modelling are presented in Table 14.1. The drill hole database was provided in GEMS format and was converted to an MS Access database for use in Surpac software. Assay values in the database below detection limit were assigned a value of half the detection limit to provide a valid number for resource modelling. A lithology table was provided with codes for each of the major rock types in the deposit, primarily pegmatite and subsolvus granite.

Quest conducted further exploration drilling in 2012 but this drilling did not impact or add any further information the database originally used for the 2012 mineral resource estimate for the B-Zone. Therefore, the effective date of the database remains August, 2012.

Table 14.1
Assay Fields Used in the Resource Modelling

LREO, %	Lanthanum (La_2O_3), Cerium (CeO_2), Praseodymium (Pr_6O_{11}), Neodymium (Nd_2O_3), Samarium (Sm_2O_3)
HREO + Yttrium, %	Europium (Eu_2O_3), Gadolinium (Gd_2O_3), Terbium (Tb_4O_7), Dysprosium (Dy_2O_3), Holmium (Ho_2O_3), Erbium (Er_2O_3), Thulium (Tm_2O_3), Ytterbium (Yb_2O_3), Lutetium (Lu_2O_3), Yttrium (Y_2O_3)
Additional oxides, %	Niobium (Nb_2O_5), Hafnium (HfO_2), Zirconium (ZrO_2)
Other elements, ppm	Beryllium (Be), Uranium (U), Thorium (Th)

An NSR value using estimates of metal prices and recoveries provided by Quest was added to the sample assay database. The parameters used for the 2017 NSR calculation are presented in Table 14.2.

Table 14.2
Parameters for 2017 NSR Calculation

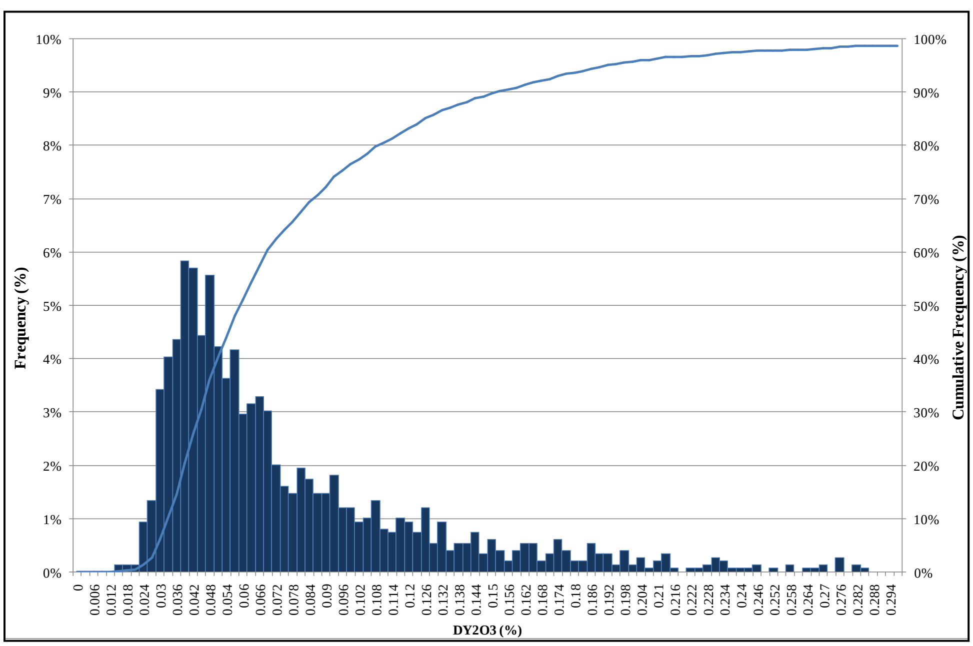
Elements	US$/kg	Recovery (%)	US$/%/t
Zirconia (ZrO_2)	7.00		0.00
Dysprosium (Dy_2O_3)	500.00	56	280.00
Niobium (Nb_2O_5)	0.00		0.00
Neodymium (Nd_2O_3)	80.00	67	53.60
Terbium (Tb_4O_7)	650.00	61	396.50
Yttrium (Y_2O_3)	10.00	53	5.30
Erbium (Er_2O_3)	70.00	51	35.70
Thulium (Tm_2O_3)	300.00	47	141.00
Ytterbium (Yb_2O_3)	50.00	45	22.50
Lutetium (Lu_2O_3)	1,100.00	43	473.00
Praseodymium (Pr_6O_{11})	85.00	68	57.80
Gadolinium (Gd_2O_3)	40.00	63	25.20
Holmium (Ho_2O_3)	55.00	53	29.15
Europium (Eu_2O_3)	550.00	64	352.00
Lanthanum (La_2O_3)	4.00	68	2.72
Cerium (CeO_2)	3.00	69	2.07
Samarium (Sm_2O_3)	4.00	63	2.52

A cross-sectional interpretation of the pegmatite lithology was provided to Micon by Quest. The the pegmatite in the deposit consists of many narrow lenses which are interlayered with subsolvus granites and vary widely in shape and continuity from section to section across the deposit. Analysis of the pegmatite intercepts in the cross-sectional interpretation shows that around 40% of the intercepts are less than 2 m thick but there is a cluster of individual lenses forming a pegmatite spine down the centre of the deposit on a bearing of around 030°. This spine is consistent across the entire drilled strike length of the deposit. Across strike, the pegmatite forms a dome shape with narrow flanks dipping around 10°.

14.3 DATA ANALYSIS

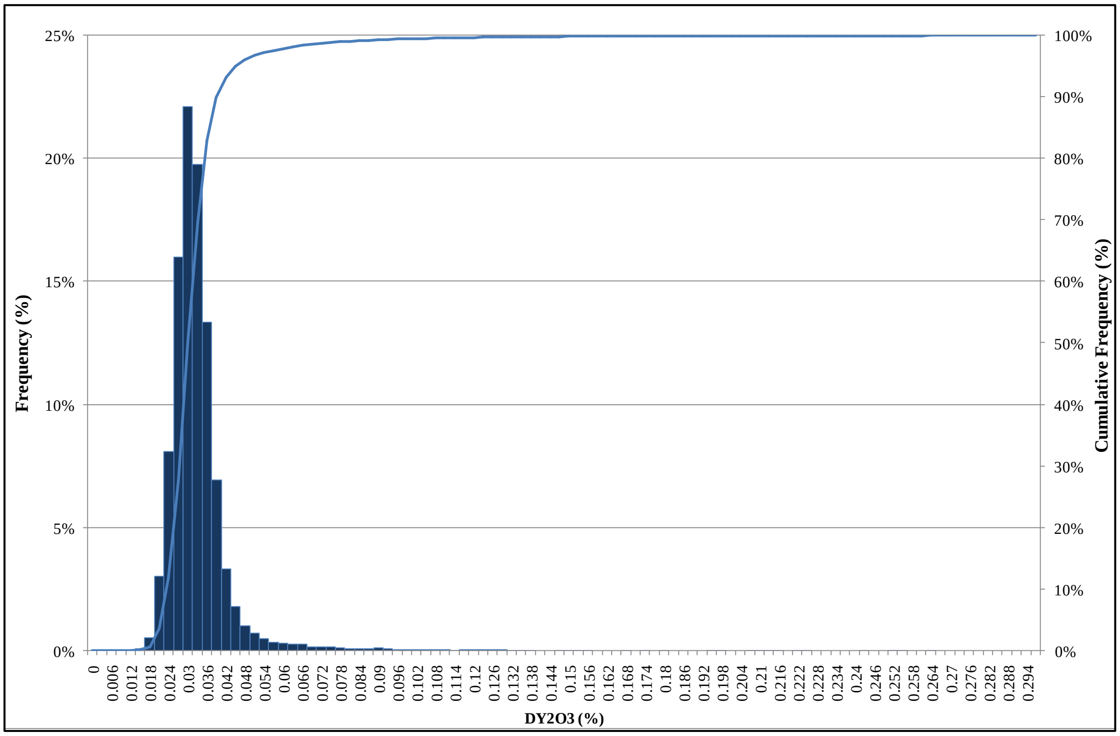
Both the pegmatite and subsolvus granite lithologies are mineralized but they have different statistical properties. The mineralization in the pegmatite has the highest grade forming as a log-normal distribution with a positive skew. The coefficient of variation is lowest in Zr and Hf oxides at 0.35, and varies between 0.61 and 0.68 in the LREO and 0.48 and 0.76 in the HREO. The mineralization in the subsolvus granite forms as a normal distribution with little skew. The mean, standard deviation, variance and coefficient of variance are all lower in the subsolvus granite than in the pegmatite. The coefficient of variation is 0.28 in the LREO, 0.3 to 0.5 in the HREO and lowest in Zr and Hf oxides at 0.25. Histograms and cumulative frequency plots comparing Dy2O3 data in the pegmatite and granite are presented in Figure 14.1 and Figure 14.2. Dysprosium was selected to illustrate the cumulative frequency plots and other analyses in this section because it was the element with the highest calculated in-situ value. The descriptive statistical properties of the pegmatite and granite are presented in Table 14.3.

Figure 14.1
Histogram and Cumulative Frequency of Pegmatite



Correlation coefficients calculated between the different oxides shows that the REOs correlate most closely with one another but do not correlate with the other oxides of Zr and Hf. Generally, the LREOs correlate most closely with other LREOs and, likewise, for the HREOs. The correlation coefficients are linked to the atomic weights of the elements, with reduced correlation between elements further apart on the periodic table.

Figure 14.2
Histogram and Cumulative Frequency of Subsolvus Granite



Analysis of the grade distributions shows that the average grade in the REOs increases slightly towards the northeast of the deposit, particularly for the HREOs. Grade distribution in the granites is fairly uniform although there is a distinct drop off in grade below the 300-m elevation in all of the oxides.

14.3.1 Specific Gravity

Quest conducted specific gravity (SG) readings on 631 samples from the B Zone using the immersion method at the Sudbury offices of Vale, and performed per the Vale protocol. The samples were grouped into 141 pegmatite samples and 490 granite samples. The results suggested a specific gravity of 2.74 g/cm^3 for pegmatites and 2.72 g/cm^3 for granites and country rock.

Before testing for SG data, a complete calibration of the weight scale was undertaken in accordance to the Vale procedure. This included internal and external calibration tests using different calibration masses on the weight scale.

As part of a second QA/QC control, approximately 10% of the samples were forwarded to an external laboratory for comparative SG measurements.

Table 14.3
Basic Statistical Parameters for Pegmatite and Subsolvus Granite Domains

	TREO	LREO	HREO +Y	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	Nb_2O_5	HfO_2	ZrO_2
Subsolvus Granite Domain																					
Number	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886	15,886
Min	0.028	0.015	0.013	0.003	0.008	0.001	0.003	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.008	0.003	0.001	0.054
Max	9.531	8.671	4.118	1.681	4.244	0.508	1.922	0.317	0.079	0.245	0.061	0.43	0.087	0.254	0.036	0.196	0.029	2.771	2.013	0.147	6.131
Mean	0.9	0.564	0.336	0.125	0.276	0.03	0.108	0.024	0.001	0.023	0.005	0.032	0.007	0.022	0.003	0.022	0.003	0.217	0.165	0.045	1.865
Median	0.87	0.554	0.315	0.124	0.271	0.03	0.106	0.024	0.001	0.022	0.005	0.03	0.007	0.02	0.003	0.02	0.003	0.203	0.155	0.043	1.783
StdDev	0.242	0.157	0.131	0.035	0.077	0.009	0.032	0.007	0.001	0.007	0.002	0.013	0.003	0.009	0.001	0.009	0.001	0.088	0.066	0.011	0.464
Variance	0.058	0.025	0.017	0.001	0.006	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.008	0.004	<0.001	0.215
COV	0.268	0.278	0.391	0.275	0.28	0.286	0.293	0.287	0.539	0.305	0.362	0.396	0.414	0.423	0.429	0.426	0.429	0.405	0.396	0.243	0.249
Pegmatite Domain																					
Number	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489	1,489
Min	0.39	0.163	0.185	0.024	0.075	0.009	0.031	0.006	<0.001	0.006	0.002	0.014	0.004	0.011	0.002	0.01	0.001	0.115	0.047	0.003	0.13
Max	8.319	5.014	4.191	0.862	2.508	0.315	1.102	0.233	0.013	0.236	0.059	0.42	0.101	0.314	0.046	0.228	0.029	2.854	3.257	0.23	9.594
Mean	1.661	0.804	0.857	0.166	0.401	0.044	0.152	0.041	0.003	0.045	0.011	0.079	0.018	0.059	0.01	0.062	0.009	0.562	0.383	0.068	3.025
Median	1.363	0.659	0.671	0.139	0.325	0.035	0.122	0.033	0.002	0.035	0.008	0.059	0.014	0.048	0.008	0.056	0.009	0.433	0.323	0.066	2.968
StdDev	0.941	0.51	0.567	0.098	0.257	0.03	0.103	0.027	0.002	0.03	0.008	0.056	0.013	0.038	0.006	0.031	0.004	0.387	0.245	0.025	1.077
Variance	0.885	0.26	0.321	0.01	0.066	0.001	0.011	0.001	<0.001	0.001	<0.001	0.003	<0.001	0.001	<0.001	0.001	<0.001	0.15	0.06	0.001	1.159
COV	0.566	0.634	0.661	0.593	0.642	0.678	0.679	0.655	0.668	0.676	0.717	0.719	0.694	0.645	0.578	0.505	0.457	0.688	0.64	0.366	0.356

14.4 GEOLOGICAL INTERPRETATION

The different statistical properties in the pegmatite and subsolvus granite suggest that it is ideal to consider them separately in resource modelling. However, the shape and distribution of individual pegmatite lenses is too variable between sections for them to be connected up effectively to form a solid wireframe model. Therefore, Micon has focused on modelling the wider pegmatite spine and dome structure, allowing some mixing between the interlayered lithologies in order to maintain continuity of the domain along strike and allow construction of a wireframe solid. As it is primarily comprised of pegmatite and contains the highest-grade mineralization in the deposit, this domain was termed the Enriched Zone.

