## NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT & MINERAL RESOURCE ESTIMATE ON THE NORMANDIE TAILINGS SITE, IRLANDE TOWNSHIP, QUEBEC NTS 21L/03

Prepared for

and



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Effective date: January 15<sup>th</sup>, 2019 Issue date: February 7<sup>th</sup>, 2020

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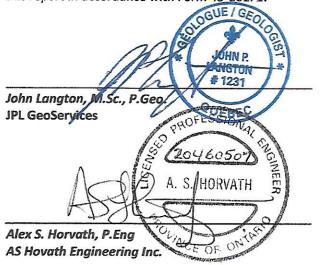
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#### **QP DATE AND SIGNATURE PAGE\***

This report is effective as at the  $15^{th}$  day of January, 2020. The date of issue of this report is the 7<sup>th</sup> day of February, 2020.

\*See certificate of qualification from pages 74-75. These certificates are concidered the date and signature of this report in accordance with Form 43-101F1.



Signed and Sealed this 7<sup>th</sup> day of February 2020

Signed and Sealed this 7<sup>th</sup> day of February, 2020

## **1 SUMMARY**

## **1.1 Introduction**

Blue Lagoon Resources Inc ("BLR") is a publicly-traded exporation company headquartered in Vancouver, British Columbia (Canada) listed under the symbol "BLLG" on the Canadian Securities Exchange (CSE), with corporate offices located at 610 - 700 West Pender St., Vancouver BC V6C 1G8.

Mag One Operations ("MOO") is a private company existing under the laws of Quebec and a wholly owned subsidiary of Mag One Products Inc. ("MOPI"), a technology, processing and production company trading on the CSE under the symbol "MDD".

Asbestos Corporation Limited ("ACL") is an independant Canadian company whose shares trade on the NEX Board under the stock symbol AB.H. NEX is a separate board of the TSX Venture Exchange ("TSX-V") that provides a trading forum for listed companies that have fallen below the TSX-V ongoing listing standards. ACL is headquartered at 840 Boulevard Ouellet, Thetford Mines, Quebec.

ACL is the owner of an estimated 160,000,000 tonnes\* of Measured+Indicated and 240,000,000 tonnes of Inferred serpentine tailings that were generated from the formerly operating Federal, Normandie, British Canadian I, British Canadian II and King Beaver mines, located on its land holdings (the "Property") in the immediate vicinity of Thetford Mines, Quebec.

\* This estimate is historical in nature. A qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves. Neither BLR nor MOO are treating this historical estimate as current mineral resources or mineral reserves.

In 2017, ACL and MOO reached agreement\* to grant MOO non-exclusive access to recover and process up to 60,000,000 tonnes (60 Mt) of tailings material present on the Property, and has agreed to pay ACL for the processed material (the "Agreement").

\* The Agreement was updated, with minor changes, in December of 2019.

On November 26, 2019 BLR announced that it had signed a letter of intent, dated November 25, 2019, with MOPI and its wholly owned subsidiary MOO, pursuant to which BLR may acquire up to a 70% equity joint venture ownership interest in MOO by purchasing up to \$5.25 million of shares of MOO (the "Transaction").

Upon announcement of the Transaction, Rana Vin, President and CEO of BLR retained JPL GeoServices, a Val-d'Or-based, independent geological consulting firm, to author a National Instrument 43-101 (NI 43-101) Technical Report (the "Report") on the Normandie Tailings Project (the "Project") that was mandated to include a Mineral Resource Estimate (MRE) for the Normandie tailings site, situated on the Property.

ACL's Property comprises 95 land parcels covering, covering 4,751.74 hectares (47.5 square kilometres) in the Chaudière-Appalaches administrative region of southern Quebec, in the so-called Eastern Townships area (specifically Irlande Township), and encompasses several historic mine workings and tailings sites adjacent the municipality of Thetford Mines. The Normandie tailings site, the focus of the Mineral Resource Estimate in this Report, is located some twelve (12) km southwest of Thetford Mines, in the western-most part of the Property.

## 1.2 Geology

The Thetford Mines area is part of the Appalachian mountain belt, which formed as the result of the closure of the lapetus and Rheic oceans and the accretion to Laurentia of Gondwana-derived continental terranes during the Paleozoic. The Quebec Appalachians represent a 1000 km-long segment of that mountain belt, extending from New York to Newfoundland, that exposes mainly

Cambrian and Ordovician rock comprising three principal lithotectonic assemblages: the Cambrian-Ordovician Humber and Dunnage zones; and the Silurian-Devonian successor sequence of the Connecticut Valley-Gaspé synclinorium. The Humber and Dunnage Zones are remnants of the Laurentian continental margin and of the adjacent oceanic domain, respectively. The contact between the Humber and Dunnage zones is the Baie Verte-Brompton Line (BBL), which is loosely defined as a linear zone of discontinuous serpentinites, dismembered ophiolites and mélanges.

In southern Québec, the Dunnage zone comprises four major assemblages: (1) ophiolitic complexes; (2) the St-Daniel Mélange; (3) the Ascot Complex, a composite terrane of volcanic arc sequences; and (4) the Magog Group, a fore-arc sedimentary sequence.

The Southern Québec Ophiolite Belt constitutes a series of partly dismembered oceanic terranes accreted against the Laurentian margin in the Ordovician, and then reworked by Ordovician/Silurian (Taconian) and Devonian (Acadian) orogenic deformation. It comprises four major ophiolitic complexes: the Thetford-Mines (TMOC); Asbestos (AOC); Lac Brompton (LBOC); and Mont Chauve/Mont Orford (MOOC), and many smaller slivers.

The TMOC outcrops as a NE-trending belt, 40 km in length and 10-15 km in width that preserves a complete ophiolitic sequence, including thick mantle (~5 km) and crustal (~1–5 km) sections. The ideal ophiolite succession comprises, from the top downwards, marine sediments, pillowed basaltic lavas, sheeted diabase dykes, noncumulate and cumulate mafic rocks, ultramafic cumulates, and ultramafic tectonites. Chrysotile asbestos deposits are most commonly developed in the tectonite member of the succession.

The host rock of the asbestos deposits of southern Quebec for the most part is peridotite. These rocks, which have undergone varying degrees of serpentinization, form part of the TMOC, comprising dunite, chromitite, peridotites (harzburgite and lherzolite), pyroxenites (clinopyroxenite and websterite), gabbro, dolerite, and pillow or fragmental mafic lavas.

The mines that operated in the Thetford Mines area targeted the massive deposits of serpentinized peridotite for chrysotile (white asbestos). Other elemental metals of potential economic interest in the asbestos host rocks are magnesium, nickel, chrome and iron.

The Normandie tailings material comes from the Normandie Mine, which closed definitively in November 1985. The Normandie mine deposit was discovered in 1946; however, production did not start until 1955. Ore extracted from the mine was processed at the primary crusher (no longer standing) located near the open pit. Conveyors transported the crushed ore to the wet stone reserve, to the dryer, thence to the dried stone reserve. The dry ore was then processed in the Normandie mill. Most of the mine's production was transported by train or truck on rails to Saint-Joseph-de-Coleraine to be transferred there on other railways to its buyers. The Normandie open pit, with surface level dimensions of 300 m x 500 m, has ten (10) fifteen-metre high benches resulting in a general slope-angle of  $45^{\circ}$ .

The Normandie tailings, which top out at roughly 100 metres above the local ground level and cover a ground-surface area of 53 hectares (ha), comprise a mix of mainly sand- to pebble-sized ultramafic to mafic host rock material, chrysotile and serpentine fibres, and powdered rock. Drilling by Nichromet in 2007 show that the tailings are generally vertically homogenous. Some variation in grain size occurs as a reflection of variations during processing. Also, some levels or parts of levels of the tailings will have been more compacted along dumptruck and bull-dozer routes during material disposal, and during work on the tailings pile, e.g., preparation and installation of conveyor systems; however, these are not considered as significant factors to the homogeneity of the tailings' composition. BLR and MOO are proceeding with the evaluation and possible development of the surface tailings that are present on the Site.

## **1.3** Historic Mineral Resource Estimate (MRE)

In 2007, Geostat Systems International Inc. ("Geostat") prepared a NI 43-101 "Technical Report of the Nickel Content in Asbestos Mines Tailings, Thetford Mines, Quebec, Canada" (Dupéré et al., 2007), for Nichromet Extraction Inc. ("Nichromet").

According to Dupéré et al. (2007), resource estimates of various asbestos tailings sites were calculated by LAB Chrysotile Inc. in 1996 and revised in 2001 by Michel Labbé. These historic tonnage estimates\* were derived from processing-plant data and volumetric calculations, using an overall specific gravity (SG) of 1.37.

\*These tonnage estimates are historical in nature. A qualified person has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves. Neither BLR nor MOO are treating these historical estimates as current mineral resources or mineral reserves.

Density measurements were collected at regular interval spacings along the entire length of the drill-cores during Nichromet's 2007 drilling program. These data showed a relationship between SG and depth in the pile. The density at surface ranged between 0.8 to 0.9 g/cm<sup>3</sup>, increasing to 1.2 g/cm<sup>3</sup> at 15 m depth, and to 1.3 g/cm<sup>3</sup> at 30 m below surface. The average density for all Normandie tailings samples collected in 2007 is 1.27 g/cm<sup>3</sup>.

Les Mesures Lasertech ("Lasertech") complete a detailed high-precision GPS survey on the Normandie tailings site and established that the pile comprises roughly 21,300,000 m<sup>3</sup> of material.

Based on their layered density determinations, search ellipse criteria and specific interpolation parameters, Dupéré et al. (2007) classified the Normandie tailings site as comprising a Measured + Indicated resource\* of roughly 26 Mt (**Table 1-1**).

NICHROMET - NORMANDIE MAIN PILE RESOURCES* (Dupéré et al., 2007)										
Class Tonnage SG MgO% Fe% N										
Measured	23,207,000	1.26	37.75	5.27	0.21					
Indicated	3,007,000	1.21	37.23	5.57	0.22					
Measured + Indicated	26,214,000	1.25	36.80	5.30	0.21					

#### Table 1-1: Historic Mineral Resources - Normandie Main Tailings Pile

\*These resource estimates are historical in nature. A qualified person has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves. Neither BLR nor MOO are treating these historical estimates as current mineral resources or mineral reserves.

### **1.4 2020 Mineral Resource Estimate**

JPL GeoServices was mandated by BLR and MOO to provide an independent NI 43-101 compliant MRE of the Normandie main tailings pile. The verification and validation of the database included a review of the geological model and continuity for each zone, as well as the methodology and parameters used for the estimate.

The Normandie NMTP consists of processed tailings with a narrow range of MgO% grades (33.38% to 38.74%). It is most likely that any re-processing of the pile would involve the entire pile, rather than selectivity by MgO% grade, and hence no cut-off grade is applied to the 2020 Mineral Resource Estimate. The MRE has an inherent cut-off grade at 35% with the minimum estimated block value of 35.03% MgO.

The 2020 MRE classified the majority of the material in the Measured + Indicated category, based on the processed data, the search ellipse criteria, the specific interpolation parameters and the confidence in the information provided (**Table 1-2**).

The total Measured and Indicated Resources are estimated at 26.6 million tonnes grading 37.07% MgO and represent 98.3% of the total estimated tonnage of the NMTP.

The Inferred Mineral Resources are estimated at 460 thousand tonnes grading 37.62% MgO and comprise the remaining 1.7% of the tonnage of the NMTP.

Category	Volume (000's m <sup>3</sup> )	Density	Tonnes (000's m <sup>3</sup> )	Grade MgO%
Measured (Msd)	11,528	1.28	14,755	37.07
Indicated (Ind)	9,257	1.28	11,838	37.15
Total Msd + Ind	20,785	1.28	26,593	37.11
Inferred	395	1.17	461	37.62

Table 1-2: 2020 Mineral Resources Estimate\* - Normandie Main Tailings Pile (NMTP)

\*Mineral Resource Estimate Notes

(1) Mineral Resource estimates were calculated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions.

(2) Mineral resources, which are not mineral reserves, do not have demonstrated economic viability. The mineral resource estimate may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(3) The quantity and grade of estimated Inferred Resource reported herein are uncertain and there has been insufficient exploration to categorize them as an Indicated or Measured Resource. It is uncertain if further exploration will result in reclassification of Inferred Mineral Resources to the Indicated or Measured Mineral Resource categories.

(4) The Independent and Qualified Person for the Mineral Resource Estimate, as defined by NI 43-101, is Alex Horvath, P.Eng. (A.S. Horvath Engineering), and the effective date of the estimate is January 15th, 2020.

(5) Whereas the results are presented undiluted and in situ, the reported mineral resources are considered to have reasonable prospects for economic extraction.

(6) Resources were estimated using GEOVIA GEMS<sup>M</sup> 6.6 software. The database used for the estimate contained assays from percussion drill-holes and excavated test pits.

(7) The number of metric tons was rounded to the nearest hundred. Any discrepancies in the totals are due to rounding effects. Rounding followed the recommendations in NI 43-101.

(8) Neither JPL GeoServices nor A.S. Horvath Engineering are aware of any environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue, that could materially affect the current Mineral Resource Estimate.

### **1.5** Conclusions and Recommendations

Prior to developing the Normandie main tailings pile, local and municipal stakeholders will need to be consulted for permitting approval. It is recommended to initialize this process as soon as possible, in order to foster social acceptability of the Project.

Collecting of a bulk sample of Normandie tailings site material for mineralogical, metallurgical and processing studies is recommended. This testwork should aim to optimize crushing, separation (screening), processing methods, etc. of the tailings material to optimize MgO recovery.

Work in 2007 by Nichromet shows that the other tailings sites on the Property are also likely viable economic resourses. It is recommended that a percussion drilling and surface sampling program be initiated in conjunction with a high-precision surface survey of the d'Amiante tailings pile, in advance of a Mineral Resource Estimate for these tailings.

A preliminary budget for the recommended work is summarized in Table 1-3.

#### Table 1-3: Preliminary Budget for Recommended Work on additional Thetford Tailings Projects

Phase 1		Budget
Normandie tailings site	Bulk sample	\$25,000
Normandie tailings site	Metallurgical processing test-work	\$100,000
Sub-total		\$125,000
Phase 2		
d'Amiante tailings	GPS high-precision survey	\$40,000
d'Amiante tailings	Drilling & pitting	\$100,000
MRE d'Amiante tailings	NI 43-101 Mineral Resource Estimate	\$35,000
Sub-total		175,000
Overall Total		\$300,000

### 2 INTRODUCTION AND TERMS OF REFERENCE

This Report was co-authored by John Langton of JPL GeoServices ("JPL") and Alex Horvath of A.S. Horvath Engineering Inc. ("ASH") (the "Authors") at the joint request of Rana Vin, CEO of Blue Lagoon Resources Inc. ("BLR") and Gillian Holcroft CEO and President of Mag One Operations ("MOO") and Mag One Products Inc. ("MOPI").

BLR is a publicly-traded exporation company headquartered in Vancouver, British Columbia (Canada) listed under the symbol "BLLG" on the Canadian Securities Exchange (CSE), with corporate offices located at 610 - 700 West Pender St., Vancouver BC V6C 1G8.

MOO, a private company existing under the laws of Quebec, is a wholly owned subsidiary of MOPI, a technology, processing and production company trading on the CSE under the symbol "MDD".

In November 2019, Rana Vin, President and CEO of BLR retained JPL GeoServices, a Val-d'Or-based, independent geological consulting firm, to author a National Instrument 43-101 (NI 43-101) Technical Report (the "Report") on the Normandie tailings site (the "Project") that was mandated to include a Mineral Resource Estimate (MRE) on the tailings materials (the "Tailings") present on the Project.

The Project and the Tailings themselves are situated adjacent to the closed Normandie open-pit asbestos mine workings on ground held by the Sociétée Asbestos Ltée and 9075-6453 Quebec Inc., both subsidiary companies of Mazarin Inc. ("Mazarin"), which were granted ownership of the underlying land parcels by the Crown in 1925.

The Authors' data-review and preparation of this report, and the calculation of the MRE, were carried out in compliance with the disclosure and reporting requirements for mineral projects set forth in National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* ("NI 43-101").

The purpose of this document is to provide the Board of Directors' of BLR and MOO with an independent Technical Report and MRE on the Project, and to provide recommendations for further exploration.

It is understood that this Report will be used to support the subsequent public disclosure of the mineral resource at the Project by filing on the System for Electronic Document Analysis and Retrieval (SEDAR; <u>www.sedar.com</u>), as required by NI 43-101. SEDAR is the principal filing system of the Canadian Securities Commission.

The Authors are qualified persons (QP) as defined in NI 43-101, and the Items for which they take responsibility in the preparation of this report are summarized in **Table 2-1**.

The effective date of this Report is January 15<sup>th</sup>, 2020. This Report is considered current as at February 7<sup>th</sup>, 2020.

### 2.1 Sources of Information

Historical geological information sourced for this Report was distilled from the on-line SIGEOM database (<u>http://sigeom.mines.gouv.qc.ca/signet/classes/l1102\_indexAccueil?l=a</u>) of the Quebec the *Ministère de l'Énergie et des Ressources* (MERN). The Authors also made use of other on-line resources, publications of the Geological Survey of Canada and scientific papers from various earth science Journals. The Report also made use of information in previous published and unpublished technical reports by Dupéré et al. (2007) and Marchand et al. (2017).

A list of the principal material reviewed and used in the preparation of this document is included in the References section (**Item 27**) of this document.

Itom	Item Heading Responsibility									
item										
1	Summary	Horvath &Langton								
2	Introduction	Langton								
3	Reliance on other Experts	Langton								
4	Property Description and Location	Langton								
5	Accessibility, Climate, Physiography, Local Resources and Infrastructure	Langton								
6	History	Langton								
7	Geological Setting and Mineralization	Langton								
8	Deposit Types	Langton								
9	Exploration	Langton								
10	Drilling	Langton								
11	Sample Preparation, Analyses and Security	Horvath & Langton								
12	Data Verification	Horvath & Langton								
13	Mineral Processing/Metallurgical Testing	-								
14	Mineral Resource Estimate	Horvath								
15-22	Not Applicable to this Report	-								
23	Adjacent Properties	Langton								
24	Other Relevant Data and Information	Langton								
25	Interpretation and Conclusions	Horvath & Langton								
26	Recommendations	Horvath & Langton								
27	References	Langton								

#### Table 2-1: Summary of Author (QP) Responsibilities

The Authors believe that the information used to prepare this Report, and to formulate its conclusions and recommendations, is valid and appropriate considering the status of the Project and the purpose for which the Report is prepared.

