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Assessment Report on Exploration at the Bass Lake Claims, Galway Township, Ontario

UTM 17T 694932mE 4950000mN 259m asl

Report Prepared for

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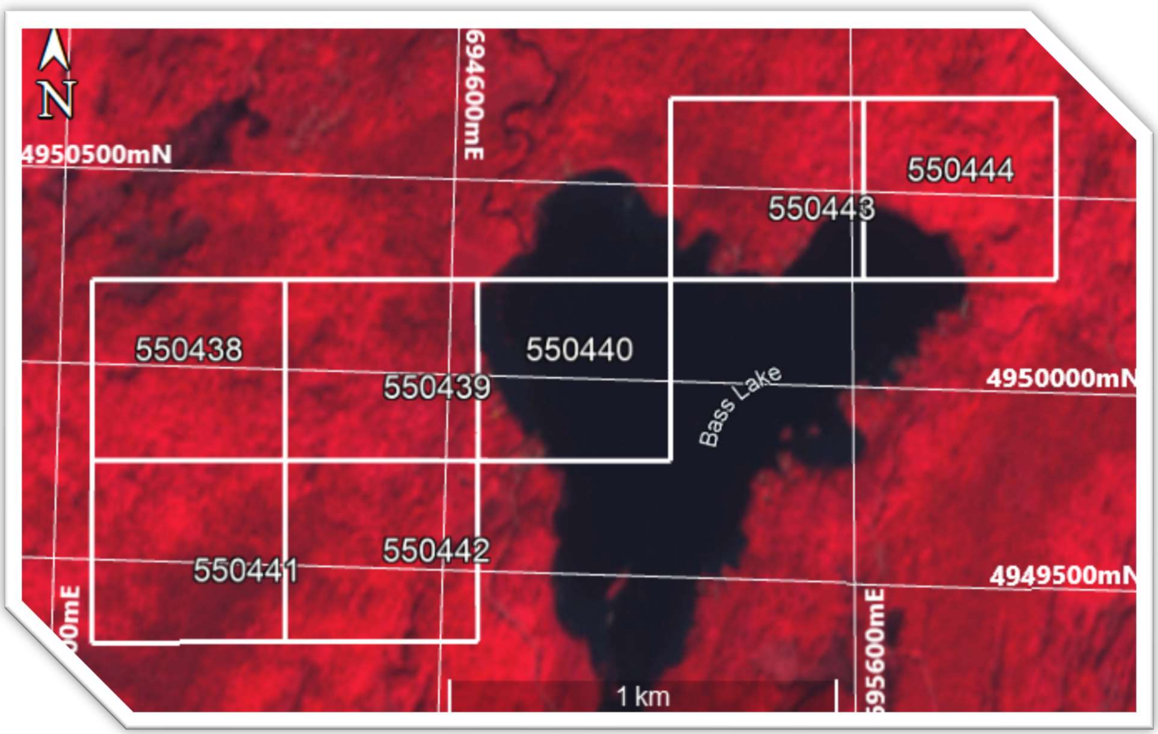

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15th May 2022

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RA Project Number BLAR2210

Effective Date: 15th May 2022
Signature Date: 15th May 2022

Author(s):

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John M. Ryder P.Geo. (ON # 2105)

Notice/Avis

This Assessment Report was prepared for Earth Resources Limited by Ryder & Associates, Bradford, ON, Canada. Estimates, information, conclusions, and recommendations are consistent with the information received from outside sources, information generated as a result of works overseen by the author, and the assumptions and conditions specified in this Assessment Report.

This Assessment Report is intended for Earth Resources Limited as part of a scope of work agreed with Earth Resources Limited under relevant securities legislation. Except for uses defined under the Ontario Mining Act all other uses are at the sole risk of the reader.

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Frontispiece: September 19th 2021 Visible & Near-InfraRed (VNIR) Image: Bass Lake Claims

1.0 Summary

1.1 Scope of Work and Location

This report was prepared by Ryder & Associates ("RA") at the request of Earth Resources Limited ("FA") the registered owner of the claims. The purpose of this report is to satisfy assessment requirements for the Bass Lake Claims totalling 7 claims as described under Section 65 (1) of the *Mining Act* and Ontario Regulation 65/18.

The Bass Lake Claims are located in Southern Ontario, approximately 120 km directly north east of the city of Toronto and 14 km north of the town of Bobcaygeon, in Galway Township on the 1:250,000 NTS sheet 031D.

Figure 1.1 Location Map

1.2 Tenure and Encumbrances

The claim totals 7 contiguous mining claims for a combined 160.5 hectares. The required assessment work totals $2,800.

As of the date of this report there are no encumbrances on the claims in question, save the requirement to file annual assessment.

1.3 History

Exploration in Galway Township is recorded from 1954 and 73 assessment files are publicly available on the OGS GeoData Listing. Apart from the development of limestone quarries in the township exploration was focussed on vermiculite and graphite consisting of geological mapping, prospecting, till sampling, rock sampling, trenching, airborne geophysics and laboratory testing of the industrial mineral samples. Several calcium carbonate marble units containing graphite with associated vermiculite mineralization were discovered.

Remote sensing work was completed by Aster Funds Ltd., in April 2021 and March 2022 and is reported herein.

History of exploration in the township is to be found in Appendix I.

1.4 Geology & Mineralization

The Bass Lake Claims are underlain by Grenville Carbonate metasedimentary rocks - marble, calc-silicate rocks and skarns.

A number of graphite occurrences are reported from the claims.

1.5 Exploration

Long Wave InfraRed (LWIR) spectral surveying and data interpretation was conducted in April 2021 and LDFC mapping in March 2022 utilizing proprietary algorithms to build a digital signal model of the spectral reflectance and emissivity emanating from the rocks at the claims area after water, vegetation, clouds, and cloud shadow had been removed by Aster Funds Ltd. of Toronto.

A total of sixteen (16) long wave infrared (LWIR) spectra endmember minerals were identified including metallic minerals as target vector minerals (TVM's). In addition, a Linear Determinant Function Classifiers (LDFC) was constructed to produce a graphite predictor/fingerprint map of the claims.

Metallurgical testing was conducted on a composite grab graphite sample collected by Fred Archibald P.Geo in April 2021 that showed a graphite concentrate grading over 95% C(t) could be produced.

All data locations are reported in UTM NAD 83 or WGH 84 latitude-longitude.

1.7 Conclusions

The Long Wave Infrared remote sensing survey identified abundance areas of sixteen (16) minerals including graphite and vermiculite. A Linear Determinant Function Classifier was established for a number of graphite and vermiculite occurrences in the area of the claims. A number of graphite target areas were outlined.

Metallurgical testwork at SGS, Lakefield confirmed that a concentrate grading over 95% C(t) could be produced from graphite occurring on the claims.

2.0 Introduction

2.1 Introduction and Terms of Reference

The following are the results of (remote sensing) Long Wave Infrared survey by Aster Funds Ltd on the Bass Lake Claims. In addition, a proprietary analysis product called the Linear Determinant Classifiers Function (an n-dimensional linear regression- LDFC) was used to determine areal extent and intensity of exploration anomalies in graphite having a spectral fingerprint to individual local occurrences. Metallurgical testing on a sample of graphite from the claims was conducted at SGS Lakefield, Ontario and results are reported herein.