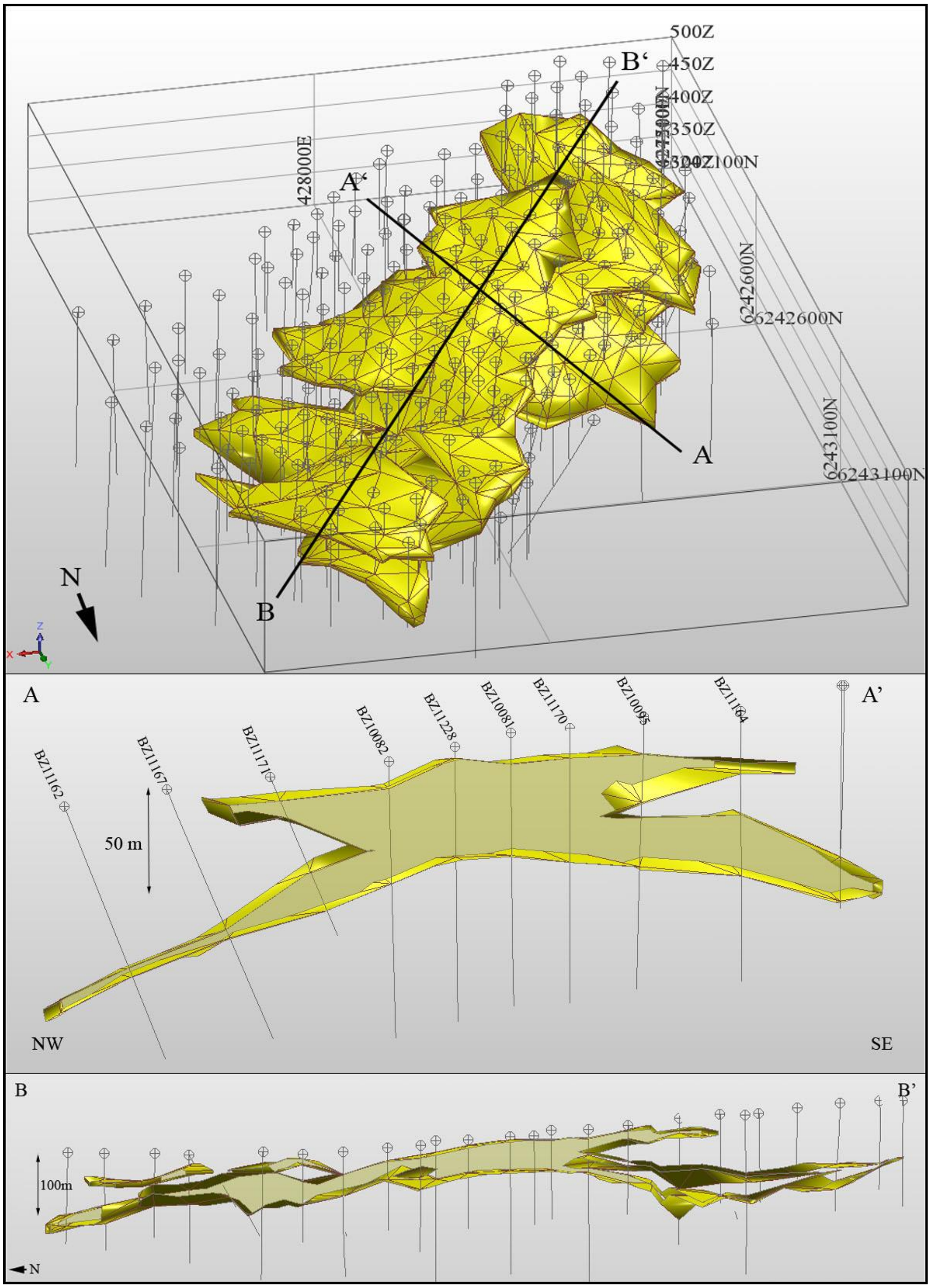
High grade intervals of at least 5 m in thickness were identified in the drill hole database using a combination of the pegmatite lithology indicators and NSR value. The maximum acceptable internal dilution was 3 m of low grade mineralization, provided that the total composite grade remained above the cut-off. Various NSR cut-offs were applied and the descriptive statistical properties of the resultant high grade intervals were compared to the properties from the raw pegmatites, to ensure that a representative population was being selected for modelling. An NSR cut-off of Cdn$725 was ultimately used as it formed intervals which could be connected between sections and maintained the descriptive statistical properties of the pegmatite.

This process of modelling the Enriched Zone intervals in the database introduced around 40% more samples compared to the pegmatite lithology, with a net reduction in the average grade across the elements of 15%. The standard deviation and coefficient of variation of the sample data selected was also reduced slightly compared to the pegmatite lithology samples. Cumulative frequency statistics showed a log-normal population with a strong positive skew.

To make the domain model, each interval was connected on section and the envelope was extruded 50 m beyond the outermost holes in the zone. The envelopes were then joined between the sections to create a closed wireframe solid model. The resultant model is roughly 1,200 m long, consistent over the entire strike length of the deposit, and up to 500 m wide. Structurally, the domain follows the dome shape with the pegmatite spine down the centre of the deposit on a bearing of 030°. There are areas where the model bifurcates into separate upper and lower lenses but these are connected to form a single model. The domain obtains a maximum thickness of 56 m in hole BZ10040 but, on average, the thickness is 14 m. The domain is open to the northeast but limited to the south and east by low grade boreholes. The northern end extends below the lake. A long section and three-dimensional view of the modelled domain is presented in Figure 14.3.

The subsolvus granite domain includes all remaining drilled mineralization outside the Enriched Zone domain model. This domain contains some high-grade samples from some narrow and isolated pegmatite intercepts which were rejected from the Enriched Zone. As the clear majority of samples are subsolvus granite, the main statistical properties of the population are not affected. It is expected that these high grades will influence the local estimates during resource modelling and therefore, they have been capped. The mineralization remains open in all directions from the drilled area so the subsolvus granite domain does not need to be constrained by a wireframe model.

Figure 14.3
Enriched Zone Wireframe Domain Model



14.5 STATISTICAL ANALYSIS

The sample data within the domain models were flagged in the assay database and the descriptive statistics and cumulative frequency distributions of the sample populations were examined.

14.5.1 Grade Capping

Grade capping was applied to the assays to remove any outlier values which could exert an undue influence during block grade interpolation. In the Enriched Zone, the methodology employed for establishing the outlier limit was to sort the sample populations from smallest to largest and cap to the value where there is a large increment in grade as the population breaks apart. Fewer than 100 samples were capped as the sample populations contain very few outlier grades. This is supported by the low coefficient of variation shown by the pegmatite sample population.

In the granites, the outlier limit was set at the 99th percentile value. This set a lower capping value than in the Enriched Zone so that the isolated high grade pegmatite samples within the domain do not result in local grade overestimation or grade smearing. Typically, up to 250 samples were capped using this method.

14.5.2 Compositing

The length of samples in the assay database is variable with a minimum of 0.03 m up to a maximum of 4.0 m. However, the average sample length is 1.59 m so it was decided to composite all samples to 2 m for resource modelling. The composites were constructed using a best-fit algorithm that allowed the composite length to be varied within a given tolerance of 25% in order to minimize the loss of data but maintain a consistent composite length. The descriptive statistical parameters for the composited data in the Enriched Zone are presented in Table 14.3. The effect of the grade capping and compositing was a small reduction in the average grades. The coefficient of variation remains low, which will assist in allowing an unbiased estimate of the mean grade within the resource estimation.

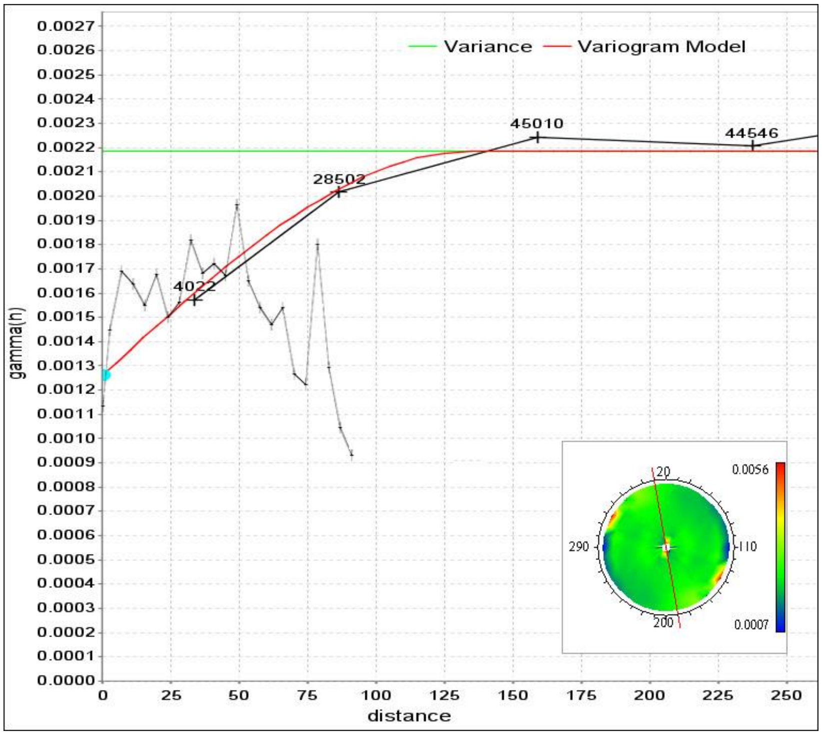
14.5.3 Variography

Experimental semi-variograms were evaluated for all oxide fields using the composite data from the Enriched Zone domain. In order to determine the direction of maximum grade correlation, a total of 36 directional semi-variograms were formed on a plane plunging at 8° towards a bearing of 020°, with an angular tolerance of 20°. A lag range from 30 m to 70 m was used to account for the variation in data spacing in the different directions. The semi-variogram model for Dy_2O_3 is presented in Figure 14.4.

Table 14.4
Basic Statistical Parameters for the Enriched Zone Domain

	TREO	LREO	HREO +Y	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	Nb_2O_5	HfO_2	ZrO_2
Enriched Zone Domain (uncut)																					
Number	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076
Min	0.496	0.12	0.087	0.022	0.063	0.006	0.02	0.006	<0.001	0.008	0.002	0.008	0.002	0.004	0.001	0.003	<0.001	0.05	0.052	0.001	0.065
Max	8.336	5.09	3.808	1.114	2.548	0.319	1.116	0.234	0.013	0.221	0.054	0.368	0.09	0.3	0.044	0.235	0.03	2.557	2.995	0.219	9.304
Mean	1.452	0.733	0.719	0.154	0.364	0.04	0.138	0.037	0.002	0.039	0.009	0.067	0.015	0.049	0.008	0.051	0.007	0.471	0.349	0.06	2.631
Skew	2.576	3.788	2.596	3.717	3.854	3.998	3.859	2.929	2.696	2.673	2.721	2.743	2.725	2.6	2.379	1.896	1.426	2.63	4.269	1.013	0.972
StdDev	0.824	0.444	0.5	0.087	0.224	0.026	0.09	0.023	0.001	0.026	0.007	0.049	0.011	0.034	0.005	0.029	0.004	0.341	0.216	0.023	1
Variance	0.679	0.198	0.25	0.008	0.05	0.001	0.008	0.001	<0.001	0.001	<0.001	0.002	<0.001	0.001	<0.001	0.001	<0.001	0.116	0.047	0.001	1.001
COV	0.568	0.606	0.696	0.567	0.615	0.645	0.647	0.633	0.653	0.663	0.72	0.733	0.725	0.688	0.635	0.573	0.538	0.724	0.619	0.377	0.38
Enriched Zone Domain (CUT)																					
Number	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076	2,076
Min	0.496	0.119	0.087	0.022	0.063	0.006	0.02	0.006	<0.001	0.008	0.002	0.008	0.002	0.004	0.001	0.003	<0.001	0.05	0.052	0.001	0.065
Max	6.287	4.232	3.612	0.7	2.305	0.24	0.84	0.196	0.013	0.205	0.05	0.364	0.088	0.258	0.038	0.211	0.028	2.451	1.4	0.146	6.373
Mean	1.439	0.725	0.714	0.151	0.361	0.039	0.136	0.036	0.002	0.039	0.009	0.066	0.015	0.049	0.008	0.051	0.007	0.467	0.343	0.06	2.625
Skew	2.266	2.994	2.424	2.428	3.233	3.036	3.003	2.631	2.572	2.462	2.606	2.541	2.557	2.306	2.094	1.648	1.308	2.475	2.161	0.837	0.785
StdDev	0.777	0.404	0.481	0.075	0.208	0.023	0.08	0.022	0.001	0.025	0.007	0.046	0.011	0.032	0.005	0.028	0.004	0.328	0.178	0.022	0.98
Variance	0.604	0.163	0.231	0.006	0.043	0.001	0.006	<0.001	<0.001	0.001	<0.001	0.002	<0.001	0.001	<0.001	0.001	<0.001	0.108	0.032	<0.001	0.96
COV	0.54	0.557	0.673	0.497	0.577	0.579	0.588	0.609	0.642	0.641	0.702	0.703	0.704	0.658	0.61	0.554	0.53	0.703	0.52	0.37	0.373

Figure 14.4
Semi-Variogram Model for Dy_2O_3



The most obvious characteristic of the semi-variograms is a high nugget value. A down-hole variogram at a lag spacing of 2 m was produced to confirm the short range spatial variability of the data and to define the nugget value. A down-hole semi-variogram model was also made for the pegmatite only, in order to rule out the possibility that the nature of the Enriched Zone with interlayered pegmatite and granite could have increased the variability of the grade. All results showed a similar high nugget which suggest that this feature is intrinsic to the mineralization. Another important characteristic is that there is little anisotropy between the principal directions, with variogram range typically around 150 m in all directions. This is shown on the planimetric variogram map in the bottom right of Figure 14.4 and suggests that the grade variability is similar in all directions. These characteristics were consistent in the variography of all of the oxides.