### 2.2 Site Visit

John Langton conducted a site visit to the Project on November 27-28, 2019. During the site-visit, Mr. Langton explored the general landscape of the tailing sites around Thetford Mines; collected several representative samples from pits excavated in the Normandie tailings; and located tailings samples collected during the 2007 sampling program by Nichromet, and procured some of the material from twenty-six (26) of these samples for data validation purposes.

### 2.3 Units of Reference

Currency amounts (\$) are reported in Canadian Dollars (\$ or CAD\$) or "American" dollars (US\$).

Grid coordinates on maps and figures are based on the UTM NAD 83 Zone 19 projection. Compass directions may be abbreviated using letter designations as follows: north (N), east (E), south (S) and west (W).

Quantities are stated in metric units, as per standard Canadian and international practice, including metric tons (tonnes, t) and kilograms (kg) for mass, kilometres (km) or metres (m) for distance, hectares (ha) for area.

Mineral grades and concentrations from assay results may be presented in percent (%), parts per million (ppm), and grams per tonne (gpt). Where applicable, imperial units have been converted to the International System of Units (SI units) for consistency.

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

Alex S. Horvath (P.Eng.) of A. S. Horvath Engineering Inc. was commissioned by JPL GeoServices to complete the volumetrics, tonnage and Mineral Resource Estimate of the Normandie tailings site. The results of the MRE are included as **Item 14** of the Report.

A.S. Horvath Engineering relied entirely on the data provided by JPL GeoServices Inc. and MOO to complete the current MRE. No data validation was completed by A.S. Horvath Engineering other than to validate the databases provided. This, however, does NOT include validation as to the original source or accuracy of the data provided.

The Authors have not verified the legal titles to the Property, nor the legality of any underlying agreement(s) that may exist concerning the permits, licenses or other agreement(s) between third parties.

## 4 PROPERTY LOCATION AND DESCRIPTION

## 4.1 Location

The Property is in the Chaudière-Appalaches administrative region of southern Quebec, in the socalled Eastern Townships area (specifically Irlande Township), roughly 80 km south of Quebec City, and 180 km east-northeast of Montreal. The centre of the Property has approximate UTM coordinates of 318300 (easting) and 5101850 (northing), in Zone 19 of the 1983 North American Datum (NAD 83) geoide, within National Topographic System (NTS) map 21L/03 (**Figure 4-1**).

The land comprising the Property is owned by Sociétée Asbestos Ltée and 9075-6453 Quebec Inc., both subsidiary companies of ACL, itself a subsidiary of Mazarin Inc. ("Mazarin"), that were granted ownership of ninety-five (95) parcels of land (**Table 4-2**) by the Crown in 1925. The land holdings comprise one large and nine (9) small, non-contigous land-blocks underlying several closed mines and tailings sites adjacent to the municipality of Thetford Mines (**Figure 4-2**).

The approximate centre of the Project Tailings have UTM coordinates 312315 E / 5100000 N, equivalent to 46° 01' 40" Latitude, 71° 25' 30" Longitude. The approximate centres of other tailings sites on the Property (see **Figure 4.2**) that may be developed as part of the Agreement are listed in **Table 4-1**.

Mine Tailings	NAD83 Z19				
Site	UTM-X	UTM-Y			
Bell	320800	5106700			
British Canada I	317900	5103100			
British Canada II	318300	5103200			
King Beaver	318430	5102470			
Lac d'Amiante	316940	5097300			
National	326400	5111200			

#### Table 4-1: Location of Other Tailings Sites on the ACL Property

### 4.2 Land Tenure and Disposition

Along with the land titles, Sociétée Asbestos Ltée and 9075-6453 QUEBEC Inc. were also granted the surface and sub-surface mineral rights to their land holdings. This was prior to the creation of the modern mining title system currently used in the province of Quebec. These mineral rights relate to all commodities on the Property except for gold and silver, which can be explored for by interested exploration companies through the standard claim staking process to acquire the sub-surface rights.

As at the issue date of this Report, neither BLR nor MOO own surface mineral exploration rights to the Property or the Project. The Agreement in place with ACL provides for access, sampling, and potential development of other tailings sites on the Property, going forward.

The land parcels listed in **Table 4-1** were obtained from Dupéré et al. (2007). The boundaries have not been legally surveyed.

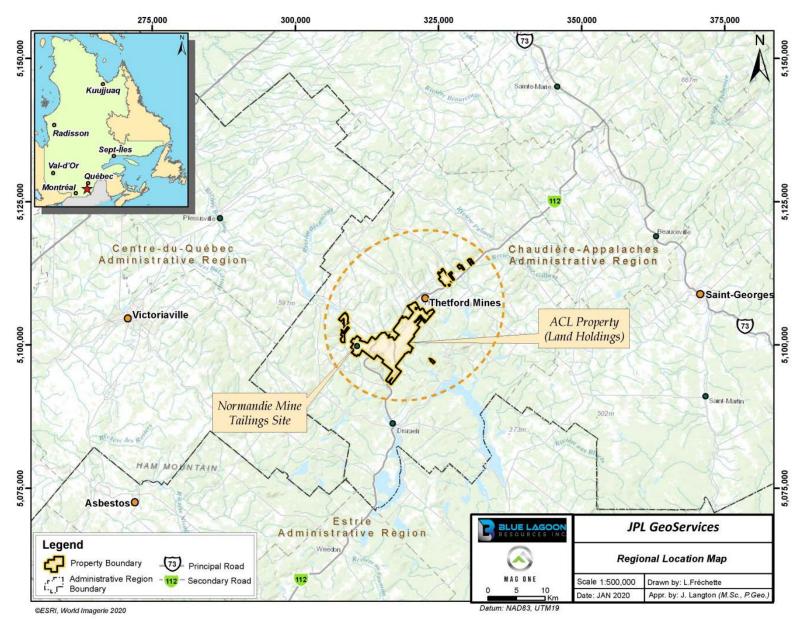


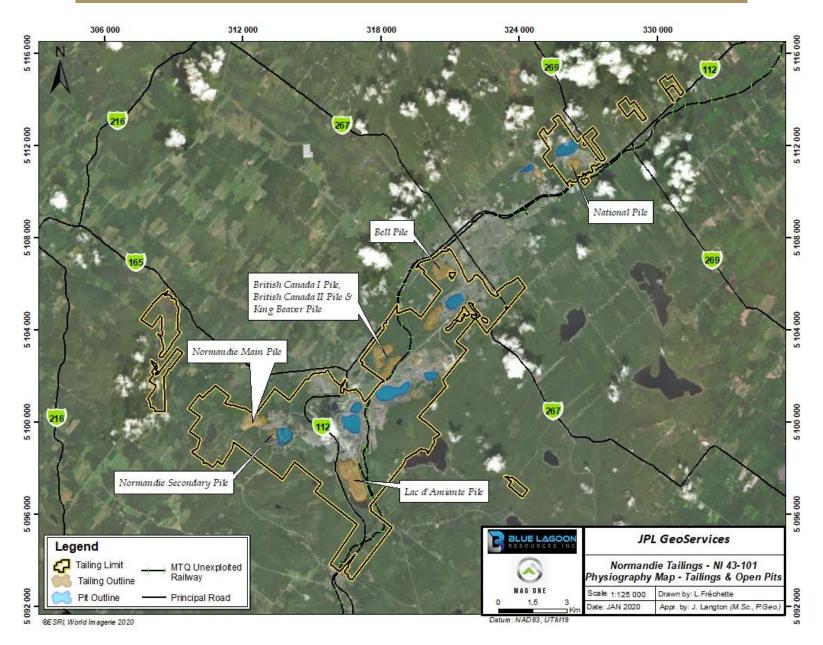
Figure 4.1: Regional location map of the Property

## Table 4-2: List of Land Parcels Comprising ACL's Land Holdings in the Thetford Mines Area.

Item	Parcel	Area (ha)	Perimeter (m)	Lot(s)	Range	Township	MRC	Municipality
1	3499-16-3525	1.617	723.301	210-2	4	Irlande	Amiante	Thetford-Black Lake
2	3498-61-9020	72.903	3,756.392	206	4	Irlande	Amiante	Coleraine
3	3795-24-8080	79.391	3,844.653	205	4	Irlande	Amiante	Coleraine
4	3795-24-8080	65.561	3,245.676	203	3	Irlande	Amiante	Coleraine
5	3795-24-8080	41.798	2,600.554	202	3	Irlande	Amiante	Coleraine
6	3498-61-9020	88.935	4,305.246	201	3	Irlande	Amiante	Coleraine
7	3498-61-9020	91.009	4,293.837	200	3	Irlande	Amiante	Coleraine
8	3498-61-9020	90.704	4,257.299	199	3	Irlande	Amiante	Coleraine
9	3498-61-9020	42.828	3,601.214	198-2	3	Irlande	Amiante	Coleraine
10	3498-61-9020	43.446	3,589.075	198-1	3	Irlande	Amiante	Coleraine
11	3298-96-8590	40.661	3,530.517	197-2	3	Irlande	Amiante	Irlande
12	3298-96-8590	43.551	3,554.391	197-1	3	Irlande	Amiante	Irlande
13	4001-80-3055	35.738	3,331.627	31	14	Coleraine	Amiante	Thetford-Black Lake
14	4001-80-3055	41.066	3,560.909	30	14	Coleraine	Amiante	Thetford-Black Lake
15	4001-80-3055	40.762	3,699.518	29	14	Coleraine	Amiante	Thetford-Black Lake
16	4001-80-3055	44.803	3,847.048	28	14	Coleraine	Amiante	Thetford-Black Lake
17	4001-80-3055	52.097	3,964.354	27	14	Coleraine	Amiante	Thetford-Black Lake
18	4001-80-3055	189.611	7,752.850	Bloc A-5		Coleraine	Amiante	Thetford-Black Lake
19	4001-80-3055	60.341	4,847.440	32	15	Coleraine	Amiante	Thetford-Black Lake
20	4001-80-3055	54.395	4,862.903	31	15	Coleraine	Amiante	Thetford-Black Lake
21	4001-80-3055	60.727	4,832.396	30A	15	Coleraine	Amiante	Thetford-Black Lake
22	4001-80-3055	54.617	4,567.533	29A	15	Coleraine	Amiante	Thetford-Black Lake
23	4001-80-3055	51.657	4,411.114	28A	15	Coleraine	Amiante	Thetford-Black Lake
24	4001-80-3055	49.821	4,226.541	26	15	Coleraine	Amiante	Thetford-Black Lake
25	4001-80-3055	57.735	4,405.649	27A	15	Coleraine	Amiante	Thetford-Black Lake
26	3902-33-0595	106.251	4,774.317	P-446		Irlande	Amiante	Thetford-Black Lake
27	3902-33-0595	80.29	4,547.896	P-445	7	Irlande	Amiante	Thetford-Black Lake
28	4204-27-8090	36.272	2,510.138	P-24	6	Thetford	Amiante	Thetford-Thetford
29	4204-27-8090	45.277	2,770.859	P-25	6	Thetford	Amiante	Thetford-Thetford
30	4204-27-8090	14.389	1,584.290	P-390	5	Thetford	Amiante	Thetford-Thetford
31	4204-27-8090	93.169	4,852.812	P-26	6	Thetford	Amiante	Thetford-Thetford
32	4204-27-8090	99.685	5,930.900	P-511	6	Thetford	Amiante	Thetford-Thetford
33	4105-96-4090	7.67	1,241.087	P-28	4	Thetford	Amiante	Thetford-Thetford
34	4005-59-7110	11.146	1,804.087	P-562	10	Irlande	Amiante	Thetford-Thetford
35	4105-96-4090	41.98	2,644.098	P-561	10	Irlande	Amiante	Thetford-Thetford
36	4204-27-8090	35.068	2,427.767	560	10	Thetford	Amiante	Thetford-Thetford
37	4204-27-8090	155.581	5,425.378	558	9	Thetford	Amiante	Thetford-Thetford
38	4204-27-8090	39.722	3,627.806	542 & 462	16	Thetford	Amiante	Thetford-Thetford
39	4203-32-9045	34.059	3,322.991	P-29	16	Coleraine	Amiante	Thetford-Thetford

Item	Parcel	Area (ha)	Perimeter (m)	Lot(s)	Range	Township	MRC	Municipality
40	4610-90-7505	7.31	1,403.198	P-17A	4	Thetford	Amiante	Thetford-Ponbriand
41	4610-90-7505	18.256	1,825.412	P-16C	4	Thetford	Amiante	Thetford-Ponbriand
42	4610-90-7505	21.48	3,176.737	P-16B	4	Thetford	Amiante	Thetford-Ponbriand
43	4610-90-7505	20.603	3,173.013	P-16A	4	Thetford	Amiante	Thetford-Ponbriand
44	4912-48-2080	9.875	1,613.376	P-10B	5	Thetford	Amiante	Thetford-Robertson
45	4912-48-2080	9.484	1,605.796	P-10A	5	Thetford	Amiante	Thetford-Robertson
46	4912-48-2080	18.549	2,214.927	P-9B	5	Thetford	Amiante	Thetford-Robertson
47	4912-48-2080	9.703	1,617.978	P-9C	5	Thetford	Amiante	Thetford-Robertson
48	5113-29-8500	18.201	2,212.809	P-6A	5	Thetford	Amiante	Thetford-Robertson
49	5113-29-8500	20.685	2,962.084	P-6B	5	Thetford	Amiante	Thetford-Robertson
50	6224-71-3030	36.67	2,457.417	138	3	St-Frederic	Robert-Cliche	St-Frederic
51	6122-49-6010	21.955	2,071.104	13C	5	Brougthon	Amiante	Sacre-Coeur-de-Jesus
52	6022-50-5510	18.053	2,110.676	13B	5	Brougthon	Amiante	East Brougthon
53	6122-49-6010	24.064	3,269.867	13A	4	Brougthon		Sacre-Coeur-de-Jesus
54	6122-49-6010	2.093	584.509	13B	4	Brougthon	Amiante	Sacre-Coeur-de-Jesus
55	6122-49-6010	26.601	3,321.315	13E	4	Brougthon		Sacre-Coeur-de-Jesus
56	6122-49-6010	2.167	597.218	13F	4	Brougthon	Amiante	Sacre-Coeur-de-Jesus
57	6122-49-6010	15.131	3,158.969	13C	4	Brougthon		Sacre-Coeur-de-Jesus
58	6122-49-6010	1.21	445.155	13D	4	Brougthon		Sacre-Coeur-de-Jesus
59	4810-08-0335	25.127	2,570.734	P-13D	5	Thetford		Thetford-Robertson
60	4711-56-2538	2.055	579.056	P-13B	5	Thetford	Amiante	Thetford-Robertson
61	4711-56-2538	4.067	927.973	P-13D	5	Thetford	Amiante	Thetford-Robertson
62	3499-16-3525	5.366	1,202.250	210-4	4	Irlande	Amiante	Thetford-Black Lake
63	3499-16-3525	38.08	3,107.961	210-3	4	Irlande	Amiante	Thetford-Black Lake
64	3499-16-3525	14.206	2,237.022	209-2	4	Irlande	Amiante	Thetford-Black Lake
65	3499-16-3525	25.196	2,532.835	209-1	4	Irlande	Amiante	Thetford-Black Lake
66	3499-16-3525	28.683	2,583.242	209-4	4	Irlande	Amiante	Thetford-Black Lake
67	3499-16-3525	9.85	1,436.212	209-3	4	Irlande	Amiante	Thetford-Black Lake
68	3498-61-9020	31.183	2,734.200	208-2	4	Irlande	Amiante	Coleraine
69	3498-61-9020	32.71	2,990.485	208-4	4	Irlande	Amiante	Coleraine
70	4001-80-3055	3.912	1,328.465	P-448	8	Irlande	Amiante	Thetford-Black Lake
71	4001-80-3055	26.642	3,893.537	P-447	7	Irlande	Amiante	Thetford-Black Lake
72	3902-33-0595	86.56	4,525.509	P-447	7	Irlande		Thetford-Black Lake
73	4001-80-3055	58.232	4,046.476	P322	6	Irlande		Thetford-Black Lake
74	3795-24-8080	67.192	4,784.246	P-Bloc B-1	18	Coleraine	Amiante	Coleraine
75	3795-24-8080	90.466	4,167.737	P-204	4	Irlande	Amiante	Coleraine
76	3795-24-8080	465.012	13,961.819	P-Bloc A-1	17	Coleraine	Amiante	Coleraine
77	3898-71-4095	496.362	11,160.108	P-Bloc A-1	17	Coleraine	Amiante	Coleraine
78	3498-61-9020	79.886	3,837.884	207	4	Irlande		Coleraine

Item	Parcel	Area (ha)	Perimeter (m)	Lot(s)	Range	Township	MRC	Municipality
79	3298-96-8590	17.526	1,807.472	P-196-7	3	Irlande	Amiante	Irlande
80	3902-33-0595	62.893	4,275.293	P-450	8	Irlande	Amiante	Thetford-Black Lake
81	3902-33-0595	82.421	3,975.049	P-449	8	Irlande	Amiante	Thetford-Black Lake
82	3902-33-0595	96.649	4,141.545	P-448	8	Irlande	Amiante	Thetford-Black Lake
83	4001-80-3055	40.836	3,465.468	32	14	Coleraine	Amiante	Thetford-Black Lake
84	4105-96-4090	21.753	1,918.701	P-27	4	Thetford	Amiante	Thetford-Thetford
85	4105-96-4090	1.886	702.509	P-26	4	Thetford	Amiante	Thetford-Thetford
86	4105-96-4090	2.631	1,429.827	P-211	5	Thetford	Amiante	Thetford-Thetford
87	4204-27-8090	28.193	3,733.065	P-460	5	Thetford	Amiante	Thetford-Thetford
88	4204-27-8090	40.426	4,287.879	P-450	5	Thetford	Amiante	Thetford-Thetford
89	4204-27-8090	22.274	3,561.381	P-533	6	Thetford	Amiante	Thetford-Thetford
90	4204-27-8090	7.6	1,236.198	463	6	Thetford	Amiante	Thetford-Thetford
91	4204-27-8090	29.304	4,075.545	P-30A	16	Thetford	Amiante	Thetford-Thetford
92	4204-27-8090	25.06	4,043.633	P-541	16	Thetford	Amiante	Thetford-Thetford
93	4105-96-4090	24.447	2,696.533	P-398	5	Thetford	Amiante	Thetford-Thetford
94	4105-96-4090	21.012	2,000.386	P-420	5	Thetford	Amiante	Thetford-Thetford
95	6122-49-6010	37.62	2,605.223	14A	5	Brougthon	Amiante	Sacre-Coeur-de-Jesus





## 4.3 Related Information

On November 26, 2019 Blue Lagoon Resources Inc. ("BLR") announced that it had signed a letter of intent (LOI), dated November 25, 2019, with Mag One Products Inc. ("MOPI") and its wholly owned subsidiary, Mag One Operations Inc. ("MOO"), pursuant to which BLR may acquire up to a 70% equity joint venture ownership interest in MOO by purchasing up to \$5.25 million of shares of MOO (the "Transaction").