2.2 Site Visits

No site visits made.

2.3 Sources of Information

This Report is based, in part, on internal company technical reports, and maps, published government reports and public information. Several sections from assessment and technical reports authored by other geoscientists have been directly quoted or summarized in this Report.

2.4 Disclaimer

This technical report represents the professional opinions of Ryder & Associates as to the interpretations to be made and conclusions drawn in light of information made available to, inspections performed by, and assumptions made by the author using his professional judgment and reasonable care. This document has been prepared based on a scope of work agreed with Earth Resources Limited and is subject to inherent limitations in light of the scope of work, the methodology, procedures, and sampling techniques used. This document is meant to be read as a whole, and portions thereof should not be read or relied upon unless in the context of the whole.

The opinions expressed herein are based on data and information supplied by, or gathered from Earth Resources Limited, from regulatory filings of other companies, and from Government of Ontario geoscientific and related data. This document is written for the sole and exclusive benefit of Earth Resources Limited Any other person or entity choosing to rely on this document does so at his/her own risk and the author disclaims all liability to any such person or entity.

Information on tenure was obtained from Earth Resources Limited and the Ontario government MLAS website.

Any statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this Report.

3.0 Properties Description

3.1 Project Location

The Bass Lake Claims (7 Claims) are located in Southern Ontario, approximately 120 km directly north east of the city of Toronto and 14 km north of the town of Bobcaygeon, in Galway Township in the County of Peterborough. They lie on the 1:250,000 NTS sheet 031D and 1:50,000 NT sheet 031D/10.

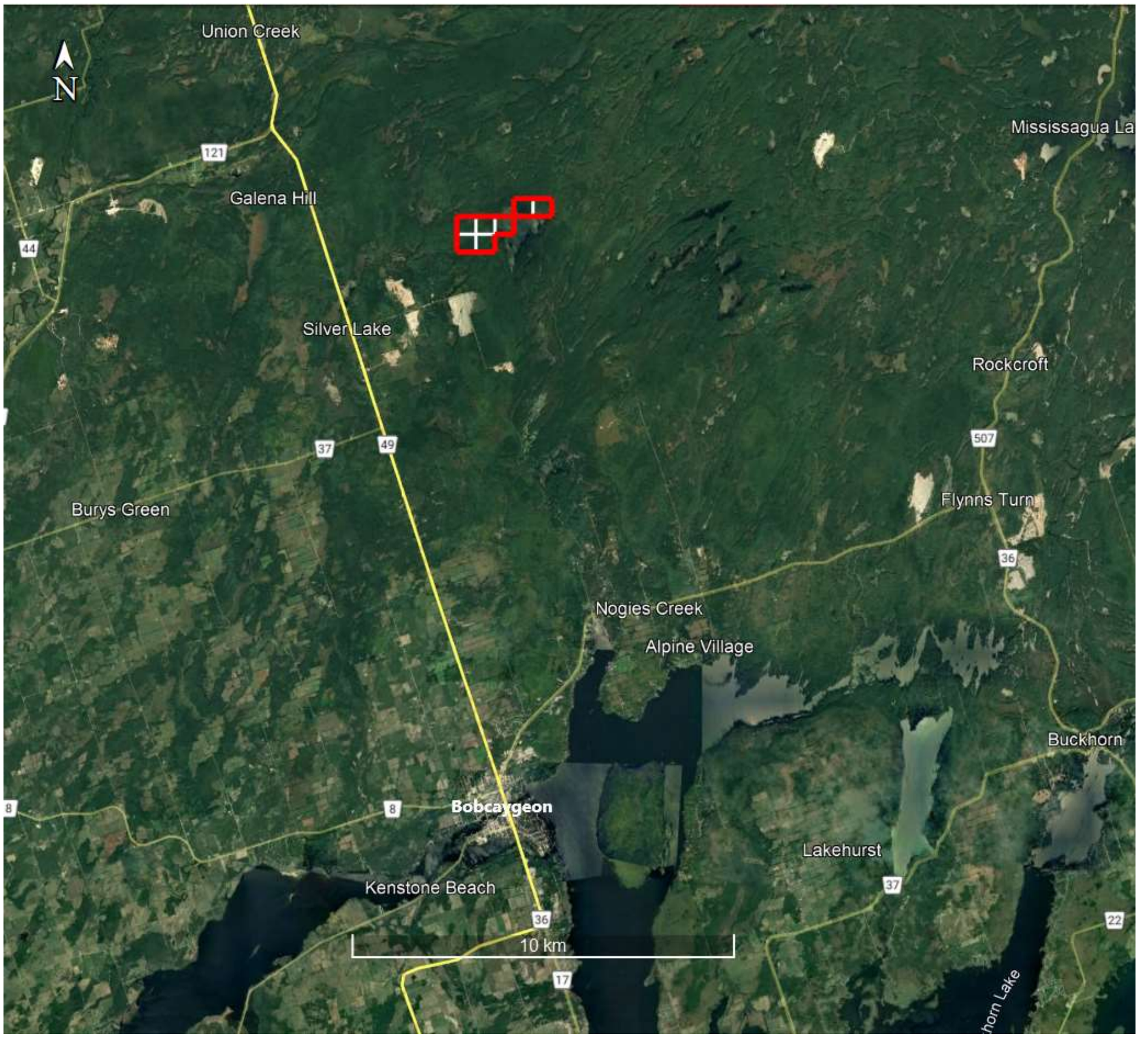

Figure 3.1 Claim Location Map

The claims are located in Lots 6 to 12, Concession 4 and parts of Lots 6 & 8, Concession 3. The centre of the claim group is located at 44°40'36.78"N, 78°32'25.86"W or UTM 17 T 694932m E, 4950000m N in the centre of claim #550440

3.2 Tenure

The Bass Lake Claims are a single contiguous claim block comprising seven claims for a total area totalling 160.5 hectares (Figure 3.2 below).