A variogram model was made for each oxide, with the principal axis selected in the direction in which the first point with at least 2,000 pairs has the lowest gamma value. The parameters from the variography for the oxides are presented in Table 14.5.

Table 14.5
Variogram Parameters from the Enriched Zone Domain

Oxide	Bearing	Plunge	Dip	Maj-Semi	Maj-Min	Nugget	Covariance	Range	Nugget Effect
La_2O_3	170	7	4	1.25	2.6	0.0042556	0.0013696	140	76
CeO_2	170	6	10	1.1	2.6	0.0280819	0.0156769	150	64
Pr_6O_{11}	170	6	10	1.5	2.1	0.0003834	0.0001352	160	74
Nd_2O_3	190	7	2	1	3	0.0037438	0.0026219	120	59
Sm_2O_3	160	6	0	1.4	2.5	0.0003964	0.0001136	160	78
Eu_2O_3	170	7	10	1	2.4	0.0000013	0.0000007	145	64
Gd_2O_3	170	6	20	1	3	0.0003840	0.0002380	140	62
Tb_4O_7	160	6	-10	1.2	2	0.0000260	0.0000190	160	58
Dy_2O_3	190	2	-10	1	1.8	0.0012615	0.0009232	135	58
Ho_2O_3	160	6	0	1	1	0.0000804	0.0000376	95	68
Er_2O_3	170	7	-10	1.5	1.8	0.0007461	0.0003177	165	70
Tm_2O_3	160	6	-10	1	2	0.0000150	0.0000087	146	63
Yb_2O_3	160	6	0	1.8	2.5	0.0004946	0.0002892	150	63
Lu_2O_3	160	6	0	1.8	2.3	0.0000120	0.0000030	170	80
Y_2O_3	170	6	-20	1.6	1.8	0.0731801	0.0366315	160	67
Nb_2O_5	170	7	-30	1	2.2	0.0134738	0.0181174	230	43
HfO_2	60	-6	0	1.8	2.2	0.0003643	0.0001306	150	74
ZrO_2	60	-6	-10	1.3	1.5	0.5368078	0.4225670	125	56

Although grade correlation is relatively constant regardless of direction, as discussed above, in most of the REO mineralization the principal direction selected was following a bearing of 160 to 190°. This is close to the orientation of the drill lines so could be related to the closer spaced drill hole data on the section lines. The dip of the variogram models varies, with the LREO having a positive dip (towards the east) and the HREO, generally having a negative dip (towards the west). This roughly corresponds with the different flanks of the dome structure for the Enriched Zone domain, and could be caused by the influence of slightly less variability or enrichment of LREO in the eastern flank and HREO in the western flank. It is unlikely that, in the eastern flank of the dome, the HREO mineralization would be cross-cutting the narrow pegmatite lenses.

Micon believe this structural control is most likely the major influence on the distribution of mineralization, rather than any other underlying patterns shown, due to the relatively omni-directional results from the variography.

14.6 BLOCK MODEL

The B Zone block model utilized regular-shaped blocks measuring (X) 10 m by (Y) 10 m by (Z) 5 m which are rotated at 030°. This block size configuration was the most appropriate considering the geometry of the mineralization and the distribution of sample information. The parameters that describe the block model are summarized in Table 14.6.

Table 14.6
Dimensions of the B Zone Block Model

Block Model	X direction	Y direction	Z direction
Origin (m)	426,880	6,242,292	100
Extents (m)	428,380	6,244,192	600
Parent Block Size (m)	10	10	5
Number of Parent Blocks	150	190	50

The block model was limited below a topographie surface created using 1-m contours. Each block in the model which fell within the wireframe model was flagged in the Enriched Zone domain. The volume difference between the wireframe and the domain blocks was less than 1%. The Granite domain blocks were flagged below a contoured overburden surface. Without an actual wireframe, the extents of the granite domain are limited by the availability of drill hole data during the resource estimation.

14.6.1 Grade Interpolation

The regular spaced drilling data for the B Zone deposit allows a linear grade interpolation method to be effective. On the basis of the omni-directional results with limited anisotropy shown in the variography analysis, there will be very little difference between an Ordinary Kriged or an Inverse Distance estimate. Micon has selected Inverse Distance as the method for grade interpolation in the B Zone block model, as it allows simple variation in the power to account for the different statistical properties shown by the different elements. In the REE oxides, which show a high nugget effect, the grade interpolation was performed using Inverse Distance squared (ID^2). This spreads the estimation weight across the informing composite samples so that the estimation is smoothed, as dictated by the high nugget. In the oxides, with lower nugget effect, Inverse Distance cubed (ID^3) was used, which assigns more of the estimation weight to the closer informing composite samples. Discretization to 2-m cells was applied to the grade interpolations to account for the volume variance effect.

The Enriched Zone and Subsolvus Granite domains were estimated and reported separately. Average grades for each of the 21 major fields shown in Table 14.1 were interpolated.

In the Enriched Zone, domain the ellipses were orientated following the dip of the flanks of the dome structure. The domain was split down the axis of the dome into the northwest and southeast dipping flanks, which were estimated separately. The variogram range of 150 m and major-minor axis anisotropy were used to define the search radius for the ellipse. The grade of each block was interpolated using up to 16 composite samples, with a maximum of 4 from a single borehole. This allowed composite samples from every direction from the block to be included in the grade interpolation.

In the Granite domain, a single ellipse was used with a 150-m search radius orientated on a bearing of 020° with a plunge of 8°. As with the Enriched Zone domain, the grade of each block was interpolated using up to 16 composite samples with a maximum of 4 from a single borehole. Since the estimates were unconstrained, the total number of samples used to estimate the grade of each block was recorded to be used in the resource classification.

When the estimations were complete, fields were added to the block model to sum up the total TREO and the LREO and HREO grades and the NSR value was re-estimated. Images showing the distribution of grade values in the block model are presented in Figure 14.5 through Figure 14.7.

Figure 14.5
Three-dimensional Isometric View of Block Model Showing Grade Distribution of LREO

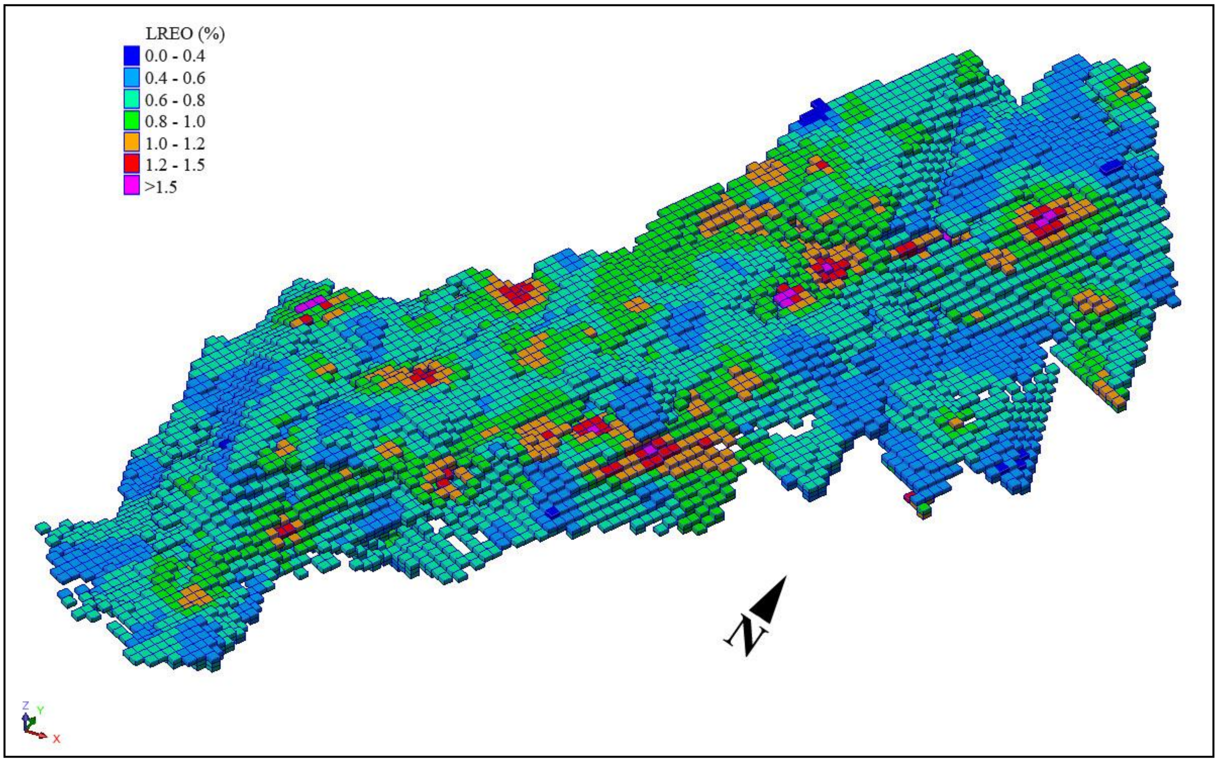


Figure for visualization purposes only, not to scale.

Figure 14.6
Three-dimensional Isometric View of Block Model Showing Grade Distribution of HREO+Y

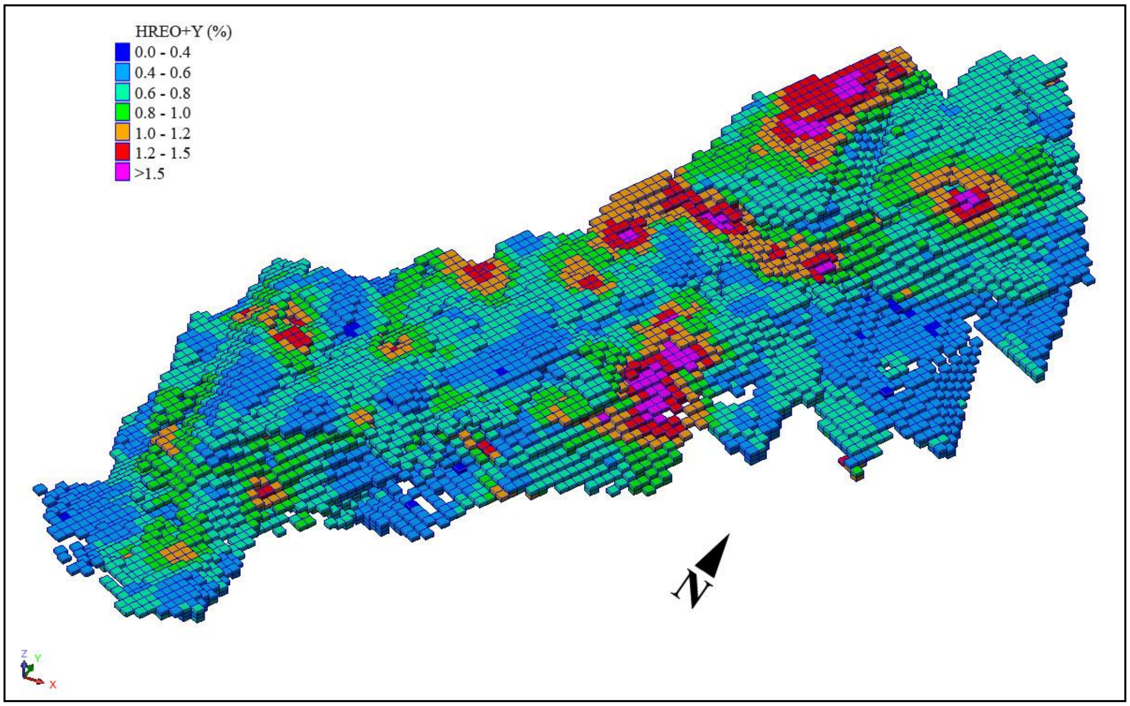


Figure for visualization purposes only, not to scale.