The LOI provides that BLR may purchase up to 50% interest in MOO by making cash payments to MOO of \$100,000 upon signing of the definitive agreement, and \$300,000, \$750,000, \$1.1 million and \$1.5 million, within 3, 8, 12 and 19 months from the closing under the Definitive Agreement. BLR may acquire an additional 20%, subject to MOPI shareholder approval, by making a final payment of \$1.5 million within 24 months of closing. The LOI is non-binding other than customary provisions including standstill and confidentiality provisions. Closing of the Transaction is subject to various conditions, including completion of technical and other due diligence investigations, an independent valuation report, entering into a definitive agreement, receipt of all necessary corporate and regulatory approvals, and compliance with stock exchange requirements. The transaction was negotiated at arm's length and no finder's fee is payable.

At the time of the Transaction, MOPI had in place the Agreement with Asbestos Corporation Limited, a subsidiary of Mazarin, to explore and possibly develop up to 60 Mt of tailings on the Property. This Agreement will remain in place, with BLR as the operator, going forward.

### 4.4 Environmental Liabilities

There are no environmental liabilities as such at issue, since neither BLR nor MOO own the land of mineral rights to the ground underlying the Normandie tailings pile.

#### 4.5 Other Permits

Permits will be required for some of the recommended exploration programs (e.g., percussion drilling, pitting, bulk sample acquisition, etc.), and potentially for their associated environmentalteration undertakings as well (road-construction, water-crossings, etc.). The appropriate Permit Applications for these activities should be submitted by BLR to the appropriate government departments in a timely manner before proceeding with any exploration or development program(s).

#### 4.6 Other Relevant Factors

To the Authors' knowledge there are no other significant factors, risks, or legal issues that may affect access, title, or the right or ability to perform work on the Project throughout the year.

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

## 5.1 Accessibility

The Project is easily accessed by driving north on provincial Highway 165 from Thetford Mines, then southwest on Vimy Ridge Road for 3.5 km to the access gate for the Normandie mining complex. Other tailings sites on the Property (Lac d'Amiante, British Canadian I, British Canadian II, King Beaver, Bell and National, can be accessed via Rue du Lac-Noir in Thetford Mines.

Permission to access any and all of the tailings sites should first be obtained from the offices of Dundee Technologies' Technical Centre at 3700 Rue du Lac-Noir, Thetford Mines. Vehicles with high ground-clearance are recommend for travel on or in the immediate vicinity of the tailings sites.

## 5.2 Climate

Data collected from 1981 to 2010 at the Thetford Mines weather station, located some three (3) km west of the town centre, indicate daily average temperatures of 19°C in July and minus 12°C in January. Snow cover generally lasts from November to April, with December as the month with the most snow accumulation (**Figure 5.2**). The average yearly precipitation is 1,309.6 mm, including rainfall (945.5 mm) and snowfall (364.5 mm). These

Mining and drilling operations may be carried out all year long, but surface exploration work (e.g., mapping, trenching, sampling) is most convenient from mid-April to mid-November.

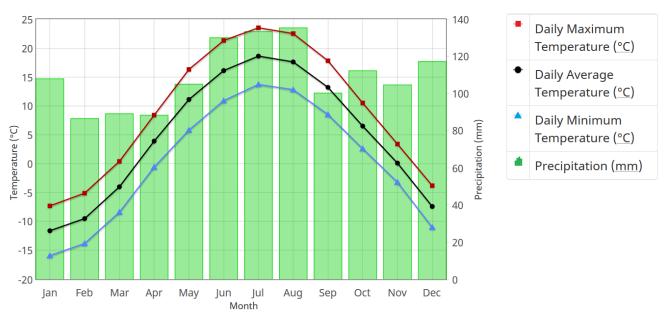


Figure 5.1: Temperature and precipitation graph for Thetford Mines based on Canadian climate normals 1981-2010 (http://climate.weather.gc.ca/climate\_normals/index\_e.html)

### 5.3 Physiography

The topography around Thetford Mines consists of rolling hills and valleys, with local relief of 300-400 metres, that are part of the Appalachian mountain system. The region is rural and agricultural with many small farms. Natural vegetation comprises a mix of mainly sugar maple, yellow birches, basswood, black- and white- spruce, and ground-cover species (**Figure 5.2**).



Figure 5.2: Google Earth image showing local physiography around the Property

There are abundant lakes, streams and rivers in the area, with the prominent drainage being northwestward to the St. Lawrence River via the Bécancour River system.

Glacial overburden comprising mainly layers of clay, sand and gravel is pervasive, with 1%-2% exposure of outcrop being typical. Thickness of the overburden in the area is generally less than 10 metres, but depths up to 50 metres and more are not uncommon in the historic drill-hole records.

The Tailings at the Project top out at approximately 100 metres relief and cover a ground-surface area of 53 hectares (ha).

#### 5.4 Local Resources and Infrastructure

The town of Thetford Mines, immediately adjacent to the Property, has excellent infrastructure and a population base of approximately 16,000 persons. The community can provide housing, servicing, supplies, consumables, transport facilities and an experienced workforce. The municipality has a health care centre with emergency services, primary and secondary schools, and provincial government offices. The community has a rich mining history with an experienced mining and mineral exploration workforce, the area having realized many producing mines and mineral exploration. Any additional project needs can be met through Quebec City and Montreal, which are major metropolitan cities. The provincial government encourages the development of natural resources through the granting of permits, title security and financial incentives. Politically, the province and the municipality are supportive of mining activities.

Thetford Mines Airport (<u>TC LID</u>: CSM3), located roughly 5 km south of the town, has facilities to accommodate civil and recreational aircraft with a 4,500 ft airstrip. The terminal has recently been completely renovated as part of a mandate to improve the visibility of the airport and the quality of its services in order to position the Thetford Mines area as a business destination.

There is currently no freight or passenger rail service to Thetford Mines although the Quebec Ministry of Transport initiated a study into the possibility of rehabilitating the discontinued railway line linking Thetford Mines to Sherbrooke. The government commissioned this study in mid-2019 to examine the feasibility of re-opening a direct link between Quebec and the eastern United States, but it was recently shelved.

#### Normandie Mine site (closed)

The buildings at the closed Normandie mine are maintained at a basic care-and-maintenace level. Security guards do regular checks of the on-site buildings no longer in use. Electrical power is still available at the site.

### 6 **HISTORY**

NOTE: The GESTIM and SIGEOM systems are the principal repository for historical information on the Province's mineral resources and are accessible online at <a href="https://gestim.mines.gouv.qc.ca/">https://gestim.mines.gouv.qc.ca/</a> and <a href="https://gestim.mines.gouv.qc.ca/">SIGEOM web-sites allow on-line examination and queries of the Province of Quebec's database of Provincial Assessment Reports or "Gestimes Minieres" (GM's).

At the time the Normandie deposit was discovered, and subsequently developed, the ground underlying the area was owned by Société Asbestos Ltée (SAL) along with all surface and mineral rights (with the exception of gold and silver rights). No assessment (GM) work reports on the exploration and development phases of the Normandie mine were present in the SIGEOM system.

### 6.1 Historic Summary

The discovery of the first Thetford Mines' asbestos deposit in 1876 is usually attributed to local resident Joseph Fecteau. Having taken a break from cutting hay to pick blueberries, Fecteau spotted a strange, greenish rock. He scraped some fibres from the rock with his fingernail and showed the substance to a visiting fur trader named Roger Ward. Ward had samples of the fibres analyzed and confirmed it was the mineral asbestos. The asbestos fibre was valued for its unique fire, rust, and rot resistance, as well as its tensile strength and sound absorption. It was even referred to as the miracle fibre for these characteristics.

In 1877, Ward bought property and mining rights in the village. Mining companies began production later that year. In 1879, the arrival of the railway made it possible to transport the mineral in larger quantities and more quickly to Lévis, Quebec. The village incorporated as Kingsville (named after William King, an important mine owner) in 1892. It grew rapidly as the mines attracted people from other areas. Kingsville was incorporated as a city and renamed Thetford Mines in 1905.

Both underground and open-face mines operated in the area. Streets were built between the mines and the asbestos tailings. To enlarge the King and Beaver mines, the neighbourhood of Saint-Maurice was relocated in 1953 and again between 1970 and 1973. The second redevelopment also changed the course of the Bécancour River. Called the "Capitale mondiale de l'amiante" (Asbestos Capital of the World) and the "Cité de l'or blanc" (City of White Gold), Thetford Mines was the largest production centre for this fibre in the Western world in the 20th century.

In the 1980s, growing concern about the health hazards associated with asbestos and increasingly strict regulations on the mineral caused demand to fall. With lower demand came a decrease in production and the number of people employed in the industry. The city's last mine closed in 2012. In 2018, following the example of many countries, Canada banned the sale and use of asbestos and asbestos products.

#### Normandie Mine

Located in Vimy Ridge area, just west of Thetford Mines, the Normandy mine deposit was discovered in 1946; however, production did not start until 1955. The Normandy mine deposit is distinguished by a system of parallel asbestos veins called "ribbon structure".

Ore from the mine was processed at a primary crusher located near the open pit. Conveyors transported the crushed ore to a wet-stone reserve, a dryer, and then to a dried-stone reserve. The dry ore was then processed in the Normandie mill. Built in 1954, the eight-story mill had a capacity of 6,370 tonnes per day. A headframe was constructed around 1970 to access the underground Penhale deposit, located adjacent to the open pit. The open pit, with ground-level

dimensions of 300 m x 500 m, has ten (10) fifteen-metre high benches resulting in a general slope-angle of 45°.

Remaining infrastructure from the former mining operation are present on the site (Figure 6-1).



Figure 6.1: View of Normandie mine infrastructure looking SE from top of Tailings. Normandie open pit (water-filled) in background behind Penhale headframe. Normandie secondary tailings pile behind main mill building.

#### Geological Mapping: Thetford Mines Area

Geological mapping in the region was conducted largely by Cooke (1937), Riordon (1954) and Hebert (1983). Working scale maps for the Ham Sud sheet were produced by Hebert (1980) and Beullac (1982). A geological compilation of the Thetford Mines area was produced by Y. Hebert (1980) at a scale of 1:50,000 that incorporated previous work by P. St. Julien, R. LaMarche, C. DeRosier, R. Laurent and M. Blackburn. Reconnaissance mapping was conducted from June to August, 1985 on the Thetford Mines Ophiolite and presented on three sheets (Ham Sud, Disraeli and Thetford) at a scale of 1:20,000 (Lutes, 1985).

#### 2007 - Nichromet Extraction Inc.

In 2007, Geostat Systems International Inc. ("Geostat") prepared a NI 43-101 "Technical Report of the Nickel Content in Asbestos Mines Tailings, Thetford Mines, Quebec, Canada" (Dupéré et al., 2007), for Nichromet Extraction Inc. ("Nichromet").

During the summer of 2007 Geostat carried out an exploration program comprising a total of eleven (11) drill-holes and thirty (30) excavated pits. The holes, drilled by Boart Longyear Canada's SONIC Drilling Division, totalled 595.85 metres. The test pits were excavated by Michel Gouin of Metallurgie Magnetic, Thetford Mines.

Ten (10) drill-holes, totalling 563.85 m, and fifteen (15) test pits were completed on the Normandie tailings site (**Figure 6-2**). Samples from this program provided data on the composition and density of the tailings material. A total of 336 samples (321 from drill-hole intervals\* and 15 from test pits) were analysed by COREM, an accredited laboratory in Quebec City. The average major element composition of the samples is shown in **Table 6-1**.

\*A total of 325 drill-interval samples were submitted, but 4 samples (473259, 473261, 473263 and 473265) from hole NOR-6 were misplaced and not analysed.

Table 6-1: Average Mineral Concentrations of Normandie Tailings and Full-Suite of All Sampled Tailings – Nichromet 2007

Nichromet 2007							
	SiO2%	Al2O3%	MgO%	Fe%	Ni%		
Avg - Normandie site	38.712	1.312	36.951	5.375	0.225		
Avg - all tailings	38.791	1.358	36.807	5.343	0.224		

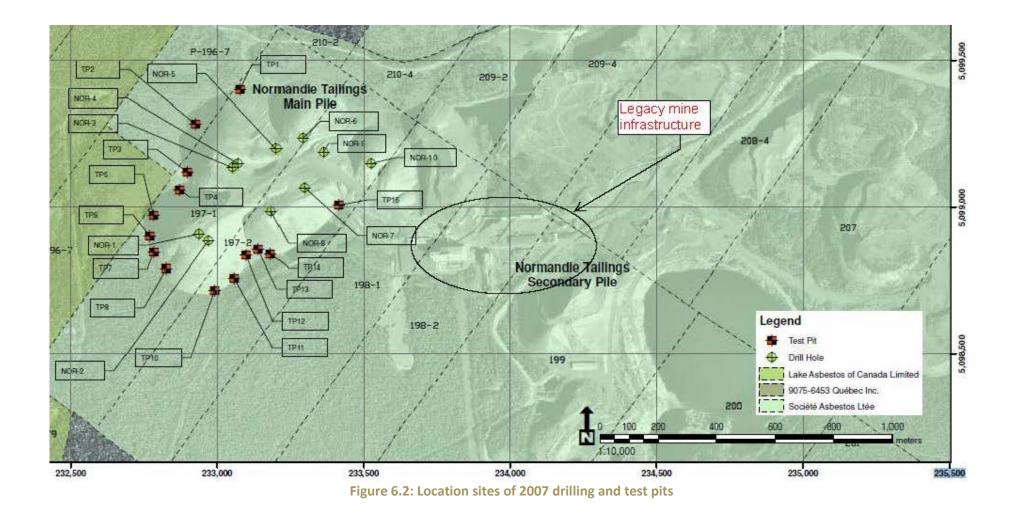
Hodgson (1986) published mineralogical results of studies on tailings from the Thetford Mines area, and in 1992 CRM Quebec carried out chemical composition tests on the same tailings (Dupéré et al., 2007). The average MgO content from the CRM study, which included nineteen (19) samples collected from various tailings sites, was 38.35% with an average water content of 13.86%. The Normandie sample contained 37.5% MgO and 12.0% H2O (**Table 6-2**).

Source Tailings	SiO2%	MgO%	H2O%	Fe%	Ni%
Normandie	n/a	37.5	12	5.2	0.25
Jeffrey	n/a	37.6	13	6	0.22
Bell	38.6	38.25	12.53	5.2	0.23
King Beaver	38.6	36.7	12.1	5.1	0.21
Lac D'Amiante	37.1	39.8	11.9	6	0.24
British Canada I	39.4	39.2	13.2	5.59	0.23
British Canada II	n/a	39	13.3	5.3	0.24
National	33.9	38.9	13.7	4.6	0.23
Flintkote	36.8	38	13.3	n/a	n/a
Bolduc Canadian	37.5	36.3	12.9	7.2	0.16
Carey	36.5	41	13.7	5.5	0.29
Courvan	37.6	38.5	17.3	5.1	0.19
Johns Main	39.2	38.1	12	6.1	0.23
Marbridge	n/a	39.1	15.5	5.6	0.39
Abitibi Asbestos	35.6	36.65	n/a	8.9	0.19
Nordenham	32.2	38.6	18.1	5.73	n/a
St-Rémi	38.7	39	13.7	5.59	n/a
Boston	34.9	38.5	16.3	4.41	n/a
Golden Age	35.1	38	14.8	n/a	n/a
AVG	36.78	38.35	13.85	5.71	0.24

 Table 6-2: Average Elemental Contents from Historic Sampling of ACL Tailings Sites

According to Dupéré et al. (2007), resource estimates of various asbestos tailings sites were calculated by LAB Chrysotile Inc. in 1996 and revised in 2001 by Michel Labbé. These historic tonnage estimates\* were derived from processing-plant data and volumetric calculations, using an overall specific gravity (SG) of 1.37.

\*These tonnage estimates are historical in nature. A qualified person has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves. Neither BLR nor MOO are treating these historical estimates as current mineral resources or mineral reserves.



Density measurements were collected at regular interval spacings along the entire length of the drill-cores during Nichromet's 2007 drilling program. These data showed a relationship between SG and depth in the pile. The specific gravity at surface ranged between 0.8 to 0.9 g/cm<sup>3</sup>, increasing to 1.2 g/cm<sup>3</sup> at 15 m depth, and to 1.3 g/cm<sup>3</sup> at 30 m below surface. Average densities for the Normandie drill-holes are summarized in **Table 6-3**. The average density for all Normandie samples collected in 2007 is 1.27 g/cm<sup>3</sup>.

Nichromet retained Les Mesures Lasertech ("Lasertech") to complete a detailed high-precision survey on the Normandie tailings site. The survey was used to determine the location of the sonic drill-holes and test pits, and to create a 3-D outline of the tailings pile surface. The survey established that the pile comprises roughly 21,300,000 m<sup>3</sup> of material.