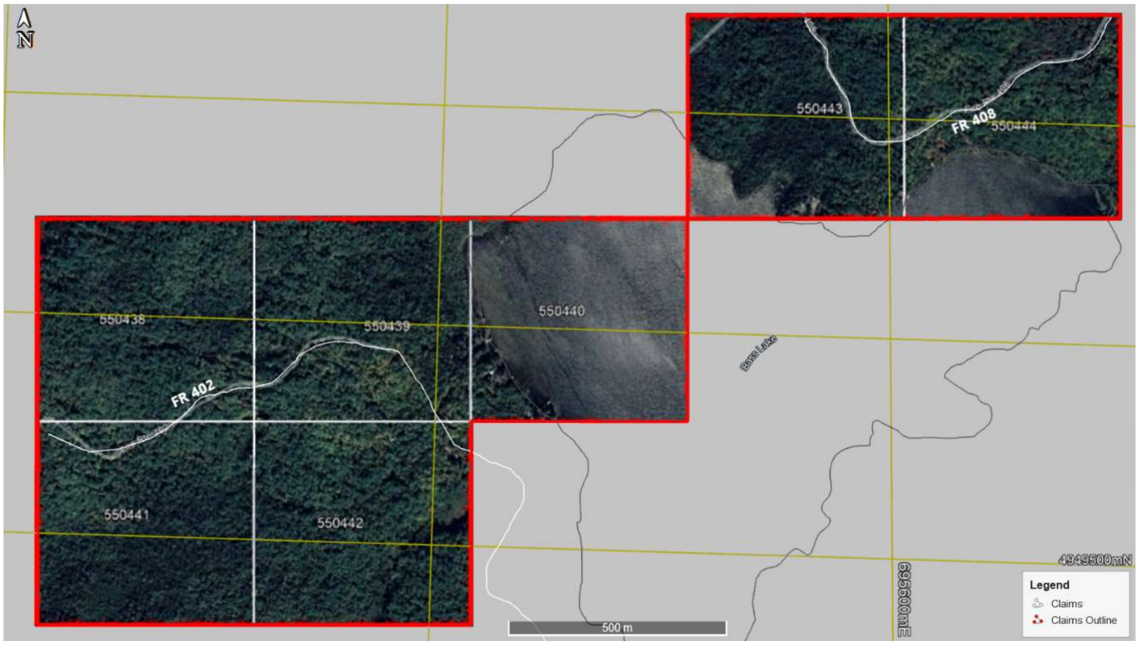

Figure 3.2: Bass Lake Claims

Claim Number	Cell ID	Claim Holder	Claim Type	Township	Registration Date	Anniversary Date	Work Amount	Reserve $
550443	31D10I335	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
550444	31D10I336	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
550440	31D10I354	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
550439	31D10I353	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
550438	31D10I352	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
550441	31D10I372	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
550442	31D10I373	Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$400.00	0
7		Earth Resources Limited	SMC	Galway	2019-05-27	2022-05-27	$2,800.00	0

Table 1: Claim data

A total of $2,800.00 in work expenditures are required by May 28th 2022. Current work expenditures are in excess of this amount.

As the map-designated claims have pre-established positions, a legal survey of them is not required and none of the staked claims have been surveyed.

3.3 Permits

There are no permits required for current exploration works on the Bass Lake Claims apart from First Nations consultation which has commenced.

3.4 Royalties and Taxes

There are no royalties payable.

3.5 Environmental Liabilities

There are no known defined environmental liabilities.

4.0 Accessibility, Climate, Local Resources, Infrastructure, and Physiography

4.1 Accessibility

Access to the claims is by exiting east onto Bass Lane Road from Highway 49 at 13 kilometres north of Bobcaygeon then using various Fire Routes off Bass Lake Road (Figure 4.1).

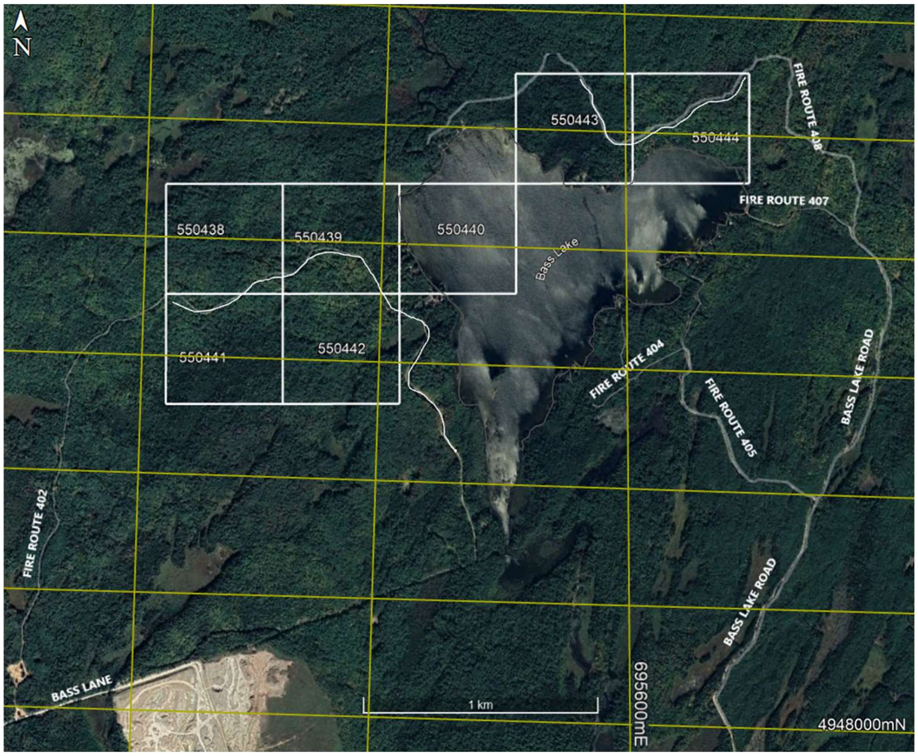

Figure 4.1: Claims Access

4.2 Climate

In the region the summers are comfortable; the winters are freezing, snowy, and windy; and it is partly cloudy year-round. Over the course of the year, the temperature typically varies from *-13 °C* to *26 °C* and is rarely below *-23 °C* or above *30 °C*. Climatologic records for temperature, precipitation and cloud cover obtained from the Peterborough weather station are considered to be representative of the actual conditions in the claims area as seen in Figures 4.2, 4.3 and 4.4 and 4.5 overleaf.

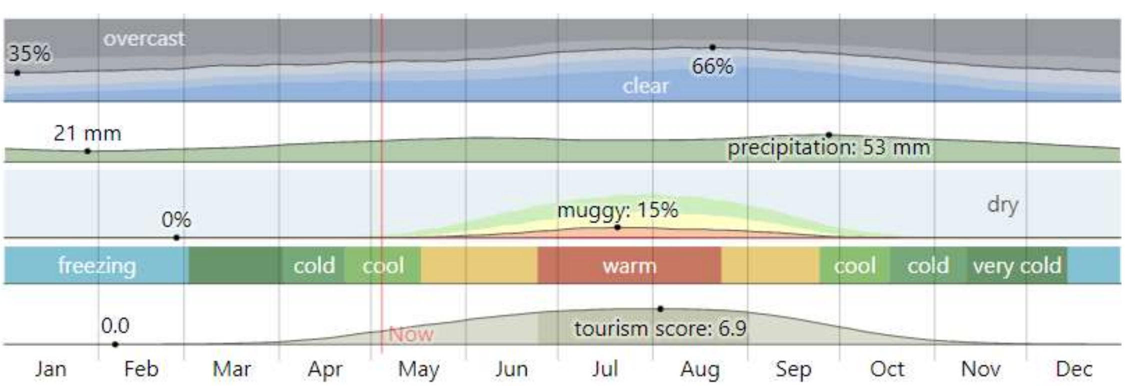

Figure 4.2: Climate Peterborough Airport Data (Weatherspark.com)