Figure 14.7
Three-dimensional Isometric View of Block Model Showing Grade Distribution of TREO

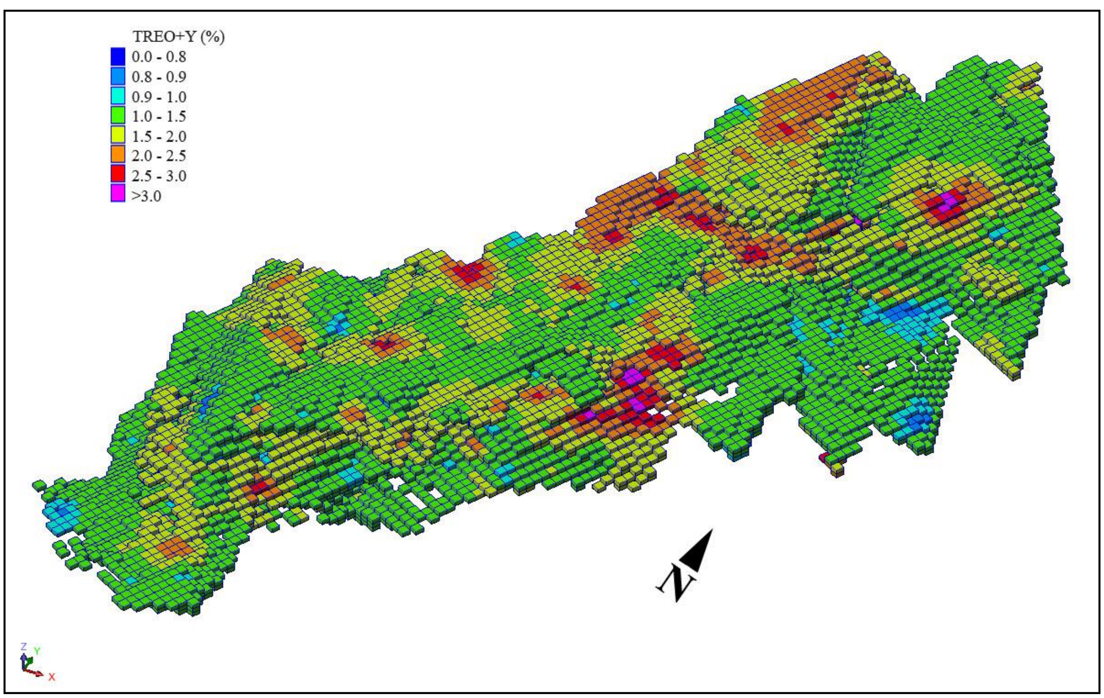


Figure for visualization purposes only, not to scale.

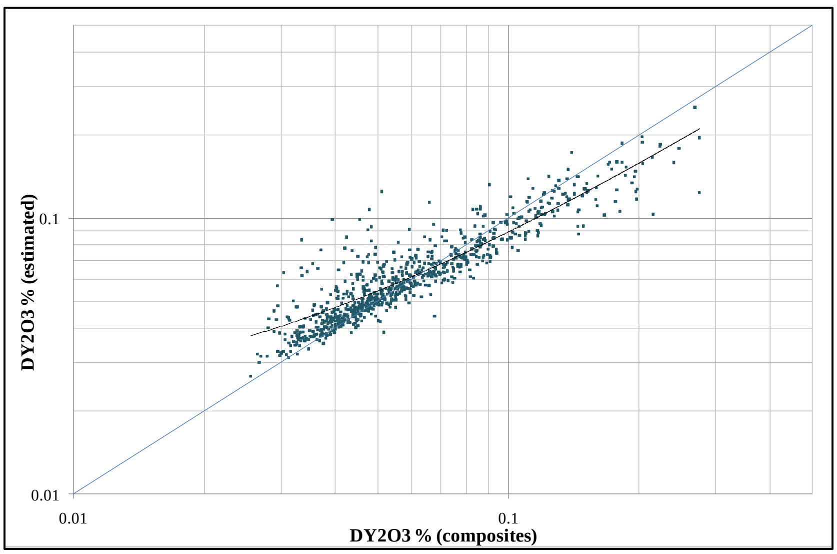
The results show that there are localized areas of very high grade mineralization and these are concentrated mostly at the northern end of the Enriched Zone.

14.6.2 Block Model Validation

In order to validate the B Zone block model and check for conditional bias introduced during the grade interpolation, several plots were created which compared block grade estimates and composite sample average grades on a local and global scale.

In the first check, all the composite samples were declustered to a volume equivalent to the parent block size of the block model. Average composite grades were imported into the block model to allow a direct comparison of composite grade and estimated grade, providing insight into the accuracy of local estimates. The scatter plots in Figure 14.8 show the correlation between the composite sample data and the estimated grade for Dy_2O_3. A correlation coefficient of 0.91 between the declustered composites and block estimates confirms a good correlation.

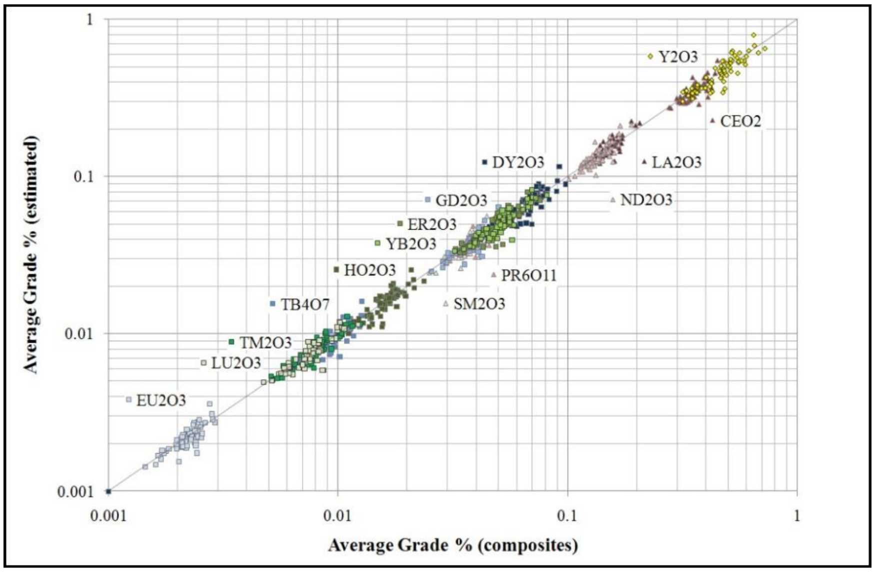
Figure 14.8
Declustered Composite Grade Versus Block Estimate Grade for Dy_2O_3



The results of the declustering shows some smoothing of grade compared to the 1:1 line, which is typical of linear grade interpolation. The degree of smoothing is not severe and the correlation coefficient is typically high at around 0.9 for all of the oxides.

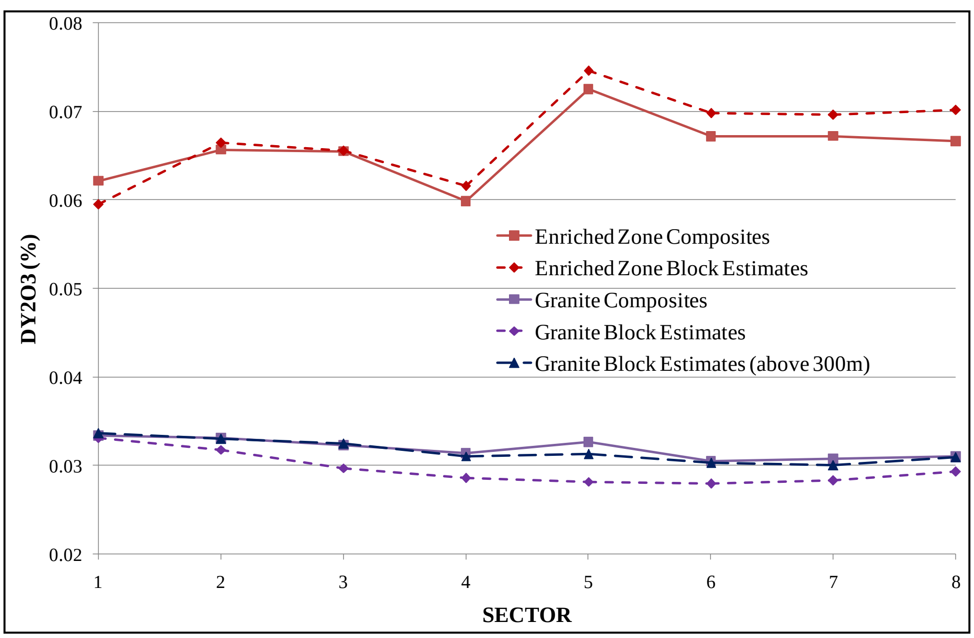
The second validation check involved reblocking the model into a larger cell size to check the accuracy of the estimates on a larger scale. The block model was re-blocked into 100 m by 100 m by 50 m cells, and the average grades between the block estimates and composites are compared. Cells containing fewer than 10 composite samples were removed from the plot as they contain too little data for a meaningful comparison. The scatter plot in Figure 14.9 shows good comparisons for all elements, with tight clusters of points along the 1:1 line.

Figure 14.9
Declustered Composite Grade Versus Block Estimate Grade for Dy_2O_3



Another method used to validate the block model was to sub-divide the drill hole data into sectors spaced roughly 150-m along strike, having more or less equal drilling density, and compare the average grade of the composites to the average estimated block grade within the sector. The sectors were numbered 1 to 8 starting in the southwest end of the deposit. The resultant plot is presented in Figure 14.10.

Figure 14.10
Sector Analysis for Dy_2O_3



The plot for the Enriched Zone domain shows that the estimated average grade is higher than that of the composites in some of the sectors at the north end. The error between the composite and block average grade in the northern sectors, however is less than 2%, which is within an acceptable estimation error for the deposit.

The difference in grades may suggest over-estimation in these sectors but it may also be the result of the block estimates being influenced by composite samples from adjacent sectors, or by isolated high grade samples being used to estimate the grade in several blocks and therefore becoming more heavily weighted in the block grade average than in the composite average. In either case, the issue is caused by some high-grade samples which can be difficult to control in a linear estimation. In order to check that these samples were not causing local over-estimation, the estimation was re-run using composite sample data with a lower capping grade set, thus removing more of the very high grade samples. Although the difference was smaller, the block estimate average grade was still higher than the sector composite average grade, suggesting it is caused by the location of the composite samples.

In the Granite domain, the block estimates are lower, on average, compared to the composite samples. Again, this is caused by the location of the composite samples since, below the 300-m elevation, the drill hole density is lower, at approximately 200 m by 100 m spacing between holes, and the average grade of samples is also lower. Thus, all of the blocks below the 300-m elevation are being estimated using a few low grade composite samples, so they are not weighted equally with those above the 300 m elevation. When only the blocks above 300 m are shown on the chart, the average grades compare well.

From the various validation methods applied, it is satisfied that there has been no bias introduced into the grade estimation in the B Zone block model.

14.6.3 Whittle Pit Parameters

The mineral resources at B Zone occur near to surface and are amenable to conventional open pit mining methods. A Whittle pit was run on the block model to define the proportion of the resources which could be mined from an open pit. A boundary was drawn to exclude the resources below the lake from the pit.

The 2017 NSR attribute in the block model was used for the net revenue calculation. The parameters used for the NSR calculation are given in Table 14.2. The other assumed technical and economic parameters for the Whittle pit (Table 14.7) were originally provided by Quest for the 2012 resource estimate. Micon has continued to use these parameters to demonstrate reasonable prospects of economic extraction for the revised 2017 resource estimate. The resource estimate also assumes a 100% recovery of the mined material.

The resultant pit shell is 1.75 km long by 1.0 km wide and over 400 m deep (Figure 14.11). It includes the majority of the estimated resources in the block model, with the exclusion of those below Lac Brisson.