Hole ID	AVG SG (Total hole)	AVG SG Zone 1 (0-15 m)	AVG SG Zone 2 (15-30 m)	AVG SG Zone 3 (>30 m)	
NOR-1	1.305	0.900	1.143	1.379	
NOR-2	1.21	1.026	1.393	N/A	
NOR-3	1.197	1.140	1.352	N/A	
NOR-4	1.28	0.988	1.323	1.298	
NOR-5	1.33	1.051	1.474	1.462	
NOR-6	1.307	1.121	1.271	1.377	
NOR-7	1.193	1.101	1.230	1.261	
NOR-8	1.254	0.962	1.298	1.384	
NOR-9	1.191	1.147	1.230	N/A	
NOR-10	1.213	1.578	1.277	N/A	
Overall AVG	1.248	1.101	1.299	1.360	

#### Table 6-3: Average Densities from 2017 Drill-Holes - Normandie Tailings

Based on the down-hole densities and volumetric determination from the Lasertech survey, Nichromet calculated a Mineral Resource Estimate (MRE) for the Normandie tailings site. Tailings material composition was considered to be consistent throughout the pile; however, as density varies with depth in the tailings, the pile was divided into three (3) layers: 0-15 m; 15-30 m; and > 30 m. Only those samples from within a given layer were used for estimation of that particular layer in order to respect the measured density of the material and force the estimation of density within that layer. Nichromet's MRE\* is summarized in (**Table 6-4**).

NICHROMET - NORMANDIE MAIN PILE RESOURCES* (Dupéré et al., 2007)						
Class	Tonnage	SG	MgO%	Fe%	Ni%	
Measured	23,207,000	1.26	37.75	5.27	0.21	
Indicated	3,007,000	1.21	37.23	5.57	0.22	
Measured + Indicated	26,214,000	1.25	36.80	5.30	0.21	

\*These resource estimates are historical in nature. A qualified person has not done sufficient work to classify these historical estimates as current mineral resources or mineral reserves. Neither BLR nor MOO are treating these historical estimates as current mineral resources or mineral reserves.

## 7 GEOLOGICAL SETTING

## 7.1 Regional Geology

The Thetford Mines area is part of the Appalachian mountain belt, which formed as the result of the closure of the lapetus and Rheic oceans and the accretion to Laurentia of Gondwana-derived continental terranes during the Paleozoic. The Quebec Appalachians represent a 1000 km-long segment of that mountain belt, comprising roughly 15% of the surface area of the Northern Appalachians that extend from New York to Newfoundland (**Figure 7.1**). This segment mainly exposes Cambrian and Ordovician rock units belonging to Laurentia and adjacent oceanic domain(s), and an unconformable sequence of Silurian-Devonian 'successor basin' strata Williams (1979). Due to the reentrant position of the Quebec Appalachians near the orogen front, the record of early (Ordovician) tectonic events are well preserved, and the effect of later tectonic events are less pervasive than in the adjacent promontories.

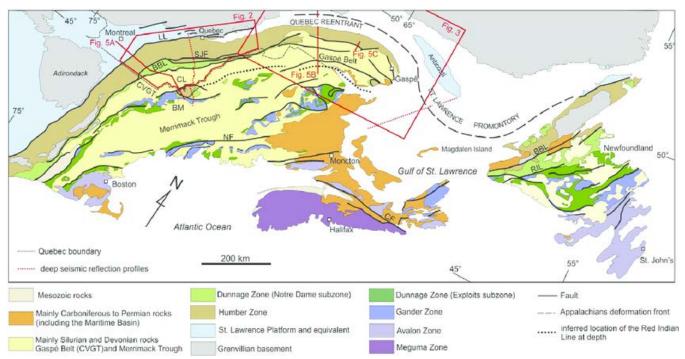


Figure 7.1: Simplified geological map of the Northern Appalachians of mainland Canada and New England showing the major lithotectonic elements of the region (from Tremblay and Pinet, 2016). BBL, Baie verte-Brompton Line; BM, Boil Mountain ophiolite; CF, Chedabucto Fault; CL, Chain Lakes massif; CVGT, Connecticut Valley-Gaspé Trough; LL, Logan's line; NF, Norumbega Fault; RIL, Red Indian Line; SSF, St-Joseph fault.

The southern Quebec Appalachians comprise three principal lithotectonic assemblages: the Cambrian-Ordovician Humber and Dunnage zones; and the Silurian-Devonian successor sequence of the Connecticut Valley-Gaspé synclinorium (trough), located to the South-East of the Guadeloupe Fault (Williams, 1979; Williams 1983; Williams and Hatcher, 1983; Bourque et al., 2000) (**Figure 7.2**). The Humber and Dunnage Zones are remnants of the Laurentian continental margin and of the adjacent oceanic domain, respectively. The contact between the Humber and Dunnage zones is the Baie Verte-Brompton Line (BBL), which is loosely defined as a linear zone of discontinuous serpentinites, dismembered ophiolites and mélanges (Williams and St-Julien 1982). The Dunnage zone is locally unconformably overlain by Upper Silurian and Devonian rocks of the Gaspé Belt.

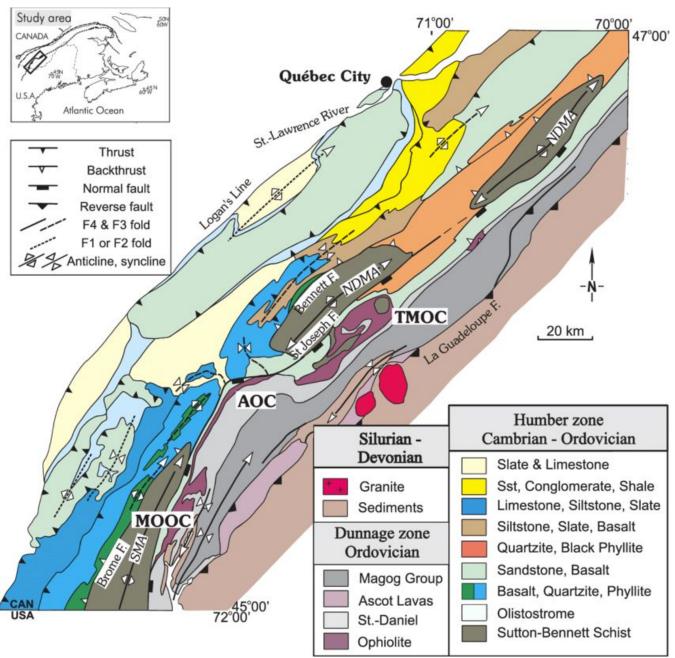


Figure 7.2: Geological map of the southern Québec Appalachians (from Bédard et al., 2007). NDMA - Notre-Dame Mountains Anticlinorium; SMA - Sutton Mountains Anticlinorium; TMOC - Thetford-Mines Ophiolitic Complex; AOC - Asbestos Ophiolitic Complex; LBOC - Lac Brompton Ophiolitic Complex; MOOC - Mont-Orford Ophiolitic Complex; RPM - Rivière des Plantes Mélange; WV - Ware Volcanics; BOG - Bolton Group.

In southern Québec, the Dunnage zone comprises four major assemblages: (1) ophiolitic complexes, remnants of oceanic crust formed in peri-continental supra-subduction zone environments (Hébert and Bédard 2000; Trembley and Bédard 2006); (2) the St-Daniel Mélange, interpreted by Cousineau and St-Julien (1994) as an oceanic accretionary complex, but which were reinterpreted as having been deposited upon the ophiolitic rocks (Schroetter et al. 2003, 2005b); (3) the Ascot Complex, a composite terrane of volcanic arc sequences (Tremblay et al. 1989, 1995); and (4) the Magog Group, a fore-arc sedimentary sequence (Cousineau and St-Julien 1994; Schroetter et al. 2003, 2005b).

The Humber zone is limited to the southeast by the St-Joseph fault and the BBL (Pinet et al. 1996, Tremblay and Castonguay 2002), which together constitute a composite east-dipping normal fault system in southern Québec. The Humber Zone is subdivided into External and Internal Zones (Tremblay & Castonguay, 2002). The External Humber Zone consists of very low-grade sedimentary and volcanic rocks deformed into a series of northwest-directed thrust nappes. The Internal Humber Zone is made of greenschist to amphibolite facies metamorphic rocks (the Sutton-Bennett Schist on **Figure 7.2**) that represent distal facies of the External Humber Zone.

The Southern Québec Ophiolite Belt constitutes a series of partly dismembered oceanic terranes accreted against the Laurentian margin in the Ordovician, and then reworked by Ordovician/Silurian (Taconian) and Devonian (Acadian) orogenic deformation. It comprises four major ophiolitic complexes: the Thetford-Mines (TMOC), Asbestos (AOC), Lac Brompton (LBOC) and Mont Chauve/Mont Orford (MOOC), and many smaller slivers (**Figure 7.2** and **Figure 7.3**).

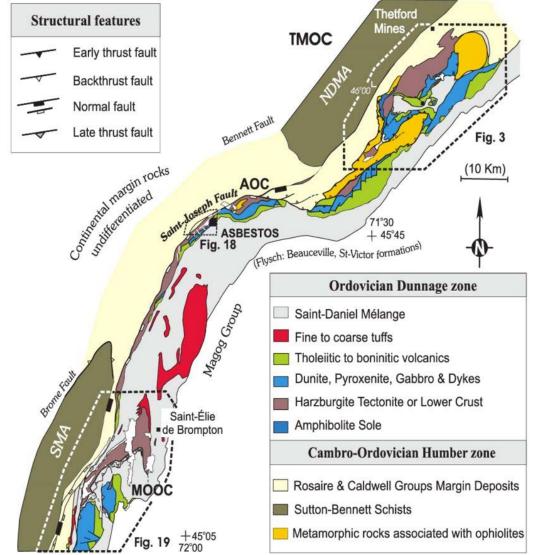


Figure 7.3: FIG. 2: Geological map of the southern Québec ophiolitic belt, based on Schroetter et al. (2005a) and complemented by data from Beulac (1982), Brassard and Tremblay (1999), Brodeur and Marquis (1995), Cooke (1938, 1950), Hébert (1980), Hébert (1983), Huot (1997), Lamarche (1973), Lavoie (1989), Marquis (1989), Pinet (1995), Riordon (1954), Rodrigue (1979), St-Julien (1963, 1971, 1987), St-Julien and Slivitzky (1985).

These ophiolite massifs were previously considered to represent km-scale, fault-bounded blocks within the St.-Daniel Mélange, which was interpreted as the remnant of a subduction complex (Cousineau and St-Julien 1992, 1994). Recent detailed mapping and structural analysis in the Thetford-Mines area has challenged this interpretation, suggesting that the St-Daniel Mélange is a piggyback basin deposited on top of the ophiolite as it was being obducted, exhumed and eroded (Schroetter et al. 2003, 2005a, 2005b; cf. Dérosier 1971; Hébert 1983). The base of the St.-Daniel, the Coleraine Breccia (Hébert, 1981; Schroetter et al. 2003, 2005b), contains fragments of ophiolitic (some 10s of metres in size) and continental margin rocks, indicating that both were being exhumed and eroded at this time.

### 7.2 Local Geology

The Thetford-Mines ophiolitic Complex (TMOC) outcrops as a NE-trending belt, 40 km in length and 10-15 km in width that preserves a complete ophiolitic sequence, including thick mantle (~5 km) and crustal (~1–5 km) sections (**Figure 7.4**). The plutonic crust includes dunitic, pyroxenitic and gabbroic rocks, and shows trace element signatures indicating a dominant boninitic affinity (Bédard et al., 2001, 2006). These are capped by igneous breccias, and boninitic sheeted dykes and lavas; with a lower mixed volcanic unit that also contains subordinate arc tholeiites (Laurent and Hébert, 1977; Church, 1977; Hébert, 1983; Crocket and Oshin, 1987; Laurent and Hébert, 1989; Bédard et al., 2001; Pagé, 2006).

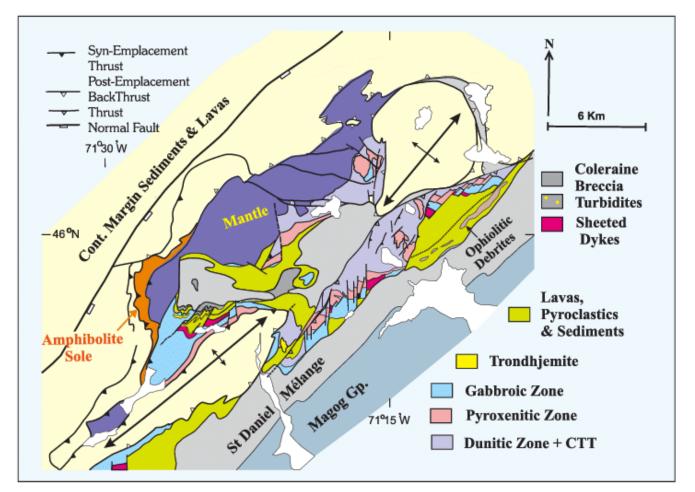


Figure 7.4: Geological and structural map of the TMOC . RB - Reed–Bélanger chromite mine; DL - Duck Lake; LB - Breeches Lake; DLB - Duck Lake Block; CMB - Caribou Mountain Block (adapted by Bédard et al., 2007).

The TMOC is divided into the Thetford-Mines (TM) massif to the northwest and the Adstock-Ham Mountains (AHM) massif to the southeast. The TM massif has a ca. 5 km thick mantle section (Laurent et al., 1979; Pagé et al., 2003) and a 0.5 to 1.5 km-thick crustal section (Schroetter et al., 2005). The oceanic mantle is not preserved in the AHM massif. The crustal section in both massifs consists of dunitic, pyroxenitic and gabbroic cumulates, crosscut by mafic to ultramafic dikes (all of boninitic affinity), which locally grade up into a sheeted dike complex (Bédard et al., 2001; Schroetter et al., 2003).

The ideal ophiolite succession comprises, from the top downwards, marine sediments, pillowed basaltic lavas, sheeted diabase dykes, noncumulate and cumulate mafic rocks, ultramafic cumulates, and ultramafic tectonites. Chrysotile asbestos deposits are most commonly developed in the tectonite member of the succession.

The host rock of the asbestos deposits of southern Quebec for the most part is peridotite, (predominantly harzburgite composition, with some associated dunite). These rocks, which have undergone varying degrees of serpentinization, form part of the TMOC, comprising dunite, chromitite, peridotites (harzburgite and lherzolite), pyroxenites (clinopyroxenite and websterite), gabbro, dolerite, and pillow or fragmental mafic lavas.

## 7.3 Structural Geology

Volcanic rocks throughout the ophiolite massifs contain a single, generally poorly developed, subvertical Taconian cleavage. Intercalated slates in the Mont Ham Massif and slates of the surrounding Saint Daniel Formation carry a single sub-vertical cleavage of similar vintage but it is typically welldeveloped, and bedding is usually transposed parallel to cleavage.

In the absence of original S-surfaces in volcanic and cumulate plutonic rocks, no mesoscopic indications of folding are observed. An exception are broad folds interpreted from facing directions in pillowed volcanic rocks near the Gosselin Quarry in the Mont Adstock Massif.

A synclinorium is outlined by the distribution of rock units in the Black Lake Massif west of Coleraine. This appears to be an early recumbent fold associated with the obduction of the ophiolite. It is cored by olistostromic black slates of the Saint Daniel Formation, which contain numerous large rafts of country rock. It is interpreted that these and the "Coleraine Breccia" are both products of gravity slides characteristic of unstable slopes, and likely generated during ophiolite emplacement. A later generation of folds is apparent north of East Lake, west of Coleraine, where mesoscopic folds with axial-planar cleavage have been observed and interpreted to post-date emplacement of the ophiolite.

Faulting is the most common structural feature in the ophiolitic sequence rocks. Thrust faults associated with the emplacement of the ophiolite are assumed to be those that truncate stratigraphy close to strike and juxtapose age-disparate rock units. These "early" low angle thrust faults associated with obduction have been transposed by subsequent Taconian deformation. Mapped normal (brittle) faults are abundant, subvertical, generally have throws of less than a few hundred metres, and affect all rock units.

### 7.4 Mineralization (mainly from Riordon, 1973)

The mines that operated in the Thetford Mines area targeted the massive deposits of serpentinized peridotite for chrysotile (white asbestos). Some magnetite and brucite are collectively associated with the chrysotile veins. Also present in the host rocks are lizardite, antigorite, magnetite, brucite, chlorite, tremolite, talc, magnesite or dolomite, olivine, orthopyroxene and chromite. Other

elemental metals of potential economic interest in the asbestos host rocks are magnesium, nickel, chrome and iron.

The asbestos veins typically consist of fibres either parallel (slip fibre) or at a high-angle (cross fibre) to the vein walls. The veins of transverse fibres constitute the bulk of the ore in the Thetford deposits. The chrysotile also appears in aggregates, where the muddled asbestos fibres compose up to 80 % of the rock.

The peridotite and dunite associated with the asbestos deposits have been subjected to varying degrees of serpentinization. In the more massive parts, where these rocks have not been affected by faulting, shearing or the emplacement of granitic and dioritic masses, there is a relatively uniformly pervasive serpentinization in which some 30% to 40% of the anhydrous minerals have been converted to serpentine. In peridotite, pyroxenes have generally undergone little or no alteration in contrast to the serpentinization along cleavage planes and fractures in olivine grains. Some pyroxene crystals are corroded or entirely replaced by bastite. Aggregates and finely disseminated flakes of brucite and grains of magnetite may be present as minor constituents in serpentinized rocks.

Serpentinization is best developed in the cores of bounded blocks, where intense serpentinization is confined to depths of a few inches from the fractures. Because of its pervasiveness and even distribution, this serpentinization may be regarded as deuteric in origin and probably took place soon after crystallization of olivine. All degrees of serpentinization, between the above described pervasive form and that which is related to faults, fractures, and intrusive contacts, may be present in any one deposit. It is usually in the partially altered rock (30% to 95% serpentine and brucite) that the best commercial grades of asbestos are found.

Complete serpentinization is encountered in shear zones and in aureoles surrounding the granitic masses, as well as immediately adjacent to all asbestos veins. The commonest variety of serpentine has been identified as lizardite (Aumento, 1970), together with variable amounts of chrysotile. Magnetite tends to concentrate along the major micro-fractures, and also comprises an important constituent of the various types of serpentine veins, either adjacent to the margins, or as internal stringers and layers within the veins.

Where disseminated through the serpentinized rock mass, brucite may represent up to 15% of the alteration products; it is also found to be concentrated in veins. Antigorite is generally present as partial or complete replacement of earlier lizardite, in the vicinity of zones of compression, and adjacent to granitic bodies.