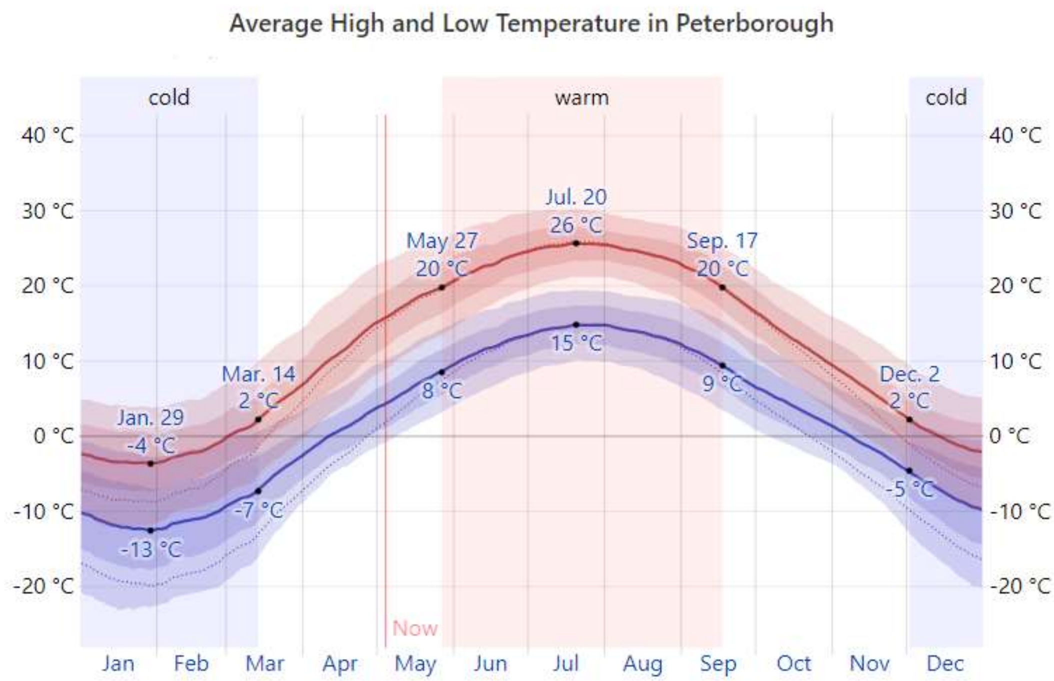

Figure 4.3: Temperature Data (Weatherspark.com)

The warm season lasts for 3.7 months, from May 27 *to* September 17, with an average daily high temperature above *20 °C*. The hottest month of the year in Peterborough is July, with an average high of *25 °C* and low of *14 °C*. The *cold season* lasts for 3.4 months, from December 2 to March 14, with an average daily high temperature below *2 °C*. The coldest month of the year in Peterborough is January, with an average low of *-12 °C* and high of *-3 °C*.

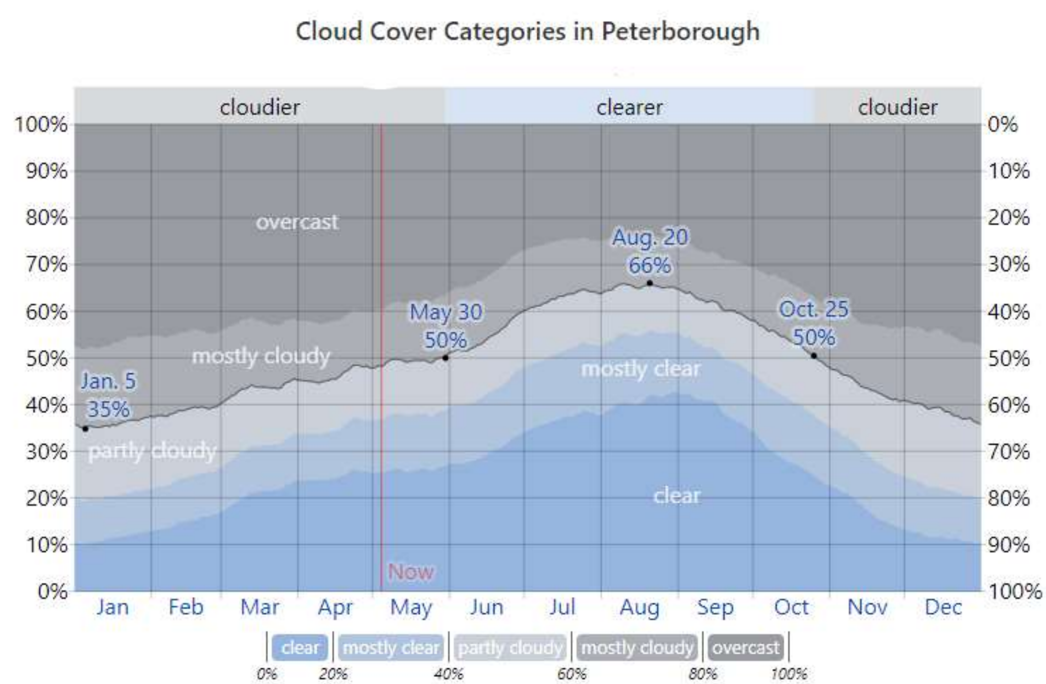

Figure 4.4: Cloud Data (Weatherspark.com)

The average percentage of the sky covered by clouds experiences significant seasonal variation over the course of the year. The clearer part of the year begins around May 30 and ends around October 25. In August on average the sky is clear, mostly clear, or partly cloudy 65% of the time.

The cloudier part of the year begins around October 25 and lasts until May 30. The cloudiest month of the year in Peterborough is January, during which on average the sky is overcast or mostly cloudy 64% of the time.

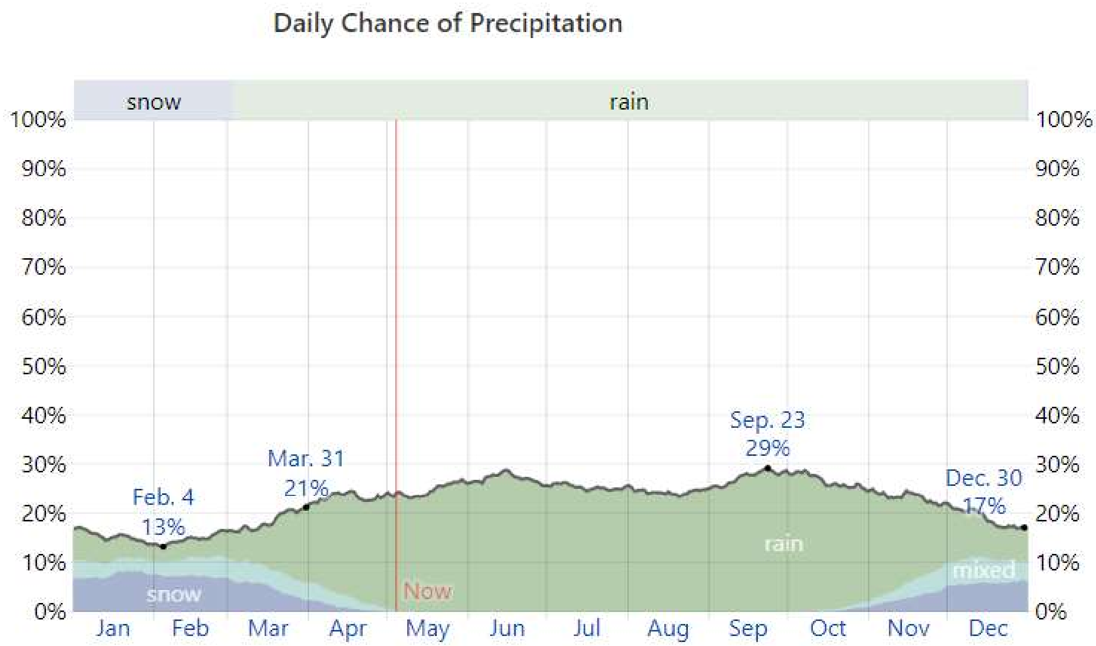

Figure 4.5: Precipitation Data (Weatherspark.com)

The wetter season is from March 31 to December 2, with a greater than 21% chance of a given day being a wet day. The month with the most wet days is September, with an average of 8.2 days with at least 1 millimetre of precipitation.