Table 14.7
Parameters for the Whittle Pit on the B Zone

Parameter	US$/t
Mining operating cost	5.18
Processing costs	227.01
G&A costs	14.31
Site other costs	12.29
Pit slopes (degrees)	45

Figure 14.11
B Zone Whittle Pit Shell

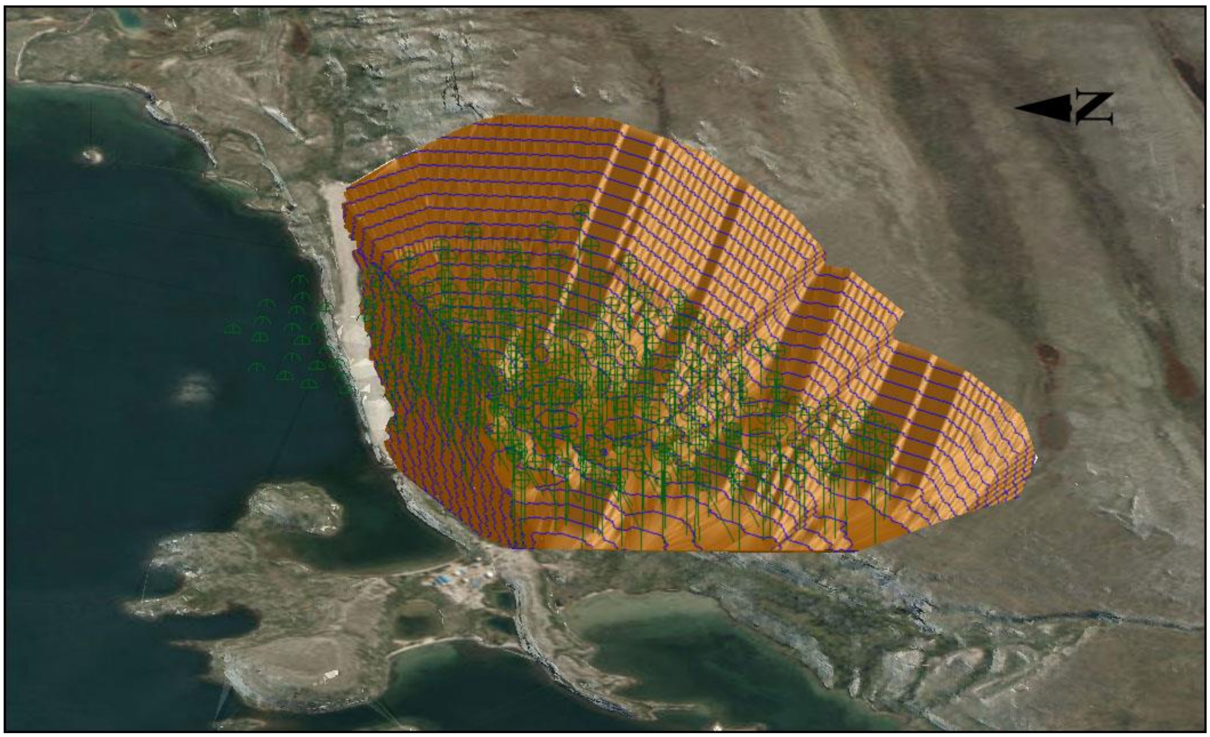


Figure for visualization purposes only, not to scale.

14.6.4 Mineral Resource Classification

Micon has assigned the resources in the B Zone deposit to the Indicated and Inferred classification on the basis of data density. At this time, Micon has not assigned any Measured resources. The majority of the B Zone deposit has been drilled at a spacing of 50 m by 50 m, with some areas drilled at 25 m by 50 m. At depth, the drill hole spacing becomes 200 m by 100 m, since the majority of holes were drilled to less than 150 m depth.

Indicated resources were assigned to all resource blocks which fall in areas with a drill spacing of not more than 50 m by 50 m and were estimated using at least 16 samples from a minimum of four drill holes.

All remaining resource blocks in the block model occurring within the optimized pit shell and with an estimated a grade greater than zero were assigned to the Inferred classification.

The Enriched Zone domain contains the highest-grade mineralization in the deposit. The high-grade mineralization is controlled by the pegmatite lithology which, given the relatively close drill hole spacing, shows a lot of variability in shape and distribution between sections, meaning that it cannot be modelled separately from the granites with confidence. The Enriched Zone model has improved the continuity of the high-grade mineralization across the deposit. This domain, however, is comprised of interstitial lenses of pegmatite and granite lithologies, each showing a high nugget effect which limits confidence in the actual grade distribution. On the basis of the 2014 CIM guidelines for resource classification, Micon has assigned the Enriched Zone domain to the Indicated class.

Mineralization in the Subsolvus Granite domain is fairly homogenous, with localized isolated patches of higher grade pegmatite mineralization. Within the 50 m by 50 m drilled area,resources in this domain have been classed as Indicated. To define the Indicated proportion of the domain, a contoured surface was made following the bottom of the 50 m by 50 m spaced drill holes. This surface was then lowered a further 50 m and all blocks which fell above the lowered surface were classed as Indicated. All remaining blocks were classed as Inferred.

14.6.5 Mineral Resource Estimation

The previous 2012 mineral resource estimate conducted by Micon was reviewed and updated in February, 2017, using the latest commodity prices for the rare earth elements. The review and update indicated that the cut-off grade increased from 0.5% TREO to 0.6% TREO, due to commodity price changes. The change to the cut-off grade has not resulted in a material change to the overall resources. Therefore, Micon considers that the updated 2017 resource statement reflects the latest economic parameters, and that these resources are estimated in accordance with the definitions contained in the current 2014 CIM Standards on Mineral Resources and Reserves Definitions and Guidelines that were prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 10, 2014.

The mineral resources at B Zone occur near to surface and are amenable to conventional open pit mining methods. Although an NSR value was used to generate the pit optimization, the NSR was converted to an equivalent cut-off grade in order to be able to compare updated results with the previous estimates. An economic cut-off base case grade of 0.6% TREO was considered appropriate for reporting the mineral resources. A specific gravity of 2.74 g/cm^3 was used for reporting the Enriched Zone domain and 2.72 g/cm^3 for the Granite domain. The 0.6% TREO cut-off is based on updated commodity prices and metallurgical recoveries which supersede the prices and recoveries used for the 2012 Micon resource estimate.

Indicated Mineral Resources are estimated at 277.99 Mt at 0.93% TREO. Inferred Mineral Resources are estimated at 214.35 Mt at 0.85% TREO. The resource estimates are summarized in Table 14.8.

The effective date of the updated mineral resource estimate is February 15, 2017.

It is Micon's opinion that there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues that would adversely affect the mineral resources presented above. However, the mineral resources presented herein are not mineral reserves as they have not been subject to adequate economic studies to demonstrate their economic viability.

Table 14.8
Updated B Zone Resources Estimated by Micon as of February 15, 2017

Domain	Tonnes (x1000t)	LREO (%)	HREO + Y (%)	TREO (%)	H:T Ratio	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)
INDICATED								
Enriched Zone	20,020	0.72	0.72	1.44	0.50	2.59	0.06	0.34
Granite	257,968	0.55	0.33	0.89	0.38	1.87	0.05	0.16
Total	277,988	0.57	0.36	0.93	0.39	1.92	0.05	0.18
INFERRED								
Granite	214,348	0.55	0.30	0.85	0.35	1.71	0.04	0.14

1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.
2) The quantity and grade of reported inferred resources in this estimation are conceptual in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.

The following should be noted:

1. Total Rare Earth Oxides (TREO+Y) include: La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3 and Y_2O_3.

2. Heavy Rare Earth Oxides (HREO+Y) include: Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3 and Y_2O_3.

3. Light Rare Earth Oxides (LREO) include: La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3 and Sm_2O_3.

4. The effective date of the updated resource estimate is February 15, 2017.

5. The resource estimate is based on drill-core assays from Quest's 2009 to 2011 assay database, with an effective date of August, 2012.

6. Micon considers a cut-off grade of 0.60% TREO+Y to be reasonable, on the basis of a Whittle pit and the economic parameters for mining, processing and G&A costs provided by Quest in 2012. These parameters were used to determine reasonable prospects of eventual economic extraction for the block model.

7. Average specific gravity is 2.72 g/cm^3 for the Granite Domain and 2.74 g/cm^3 for the Enriched Zone.

8. The resource estimate has been classified as an Indicated and Inferred on the basis of data density, applying the following criteria:

- Indicated resources were assigned to all resource blocks in the model occurring within the pit shell, which fall in areas with a drill spacing of not more than 50 m by 50 m and were estimated using at least 16 samples from a minimum of four drill holes.

- All remaining resource blocks in the block model occurring within the pit shell and with an estimated a grade greater than zero were assigned to the Inferred class.

9. The resource estimate takes into account the following:

   - A database of 256 drill holes, totalling approximately 37,434 m of diamond drilling, using 22,565 samples.

   - Assay values in the database below the detection limit were assigned a value of half the detection limit.

   - Samples were composited to a 2 m length.

   - A lithology table was provided with codes for each major rock type observed in the deposit, primarily identified as pegmatite and subsolvus granite.

   - A cross-sectional interpretation of the pegmatite lithology was provided by Quest and was used by Micon to model the wider pegmatite spine and dome structure with some mixing of the interlayered lithologies allowed in order to maintain continuity of the domain along strike and to allow for a wireframe construction of the Enriched Zone to be completed.

   - The minimum modelled length of the high-grade intervals for the Enriched Zone width was 5 m, using a combination of pegmatite lithology indicators and an NSR value, with a maximum acceptable internal dilution of 3 m provided the total composite grade remained above a cut-off. An NSR cut-off for the Enriched Zone of $725/t was ultimately used as it formed intervals which could be connected between sections and maintained the descriptive statistical properties of the pegmatite.

   - Grade capping was applied. In the case of the Enriched Zone, the methodology employed for establishing the outlier limit was to sort the sample populations from smallest to largest and cap to the value where there is a large increment in grade as the population breaks apart. In the granites the outlier limit was set at the 99th percentile value. This set a lower capping value than in the Enriched Zone so that the isolated high-grade pegmatite samples within the domain did not result in local grade overestimation or grade smearing.

- The block model utilized regularly-shaped blocks measuring (X) 10 m by (Y) 10 m by (Z) 5 m which are rotated at 030º. The block model was limited below a topographic surface created using 1 m contours. Overburden lithology was not included in the block model and was excluded using a digital surface model.

- Inverse Distance modelling was used as the method for grade interpolation in the B Zone block model, as it allows simple variation in the power to account for the different statistical properties shown by the different elements. In the REE oxides, which show a high nugget effect, the grade interpolation was performed using Inverse Distance squared (ID^2). This spreads the estimation weight across the informing composite samples so that the estimation is smoothed, as dictated by a high nugget. In the oxides with lower nugget effect, Inverse Distance cubed (ID^3) was used which assigns more of the estimation weight to the closer informing composite samples. Discretization to 2-m cells was applied to the grade interpolations to account for the volume variance effect.

- The resource estimate assumes 100% recovery.

Tables 14.9 through Table 14.11 summarize the mineral resources at for the B Zone by domain and classification for various cut-off grades from 0.5% TREO up to 2% TREO.

Table 14.9
B Zone Resources in the Enriched Zone Domain by TREO Cut-off Grade

TREO Cut-off (%)	Tonnes (x1000t)	LREO (%)	HREO + Y (%)	TREO (%)	H:T Ratio	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)	Be (ppm)	Th (ppm)	U (ppm)
INDICATED											
2.00	1,544	1.06	1.23	2.29	54	2.49	0.05	0.46	937	993	146
1.75	3,273	0.97	1.09	2.06	53	2.55	0.06	0.44	836	840	133
1.50	6,690	0.88	0.95	1.83	52	2.60	0.06	0.41	744	719	120
1.25	13,111	0.79	0.82	1.60	51	2.62	0.06	0.37	652	622	107
1.00	19,144	0.73	0.73	1.46	50	2.60	0.06	0.35	586	568	99
0.90	19,880	0.72	0.72	1.44	50	2.59	0.06	0.35	576	560	98
0.80	20,010	0.72	0.72	1.44	50	2.59	0.06	0.34	575	559	97
0.70	20,018	0.72	0.72	1.44	50	2.59	0.06	0.34	575	559	97
0.60	20,020	0.72	0.72	1.44	50	2.59	0.06	0.34	575	559	97
0.50	20,020	0.72	0.72	1.44	50	2.59	0.06	0.34	575	559	97

Table 14.10
B Zone Resources in the Granite Domain by TREO Cut-off Grade

TREO Cut-off (%)	Tonnes (x1000t)	LREO (%)	HREO+ Y (%)	TREO (%)	H:T Ratio	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)	Be (ppm)	Th (ppm)	U (ppm)
INDICATED											
2.00	29	1.11	1.11	2.22	50	1.81	0.04	0.31	915	753	94
1.75	79	1.03	0.96	1.99	48	1.86	0.04	0.32	722	677	91
1.50	396	0.87	0.80	1.67	48	2.05	0.05	0.31	531	614	89
1.25	2,005	0.77	0.64	1.40	45	2.09	0.05	0.27	472	499	79
1.00	24,680	0.65	0.44	1.09	41	1.99	0.05	0.21	333	356	62
0.90	96,968	0.60	0.38	0.98	38	1.91	0.05	0.18	273	304	55
0.80	225,374	0.57	0.34	0.91	38	1.88	0.05	0.17	240	274	51
0.70	256,151	0.56	0.33	0.89	38	1.87	0.05	0.16	234	269	51
0.60	257,968	0.55	0.33	0.89	38	1.87	0.05	0.16	234	268	51
0.50	258,108	0.55	0.33	0.89	38	1.87	0.05	0.16	234	268	51
INFERRED											
2.00	-	-	-	-	-	-	-	-	-	-	-
1.75	-	-	-	-	-	-	-	-	-	-	-
1.50	56	0.74	0.82	1.56	52	1.66	0.04	0.21	280	635	79
1.25	500	0.75	0.61	1.36	45	1.77	0.04	0.20	304	453	67
1.00	10,025	0.65	0.43	1.07	40	2.02	0.05	0.20	269	348	62
0.90	41,468	0.60	0.37	0.97	38	1.93	0.05	0.18	230	305	55
0.80	156,611	0.57	0.31	0.88	35	1.74	0.04	0.15	193	241	46
0.70	212,266	0.55	0.30	0.85	35	1.71	0.04	0.14	184	227	44
0.60	214,348	0.55	0.30	0.85	35	1.71	0.04	0.14	184	227	44
0.50	214,351	0.55	0.30	0.85	35	1.71	0.04	0.14	184	227	44