Successive stages of serpentine veining and replacement are generally in evidence wherever complete serpentinization has occurred.

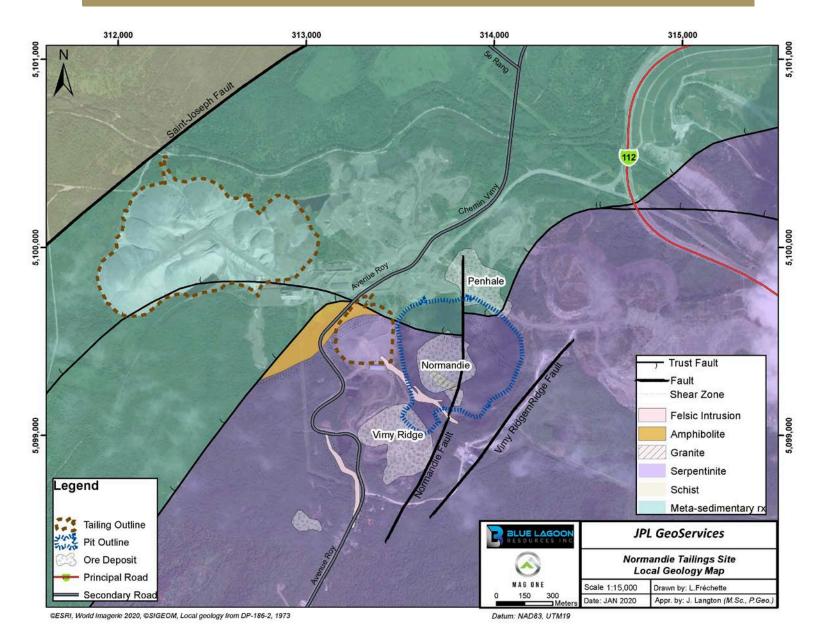
## 7.5 Normandie deposit/tailings

The Normandie tailings material comes from the Normandie Mine, which closed definitively in November 1985. The Normandie mine deposit was discovered in 1946; however, production did not start until 1955. The Normandie deposit is distinguished by a system of parallel asbestos veins known as "ribbon structure". The fibers are semi-rough and of variable length, but mainly comprise "long" and "intermediate" fibers.

The ore extracted from the mine was processed at the primary crusher (no longer standing) located near the open pit. Conveyors that passed over Vimy Road transported the crushed ore to the wet stone reserve, to the dryer, then to the dried stone reserve. The dry ore was then processed in the Normandie mill. Built in 1954, the eight-story mill had a capacity of 6,370 tonnes per day. Most of the mine's production was transported by train or truck on rails to Saint-Joseph-de-Coleraine to be transferred there on other railways to its buyers. A headframe was also built at

a cost of \$ 15 million around 1970 to access the Penhale deposit adjacent to the open pit. The headframe still has its winch building. The two remained functional despite having never been used for the exploitation of the deposit. Structures that hosted a former garage and workshop are present on the site. The open pit, with surface level dimensions of 300 m x 500 m, has ten (10) fifteen-metre high benches resulting in a general slope-angle of  $45^{\circ}$ .

The Normandie tailings, which are roughly 100 metres above the local ground level and cover a ground-surface area of 53 hectares (ha), comprise a mix of mainly sand- to pebble-sized ultramafic to mafic host rock material, chrysotile and serpentine fibres, and powdered rock. Drilling by Nichromet in 2007 (Dupéré, 2007) show that the tailings are generally vertically homogenous. Some variation in grain size occurs as a reflection of differences in processing. Also, some levels or parts of levels of the tailings will have been more compacted along dumptruck and bull-dozer routes during material disposal, and during work on the tailings pile, e.g., preparation and installation of conveyor systems. However, these are not considered as significant factors to the homogeneity of the tailings' composition.



#### Figure 7.5: Local geology of Normandie tailings site

# 8 DEPOSIT TYPES

Asbestos is the general term applied to fibrous silicate minerals, which are valued for their physical and chemical properties; being resistant to heat and chemical attack, and exhibiting high tensile strength. Chrysotile is by far the most important fibrous silicate mineral mined and used, representing more than 95% of worldwide production. The balance is made up by fibrous varieties of amphibole such as: riebeckite, cummingtonite, anthophyllite, tremolite and actinolite.

Most chrysotile is found (and mined) as stringers, veinlets and stockwork vein deposits in serpentinized peridotite, including the deposits of the Thetford Mines area. A small amount of asbestos is produced from mass-fibre deposits in serpentinite, from magnesitic rock and from serpentinized dolomite (cipolin). The most important chrysotile deposits in Canada, were those mined from the Southern Quebec Ophiolite Belt, the Asbestos Hill in the Ungava region of Quebec; the Advocate Mine at Baie Verte in Newfoundland, the Midlothian Mine in northern Ontario, the Cassia Mine in British Columbia and the Clinton Mine in the Yukon Territory. Chrysotile deposits also occur in serpentinized ultramafic rocks of synvolcanic intrusions of komatiitic affinity in Archean Greenstone Belts. The Munro Mine near Matheson in Northern Ontario, the Msauli mine, which is the most important deposit in South Africa, the Havelock mine in Swaziland and the King mine in Zimbabwe, are classed as this type of deposit (Duke, 1996).

Ultramafic-hosted asbestos deposits are generally considered to be syntectonic, formed during the deformation and the deterioration of the ultramafic rocks under conditions of low pressure (hydrostatic pressures lower than 1 kbar) and low temperature  $(300^{\circ} \pm 50^{\circ}C)$  hydration (O'Hanley, 1987; 1991). Wicks and Whittaker (1977) concluded that the formation of chrysotile veins requires specific conditions of prograde metamorphism.

The preponderance of transverse chrysotile fibres in the stockwork veins of asbestos deposits indicates that the chrysotile crystallized during the formation of tensional fractures or the dilation of preexistent fractures in massive serpentinite (O'Hanley, 1988). It is necessary that the temperature, the pressure and the composition of the fluids are in the field of stability of chrysotile during the tension fracturing and, moreover, that deformation and metamorphism do not continue long after vein formation, which would lead to the destruction of chrysotile.

Chrysotile asbestos deposits typically contain on the order of 10 to 1000 Mt averaging 3% to 10% recoverable fibre. The deposits of the TMOC ranged from 150 Mt to 800 Mt averaging ~6% fibre. The length and strength of the fibers are the main determining factors in term of pricing; the longer the fibre, the higher is the commanded market price. Characteristics of flexibility and fineness typically determine how the fibres will be utilized; the more flexible and fine fibers are used for spinning and weaving textile products. The shorter milled fibers are used in such varied products as asbestos-cement and tile. Note that in the asbestos industry, the term "grade" refers to fibre length rather than to the chrysotile content of the rock (Duke, 1996).

The Canadian Asbestos Producers have established the Quebec Standard Asbestos Testing Machine for classifying milled asbestos. This method is based on the mechanical sieving of fibers. There has been a general trend to adopt the Canadian Standards Classification; however, many of the mines in Canada still retain their own methods, which are specifically tailored to their customers.

# 9 **EXPLORATION**

No exploration work has been completed by BLR or MOO on the Project as at the issue date of this Report.

The most recent exploration in the Project area was carried out by Nichromet Extraction Inc. ("Nichromet") in 2007, comprising reverse-circulation (RC) sonic-drilling, pitting, and a detailed land survey (Dupéré et al., 2007). The reader is referred to **Item 6** in the Report for a comprehensive description of Nichromet's 2007 campaign. The Nichromet program was carried out to obtain data for a resource estimate of the nickel content in some of the Therford Mines area tailings sites, including the Normandie tailings site.

Historic samples from the sonic-drilling completed by Nichromet at the Normandie tailings site were made available to BLR and MOO, and material from a representative selection of these samples were collected for data validation purposes by JPL GeoServices (see **Item 11** and **Item 12**).

In addition to the re-sampling of historic core intervals, four (4) test pits were excavated and sampled from the top of the tailings under supervision of JPL GeoServices. The pits were dug in the vicinity of several of Nichromet's 2007 drilling collar locations (**Figure 9-1**). Samples from these test pits were collected for data validation purposes (see **Item 11** and **Item 12**).



Figure 9.1: Locations of Nichromet historic drill collars (green) and 2019 pit excavations (yellow)

# 9.1 Sampling Quality/Bias

As a truly unbiased sample is an unattainable limit, except under conditions where all particles are exactly alike or when the entire lot is submitted for analysis, it is possible that the following factors could have resulted in sample bias:

- assumptions regarding the tool used to extract the sample;
- assumptions regarding water content;
- assumptions regarding particle-size homogeneity;
- assumptions regarding compaction;
- and sample site distribution.

As the re-assayed samples from the historic drilling and pitting programs show no significant deviations in composition from the original samples, nor from the samples collected in 2019, it is considered that the analytical data is accurrate and that no significant assay biases are present.

As the SG distribution of the four samples obtained from the 2019 test pits are within a narrow range (i.e., between 1.15 and 1.25), it is considered that the collected samples are representative of the near-surface tailings density.

## **10 DRILLING**

No drilling has been carried out by BLR nor MOO on the Project, as at the issue date of the Report.

# **11 SAMPLE PREPARATION, ANALYSES AND SECURITY**

# **11.1 Sampling Method and Security**

Four (4) test pits, each approximately 2 m deep, were mechanically excavated from the upper surface of the Normandie tailings site using a small excavator (**Figure 11-1** and **Figure 11-2**). Once the pit was approximately 1.5 m deep, a technician entered the pit and obtained a small sample of material at roughly 1.0 m depth for SG testing. An open metal cylinder with a closed base was hammered into the side wall of the pit to extract a sample of known volume. This material was weighed on-site and then bagged and sealed for later weighing, after drying. Once the test pit was fully excavated, the operator was instructed to obtain a bucket-load of material by scraping upward, from the base to the top, along the front face of the pit to obtain a representative sample. Roughly half of a 5-gallon plastic pail was filled with this collected material and mixed in the pail. A 1-2 kg portion of this material was then collected into a tagged plastic sample bag and secured with a plastic tie-wrap.



Figure 11.1: Test pit excavation on upper surface of Tailings. Mine site infrastructure in background.

Visually, the collected samples had consistent physical characteristics (e.g., particle size, moisturecontent, consistency) and their quality was deemed appropriate for the purpose of chemical analysis and specific gravity testing.

The pits were located in close proximity to the collar locations of historic (Nichromet) drill-holes to validate the analytical results from the uppermost intervals of those drill-holes (pit locations are shown in **Figure 6-4**.



Figure 11.2: Photo of test pit TP19-03. The occurrence of interlayered coarse material was unique to this pit.

In addition to the surface test-pit samples, a selection of the core interval samples that were collected by Nichromet during their drilling program were re-assayed. The historic samples had been retained in individual plastic sample bags, secured with plastic tie wraps, and grouped in rice bags. These had been securely stored in their warehouse facility in Thetford Mines at 3700 Rue du Lac-Noir, Thetford Mines, now headquarters to Dundee Sustainable Technologies.

The historic samples to be re-sampled and -assayed were disinterred and assembled in the warehouse. For each sample, the original sample bag was opened and the contents mixed by shaking/stirring. A representative 1-2 kg portion (approximately 50%) of the original material was then removed and placed in a new plastic sample bag, which was appropriately tagged and identified. Both sample bage were then secured with plastic ties wraps and either returned to their original rice bag, or collected in a new one for transport to the analytical laboratory for re-assay.

All the samples collected by JPL GeoServices were delivered directly to COREM Analytical Services Laboratory ("COREM") located at 1180, rue de la Minéralogie, Quebec (QC).

The Authors are of the opinion that the samples were collected and shipped to the analytical laboratories in a secure manner following generally accepted industry best-practices guidelines.

## **11.2 Preparation and Analysis**

COREM conducts major, minor and trace element assays in various mineral matrices as well as the analysis of several parameters in liquid samples. The state-of-the-art equipment, an experienced team and a quality management system allow the production of analyses with a maximum of accuracy. The ASL is accredited by the Standards Canada Council through the Bureau de Normalisation du Québec (BNQ) according to the ISO/IEC 17025:2005 standard. COREM uses a

comprehensive internal QA/QC program. To ensure compliance with this system, regular internal audits are undertaken by staff members specially trained in auditing techniques.

All submitted samples were preparaed for analysis by drying (quantity <1.0 kg), crushing and separation (quantity <1.0 kg), homogenization and separation, and pulverizing. The sample material was then weighted and sieved to -180 micron (80 mesh). About 30 g of material was pulverized to 98-100% passing 106  $\mu$ m and 85% passing 75  $\mu$ m. In the case of a duplicate sample, the fine fraction was split equally to create a duplicate. Analyses for major and minor elements used COREM's "*A02*" protocol, which employs an X-ray fluorescence (XRF) fused-bead method to determine concentrations of SiO2, Al2O3, MgO, CaO, K2O, TiO2, MnO, P2O5, Co, Cr, Cu, Fe, Ni, Pb, S, and Zn.

#### **11.3 Comments**

The Authors are of the opinion that the samples were collected, prepared, stored and shipped to COREM in a secure manner following generally accepted industry best practice guidelines. The analytical procedures and the resultant assay data obtained from the sampling program is also considered reliable for the purpose of Mineral Resource Estimates.

# **12 DATA VERIFICATION**

# 12.1 Site Visit

One of the Authors, Mr. John Langton, a qualified person (QP) as set out in NI 43-101, conducted a site visit of the Project on November 28-29, 2019. During the site-visit, Mr. Langton explored the general landscape of the Normandie mine- and tailings-sites, and collected samples from several test-pits for data verification and validation purposes. Mr. Langton also located and collected material from historic samples obtained of drill-cores obtained from the Normandie tailings site in 2007 by Nichromet. All rice bage containing the individual bagged samples were labelled and securely stored in the former Nichromet warehouse. Individual sample bags were likewise correctly labelled and sample tags were visible inside the plastic sample bags.

# 12.2 Validation Sampling Results

A total of twenty-six (26) samples (22 drill-interval samples and 4 test-pit samples) from the 2007 Nichromet drilling and pitting program (Table 12-1) were re-assayed for validation purposes.

	Re-assayed drill-core samples							
2019 Sample #	Hole	Historic Sample #	From (ft)	To (ft)	Interval (ft)	Dry Wt. (kg)	SG	Zone*
J353950	NOR-1	348157	9.91	10.67	0.76	3.465	1.158	1
J353951	NOR-1	348169	25.15	25.91	0.76	2.995	1.001	2
J353952	NOR-1	348191	44.96	45.72	0.76	3.385	1.131	3
J353953	NOR-1	348217	72.39	73.15	0.76	4.715	1.576	3
J353954	NOR-1	348236	88.39	89.15	0.76	4.270	1.784	3
J353955	NOR-3	53797	6.86	7.62	0.76	3.402	1.137	1
J353956	NOR-4	53855	24.38	25.15	0.77	3.975	1.476	2
J353957	NOR-4	53883	45.72	46.48	0.76	3.800	1.270	3
J353958	NOR-4	437009	69.34	70.10	0.76	4.475	1.495	3
J353959	NOR-4	437037	98.30	99.06	0.76	4.715	1.576	3
J353960	NOR-5	437061	18.29	19.05	0.76	3.305	1.104	2
J353961	NOR-5	437085	36.58	37.34	0.76	4.590	1.534	3
J353962	NOR-5	437107	56.39	57.15	0.76	3.685	1.231	3
J353963	NOR-5	437121	73.91	74.68	0.77	4.445	1.485	3
J353964	NOR-6	437257	6.10	6.86	0.76	3.275	1.094	1
J353965	NOR-6	437313	52.58	53.34	0.76	4.010	1.340	3
J353966	NOR-7	437137	11.43	12.19	0.76	4.145	1.385	1
J353967	NOR-7	437153	23.62	24.38	0.76	3.660	1.223	2
J353968	NOR-8	437183	3.81	4.57	0.76	3.285	1.098	1
J353969	NOR-8	437209	24.38	25.15	0.77	4.150	1.387	2
J353970	NOR-10	437363	3.05	3.81	0.76	3.695	1.235	1
J353971	NOR-10	437391	24.38	25.15	0.77	4.040	1.350	2
		Re-a	ssayed test	-pit samp	les			
Sample Tag #	Pit				2007 Twin	UTM-X	UTM-Y	Zone
J353972	TP-1	437951			Central pile	312265	5099945	0
J353973	TP-6	437956			NOR-1 collar	312073	5099811	0
J353974	TP-12	437962			NOR-3 collar	312182	5100063	0
J353975	TP-15	437965			NOR-9 collar	312492	5100103	0
*Zone 0 = surfa	*Zone 0 = surface; Zone 1 = 0-15 m; Zone 2 = 15-30 m; Zone 3 = >30 m depth below surface							

Table 12-1: 2019	Samples	Collected	for Re-assay	r from 2007	<b>Sample Suite</b>
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A comparison of the analytical results of the re-sampled portions with the original assays (Table **12-2**) show no significant discrepancies, validating the historic data.

In addition to the re-sampling program, four (4) pits were excavated on the upper surface of the tailings pile for comparison with 2007 uppermost drill-core analytical results (Table 12-3, see also

Figure 9-1). The 2019 pit locations were selected as the 2007 pit sites, which were situated around the lower perimeter of the tailings, were no longer accessible.

Table 12 2. comparison of original and ite assayed historie samples							
	SiO2%	MgO%	Fe%	Ni%			
Historic averages	38.84	37.09	5.34	0.22			
Re-assay averages	40.12	39.75	5.64	0.24			
% difference	3.3%	6.9%	5.5%	8.3%			

#### Table 12-2: Comparison of Original and Re-assayed Historic Samples

#### Table 12-3: Summary of 2019 Test Pit Samples

2019 Sample Pits: Normandie Tailings								
Sample Tag #	Pit	2007 Twin site	UTM-X	UTM-Y				
X371074	TP19-01	NOR-8 collar	312265	5099945				
X371075	TP19-02	NOR-1 collar	312073	5099811				
X371076	TP19-03	NOR-3 collar	312182	5100063				
X371077	TP19-04	NOR-9 collar	312492	5100103				

A comparison of the 2019 test pit sample results with the average composition of the uppermost parts of adjacent historic drill-core results is presented in **Table 12-4** through **Table 12-7**. Pit sample assay results compare favourably with historic sample results corroborating the validity of the historic data.