The drier season lasts 3.9 months, from December 2 *to* March 31. The month with the fewest wet days is February, with an average of 4.1 days with at least 1 millimetre of precipitation. The most common form of precipitation changes throughout the year with snow from December 30th to March 3rd.

4.3 Local Resources

There are many businesses and support services including fuel, stores, hospital, policing, mining contractors, an airport, railway, and a helicopter base located in the town of Peterborough, 44 kilometres south of the claims.

4.4 Infrastructure

There is presently no infrastructure on the claims apart from hydro lines and gravel roads for cottages. Abundant water supply is available from nearby Bass Lake.

4.5 Physiography

Within the claims area topographic relief is generally flat with an average of 20-25 metre elevation difference over the claims ranging from a minimum of259m to maximum of 282m above sea level.

Vegetation is characterized from dense bush to wide open areas of mature to semi-mature birch, maple, white pine, spruce and cedar. A open forest, mainly of deciduous trees covers 80% of the claims with coniferous trees occupying the lower swampy areas (yellowish coloured areas) of the property The NDVI (Normalized Difference Vegetation Index) Short Wave InfraRed (SWIR) Sentinel satellite image, Figure 4.6 is shown below.

The NDVI is a dimensionless index that describes the difference between visible and near-infrared reflectance of vegetation cover and can be used to estimate the density of green on an area of land. Very low values of NDVI (0.1 and below) correspond to barren areas of rock, sand, snow, roads (White). Moderate values (0.2 to 0.3) represent shrub; grassland and/or wetland (very light green, yellowish), while high values (0.6 to 0.8) indicate temperate forests (Dark Green). Colour variations change dependent on the season and the image below was taken on August 16th 2021.

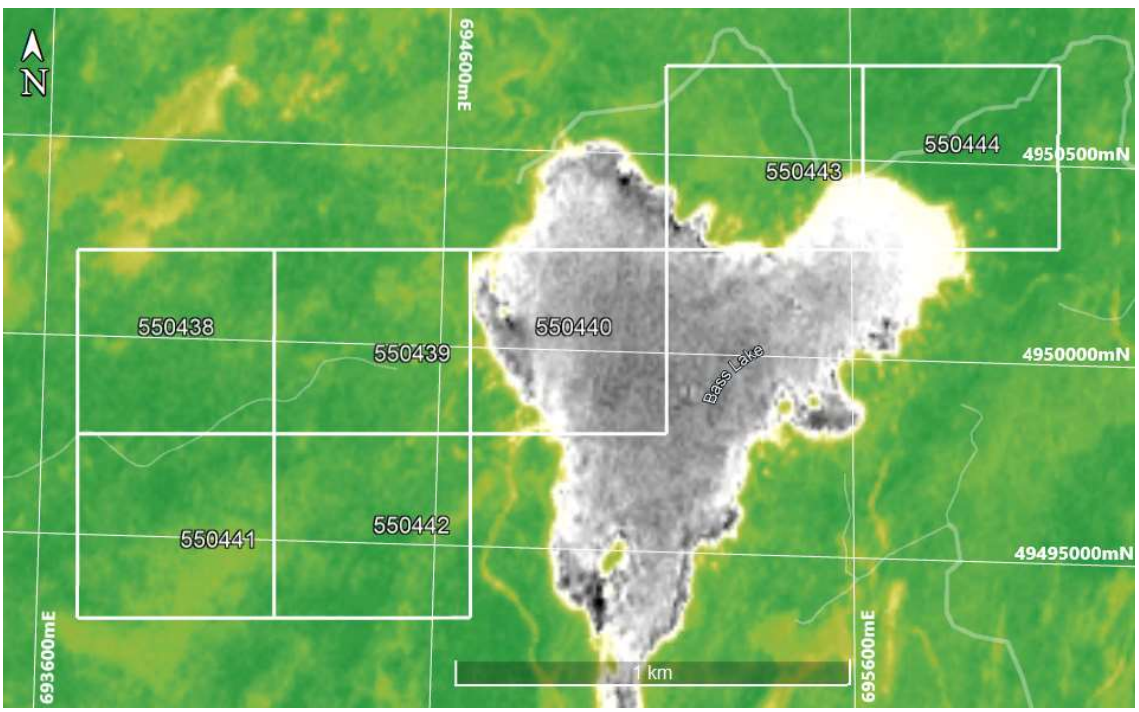

Figure 4.6: Sentinel SWIR NDVI Image

The claims are covered by a discontinuous thin layer of drift over extensive Precambrian Carbonate metasedimentary rocks of marble, calc-silicate rock and skarns (Figure 4.7). Glaciofluvial outwash deposits of Pleistocene sand and gravel including proglacial river and deltaic deposits are located near the southern boundary of the claims.