Table 14.11
Total REO Resources by TREO Cut-off Grade by Zone

TREO Cut-off (%)	Tonnes (x1000t)	La_2O_3 (%)	CeO_2 (%)	Pr_6O_{11} (%)	Nd_2O_3 (%)	Sm_2O_3 (%)	Eu_2O_3 (%)	Gd_2O_3 (%)	Tb_4O_7 (%)	Dy_2O_3 (%)	Ho_2O_3 (%)	Er_2O_3 (%)	Tm_2O_3 (%)	Yb_2O_3 (%)	Lu_2O_3 (%)	Y_2O_3 (%)
Enriched Zone INDICATED																
2.00%	1,544	0.22	0.53	0.058	0.20	0.058	0.004	0.064	0.016	0.114	0.026	0.082	0.013	0.078	0.011	0.82
1.75%	3,273	0.20	0.49	0.053	0.18	0.052	0.003	0.057	0.014	0.101	0.023	0.073	0.012	0.071	0.010	0.72
1.50%	6,690	0.18	0.44	0.048	0.17	0.046	0.003	0.050	0.012	0.088	0.020	0.065	0.010	0.064	0.009	0.63
1.25%	13,111	0.16	0.39	0.043	0.15	0.041	0.002	0.043	0.011	0.075	0.017	0.056	0.009	0.057	0.008	0.54
1.00%	19,144	0.15	0.36	0.040	0.14	0.037	0.002	0.039	0.010	0.067	0.016	0.050	0.008	0.052	0.008	0.48
0.90%	19,880	0.15	0.36	0.039	0.14	0.036	0.002	0.039	0.009	0.066	0.015	0.049	0.008	0.051	0.007	0.47
0.80%	20,010	0.15	0.36	0.039	0.14	0.036	0.002	0.039	0.009	0.066	0.015	0.049	0.008	0.051	0.007	0.47
0.70%	20,018	0.15	0.36	0.039	0.14	0.036	0.002	0.039	0.009	0.066	0.015	0.049	0.008	0.051	0.007	0.47
0.60%	20,020	0.15	0.36	0.039	0.14	0.036	0.002	0.039	0.009	0.066	0.015	0.049	0.008	0.051	0.007	0.47
0.50%	20,020	0.15	0.36	0.039	0.14	0.036	0.002	0.039	0.009	0.066	0.015	0.049	0.008	0.051	0.007	0.47
Granite Domain INDICATED																
2.00%	29	0.22	0.54	0.062	0.22	0.060	0.004	0.064	0.016	0.107	0.024	0.074	0.012	0.065	0.009	0.74
1.75%	79	0.21	0.51	0.057	0.20	0.054	0.003	0.057	0.014	0.092	0.021	0.064	0.010	0.057	0.008	0.63
1.50%	396	0.18	0.43	0.048	0.17	0.045	0.003	0.047	0.012	0.077	0.017	0.054	0.008	0.050	0.007	0.53
1.25%	2,005	0.16	0.38	0.042	0.15	0.037	0.002	0.038	0.009	0.060	0.014	0.043	0.007	0.041	0.006	0.42
1.00%	24,680	0.14	0.32	0.035	0.12	0.029	0.002	0.029	0.006	0.042	0.009	0.029	0.005	0.030	0.004	0.29
0.90%	96,968	0.13	0.29	0.033	0.11	0.026	0.001	0.025	0.005	0.036	0.008	0.025	0.004	0.025	0.004	0.24
0.80%	225,374	0.13	0.28	0.031	0.11	0.025	0.001	0.023	0.005	0.032	0.007	0.022	0.004	0.023	0.003	0.22
0.70%	256,151	0.12	0.27	0.030	0.11	0.024	0.001	0.023	0.005	0.032	0.007	0.022	0.003	0.022	0.003	0.22
0.60%	257,968	0.12	0.27	0.030	0.11	0.024	0.001	0.023	0.005	0.032	0.007	0.022	0.003	0.022	0.003	0.22
0.50%	258,108	0.12	0.27	0.030	0.11	0.024	0.001	0.023	0.005	0.032	0.007	0.022	0.003	0.022	0.003	0.22
Granite Domain INFERRED																
2.00%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.50%	56	0.16	0.36	0.040	0.14	0.040	0.002	0.046	0.012	0.077	0.018	0.053	0.009	0.049	0.006	0.55
1.25%	500	0.16	0.36	0.041	0.15	0.036	0.002	0.037	0.009	0.058	0.013	0.040	0.006	0.039	0.005	0.40
1.00%	10,025	0.14	0.32	0.035	0.12	0.029	0.002	0.028	0.006	0.040	0.009	0.028	0.005	0.029	0.004	0.27
0.90%	41,468	0.13	0.29	0.032	0.11	0.026	0.001	0.025	0.005	0.035	0.008	0.024	0.004	0.025	0.004	0.24
0.80%	156,611	0.13	0.28	0.030	0.11	0.024	0.001	0.022	0.005	0.029	0.006	0.020	0.003	0.020	0.003	0.20
0.70%	212,266	0.12	0.27	0.029	0.11	0.023	0.001	0.022	0.004	0.028	0.006	0.019	0.003	0.019	0.003	0.19
0.60%	214,348	0.12	0.27	0.029	0.11	0.023	0.001	0.022	0.004	0.028	0.006	0.019	0.003	0.019	0.003	0.19
0.50%	214,351	0.12	0.27	0.029	0.11	0.023	0.001	0.022	0.004	0.028	0.006	0.019	0.003	0.019	0.003	0.19

TECHNICAL REPORT SECTIONS NOT REQUIRED

The following sections which form part of the NI 43-101 reporting requirements for advanced projects or properties are not relevant to the current Technical Report for Quest's Strange Lake Project. This is due to the significant changes to the logistics, infrastructure and processing facilities since the last NI 43-101 Technical Report was written in 2014. As a result of these changes, the previous Technical Reports which included the Sections mentioned below are no longer current. Quest is in the process of revising and updating these sections and, once that has been completed, it is Quest's intention to issue an updated PEA for the Strange Lake Project:

15.0 MINERAL RESERVE ESTIMATES

16.0 MINING METHODS

17.0 RECOVERY METHODS

18.0 PROJECT INFRASTRUCTURE

19.0 MARKET STUDIES AND CONTRACTS

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

21.0 CAPITAL AND OPERATING COSTS

22.0 ECONOMIC ANALYSIS

23.0 ADJACENT PROPERTIES

Micon has not verified the information regarding adjacent properties and has not visited them or audited them. The information contained in this section of the report is not necessarily indicative of the mineralization at the Strange Lake Project. The information was taken from the previous 2012, 2013 and 2014 Micon Technical Reports and updated for any areas where new information was available. The information for this section was generally provided by Quest.

There are no significant mineral occurrences adjacent to the Strange Lake property. However, a significant proportion of the Main Zone deposit is situated in the 'exempt mineral lands (EML)' in Newfoundland and Labrador and cannot be staked. While the portion of the Main Zone that is contained in the EML in Newfoundland and Labrador could be considered to be a significant mineral occurrence adjacent to the Quest ground, until permission is obtained to stake this area, the remaining portion of the Main Zone mineralization is considered of secondary importance to the mineralization occurrence identified at B Zone.

Midland Exploration Inc., (Midland), a Montreal-based mineral exploration company, holds the mineral rights to a block of claims (Ytterby 1) adjacent to the south of the property and approximately 5 km south of the B Zone deposit. The northernmost extent of the Ytterby 1 block of claims is south of the southern margin of the SLAC, located on the eastern margin of the Nepeau Kainiut pluton. To date, there has been no significant REE mineralization discovered on the Ytterby 1 claims, although, Québec Ministry of Natural Resources and Wildlife (MRNF) regional lake sediment sampling has found elevated La and Y values.

Midland notes on its website that the Ytterby 1 covers a large field position of mineralized blocks of glacial outliers which probably originated from the deposits at Strange Lake and B Zone. Midland has stated that it believes "it is possible to economically mine this unconsolidated material by exploiting the physical properties of rare earth minerals to facilitate the ore sorting of till mineralized blocks".

24.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding Quest's Strange Lake Project are included in other sections of this Technical Report.

Micon is not aware of any other data that would make a material difference to the quality of this Technical Report or make it more understandable, or without which the report would be incomplete or misleading.

25.0 INTERPRETATION AND CONCLUSIONS

This Technical Report has been compiled to discuss the results of a desktop review of the mineral resources that was conducted as the result of changes to the commodity prices since the mineral resources were last estimated in 2012 and the changes to the CIM definitions in 2014. The desktop review of the mineral resources resulted in a change to the cut-off grade from 0.5 to 0.6% TREO, as a result of the rare earth commodity price differential between 2012 and 2017. The review and resultant change in the cut-off grade has not resulted in a material change to the mineral resources for the Strange Lake Project. The prices used for the pit shell to define the mineral resources are the same as those used in 2012, as they were determined to be still valid to demonstrate reasonable prospects for eventual economic extraction. Therefore, the mineral resource estimate appears to have remained fairly stable and can continue to be used as the basis of an economic study.

Table 25.1 summarizes the updated mineral resources at a cut-off grade of 0.6 TREO.

Table 25.1
Updated B Zone Resources Estimated by Micon as of February 15, 2017

Domain	Tonnes (x1000t)	LREO (%)	HREO + Y (%)	TREO (%)	H:T Ratio	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)
INDICATED								
Enriched Zone	20,020	0.72	0.72	1.44	0.50	2.59	0.06	0.34
Granite	257,968	0.55	0.33	0.89	0.38	1.87	0.05	0.16
Total	277,988	0.57	0.36	0.93	0.39	1.92	0.05	0.18
INFERRED								
Granite	214,348	0.55	0.30	0.85	0.35	1.71	0.04	0.14

1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues.
2) The quantity and grade of reported inferred resources in this estimation are conceptual in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource and it is uncertain if further exploration will result in upgrading them to an indicated or measured mineral resource category.

The following should be noted:
The following should be noted:

1. Total Rare Earth Oxides (TREO+Y) include: La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3 and Y_2O_3.

2. Heavy Rare Earth Oxides (HREO+Y) include: Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3 and Y_2O_3.

3. Light Rare Earth Oxides (LREO) include: La_2O_3, CeO_2, Pr_6O_{11}, Nd_2O_3 and Sm_2O_3.

4. The effective date of the updated resource estimate is February 15, 2017.

5. The resource estimate is based on drill-core assays from Quest's 2009 to 2011 assay database, with an effective date of August, 2012.

6. Micon considers a cut-off grade of 0.60% TREO+Y to be reasonable, on the basis of a Whittle pit and the economic parameters for mining, processing and G&A costs provided

by Quest in 2012. These parameters were used to determine reasonable prospects of eventual economic extraction for the block model.

7. Average specific gravity is 2.72 g/cm^3 for the Granite Domain and 2.74 g/cm^3 for the Enriched Zone.

8. The resource estimate has been classified as an Indicated and Inferred on the basis of data density, applying the following criteria:

   - Indicated resources were assigned to all resource blocks in the model occurring within the pit shell, which fall in areas with a drill spacing of not more than 50 m by 50 m and were estimated using at least 16 samples from a minimum of four drill holes.

   - All remaining resource blocks in the block model occurring within the pit shell and with an estimated a grade greater than zero were assigned to the Inferred class.

9. The resource estimate takes into account the following:

   - A database of 256 drill holes, totalling approximately 37,434 m of diamond drilling, using 22,565 samples.

   - Assay values in the database below the detection limit were assigned a value of half the detection limit.

   - Samples were composited to a 2 m length.

   - A lithology table was provided with codes for each major rock type observed in the deposit, primarily identified as pegmatite and subsolvus granite.

   - A cross-sectional interpretation of the pegmatite lithology was provided by Quest and was used by Micon to model the wider pegmatite spine and dome structure with some mixing of the interlayered lithologies allowed in order to maintain continuity of the domain along strike and to allow for a wireframe construction of the Enriched Zone to be completed.

   - The minimum modelled length of the high-grade intervals for the Enriched Zone width was 5 m, using a combination of pegmatite lithology indicators and an NSR value, with a maximum acceptable internal dilution of 3 m provided the total composite grade remained above a cut-off. An NSR cut-off for the Enriched Zone of $725/t was ultimately used as it formed intervals which could be connected between sections and maintained the descriptive statistical properties of the pegmatite.

   - Grade capping was applied. In the case of the Enriched Zone, the methodology employed for establishing the outlier limit was to sort the sample populations from smallest to largest and cap to the value where there is a large increment in grade as the population breaks apart. In the granites the outlier limit was set at the 99th percentile value. This set a lower capping value than in the Enriched Zone so that the isolated high-grade pegmatite samples within the domain did not result in local grade overestimation or grade smearing.

- The block model utilized regularly-shaped blocks measuring (X) 10 m by (Y) 10 m by (Z) 5 m which are rotated at 030º. The block model was limited below a topographic surface created using 1 m contours. Overburden lithology was not included in the block model and was excluded using a digital surface model.

- Inverse Distance modelling was used as the method for grade interpolation in the B Zone block model, as it allows simple variation in the power to account for the different statistical properties shown by the different elements. In the REE oxides, which show a high nugget effect, the grade interpolation was performed using Inverse Distance squared (ID^2). This spreads the estimation weight across the informing composite samples so that the estimation is smoothed, as dictated by a high nugget. In the oxides with lower nugget effect, Inverse Distance cubed (ID^3) was used which assigns more of the estimation weight to the closer informing composite samples. Discretization to 2-m cells was applied to the grade interpolations to account for the volume variance effect.