#### Table 12-4: Comparison of TP19-01 Test Pit and Uppermost Interval of Historic NOR-8 Drill-hole

Hole	Sample#	SiO2%	MgO%	Fe%	Ni%	SG
	437179	39.64	36.03	5.14	0.21	0.88
NOR-8 (0.76-3.0 m)	437181	39.50	35.12	5.24	0.21	0.92
	AVG	39.57	35.58	5.19	0.21	0.90
TP19-01	X371074	38.20	37.10	9.50	0.22	
	Δ%	3.5%	4.2%	58.6%	5.6%	

#### Table 12-5: Comparison of TP19-02 Test Pit and Uppermost Interval of Historic NOR-1 and NOR-2 Drill-holes

Hole	Sample#	SiO2%	MgO%	Fe%	Ni%	SG
NOR-1 (0.0 -1.52 m)	348151	39.31	36.24	5.03	0.21	0.87
NOR-2 (0.76 -1.52 m)	348249	38.12	36.15	5.73	0.20	0.99
	AVG	38.72	36.20	5.38	0.21	0.93
TP19-02	X371075	40.2	38.5	5.38	0.22	
	Δ%	3.8%	6.2%	0.0%	6.1%	

#### Table 12-6: Comparison of TP19-03 Test Pit and Uppermost Interval of Historic NOR-3 and NOR-4 Drill-holes

Hole	Sample#	SiO2%	MgO%	Fe%	Ni%	SG
NOR-3 (0.0 - 3.0 m)	53789	38.58	35.09	5.50	0.20	0.74
NOR-3 (0.0 - 3.0 III)	53791	38.92	35.81	5.45	0.22	1.46
	53827	38.68	36.46	5.44	0.21	0.91
NOR-4 (0.0 - 3.0 m)	53829	38.94	35.79	5.46	0.21	0.96
	AVG	38.78	35.79	5.46	0.21	1.02
TP19-03	X371076	41.20	39.10	5.40	0.26	
	Δ%	6.1%	8.8%	1.1%	21.9%	

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Hole	Sample #	SiO2%	MgO%	Fe%	Ni%	SG
NOR-9 (0.76 - 1.52 m)	437323	39.330	37.130	5.716	0.224	0.874
TP19-04	X371077	38.9	40.2	5.99	0.23	
	Δ%	1.1%	7.9%	4.7%	2.6%	

#### Table 12-7: Comparison of TP19-04 Test Pit and Uppermost Interval of Historic NOR-9 Drill-hole

# **12.3 Specific Gravity Results**

A sample was collected from the side wall of each of the four 2019 test-pits for SG determinations. The sample of known volume was weighed on site and then dried and re-weighed. Results are tabulated in **Table 12-8**.

Pit	UTM-X	UTM-Y	Volume (ml)	Mass (g) on-site	Mass (g) dried	SG "Wet" on-site	SG Dry
Pit TP19-01	312265 E	5099945 N	525	713	628	1.358	1.196
Pit TP19-02	312075 E	5099800 N	525	751	656	1.430	1.250
Pit TP19-03	312208 E	5100033 N	525	661	604	1.259	1.150
Pit TP19-04	312520 E	5100083 N	525	687	608	1.309	1.158
AVG			525	703	624	1.339	1.189

#### Table 12-8: Results of Specific Gravity Determinations from 2019 Test Pits

The results of the SG determinations are consistent with the results from the Nichromet drilling which determined density values of 0.8 to  $0.9 \text{ g/cm}^3$  at surface, increasing to  $1.2 \text{ g/cm}^3$  at 15 m depth.

## 12.4 Database

JPL GeoServices received copies of the original COREM assay certificates, the Lasertech survey data of the Normandie tailings site, and a copy of the drill-hole database used by Nichromet for their 2007 resource estimate. The drilling data was received as an Excel file containing the drill-hole total length, the length of material comprising each sample, and the lithological and sampling intervals as measured in the field. These data were verified by checking the lithological descriptions for absent intervals, and corroborating the lithological- and sampling-intervals calculated for the original data. The assays recorded in the database were compared to the original certificates from COREM and no significant discrepancies were detected.

The original survey, analytical, and drill-hole data (the "Database") received from the Nichromet are considered accurate and adequate for the purposes of the MRE.

The Mineral Resource Estimate (MRE) in this report is based on drill data from the 2007 Nichromet program. For the purpose of the MRE, ASH performed a basic validation on the entire Database. All of Nichromet's data were provided by David Lemieux and Jean-Philippe Mai of Dundee Technologies who retained the original data from Nichromet. Data from 10 drillholes, totalling 562.85 m, are incorporated in the resource estimate.

## **12.5 Quality control**

The Authors consider that the results of the re-sampling acceptably support the geological interpretations and the Database quality, and they therefore support the use of these data in the Mineral Resource Estimate. This consideration is further supported by the fact that no additional drilling, nor surface exploration programs, have been carried out on the Normandie tailings site since the previous Mineral Resource Estimate, and therefore no additional material was required for further verification.

The Authors are not aware of any sampling problems that would impact the accuracy and reliability of the assay results. With the project being in an early phase of development, a rigorous quality assurance and control program of inserted standards and blanks, as a measure of the accuracy of the analyses, is recommended going forward, in order to determine the precision of results from any analytical laboratories utilized for sample assays.

# **12.6 Conclusion**

The Authors are of the opinion that the data verification process demonstrated the validity of the data and protocols for the 2019 Normandie tailings Project. It is the Authors' further opinion that the data used in the Report is valid and of sufficient quality to be considered reliable for the purposes of the Report and the integrated Mineral Resource Estimate.

# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

No mineral processing nor metallurgical testing has been done by BLR or MOO on the Property as at the issue date of the Report.

### **14 MINERAL RESOURCE ESTIMATE**

The resource block model and mineral resource estimate was developed by Alexander S. Horvath, P. Eng. (PEO), who is an independent QP in terms of NI 43-101. The effective date of this mineral resource estimate is January 15<sup>th</sup>, 2020.

The mineral resource estimate (MRE) presented herein is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101, and has been deemed to be in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. Reported mineral resources are not mineral reserves, and do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into a mineral reserve. The quantity and grade of the reported Inferred resources may not be realized.

The treatment of data, statistics, modeling, volumetrics and MRE contained in this report were completed using Dassault Systemes GEOVIA GEMS<sup>™</sup> 6.6 software.

## **14.1 Data Used for Estimates**

There were two principal sources of data provided to facilitate completion of the volumetrics, tonnage and MRE contained in this report. This included a Microsoft Access<sup>™</sup> database file named *Nichromet\_2007-09-20\_v2.mdb* containing results from ten (10) sonic drill-holes and fifteen (15) backhoe test pits on the Normandie main tailings pile (NMTP) as well as other drill-holes and test pit results from other tailings piles in the district. A Microsoft Excel<sup>™</sup> database file named *geo0607dwgptstopsrf15srf30.xls* containing 36,084 GPS survey points covering the Normandie tailings site survey completed by Mesures Lasertech Inc., was also provided by BLR. Details of the Mesures Lasertech GPS survey are provided in the 2007 Technical Report (Dupéré et al., 20017).

## **14.2 GPS Topographic Database**

The 36,084 GPS topographic points surveyed over the NMTP were imported into the GEMS software Access™ points database to facilitate modeling of the NMTP topographic surface.

## 14.3 Drill-hole & Backhoe Test Pit Database

The data from ten (10) sonic drill-holes (ddh) and fifteen (15) test pits collected from the NMTP were imported to the GEMS software Access<sup>™</sup> drill-hole database.

The 10 ddh and 15 test pit database for the NMTP contains a total of 665 assay table records, 328 lithology table records, and 356 RQD (Rock Quality Designator) table records.

The assay table records include various major oxide- and trace-element assay results for the 15 samples obtained from the test pits, and for the 321 samples obtained from the sonic drill-hole cores, which also include density (SG) determinations. A total of 336 of the 665 total records have assay results. The remaining 329 samples were not assayed.

According to the 2007 Technical Report (Dupéré et al., 2007), sonic drill-hole core samples were collected predominantly in 1.52 metre intervals and cut into two 0.76 metre-long intervals. These 0.76 m samples were split and only 1 of the 2 sample-halves from each 1.52 metre interval were submitted for analysis (i.e., every other 0.76 m sample).

The lithology table records include visual estimates of compaction, humidity (moisture content), and grain-size from logging of the sonic drill-holes. The RQD table includes core recovery % data for the sonic drill-hole cores.

The reader is directed to the Dupéré et al. (2007) for further details on the historic sampling methods and treatment of drill-hole and test pit samples, and related matters.

### **14.4 Database Validation**

All data imported to the GEMS database, including drill-hole and test pit collar coordinates, surveys, lithology data, assay data, SG data and sample recovery data, were validated in the GEMS software system using the systems database validation tools. These validation tools check for erroneous data entries such as; duplicate hole names, sample intervals, overlapping intervals, interval gaps, data outside set limits, special entries, and numerous other errors that typically cause failure in modeling, estimation or other system functions.

No erroneous data was detected in the database validation.

## **14.5 Topographic Surfaces**

The GPS-surveyed collar coordinates of the 10 sonic drill-holes and 15 test pits were used in conjunction with the 36,084 GPS survey points to generate a topographic surface of the NMTP. A polyline was digitized around the perimeter points to constrain the topographic surface interpolation to the perimeter of the NMTP.

**Figure 14.1** displays a 3-dimentional (3D) isometric view of the NMTP top surface, triangulated from the data points. The drill-hole collars are shown as red dots, the test pit collars as green dots and the other GPS survey points as black dots. The blue line connects the perimeter points at the base of the NMTP and confines the surface within this perimeter.

In order to complete a volumetrics estimate for the NMTP, a bottom surface of the pile is required. None of the sonic drill-holes or test pits data indicates that any of the holes or test pits reached the base of the pile. The only data available to construct the bottom surface of the NMTP are the perimeter points of the GPS survey data that occur at the base of the pile.

An initial triangulation of the perimeter points yielded a surface which was pierced by two of the deeper sonic drill-holes (NOR-01 and NOR-04) and 5 of the test pits (TP-1, TP-5, TP-6, TP-7, and TP-11). The points for the "toes" or bottom of these holes and test pits were used in conjunction with the GPS survey perimeter points to generate the base surface for the NMTP.

Figure 14.2 displays the base or bottom surface of the NMTP triangulated from the available data.

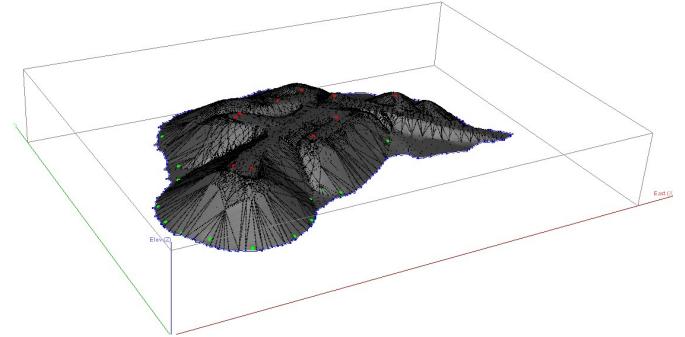


Figure 14.1: 3D isometric view - topographic surface of NMTP and Mesures Lasertech GPS survey. DDH and test pit collar survey points used. Drill-hole collars are shown as red dots, the test pit collars as green dots and the other GPS survey points as black dots

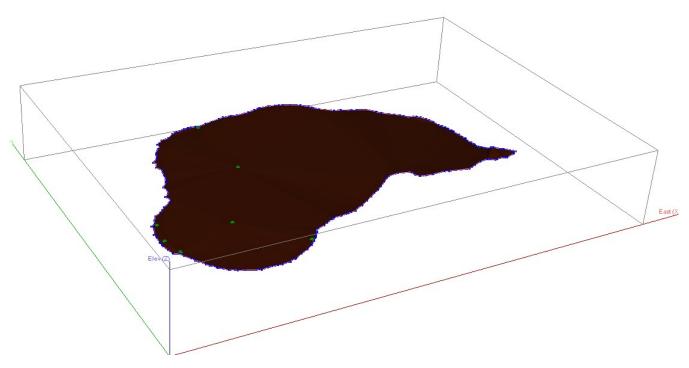


Figure 14.2: 3D isometric view - base surface of NMTP. Perimeter GPS survey points, DDH and test pit toe survey points used

# 14.6 Specific Gravity (SG)

SG values for 321 sonic drill-hole samples reside in the drill-hole and test pit database assay table. There are no SG results for the test pit samples.

**Table 14-1** shows the basics histogram statistics for the 321 SG results available. There is one sample with an extreme value of 2.765, which, if excluded, yields the results in the SG\* column of the table.

Table 14-1: Basic Univariate Statistics Raw SG values						
Variable	SG	SG*				
Number of samples	321	320				
Minimum value	0.5113	0.5113				
Maximum value	2.765363	2.093655				
Ungrouped Data						
Mean	1.25953	1.254825				
Median	1.260872	1.260742				
Geometric Mean	1.232031	1.228922				
Variance	0.068684	0.06179				
Standard Deviation	0.262076	0.248576				
Coefficient of variation	0.208074	0.198096				
*extreme SG value of 2.765 excluded from calculations						

Historic estimations (i.e., Dupéré et al., 2007) evaluated the SG data and determined that samples showed a direct correlation of increasing sample SG with depth from the surface of the pile. **Figure 14.3** is a scatter plot of SG (Y-axis) versus Depth-of-sample (X-axis), and clearly confirms that sample SG does increase with the depth in the pile.

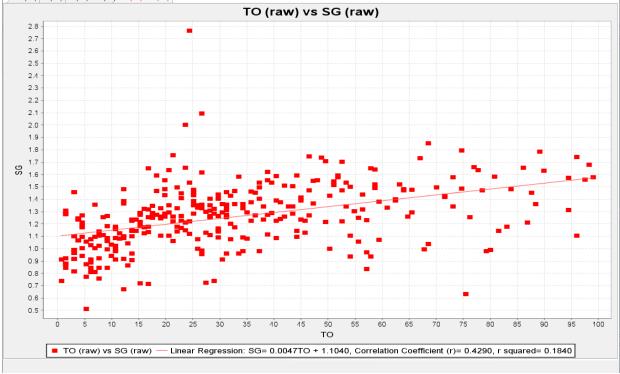


Figure 14.3: Scatter plot of SG (Y-axis) vs Depth-of-Sample (X-axis)

Samples collected from depths of 0 to 15 m below surface, 15 m to 30 m below surface and from 30 m below surface to the base of the pile can be statistically categorized into unique distributions with significantly increasing average SG's.

**Table 14-2** displays the basic univariate histogram statistics of the drill-hole SG data within each of the designated zones. The one extreme SG value has been included in the "-15 to -30 m" column of the table and excluded from the "-15 to -30 m\*" column of the table.

Table 14-2: Basic Univariate Statistics SG by Depth Zones								
Variable SG	Top to -15 m	-15 m to -30 m	-15 m to -30 m*	-30 m to Base				
Number of samples	90	87	86	144				
Minimum value	0.5113	0.716404	0.716404	0.63077				
Maximum value	1.482658	2.765363	2.093655	1.85193				
Ungrouped Data								
Mean	1.053383	1.31205	1.295151	1.356642				
Median	1.068758	1.281591	1.278249	1.362723				
Geometric Mean	1.036372	1.287505	1.276111	1.336617				
Variance	0.033854	0.072783	0.048784	0.050318				
Standard Deviation	0.183995	0.269784	0.220872	0.224316				
Coefficient of variation	0.174671	0.20562	0.170538	0.165347				

\*drill-hole SG data not including the single extreme (2.765) SG value

The statistical distributions demonstrate that SG is increasing with depth and strongly supports segregating the data into unique zones as a function of depth for interpolating densities. The data also demonstrates how one samples extreme SG value of 2.765 does not have a great impact on the mean of the global population of 321 samples. The mean density difference without this sample is only 0.005; however, because this sample occurs at the intermediate level from -15 m to -30 m below surface, it has a far greater impact on the statistics for samples within this subpopulation with a difference in means of 0.017.

The single extreme sample value for density interpolation was NOT used, considering the impact it would have on local density estimates within the model.

## 14.7 Density Layers

In order to model the density, the NMTP topographic surface was replicated 15 m vertically downward and a 2<sup>nd</sup> copy of the surface topography was replicated at 30 m vertically depth. The new -15 m depth and -30 m depth surfaces were clipped to meet the NMTP base surface. The four surfaces created for the project enable samples to be selected within the respective density zones namely the Upper (top to -15 m), Middle (-15 m to -30 m) and Lower (-30 m to base) Zones during interpolation.

**Figure 14.4** is a 3D isometric view of section 9100N showing the four topographic surfaces used to define the limits and SG zones of the NMTP.

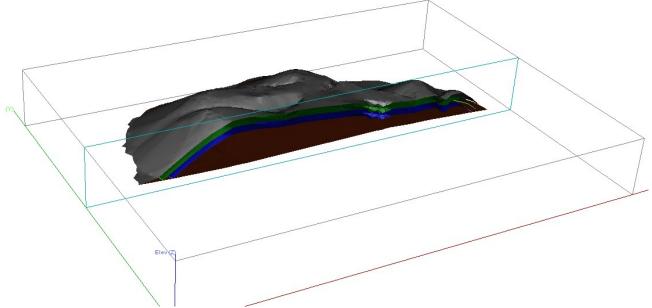


Figure 14.4: 3D Isometric View Section 9100N -Top, Top -15m, Top -30 m and base surfaces

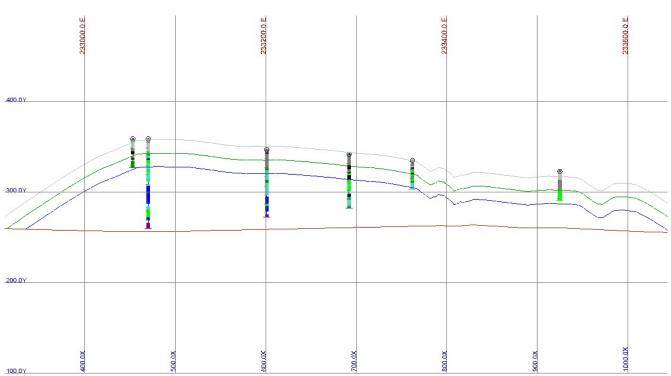
The compaction data from the lithology table of the database was used to compare logged compaction of the drill core samples to the SG zones defined by the topographic surfaces.