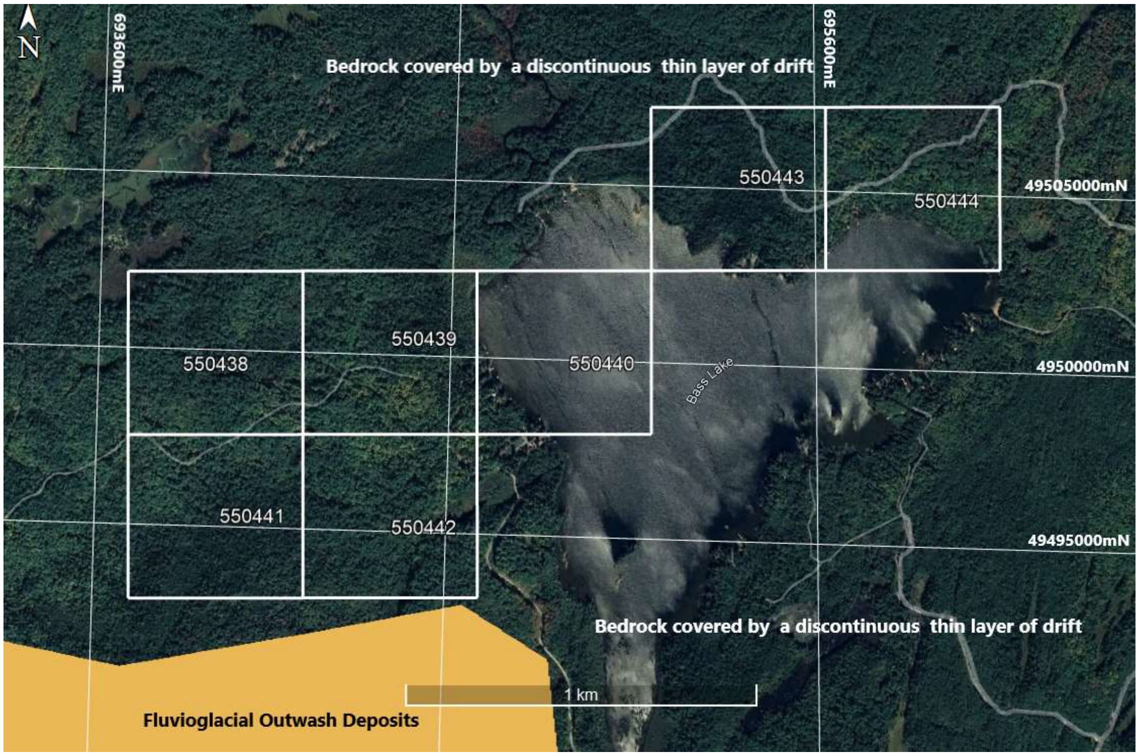

Figure 4.7 Quaternary Geology Map

5.0 History

The Bass Lake Claims are located in Galway township and a detailed list of exploration work conducted in the townships is to be found in Appendix 1.

A total of forty (40) abandoned historic graphite mines/adits/shafts/trenches are described in the AMIS system for Ontario. The majority of these, thirty-six (36) or 90% are located in southern Ontario as seen in Figure 5.1 below.

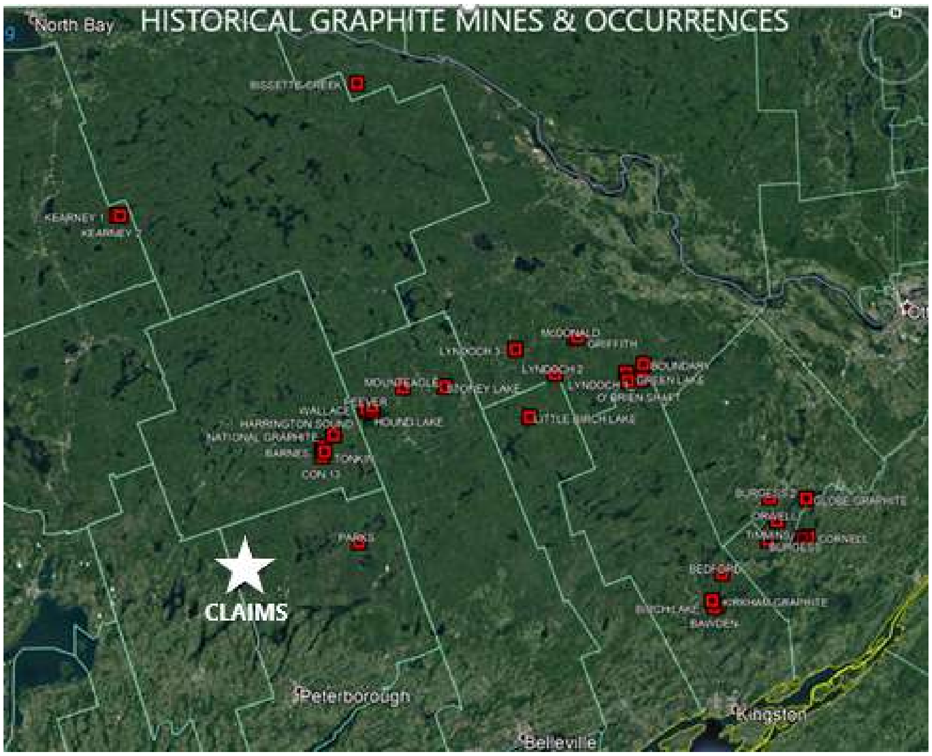

Figure 5.1 Historic Graphite Mines & Occurrences

Graphite was mined within the Bancroft Terrane between 1896 to 1954. The Black Donald Flake Graphite Mine produced some 86,300 tonnes of graphite. In the early 1900's, flake graphite was mined by Virginia Graphite Co., Tonkin-Dupont Graphite Co., Harcourt Graphite Mine, and Wilberforce Graphite Mine in Cardiff Township and Monmouth Township. There are some two dozen historical graphite occurrences in Cardiff and Monmouth Township while there are only two historical graphite occurrences in Galway Township.

Vermiculite mineralization was discovered in Cavendish Township to the east of Galway Township, in 1950, and several vermiculite mining permits and mining operations have been established in the area up to 2009. Regis Resources Inc. (Vermiculite Canada) operated a vermiculite mining and vermiculite marketing operation between 2005 and 2009 near Mississauga Landing.

Extensive exploration since the 1970's for vermiculate was conducted on both private and crown lands by Frederick Archibald and Earth Resources Limited in Galway Township and adjacent Townships. In 2003 graphite was discovered by Archibald during a trenching programme for vermiculite in Galway Township. Systematic exploration for graphite did not commence until late 2012 when Valterra Resources Corporation entered into an agreement with Earth Resources Limited to acquire a 100%

interest for graphite in certain properties located in Galway, Cavendish and Monmouth Townships (agreement terminated in 2016). The main exploration focus was on a graphite occurrence located directly south of the Bass Lake claims on patented lands. Between 2012 and the end of 2021, the following exploration techniques were employed in exploration for graphite:

- Geological reconnaissance and mapping,
- Prospecting,
- Rock Sampling,
- Trenching by backhoe excavator
- Trench chip and channel sampling
- Diamond drilling,
- Ground Geophysics (induced polarization and magnetometer survey)
- Whole rock/multi-element analyses.
- Metallurgical testing

From 2005 to 2016, several limestone and granite quarries in Galway Township were permitted. These include: Don Young Aggregates, Redstone Quarries, Aecom (Preston) granite Quarry, Merv Johnson Quarry, Harvey Ridge Quarry and Bass Lane Quarry

6.0 Geological Setting and Mineralization

6.1 Regional & Local Geology

Data in this section is largely from Easton (1992).

The Palaeozoic rocks unconformably overlie the Central Metasedimentary Belt, Tectonites and Felsic Volcanics of the Grenville Province as shown below in Figure 6.1. The supracrustal rocks and older gneissic rocks have been intruded by several intrusive suites. From oldest to youngest, these are the tonalite to granodiorite rocks of the Anstruther and Burleigh gneiss complexes (circa 1290 Ma), gabbroic rocks of the Salmon Burn intrusive complex (circa 1240 Ma), granitic rocks of the Methuen suite (circa 1230 to 1210 Ma) and granitic rocks of the Catchacoma suite (circa 1067 Ma).

The main structural trends are north-south; northwest-south east and north east–south west. The North-south and the north west-south–east structures are related to the terrane margins and tectonites (Figure 6.2). Faulting is directly related to two major tectonic divisions of the Central Metasedimentary Belt.

(1) The Bancroft terrane

(2) The Harvey–Cardiff domain.

Figure 6.1. Terranes

The Bancroft Terrain consists mainly of carbonate (deformed calcitic and dolomitic marbles) and siliciclastic (quartzo-feldspathic gneisses and paraamphibolite) metasedimentary rocks from shallow marine type environments. These units have been intruded by syenites and granites at 1279 to 1220 Ma (Miller, 1983). The Metamorphic grade in the Bancroft terrane and the northern sub domain reached middle to upper amphibolite facies.