- The resource estimate assumes 100% recovery.

It is Micon's opinion that there are no known environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues that would adversely affect the mineral resources presented above. However, the mineral resources presented herein are not mineral reserves, as they have not been subject to adequate economic studies to demonstrate their economic viability.

26.0 RECOMMENDATIONS

It is Micon's recommendation that the work required to advance the project continues and that Quest complete the necessary work required to update its previous PEA study, based upon the significant changes to the Project that have occurred since 2014.

26.1 GEOLOGY AND RESOURCES

No additional resource definition drilling is recommended. The current indicated mineral resource is of sufficient quality to support the PEA and feasibility studies.

The high nugget effect in the lenses and the shape and distribution between sections of both the pegmatite and granite lithologies do not allow for separate interpretation on the current 50 m centred drilling. It is Micon's opinion that closer spaced drilling will not necessarily improve the confidence of the current mineral classification from an indicated to a measured category without drilling on such closed spaced centres as to be cost prohibitive.

Micon recommends that the current mineral resource estimate be reviewed prior to conducting a prefeasibility or feasibility study to confirm that any updated economic and other NSR cut-off parameters will not materially affect the estimate.

26.2 BUDGET FOR ONGOING WORK

As shown in Table 26.1, Quest has budgeted a total of $17.1 million for work on the Strange Lake Project over two phases. Phase 1 will cover the next 6 months during which Quest will update the geology/resource model, finish the flotation pilot testing at Corem, do additional sulphation testing at Outotec and continue with the EIA work. Phase 2 will take Quest into mid to late 2018 during which it will complete all the piloting testwork, including sulphation and hydromet, and a large component of the EIA. Quest believes that it will be able to revise the previous 2014 PEA after the Phase 1 work is completed.

Table 26.1
Budget for Ongoing Work

Description	Phase 1 $M	Phase 2 $M	Total $M
Revised PEA	0.1	-	0.1
Geology / revised resource model	0.5	0.1	0.6
Project optimization & full pilot plants	1.1	10.5	11.6
EIA	0.5	1.5	2.0
Project management team & technical support	0.8	2.0	2.8
Total	**3.0**	**14.1**	**17.1**

Micon has reviewed the proposed budget and considers that it is reasonable and appropriate.

27.0 DATE AND SIGNATURE PAGE

MICON INTERNATIONAL LIMITED

"William J. Lewis" {signed and sealed as of the report date}

William J. Lewis, B.Sc., P.Geo.
Senior Geologist, Micon International Limited Report Date: March 8, 2017
Updated Resource Estimate Effective Date: February 15, 2017

"Richard Gowans" {signed and sealed as of the report date}

Richard Gowans, P.Eng.
President, Principal Metallurgist, Micon International Limited Report Date: March 8, 2017
Updated Resource Estimate Effective Date: February 15, 2017

R.V. ZALNIERIUNAS CONSULTING

"R.V. Zalnieriunas" {signed and sealed as of the report date }

R.V. Zalnieriunas, P.Geo.
Principal Geologist, R.V. Zalnieriunas Consulting Report Date: March 8, 2017
Updated Resource Estimate Effective Date: February 15, 2017

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29.0 CERTIFICATES

CERTIFICATE OF AUTHOR
Richard Gowans

As the co-author of this report entitled "NI 43-101 Technical Report for the Updated Mineral Resource Estimate on the Strange Lake Project, Québec, Canada", with a report date of March 8, 2017 and an effective date of February 15, 2017 (the "Technical Report"), I, Richard Gowans do hereby certify that:

1) I am employed by, and carried out this assignment for Micon International Limited, Suite 900, 390 Bay Street Toronto, Ontario, M5H 2Y2 tel. (416) 362-5135 fax (416) 362-5763 e-mail: rgowans@micon-international.com

2) I hold the following academic qualifications:

   B.Sc. (Hons) Minerals Engineering, The University of Birmingham, U.K., 1980

3) I am a registered Professional Engineer of Ontario (membership number 90529389); as well, I am a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.

4) I have worked as an extractive metallurgist in the minerals industry for over 30 years.

5) I do, by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes the management of technical studies and design of numerous metallurgical testwork programs and metallurgical processing plants.

6) I have not visited the project site.

7) I am responsible for the preparation of Sections 1, 2, 3, 13, 25 and 26 of this report.

8) I am independent of Quest Rare Minerals Limited, as defined in Section 1.5 of NI 43-101.

9) I was a co-author of the Technical Report for Quest entitled "Technical Report for the Strange Lake B Zone Rare Earth Element (REE) Deposit, Updated Mineral Resource Estimate, Province of Québec (Québec), Canada" dated December 14, 2012, and the Technical Report entitled "NI 43-101 Technical Report On The Pre-Feasibility Study For The Strange Lake Property Québec, Canada", dated December 6, 2013, and the Technical Report entitled "NI 43-101 Technical Report On The Preliminary Economic Assessment (PEA) For The Strange Lake Property Québec, Canada", dated June 26, 2014.

10) I have read NI 43-101 and the portions of this report for which I am responsible have been prepared in compliance with the instrument.

11) As of the date of this certificate, to the best of my knowledge, information and belief, the sections of this Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make this report not misleading.

Report dated this 8th day of March, 2017.

"Richard Gowans" {signed and sealed}

Richard Gowans, P.Eng.
President, Micon International Limited

CERTIFICATE OF AUTHOR
William J. Lewis

As the co-author of this report entitled "NI 43-101 Technical Report for the Updated Mineral Resource Estimate on the Strange Lake Project, Québec, Canada", with a report date of March 8, 2017 and an effective date of February 15, 2017 (the "Technical Report"), I, William J. Lewis do hereby certify that:

1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail wlewis@micon-international.com;

2) I hold the following academic qualifications: B.Sc. (Geology)
University of British Columbia, 1985

3) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:

   - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333).
   - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450).
   - Association of Professional Geoscientists of Ontario (Membership # 1522).
   - The Geological Association of Canada (Associate Member # A5975).
   - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758).
   - Québec Temporary Certificate Number 224 (2012 resource estimate).
   - Québec Temporary Certificate Number 372 (2017 updated resource estimate).

4) I have worked as a geologist in the minerals industry for over 30 years;

5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines and 3 years as a surficial geologist and 10 years as a consulting geologist on precious and base metals and industrial minerals;

6) I visited the Strange Lake Project between March 26 and 29, 2012;

7) I was a co-author of the Technical Report for Quest entitled "Technical Report for the Strange Lake B Zone Rare Earth Element (REE) Deposit, Updated Mineral Resource Estimate, Province of Québec (Québec), Canada" dated December 14, 2012, and 2 subsequent Technical Reports which used the 2012 resource estimate as a basis.

8) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;

9) I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument;

10) I am independent of Quest Rare Minerals Ltd., as defined by Canadian NI 43-101 regulations and have provided consulting services to the companies.;

11) I originally supervised the work conducted by Jonathan Steedman on the 2012 mineral resource estimate for the B Zone therefore took responsibility for that work. I conducted the desktop update based upon the revised commodity prices for this Technical Report.

12) I am responsible for Sections 4 through 10, 12.1, 14 and 23 of this Technical Report.

Report dated this 8th day of March, 2017.

"William J. Lewis" {signed and sealed}

William J. Lewis, B.Sc., P.Geo. Senior Geologist,
Micon International Limited

CERTIFICATE OF AUTHOR
R.V. Zalnieriunas

As the co-author of this report entitled "NI 43-101 Technical Report for the Updated Mineral Resource Estimate on the Strange Lake Project, Québec, Canada", with a report date of March 8, 2017 and an effective date of February 15, 2017 (the "Technical Report"), I, Rimant (Ray) V. Zalnieriunas do hereby certify that:

1) I am self-employed as a geologist working as the Principal Geologist of R.V. Zalnieriunas Consulting, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail ray.rvzc@gmail.com;

2) I hold the following academic qualifications:
B.Sc. (Hon.) in Geology Queen's University 1978;

3) I am a registered Professional Geoscientist with the Association of Professional Geoscientists of Ontario (registration Number 0391) and *l'Ordre des géologues du Québec (numero de member 541)*; as well, I am a member in good standing of several other technical associations and societies, including: Society of Economic Geologists; The Prospectors and Developers Association of Canada; Ontario Prospectors Association; Northern Prospectors Association;

4) I have worked as a geologist in the minerals industry for over 35 years;

5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration; I fulfill the requirements of a Qualified Person as defined in NI 43-101;

6) I last visited the Strange Lake Project site between March 26 and 29, 2012;

7) Prior to co-authoring this Technical Report, I was engaged by Quest Rare Minerals Ltd. as an independent consulting geologist to provide support services as a Director of Technical Services and was the designated qualified person (QP) for the 2011 diamond drilling program carried out on the area of B Zone. I was also a co-author of the Technical Report for Quest entitled "Technical Report for the Strange Lake B Zone Rare Earth Element (REE) Deposit, Updated Mineral Resource Estimate, Province of Québec (Québec), Canada" dated December 14, 2012, and the Technical Report entitled "NI 43-101 Technical Report On The Pre-Feasibility Study For The Strange Lake Property Québec, Canada", dated December 6, 2013 and the Technical Report entitled "NI 43-101 Technical Report On The Preliminary Economic Assessment (PEA) For The Strange Lake Property Québec, Canada", dated June 26, 2014.

8) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;

9) I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument;

10) I am independent of Quest Rare Minerals Ltd., as defined by Canadian NI 43-101 regulations and have provided consulting services to the company;

11) I am responsible for Sections (Items) 11 and 12.2 of this Technical Report.

Report dated this 8th day of March, 2017.

"R.V. Zalnieriunas" {signed and sealed}

R.V. Zalnieriunas, P.Geo.
Principal, R.V. Zalnieriunas Consulting

APPENDIX 1

MINERAL CLAIM INFORMATION FOR THE STRANGE LAKE PROJECT

Quebec Mineral Claim Information

Claim Type and Number	Registration Date	Expiry Date	Claim Area (ha)	Excess Work	Required Work (/ha/y)	Required Fee
CDC 2072420	3/29/2007	3/28/2017	47,83	0	1170	123.12
CDC 2072421	3/29/2007	3/28/2017	47,83	0	1170	123.12
CDC 2072422	3/29/2007	3/28/2017	47,83	0	1170	123,12
CDC 2072423	3/29/2007	3/28/2017	47,83	3299,48	1170	123,12
CDC.2072424	3/29/2007	3/28/2017	47,83	0	1170	123,12
CDC.2072425	3/29/2007	3/28/2017	47,83	0	1170	123,12
CDC.2072426	3/29/2007	3/28/2017	47,83	0	1170	123,12
CDC.2072427	3/29/2007	3/28/2017	47,83	164123,33	1170	123,12
CDC.2072428	3/29/2007	3/28/2017	47,83	44084,26	1170	123,12
CDC.2072429	3/29/2007	3/28/2017	47,83	48412,76	1170	123,12
CDC.2072431	3/29/2007	3/28/2017	47,83	34156,89	1170	123,12
CDC.2072433	3/29/2007	3/28/2017	47,83	209780,43	1170	123,12
CDC.2072434	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072435	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072436	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072437	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072438	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072439	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072440	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072441	3/29/2007	3/28/2017	47,82	3189,34	1170	123,12
CDC.2072442	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072443	3/29/2007	3/28/2017	47,82	320173,24	1170	123,12
CDC.2072444	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072445	3/29/2007	3/28/2017	47,82	27636,71	1170	123,12
CDC.2072446	3/29/2007	3/28/2017	47,82	12698,43	1170	123,12
CDC.2072447	3/29/2007	3/28/2017	47,82	0	1170	123,12
CDC.2072450	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072451	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072452	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072453	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072454	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072455	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072456	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072457	3/29/2007	3/28/2017	47,81	0	1170	123,12
CDC.2072458	3/29/2007	3/28/2017	47,81	197970,43	1170	123,12
CDC.2072459	3/29/2007	3/28/2017	47,81	4535630,98	1170	123,12
CDC.2072460	3/29/2007	3/28/2017	47,81	3761670,55	1170	123,12
CDC.2072461	3/29/2007	3/28/2017	47,81	196250,38	1170	123,12
CDC.2072465	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072466	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072467	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072468	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072469	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072470	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072471	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072472	3/29/2007	3/28/2017	47,8	0	1170	123,12
CDC.2072473	3/29/2007	3/28/2017	47,8	555014,84	1170	123,12
CDC.2072474	3/29/2007	3/28/2017	47,8	5415879,14	1170	123,12