**Figure 14.5** is cross section 9100N (along the same plane as shown in **Figure 14.4**) and displays the intersection lines of the four surfaces, as well as colour coding of the compaction.

Loosely compacted intervals are coloured in grey increasing to black, moderately compacted intervals are coloured in green shades (darker increasing) and strongly compacted intervals are coloured in blue to purple shades (darker increasing). There appears to be relatively good correlation of the logged compaction in drill-holes to the zones defined by the topographic surfaces.

Similarly, **Figure 14.6** displays the same 2D cross section 9100N with the sample intervals colour coded according to SG with values <1.1 in yellow, 1.1-1.25 in orange, 1.25-1.40 in red, 1.40-1.55 in blue and >1.55 in purple.

The drill-hole sample SG values appear to correlate relatively well with the zones defined by the topographic surfaces.





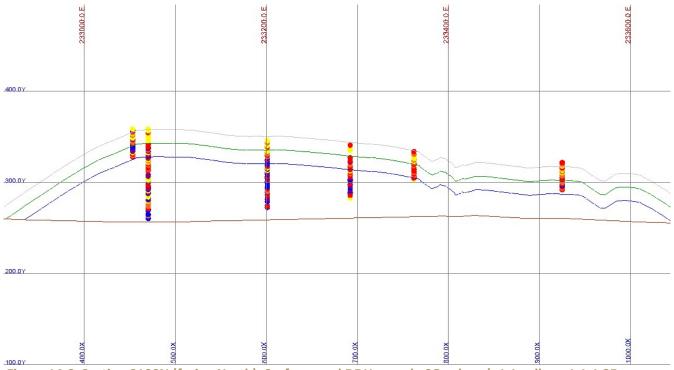


Figure 14.6: Section 9100N (facing North). Surfaces and DDH-sample SG values (<1.1 yellow; 1.1-1.25 orange; 1.25-1.40 red; 1.40-1.55 blue; and >1.55 purple).

## 14.8 Assay Database & MgO% Statistics

The drill-hole and test pit assay database contains 336 assays for MgO%, as well as other major oxide- and trace-element assay results. The MgO% and SG values were the only values imported to the GEMS database since the other elemental values were not required for this study.

 Table 14-3 shows the basic univariate histogram statistics for the 336 raw MgO% values.

Table 14-3: Basic Univariate Statistics raw MgO% Assays					
Variable	raw MgO%				
Number of samples	336				
Minimum value	30.38				
Maximum value	39.16				
Ungrouped Data					
Mean	36.951042				
Median	37.105				
Geometric Mean	36.935925				
Variance	1.080631				
Standard Deviation	1.039534				
Coefficient of variation	0.028133				

The raw MgO% data demonstrates a fairly narrow range of values between 30.4% and 39.2%; however, only 2 values occur below 35% MgO, significantly narrowing the range of the majority of values. The variance and cooefficient of variation are both low and are positive indicators for variography and modeling. The variance could be furthered lowered by compositing the samples. Compositing will also ensure that all samples are equally weighted by sample length.

# 14.9 Assay Composites (3 m Equal-Length Composites)

The raw MgO% assays and SG values were composited to 3 m equal-length sample intervals starting at the collar of each hole. As every other 0.76 m length sample interval was not assayed in the drill-holes, a 3 m interval ensured that a minimum of 2 assays were included in each composite.

**Table 14.4** provides the basic univariate histogram statistics for 201, 3 m equal-length composite intervals, MgO% grade and SG value. There are only 186 composites of SG, as there are no SG data for the 15 test pit samples. The 3mcmpsSG\* column provides statistics without the one extreme value.

Table 14-4: Basic Univariate Statistics - 3 m Equal-Length Composites MgO% and SG					
Variable	3mcmpsMgO%	3mcmpsSG	3mcmpsSG*		
Number of samples	201	186	185		
Minimum value	33.375751	0.63077	0.63077		
Maximum value	38.738243	2.765363	1.85193		
Ungrouped Data					
Mean	36.921756	1.273226	1.265161		
Median	37.084999	1.264162	1.263534		
Geometric Mean	36.910002	1.251635	1.246283		
Variance	0.858967	0.057063	0.045272		
Standard Deviation	0.926805	0.238879	0.212771		
Coefficient of variation	0.025102	0.187617	0.168177		
*3 m equal-length composite data not including the single extreme (2.765) SG value					

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As demonstrated by the statistics, the 3 m equal-length compositing of the raw MgO% assays has had the desired effect of smoothing the extreme values and lowering the variance and coefficient of variation. The one extreme SG value in the raw SG data remains extreme even after compositing and was therefore not included in the points used for interpolation of the model.

The 3 m composites of MgO% and SG are stored in a point file used for interpolating the respective values during block modeling. The topographic surfaces were used to select the composites within each of the three density zones. The composites were then given density zone codes according to the density zone in which they occur.

# 14.10 Zone (SG) Codes

The NMTP has been subdivided into 3 zones based on depth and SG values using the topographic surfaces described in **Item 14.7** of the Report.

Zone Codes have been assigned to the density zones as follows:

Zone Codes	Zone
0	Air
1	Upper (Top to -15 m below surface)
2	Middle (-15 m to -30 m below surface)
3	Lower (-30 m to base)

The zone codes are used similar to rock codes in that they flag samples within the respective zones for interpolation only with other samples within the same zone during modeling. In this case, the controlling features of the NMTP are not rock types or mineral zones but rather depth or density zones.

## 14.11 Variography

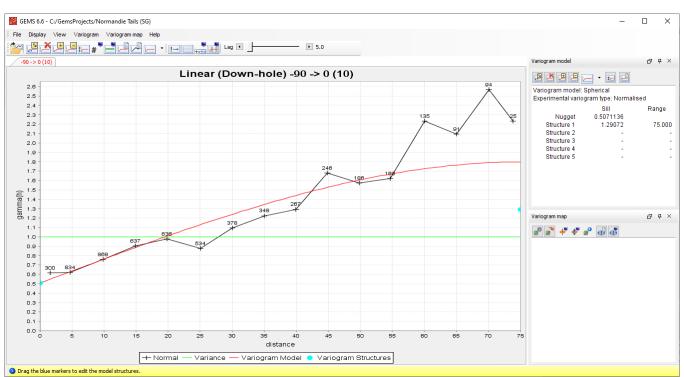
Linear or down-hole variography calculates the variance of sample pairs at incremental lag distances along the length of the drill-holes. The data can be modeled to estimate the maximum range (i.e., distance) at which the variance exceeds the limits of correlation between sample pairs.

Linear variography was completed on each of the raw SG values and MgO% assays and presented in **Figure 14.7** and **Figure 14.8**, respectively.

The modeled linear variograms for each the SG values and MgO% assays show good down-hole correlation with maximum indicated ranges over 75 m for SG values, and over 40 m for the MgO% grades.

3D omni-directional and directional specific variography calculates the variance of sample pairs at incremental lag distances along specific orientations, within established search cones. This allows for the identification of trends in the data, with maximum correlation and ranges and comparison to trends seen in the mineral deposit, such as strike, dip and plunge of mineral zones.

3D omni-directional variograms were generated and modeled for each of the 3 m composites of SG values and MgO% grades (Figure 14.9 and Figure 14.10).





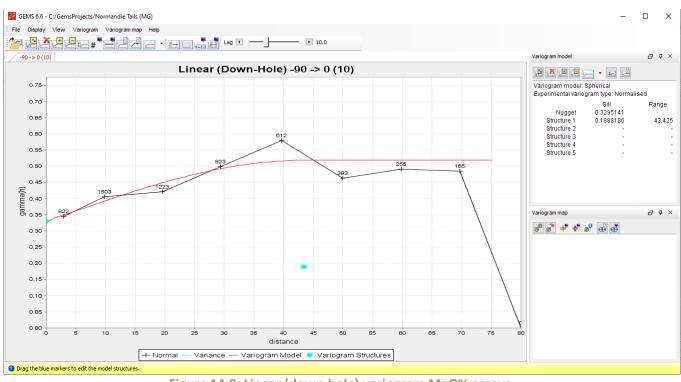
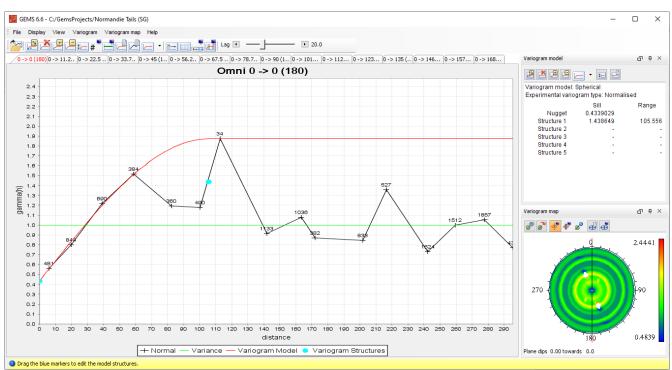


Figure 14.8: Linear (down-hole) variogram MgO% assays





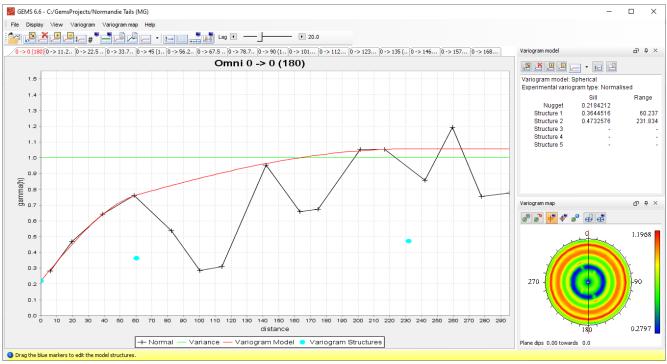


Figure 14.10: Omni-directional variogram MgO% 3 m composites

The Omni directional variogram models indicate relatively long correlation ranges especially for the MgO% composite grades, with a range up to 230 m. The MgO% variogram model appears nested with two indicated ranges. One of the models indicates a range of 60 m and the second up to 230 m. The nested model is explained by the numerous samples in the down-hole direction creating the

first model at 60 m, which is predicted by the linear (down-hole) variogram. The 2<sup>nd</sup> model range at 230 m would result from the samples paired from adjacent holes and test pits.

The SG variogram model yielded a relatively short range of 105 m comparative to the MgO% model range of 230 m. The shorter range is likely influenced by the absence of SG data points from the test pit samples around the perimeter of the pile.

Directional specific variography was completed for each of the SG and MgO% composites; however, no specific orientations were found to yield preferential results.

#### 14.11 Block Modeling

A block model was established using identical parameters as used in the historic MRE (Dupéré et al., 2007). The 5 m x 5 m x 5 m block dimensions are reasonable and the limits of the block model adequately cover the extents of the NMTP. In addition, the identically sized and oriented block models facilitate ease of comparing current results to the historic MRE.

	Figu	ure 14.11		
Block Workspace Pro	perties			×
Geometry Levels				
Workspace name:	Normandie			
Number of blocks				
Columns:	251	_		
Rows:	181			
Levels:	41	_		
			Change	Reset
Origin and rotation				
X:	232650			
Y:	5098600	_		
Z:	400	_		
Rotation:	0			
			Change	Reset
Block size				
Column size:	5	_		
Row size:	5			
Level size:	5	_		
			Change	Reset
			ОК	Cancel

Figure 14.11: Block model properties

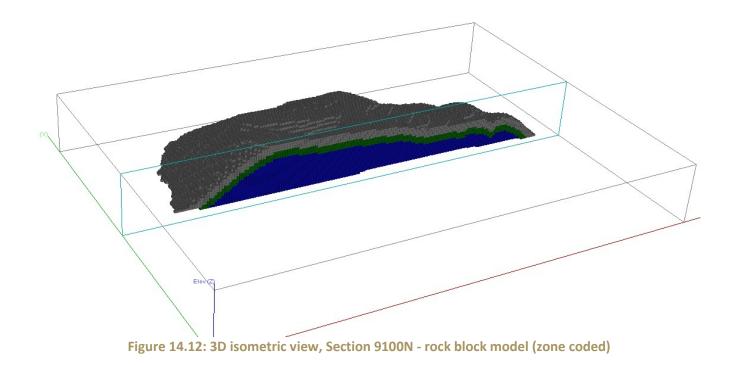
## 14.12 Rock Model

The rock model attribute of the block model was updated using the four topographic surfaces generated for the project, and the zone codes established for the three density zones of the NMTP.

The rock model adhered to the following conventions:

- 1) all blocks in the model were first initialized to a value of zero (0) (Air);
- the topographic surface was used to select all blocks greater than 1% below the topographic surface and these blocks were assigned a value of one (1) (Upper Density Zone from surface to -15 m below surface);
- 3) the "Top-15 m" surface was used to select all blocks greater than 50% below the surface and these blocks were assigned a value of two (2) (Middle Density Zone -15 m to -30 m below surface);
- 4) the "Top-30 m" surface was used to select all blocks greater than 50% below the surface and these blocks were assigned a value of three (3) (Lower Density Zone -30 m to base);
- 5) the base surface was used to select all blocks greater than 99% below the base topography and these blocks were assigned a value of zero (0) (Air).

**Figure 14.12** displays a 3D isometric view of section 9100N of the rock block model with the blocks colour coded as to their respective zone codes. The Upper Zone (1) blocks are shown in grey, the Middle Zone (2) blocks in green and the Lower Zone (3) blocks in blue. A total of 197,106 blocks were rock coded for the NMTP.



## **14.13 Percent Model**

The percent model attribute of the 197,106 rock (density) coded blocks were updated during the creation of the rock model. The GEMS system allows the percentages of each block that occur above, between and below surfaces during the block selection process to be mapped with the assigned codes and percentages for each zone.

### **14.14 Interpolation Parameters & Search Ellipses**

The zone-coded 3 m composite points of SG and MgO% grades were used for interpolating the SG and MgO% estimates into their respective block models.

The following parameters were established for interpolation of the SG and MgO% models:

Calculation Method:	Inverse Distance (true)		
Inverse Distance Power:	1		
No. of Comps 1 <sup>st</sup> Pass:	Minimum 3, Maximum 10		
2 <sup>nd</sup> & 3 <sup>rd</sup> Pass:	Minimum 1, Maximum 10		
Max. Comps. per Hole:	3		

The following search ellipses oriented with no rotation were defined for the selection and interpolation of samples based on the variography results. The ranges of the "1<sup>st</sup> Pass" ellipse are approximately 50% if the modeled variogram ranges. The "2<sup>nd</sup> Pass" ellipse has ranges near 100% of the modeled variogram ranges. The "3<sup>rd</sup> Pass" ellipse exceeds the modeled variogram ranges. The ranges are set to the minimum distances required to assign all remaining un-estimated blocks with SG values and MgO% grades.

Search/Interpolation Ellipse	<u>Range X</u>	<u>Range Y</u>	<u>Range Z</u>
Pass 1	100 m	100 m	20 m
Pass 2	200 m	200 m	40 m
Pass 3	340 m	340 m	140 m

The target rock codes of the block model were restricted to interpolation by the following composite point rock codes. (i.e., blocks within a specific zone can only be interpolated by composite points from the same zone)

Target Block Rock Code	Composite Rock Codes
1 (Upper Zone)	1 (Upper Zone)
2 (Middle Zone)	2 (Middle Zone)
3 (Lower Zone)	3 (Lower Zone)

## 14.15 Density Model

The zone-coded 3 m SG composite points were used to interpolate SG values to the density attribute of the block model. The one extreme SG composite value was NOT used during interpolation.

Interpolation was completed in 3 passes. The 1<sup>st</sup> pass used the parameters and search ellipse as detailed above, and updated all blocks in the density block model. The 2<sup>nd</sup> pass used the parameters and search ellipse detailed above, but only updated those blocks that had not previously been estimated. The 3<sup>rd</sup> pass used the parameters and search ellipse detailed above, but only updated the remaining un-estimated blocks, i.e., those that had not been previously estimated but were contained in the tailings pile.

**Figure 14.13** is a 3D isometric view of section 9100N of the density block model. The blocks are colour coded by the SG value with values <1.1 in yellow, 1.1-1.25 in orange, 1.25-1.40 in red, 1.40-1.55 in blue and >1.55 in purple.

Visible in the cross section is the gradation of the lower density to higher density blocks with depth within the deposit and the boundaries of the Upper, Middle and Lower density zones.

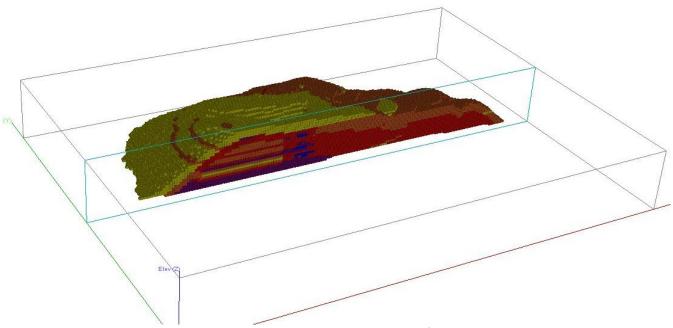


Figure 14.13: 3D isometric view section, 9100N - density block model (coded SG values - <1.1 yellow; 1.1-1.25 orange; 1.25-1.40 red; 1.40-1.55 blue; and >1.55 purple)

# 14.16 MgO% Grade Model

The zone-coded 3 m MgO% composite points were used to interpolate MgO% grades to the MgO% grade attribute of the block model.

Interpolation was completed in 3 passes. The 1<sup>st</sup> pass used the parameters and search ellipse as detailed above for the 1<sup>st</sup> pass and updated all blocks in the density block model. The 2<sup>nd</sup> pass used the parameters and search ellipse detailed above for the 2<sup>nd</sup> pass; however, only updated those blocks that had not previously been estimated. The 3<sup>rd</sup> pass used the parameters and search ellipse detailed above for the 3<sup>rd</sup> pass, and updated those remaining blocks that had not been previously estimated, but were contained in the tailings pile.