The Harvey–Cardiff domain contains abundant mafic to felsic metavolcanic rocks, in addition to carbonate and siliciclastic metasedimentary rocks. It can be further subdivided into a northern sub domain consisting mostly of metavolcanic and carbonate metasedimentary rocks; and a southern sub domain consisting mainly of gneissic rocks. Metamorphic grade in the northern sub domain reached middle to upper amphibolite facies while in the southern sub domain reached upper amphibolite facies conditions sufficient to induce partial melting to form migmatites.

Rocks of both the Bancroft terrane and the Harvey–Cardiff domain have been subjected to polyphase folding and faulting associated with regional metamorphism.

The Laurentian Margin/Bancroft Terrane border consists of a two (2) to twelve (12) kilometres wide Tectonite unit composed of tectonites, straight gneisses, and porphyroclastic gneisses, unsubdivided gneisses in major deformation zones, mylonites and protomylonites.

6.2 Bass Lake Claims Geology

Based on Ontario Geological Survey Mapping and prospecting by Archibald the claims are underlain by carbonate metasedimentary rocks marble, calc-silicate rocks and amphibolitic rocks of the Grenville Supergroup.

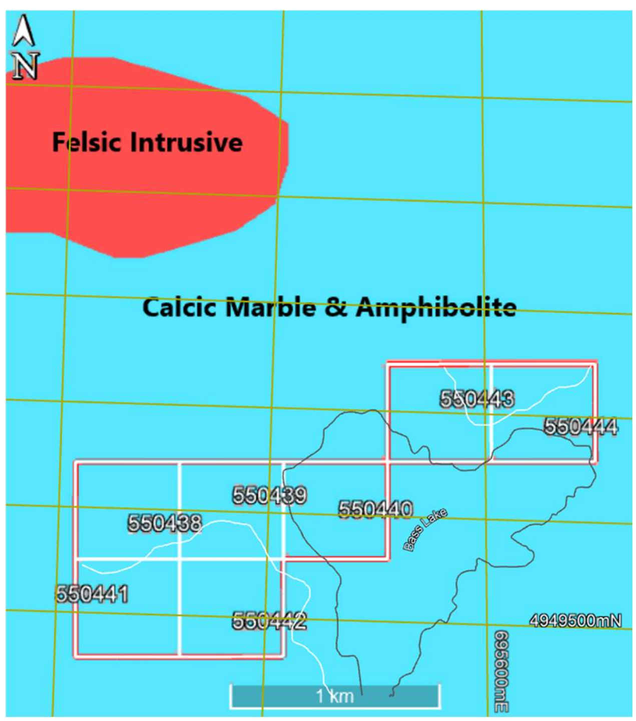

Figure 6.2 Bass Lake Claims Geology (OGS1:250,000-OGS Earth)

The local geology is made up of a series of intercalated and fault truncated zones within biotite-gneissic marbles, syenitic marbles, and amphibolitic (clastic metasediment) marbles. The main graphite zones are associated with sheared and folded calcitic marbles and amphibolite gneiss units; usually along the contacts between these two rock units.

6.3 Mineralization

Within a 50-kilometre radius of the claims over 900 mineral occurrences are recorded by the OGS in the survey area including 180-dimension stone occurrences and 200+ abandoned mine sites. Apart from the dimension stone occurrences and abandoned mines, approximately 560 mineral occurrences that include uranium, iron, precious metals, base metals, molybdenum, graphite and vermiculite are known. The majority of these mineral showings are in close proximity to the old workings/abandoned mine sites.

The chart below shows the breakdown of the mineral occurrences recorded with uranium dominating followed by "other" which is dominantly mineralogical specimen sites plus some garnets, actinolite, tourmaline etc. Iron includes pyrite, magnetite and limonite occurrences. Base metals predominate over gold (+/- silver) and include five cobalt locations. Molybdenum is the third commonest mineral recorded. Non metallic minerals, graphite and vermiculite are more common in the survey area than reported by the OGS.

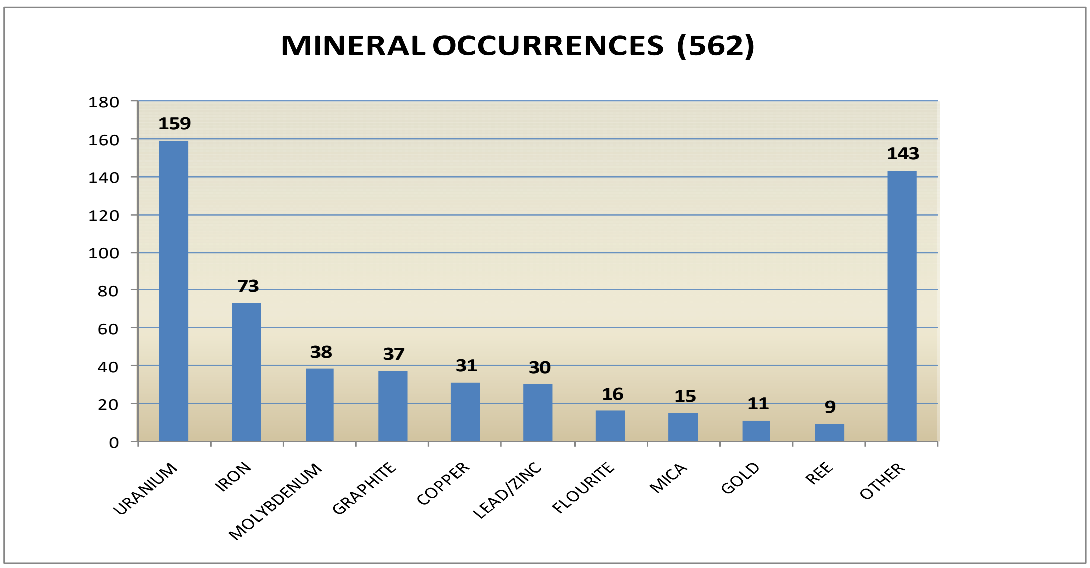

Figure 6.3 Histogram Plot. Distribution of Mineral Occurrences

Graphite occurrences dominate in the Bancroft terrane, straddling the Bancroft/Harvey–Cardiff Terrane border. Geological mapping compilations by F.T. Archibald from decades of mapping and prospecting outlined two north east–south west trending graphite belts:

- Eastern Graphite Belt
- Western Graphite Belt

(Figure 6.6 overleaf). The belts are the south eastern extension of the Wilberforce-Harcourt historic graphite trend which bifurcates southwards (B1) with the eastern belt bifurcating in the Loom Lake area (B2). A potential third bifurcation (B3) occurs just north of Bass Lake on the margins of the Bass Lake claims and two of the bifurcated zones run through the claims (Figure 6.5). On a regional scale the Eastern Graphite Belt and its northern extension past the B1 bifurcation northwards occurs adjacent to and in juxtaposition to the Bancroft Terrane/ Harvey Cardiff Terrane structural boundary (Figure 6.1)