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CDC.2072475	3/29/2007	3/28/2017	47,8	648827,04	1170	123,12
CDC.2075298	4/12/2007	4/11/2017	47,83	0	1170	123,12
CDC.2075299	4/12/2007	4/11/2017	47,83	0	1170	123,12
CDC.2076847	4/16/2007	4/15/2017	10,48	0	416	30,51
CDC.2076857	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076859	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076861	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076863	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076865	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076867	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076869	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076871	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076873	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076875	4/16/2007	4/15/2017	47,79	0	1170	123,12
CDC.2076877	4/16/2007	4/15/2017	11,26	0	416	30,51
CDC.2076888	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076890	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076892	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076895	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076897	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076899	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076901	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076903	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076904	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076906	4/16/2007	4/15/2017	47,78	0	1170	123,12
CDC.2076908	4/16/2007	4/15/2017	25,97	0	1040	110,16
CDC.2076922	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076924	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076926	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076928	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076930	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076932	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076935	4/16/2007	4/15/2017	47,77	3325,09	1170	123,12
CDC.2076936	4/16/2007	4/15/2017	47,77	3325,09	1170	123,12
CDC.2076939	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076940	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076943	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076945	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076947	4/16/2007	4/15/2017	47,77	0	1170	123,12
CDC.2076949	4/16/2007	4/15/2017	46,86	0	1170	123,12
CDC.2076951	4/16/2007	4/15/2017	14,89	0	416	30,51
CDC.2076964	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076965	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076966	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076967	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076968	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076969	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076970	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076971	4/16/2007	4/15/2017	47,76	0	1170	123,12
CDC.2076972	4/16/2007	4/15/2017	44,84	0	1040	110,16
CDC.2076973	4/16/2007	4/15/2017	34,87	0	1040	110,16
CDC.2076974	4/16/2007	4/15/2017	15,68	0	416	30,51

CDC.2077188	4/16/2007	4/15/2017	15,87	14525,43	416	30,51
CDC.2077190	4/16/2007	4/15/2017	15,17	20246,55	416	30,51
CDC.2077192	4/16/2007	4/15/2017	14,72	20246,55	416	30,51
CDC.2077194	4/16/2007	4/15/2017	4,62	11544,87	416	30,51
CDC.2077196	4/16/2007	4/15/2017	0,72	0	416	30,51
CDC.2122729	9/20/2007	9/19/2017	42,67	10152,87	1040	110,16
CDC.2122731	9/20/2007	9/19/2017	22,5	146407,86	416	30,51
CDC.2122733	9/20/2007	9/19/2017	6,53	161707,13	416	30,51
CDC.2122734	9/20/2007	9/19/2017	47,81	106209,53	1170	123,12
CDC.2122735	9/20/2007	9/19/2017	47,81	9837,87	1170	123,12
CDC.2122736	9/20/2007	9/19/2017	47,81	319256,35	1170	123,12
CDC.2122737	9/20/2007	9/19/2017	2,21	0	416	30,51
CDC.2122738	9/20/2007	9/19/2017	47,8	54774,24	1170	123,12
CDC.2122739	9/20/2007	9/19/2017	47,8	188423,56	1170	123,12
CDC.2122740	9/20/2007	9/19/2017	47,8	139653,44	1170	123,12
CDC.2122741	9/20/2007	9/19/2017	47,8	38230,93	1170	123,12
CDC.2122742	9/20/2007	9/19/2017	46,51	96933,23	1170	123,12
CDC.2123065	9/21/2007	9/20/2017	34,29	79212,52	1040	110,16
CDC.2186981	8/19/2009	8/18/2017	40,52	31949,67	780	110,16
CDC.2186982	8/19/2009	8/18/2017	47,79	0	877,50	123,12
CDC.2186983	8/19/2009	8/18/2017	47,79	0	877,50	123,12
CDC.2186984	8/19/2009	8/18/2017	47,79	0	877,50	123,12
CDC.2186985	8/19/2009	8/18/2017	47,79	0	877,50	123,12
CDC.2186986	8/19/2009	8/18/2017	47,79	0	877,50	123,12
CDC.2186987	8/19/2009	8/18/2017	43,42	0	780	110,16
CDC.2186988	8/19/2009	8/18/2017	47,78	0	877,50	123,12
CDC.2186989	8/19/2009	8/18/2017	47,78	8450,18	877,50	123,12
CDC.2186990	8/19/2009	8/18/2017	47,78	0	877,50	123,12
CDC.2186991	8/19/2009	8/18/2017	47,78	0	877,50	123,12
CDC.2188102	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188103	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188104	9/10/2009	9/9/2017	47,85	1919,57	877,50	123,12
CDC.2188105	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188106	9/10/2009	9/9/2017	47,85	2009,26	877,50	123,12
CDC.2188107	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188108	9/10/2009	9/9/2017	47,85	22475,45	877,50	123,12
CDC.2188109	9/10/2009	9/9/2017	47,85	7710,41	877,50	123,12
CDC.2188110	9/10/2009	9/9/2017	47,85	9195,41	877,50	123,12
CDC.2188111	9/10/2009	9/9/2017	47,85	12190,97	877,50	123,12
CDC.2188112	9/10/2009	9/9/2017	47,85	33523,39	877,50	123,12
CDC.2188113	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188114	9/10/2009	9/9/2017	47,85	13675,97	877,50	123,12
CDC.2188115	9/10/2009	9/9/2017	47,85	30561,80	877,50	123,12
CDC.2188116	9/10/2009	9/9/2017	47,85	8450,18	877,50	123,12
CDC.2188117	9/10/2009	9/9/2017	47,85	17800,30	877,50	123,12
CDC.2188118	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188119	9/10/2009	9/9/2017	47,85	0	877,50	123,12
CDC.2188120	9/10/2009	9/9/2017	47,85	13675,97	877,50	123,12
CDC.2188121	9/10/2009	9/9/2017	47,43	0	877,50	123,12
CDC.2188122	9/10/2009	9/9/2017	38,32	0	780	110,16
CDC.2188123	9/10/2009	9/9/2017	47,84	0	877,50	123,12
CDC.2188124	9/10/2009	9/9/2017	47,84	0	877,50	123,12

CDC.2188125	9/10/2009	9/9/2017	47,84	0	877,50	123,12
CDC.2188126	9/10/2009	9/9/2017	47,84	0	877,50	123,12
CDC.2188127	9/10/2009	9/9/2017	47,84	0	877,50	123,12
CDC.2188128	9/10/2009	9/9/2017	47,84	0	877,50	123,12
CDC.2188129	9/10/2009	9/9/2017	47,84	0	877,50	123,12
CDC.2188130	9/10/2009	9/9/2017	47,84	16407,68	877,50	123,12
CDC.2188131	9/10/2009	9/9/2017	47,84	46570,57	877,50	123,12
CDC.2188132	9/10/2009	9/9/2017	47,84	35846,57	877,50	123,12
CDC.2188133	9/10/2009	9/9/2017	47,84	42004,04	877,50	123,12
CDC.2188134	9/10/2009	9/9/2017	47,84	13675,97	877,50	123,12
CDC.2188135	9/10/2009	9/9/2017	47,84	36425,45	877,50	123,12
CDC.2188136	9/10/2009	9/9/2017	47,84	46999,49	877,50	123,12
CDC.2188137	9/10/2009	9/9/2017	47,84	10815,41	877,50	123,12
CDC.2188138	9/10/2009	9/9/2017	44,38	62805,90	780	110,16
CDC.2188139	9/10/2009	9/9/2017	30,89	46075,63	780	110,16
CDC.2188140	9/10/2009	9/9/2017	21,45	37517,45	312	30,51
CDC.2188141	9/10/2009	9/9/2017	15,34	17493,53	312	30,51
CDC.2188142	9/10/2009	9/9/2017	3,66	0	312	30,51
CDC.2192147	10/16/2009	10/15/2017	47,88	0	877,50	123,12
CDC.2192148	10/16/2009	10/15/2017	47,88	0	877,50	123,12
CDC.2192149	10/16/2009	10/15/2017	47,88	0	877,50	123,12
CDC.2192150	10/16/2009	10/15/2017	47,88	0	877,50	123,12
CDC.2192151	10/16/2009	10/15/2017	47,88	0	877,50	123,12
CDC.2192152	10/16/2009	10/15/2017	47,88	0	877,50	123,12
CDC.2192153	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192154	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192155	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192156	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192157	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192158	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192159	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192160	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192161	10/16/2009	10/15/2017	47,87	35112,24	877,50	123,12
CDC.2192162	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192163	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192164	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192165	10/16/2009	10/15/2017	41,16	0	780	110,16
CDC.2192166	10/16/2009	10/15/2017	9,22	0	312	30,51
CDC.2192167	10/16/2009	10/15/2017	47,87	0	877,50	123,12
CDC.2192168	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192169	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192170	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192171	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192172	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192173	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192174	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192175	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192176	10/16/2009	10/15/2017	47,86	32929,68	877,50	123,12
CDC.2192177	10/16/2009	10/15/2017	47,86	54190,03	877,50	123,12
CDC.2192178	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192179	10/16/2009	10/15/2017	47,86	20488,62	877,50	123,12
CDC.2192180	10/16/2009	10/15/2017	47,86	18216,06	877,50	123,12

CDC.2192181	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192182	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192183	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192184	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192185	10/16/2009	10/15/2017	47,86	0	877,50	123,12
CDC.2192186	10/16/2009	10/15/2017	45,42	3775,09	877,50	123,12
CDC.2192187	10/16/2009	10/15/2017	15,13	0	312	30,51

Newfoundland and Labrador Claim Information

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Mineral Rights Inquiry Report

Thursday, February 23, 2017

Licence Number:	019113M
File Number:	774:8158
Original Holder:	May have been several
Licence Holder:	Quest Rare Minerals Ltd.
Address:	77 14th Street Roxboro, QC Canada, H8Y 1M5
Licence Status:	Issued (Extended 2012/04/05)
Location:	Strange Lake, West of Nain
Electoral Dist.:	01 Torngat Mountains
Recorded Date:	
Issuance Date:	2007/04/05
Renewal Date:	2017/04/05
Report Due Date:	2017/06/05
Org. No. Claims:	30.0000
Cur. No. Claims:	30.0000
Recording Fee:	$0.00
Receipt(s):	No related recording fee receipt
Deposit Amount:	$0.00
Deposit:	No related security deposit receipt
Map Sheet No(s):	24A/08

Comments:

This license replaces 016415M,013305M,016413M,016412M,016414M. Year 3 work report consists of diamond drilling. Report reviewed and data requested 2011.08.25. Data recieved and report accepted 2011.08.30 (JL). Year 5 work report consists of diamond drilling. Report reviewed and data requested 2012.12.13. Data received and report accepted 2012.12.13 (JL)

Mapped Claim Description:

Beginning at the Northeast corner of the herein described parcel of land, and said corner having UTM coordinates of 6 241 000 N, 434 000 E; of Zone 20; thence South 1,500 metres, thence West 500 metres, thence South 1,000 metres, thence West 1,500 metres, thence North 500 metres, thence West 1,000 metres, thence North 500 metres, thence West 1,000 metres, thence North 500 metres, thence West 500 metres, thence South 500 metres, thence West 1,000 metres, thence North 1,000 metres, thence East 5,000 metres, thence North 500 metres, thence East 500 metres to the point of beginning. All bearings are referred to the UTM grid, Zone 20. NAD27. Reserving nevertheless out of the above described area all of the land being part of: Strange Lake Exempt Mineral Land. Province of Quebec. Reserving nevertheless out of the above described area: Specified Materials as defined in Chapter 1 of the Labrador Land Claims Agreement, parcel(s) 4C-64; Carving Stone as defined in Chapter 1 of the Labrador Land Claims Agreement.

Land Claims (effective 2005/12/01):

LISA: 0.47% LIL: 72.47% VBP: 0.00% Crown: 27.06%

Extensions:

Year	Date	Fee	Receipt Number	Receipt Date	Receipt Amount
5	2012/04/05	$750.00	NRJER11098	2012/03/16	$750.00

Work Reports:

Year	Receive Date	Acceptance Date	Actual Expenditure	Claims	Security Deposit	C2 Status
1			$15,472.79	30.0000		
2			$0.00	30.0000		
3	2011/06/02	2011/08/30	$26,932.90	30.0000		
4	2011/06/06		$0.00	30.0000		
5	2012/06/04	2012/12/13	$442,481.84	30.0000		
6	2013/06/04		$0.00	30.0000		
7	2014/06/04		$0.00	30.0000		
8	2015/06/04		$0.00	30.0000		
9	2016/06/06		$0.00	30.0000		

$27,000.00 to be expended on this license by 2022/04/05

Licence Transfers: None

Partial Surrenders: None

This Licence replaces Licence Number(s): 013305M 016412M 016413M 016414M 016415M

This Licence is replaced by Licence Number(s): None

Work Report Descriptions:

Year	GS File No.	Description
5	024A/08/0037	

Detailed breakdown of projected required expenditure:

Actual Year	Actual Expenditure	Work Year	Excess Expenditure	Claims
1	$15,472.79			
		1	$9,472.79	30.0000
		2	$1,972.79	30.0000
2	$0.00			
3	$26,932.90			
		3	$19,905.69	30.0000
		4	$9,405.69	30.0000
4	$0.00			
5	$442,481.84			

		5	$439,887.53	30.0000
		6	$421,887.53	30.0000
		7	$403,887.53	30.0000
		8	$385,887.53	30.0000
		9	$367,887.53	30.0000
		10	$349,887.53	30.0000
		11	$322,887.53	30.0000
		12	$295,887.53	30.0000
		13	$268,887.53	30.0000
		14	$241,887.53	30.0000
6	$0.00			
7	$0.00			
8	$0.00			
9	$0.00			
		15	-$27,000.00	30.0000

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