**Figure 14.14** is a 3D isometric view of section 9100N of the MgO% block model. The blocks are colour coded by the MgO% grade with values 34-35% in yellow, 35-36% in orange, 37-38% in red, and 38-39% in purple.

**Figure 14.15** displays a 3D isometric view of the entire MgO% block model. It is clear that the southeastern upper part of the NMTP is of lower grade than northeastern (lower) part of the pile.

# 14.17 Other Attributes of the Block Model

In addition, to the various attributes of the block model already described, two additional models were generated during the three-pass interpolation of the MgO% grade and SG models. This included an attribute model for the number of samples that were used to estimate each block, and a 2<sup>nd</sup> attribute model that stored an integer value of the pass number in which the block was estimated, i.e., 1 for "1<sup>st</sup> Pass" blocks estimated, 2 for "2<sup>nd</sup> Pass" blocks estimated and 3 for "3<sup>rd</sup> Pass" blocks estimated. These additional attribute models are used to categorize the MRE.

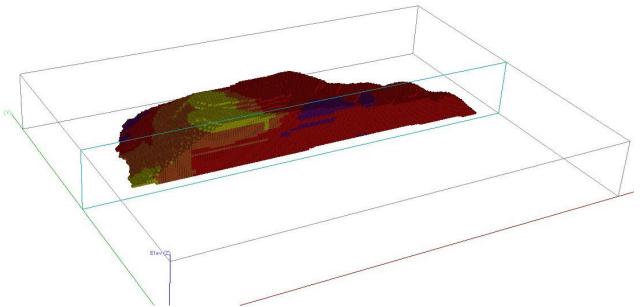


Figure 14.14: 3D isometric view Section 9100N, MgO% grade block model (coded by MgO% grade with values of 34-35% in yellow; 35-36% in orange; 37-38% in red; and 38-39% in purple)

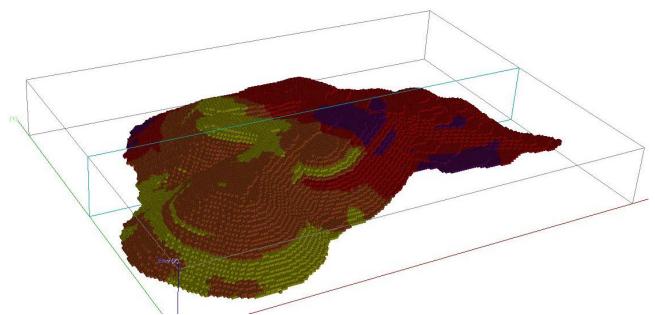


Figure 14.15: 3D isometric view MgO% - grade block model (coded by MgO% grade with values of 34-35% in yellow; 35-36% in orange; 37-38% in red; and 38-39% in purple)

# 14.18 Mineral Resource Classification, Category and Definition

The resource classification definitions used for this report are those published by the Canadian Institute of Mining, Metallurgy and Petroleum in their document "CIM Definition Standards for Mineral Resources and Reserves".

<u>Measured Mineral Resource</u>: that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

<u>Indicated Mineral Resource</u>: that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Inferred Mineral Resource: that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

## **14.19** Mineral Resource

Mineral Resources have been calculated for the NMTP using the various attributes of the block model. **Table 14-5** provides the categorized mineral resources estimate of the NMTP. The MgO% blocks estimated in Pass 1 are categorized as Measured Resources. The blocks estimated in Pass 2 are categorized as Indicated Resources. The remaining blocks estimated in Pass 3 are categorized as Inferred Resources.

The total Measured and Indicated Resources are estimated at 26.6 million tonnes grading 37.07% MgO and represent 98.3% of the total estimated tonnage of the NMTP.

The Inferred Mineral Resources are estimated at 460 thousand tonnes grading 37.62% MgO and comprise the remaining 1.7% of the tonnage of the NMTP.

Category	Volume (000's m <sup>3</sup> )	Density	Tonnes (000's m <sup>3</sup> )	Grade MgO%
Measured (Msd)	11,528	1.28	14,755	37.07
Indicated (Ind)	9,257	1.28	11,838	37.15
Total Msd + Ind	20,785	1.28	26,593	37.11
Inferred	395	1.17	461	37.62

Table 14-5: Mineral Resources Estimate\* - Normandie Main Tailings Pile

\*Mineral Resource Estimate Notes

(1) Mineral Resource estimates were calculated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions.

(2) Mineral resources, which are not mineral reserves, do not have demonstrated economic viability. The mineral resource estimate may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(3) The quantity and grade of estimated Inferred Resource reported herein are uncertain and there has been insufficient exploration to categorize them as an Indicated or Measured Resource. It is uncertain if further exploration will result in reclassification of Inferred Mineral Resources to the Indicated or Measured Mineral Resource categories.

(4) The Independent and Qualified Person for the Mineral Resource Estimate, as defined by NI 43-101, is Alex Horvath, P.Eng. (A.S. Horvath Engineering), and the effective date of the estimate is January 15th, 2020.

(5) Whereas the results are presented undiluted and in situ, the reported mineral resources are considered to have reasonable prospects for economic extraction.

(6) Resources were estimated using GEOVIA GEMS<sup>M</sup> 6.6 software. The database used for the estimate contained assays from percussion drill-holes and excavated test pits.

(7) The number of metric tons was rounded to the nearest hundred. Any discrepancies in the totals are due to rounding effects. Rounding followed the recommendations in NI 43-101.

(8) Neither JPL GeoServices nor A.S. Horvath Engineering are aware of any environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue, that could materially affect the current Mineral Resource Estimate. Indicated or Measured Mineral Resource categories.

The NMTP consists of processed tailings with a narrow range of MgO% grades (33.38% to 38.74%) for the 3 m composites used for resource estimation. It is most likely that any re-processing of the pile would involve the entire pile, rather than selectivity by MgO% grade, and hence no cut-off grade is applied to this Mineral Resource Estimate. The MRE has an inherent cut-off grade at 35% with the minimum estimated block value of 35.03% MgO.

Figure 14.16 displays a 3D isometric view of the inferred resource blocks in relation to the sonic drill-holes and test pits.

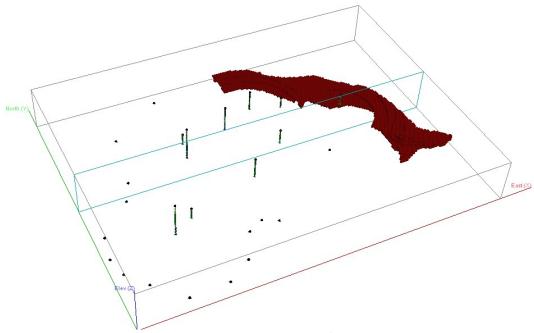


Figure 14.16: 3D isometric view MgO% Inferred Resource blocks

It is clear from the **Figure 14.16** that the inferred resources result from the absence of samples around the northeast perimeter of the NMTP. The Inferred Mineral Resources could easily be converted to Measured and/or Indicated Resources with additional sample collection and analysis around the NE perimeter of the NMTP.

## **14.20** Resource Validation

**Table 14.6** provides a simple validation of the mineral resource grades by comparing the estimated block grades to the raw sample assay grades and 3 m equal length composite grades used for the estimates.

#### Table 14-6: Comparison of Block Model, Raw Assay and 3 m Composite Grades

	MgO%		
	mean	min.	max.
Raw Assays	36.95%	30.38%	39.16%
3 m Composites	36.92%	33.38%	38.74%
Block Model	37.11%	35.03%	38.67%

# **14.21 Factors Affecting the MRE**

In the Authors' opinion, the following factors could materially impact the MRE:

- Assumptions used to generate the conceptual data for consideration of reasonable prospects of economic extraction including:
  - commodity price assumptions;
  - o exchange rate assumptions;
  - o density assumptions;
  - o geotechnical and hydrogeological assumptions;
  - o operating and capital cost assumptions;
  - o metal recovery assumptions
- delays or other issues in reaching agreements with local communities;
- changes in land tenure requirements or in the permitting requirements;
- changes in interpretations of tailings site geometry.

There are no known environmental, legal, taxation, socio-economic, marketing, political or other relevant factors other than as discussed in this Report that could affect the Mineral Resource estimates.

## ITEM 15 TO 22 – NOT APPLICABLE

Not relevant for this NI43-101 Technical Report

### **23 ADJACENT PROPERTIES**

There are no properties owned or operated on by BLR or MOO in the vicinity of the Project, and as at the time of writing, the Authors are not aware of any active exploration activities in the immediate area of the Property. However, according to the active MERN regulations on the Property, which is owned by ACL, the rights to explore for and exploit sub-surface gold and silver mineralization are active.

#### 24 OTHER RELEVANT DATA AND INFORMATION

The current report is not an investigation on all the land titles owned by ACL for mine tailings. Rather, it aims to confirm access and amount of tailings at the Normandie tailings site for possible use by BLR and MOO. Permission for use of any and all tailings are given by ACL, as the owners of the tailings piles. A legal review of all the titles would have to be taken in order to address all the properties detail ownerships. This legal review is not part of JPL GeoServices' present mandate.

# **25 INTERPRETATION AND CONCLUSIONS**

# **25.1** Normandie Tailings Site

The MRE\* for the Normandie main tailings pile was calculated by A.S. Horvath (P.Eng.) of A.S. Horvath Engineering Inc. using the available data supplied by BLR and MOO.

\*This MRE is compliant with CIM standards and guidelines for reporting mineral resources and reserves. These mineral resources are not mineral reserves, as they have no demonstrable economic viability.

The NMTP resource is estimated as follows:

- Measured + Indicated = 26.6 million tonnes grading 37.07% MgO, representing 98.3% of the total estimated tonnage of the NMTP;
- Inferred = 460 thousand tonnes grading 37.62% MgO, comprising 1.7% of the tonnage of the total estimated tonnage of the NMTP.

An inherent cut-off grade at 35% with the minimum estimated block value of 35.03% MgO was used for the MRE, as the NMTP consists of processed tailings with a narrow range of MgO% grades (33.38% to 38.74%) and it is most likely that any re-processing of the pile would involve the entire pile, rather than selectivity by MgO% grade.

### **25.2** Risks and Uncertainties

The opinions expressed in this report have been based on information supplied to the Authors by BLR and MOO. The Authors have exercised all due care in reviewing the supplied information. The accuracy of the results and conclusions from this resource estimate are reliant on the accuracy of the supplied data. The Authors have no reason to believe that any material facts have been withheld, or that a more detailed analysis may reveal additional material information.

BLR and MOO have warranted to JPL GeoServices that full disclosure has been made of all material information and that, to the best of their knowledge and understanding, such information is complete, accurate and true. Readers of this report must appreciate that there is an inherent risk of error in the acquisition, processing and interpretation of geological data.

It is the Authors' opinion that there are certain risk factors that could materially impact the Mineral Resource Estimate, as follows:

- assumptions used to generate the conceptual data for consideration of reasonable prospects of economic extraction including;
  - commodity price assumptions
  - exchange rate assumptions
  - density assumptions
  - geotechnical assumptions
  - operating and capital-cost assumptions
  - metal recovery rates and assumptions
  - concentrate grade and smelting/refining terms
- delays or other issues in reaching agreements with local communities and indigenous groups;
- changes in interpretations of mineralization models, geometry, and continuity of mineralized zones.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors, other than as discussed in this Report, that would affect the Mineral Resource Estimate.

### **26 RECOMMENDATIONS**

Prior to developing the Normandie main tailings pile, local and municipal stakeholders will need to be consulted for permitting approval. It is recommended to initialize this process as soon as possible, in order to foster social acceptability of the Project.

Collecting of a bulk sample of Normandie tailings site material for mineralogical, metallurgical and processing studies is recommended. This testwork should aim to optimize crushing, separation (screening), processing methods, etc. of the tailings material to optimize MgO recovery.

The work carried out in 2007 by Nichromet shows that the other tailings sites on the Property (i.e., Bell, d'Amiante, British Canadian I and II, King Beaver and National), are also likely viable economic resourses. It is recommended that a percussion drilling and surface sampling program be initiated in conjunction with a high-precision surface survey of the d'Amiante tailings pile, in advance of a Mineral Resource Estimate for these tailings. The d'Amiante site is adjacent to the Normandie mine site and has an historic resource\* of 140 Mt (all categories combined) (Dupéré et al., 2007).

\* This estimate is historical in nature. A qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves. Neither BLR nor MOO are treating this historical estimate as current mineral resources or mineral reserves.

The recommended two-phase exploration program going forward is summarized in Table 26-1.

Phase 1		Budget
Normandie tailings site	Bulk sample	\$25,000
Normandie tailings site	Metallurgical processing test-work	\$100,000
Sub-total		\$125,000
Phase 2		
d'Amiante tailings	GPS high-precision survey	\$40,000
d'Amiante tailings	Drilling & pitting	\$100,000
MRE d'Amiante tailings	NI 43-101 Mineral Resource Estimate	\$35,000
Sub-total		175,000
Overall Total		\$300,000

#### Table 26-1: Preliminary Budget for Recommended Work on the Thetford Project

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#### CERTIFICATE OF QUALIFICATION JOHN LANGTON

#### I, John Langton, M.Sc., P. Geo., of 1740 Sullivan Rd, Val-d'Or, Québec do hereby certify that:

- This Certificate applies to "NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT & MINERAL RESOURCE ESTIMATE ON THE NORMANDIE TAILINGS SITE, IRLANDE TOWNSHIP, QUEBEC NTS 21L/03", dated January 12<sup>th</sup>, 2020;
- 2. I graduated from the University of New Brunswick in 1985 with a B.Sc. in Geology and from Queen's University, Kingston in 1993 with a M.Sc. in Geology, and I have practised my profession continuously since that time;
- 3. I am currently working and living in Quebec and I am a Professional Geologist currently licensed by the *Ordre des géologues du Québec* (License 1231); the Association of Professional Engineers and Geoscientists of New Brunswick (Licence M5467); and a Temporary Member of the Association of Professional Geoscientists of Ontario (Licence 1716);
- 4. I am the owner of a geological consulting firm (JPL GeoServices), based in Val-d'Or, Quebec, Canada;
- 5. I have read the definition of "qualified person" (QP) set out in National Instrument (NI) 43-101 and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101;
- 6. I have worked as an exploration and field geologist since 1985. I have knowledge and experience with regard to a various mineral deposit types, and with the preparation of reports relating to them;
- 7. I have been retained by Blue Lagoon Resources Inc. as a contract/consulting geologist, and not as an employee;
- 8. I have no prior involvement with Blue Lagoon Resources Inc.;
- I have prepared and take responsibility for Items 1.0 through 13.0, and Items 23.0 through 27.0 of this Report entitled "NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT & MINERAL RESOURCE ESTIMATE ON THE NORMANDIE TAILINGS SITE, IRLANDE TOWNSHIP, QUEBEC NTS 21L/03", dated January 12<sup>th</sup>, 2020;
- 10. I visited the Project on November 27-28, 2019;
- 11. I have no personal knowledge, as of the date of this certificate, of any material fact or change, which is not reflected in this report;
- 12. I am "independent" of Blue Lagoon Resources Inc., Mag One Operations Inc., Mag One Products Inc., and of the owners of the Property (Asbestos Corporation Limited), with respect to Item 1.5 of NI 43-101;
- 13. Neither I, nor any affiliated entity of mine, is at present under an agreement, arrangement or understanding, nor expects to become an insider, associate, affiliated entity or employee of Blue Lagoon Resources Inc., Mag One Operations Inc., Mag One Products Inc., or Asbestos Corporation Limited, nor any of their associated or affiliated entities;
- 14. Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Blue Lagoon Resources Inc., Mag One Operations Inc., Mag One Products Inc., Asbestos Corporation Limited, nor any of its associates or affiliates;
- 15. I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with them and in conformity with generally accepted Canadian mining industry practice. As of the date of the certificate, to the best of my knowledge, information and belief, this report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.



## CERTIFICATE OF QUALIFICATION

#### Alexander S. Horvath, P. Eng.

I, Alexander S. Horvath, P. Eng., currently residing at 1693 chemin des Eaux Paisibles, l'Original, ON, K0B 1K0, hereby certify that:

- 1 I graduated from the University of Toronto in 1982 with a Bachelor of Applied Science degree in Geological Engineering;
- I am licensed by the Professional Engineers of Ontario (License No. 20460507) and have been licensed since 1988. I am President of A. S. Horvath Engineering Inc.(est. 2006), which holds a current PEO Certificate of Authorization No. 100128389;
- I have practiced my profession for 37+ years continuously since graduation employed by major Canadian and American mining companies from 1982 to 2002 attaining positions of Exploration Manager and Vice-President Exploration with ASARCO Inc. and its subsidiary companies. From 2002-2006, I was self-employed as an independent geological engineer and from 2006 to present, as President of A. S. Horvath Engineering Inc., a corporation offering geoscience engineering services to the exploration and mining industry;
- 4 I am currently a Director and Technical Advisor to the President of Eloro Resources Ltd. and a Director of Cartier Iron Corporation;
- 5 I have read the definition of "qualified person" set out in the National Instrument 43-101 and declare I fulfil the requirements of an Independent Qualified Person for the purposes of NI 43-101 reporting;
- 6 I have prepared and authored Item 14 of this Report entitled "NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT & MINERAL RESOURCE ESTIMATE ON THE NORMANDIE TAILINGS SITE, IRLANDE TOWNSHIP, QUEBEC NTS 21L/03" dated January 12<sup>th</sup>, 2020;
- 7 I have no personal knowledge, as of the date of this certificate, of any material fact or change, which is not reflected in this report;
- 8 I have not personally visited the property site;
- 9 I have no prior involvement with Blue Lagoon Resources Inc.;
- 10 I am "independent" of Blue Lagoon Resources Inc., Mag One Operations Inc., Mag One Products Inc., and of the owners of the Property (Asbestos Corporation Limited), with respect to the conditions described in Item 1.5 of NI 43-101;
- 11 Neither I, nor any affiliated entity of mine, is at present under an agreement, arrangement or understanding or expects to become an insider, associate, affiliated entity or employee of Blue Lagoon Resources Inc., MagOne Operations Inc. or any associated or affiliated entities;
- 12 I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with them and in conformity with generally accepted Canadian mining industry practice. As of the date of the 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 the technical report not misleading;