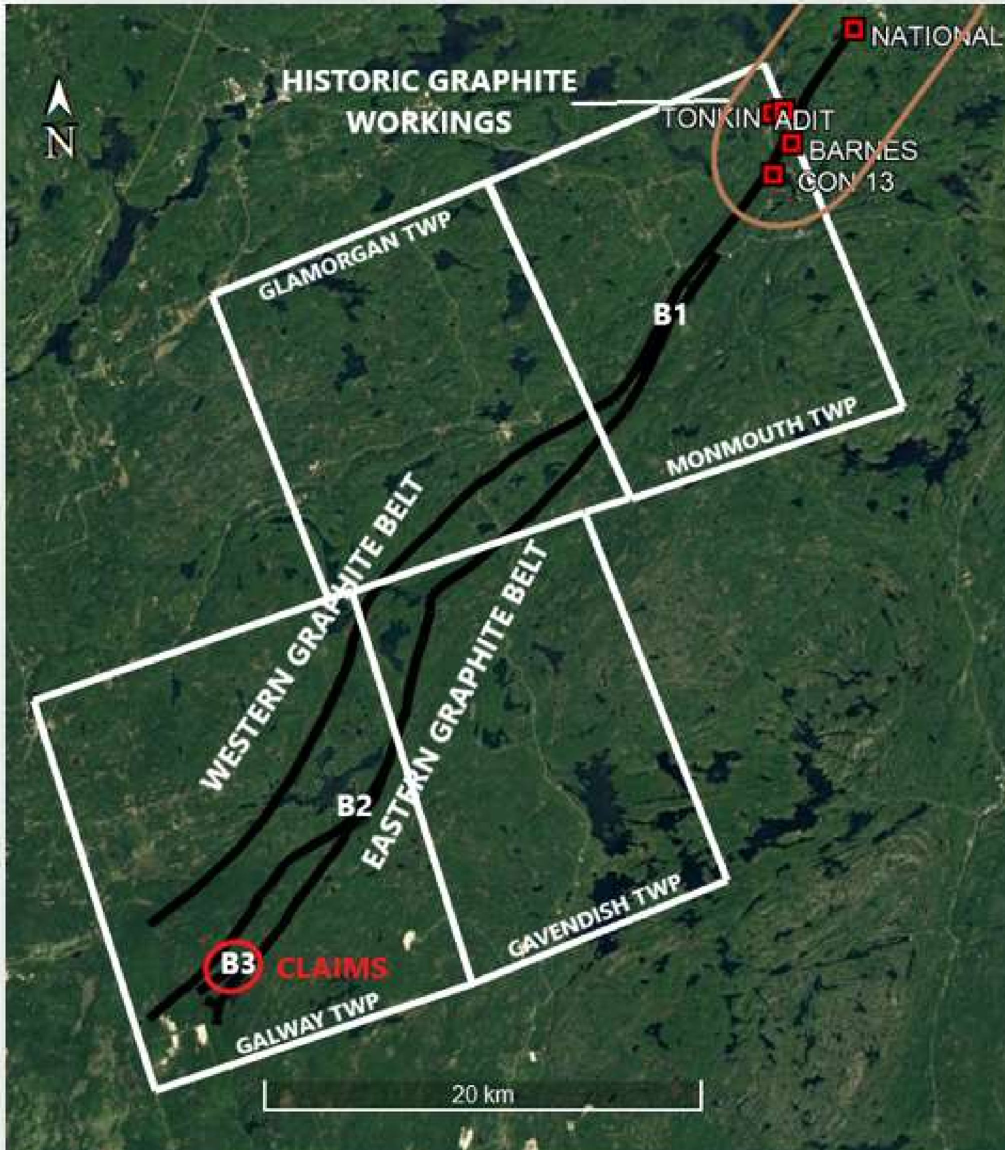

Figure 6.4. Regional Graphite Belts & Historic Workings

The main graphite zones are associated with sheared and folded calcitic marbles and amphibolite gneiss units; usually along the contacts between these two rock units. Three graphite zones, namely the Main Zone, West Zone and the Northern Graphite zone of the Eastern Graphite Belt were mapped and sampled by Archibald/Earth Resources (2004-2021).
Graphite zone widths range from 10m to 100m and up to 1,200metres in length on the claims while grades range from:

- West Zone: 1.38-3.09Cg%
- Northern Graphite Zone: 0.97-14.5%
- Main Graphite Zone: up to 54.6 Cg%

Figure 6.5. Bass Lake Graphite Zones

The Main Bass Lake Graphite Zone extends from claim 55042 southwards for 1,300 metres in a south-southwest direction. Values exceeding 20% C(g) are recorded from outcrop and trenches including 20.20% C(g) and 36.80Cg% over 1.5 metres; and 54.60% C(g) in outcrop.

The West Zone parallels the Main Bass Lake Graphite Zone and is located some 400 meters to the west. It was trenched and channel sampled with grades of between 1.38Cg% and 3.09% over 1.0 to 1.3m widths.

This Northern Graphite Zone trends northeast-southwest sub-parallel to the Main Zone some 650 metres to the south east. The zone has been mapped for 1.2 kilometers on the claims and a number of samples of mineralized widths of between 2.0 metres to 11.0 metres returned values of 1.28%Cg to 2.91Cg%. A single sample located 120 metres to the west of the zone in Claim#550439 returned a value of 14.50Cg%.

7.0 Exploration

Exploration consisted of a remote sensing LWIR (long wave infrared) spectral analysis survey over the Bass Lake Claims in April 2021 and March 2022 by Aster Funds Ltd., Toronto, Ontario. As well, Linear Determinant Classifiers (LDFC) was constructed in March 2022 for specific graphite and vermiculite occurrences in the general area. Target Vector Minerals (TVM's) were identified and mapped for metallics on the claims.

LWIR imagery is collected by the Japanese Aster satellite which was launched in December 1999. The spatial resolution is 90 m and five spectral bands of thermal reflectance's are collected in the range 8.29, 8.63, 9.07, 10.66 and 11.32 microns. The data was downloaded from the Japanese Space Agency site MADAS - AIST (gsj.jp) for the Bass Lake Claims by Aster Funds Ltd, Toronto, Ontario on April 10th 2021.

Rock samples were collected from the claims, combined and submitted as a single sample to SGS Lakefield, an ISO compliant. Laboratory, in April 2021. A scoping level flowsheet development metallurgical program was completed. The primary objectives of the tests were to develop a preliminary understanding of the comminution requirements and the metallurgical response including graphite recovery, concentrate grade, as well as flake size distribution and total carbon grades of different size fractions.

7.1 Spectral Analysis (LWIR)

Aster Funds Ltd offers bespoke proprietary spectral analyses of deposit-relevant mineral abundance and distribution on exploration and mining properties. Aster Funds Ltd takes the Long Wave Infrared (LWIR) thermal signals and processes them through proprietary methods to stitch Aster scenes together, leaving out cloud and cloud shadow; water bodies; vegetation; and overburden. The Spectral Analysis of the resultant scene is used to map mineral 'endmembers' over client exploration and mining properties. The ground-penetrating nature of infrared radiation in the long-wave bands and the emissive properties of minerals allows for sixteen (16) spectral LWIR endmembers to be derived for each survey (Figure 7.1).

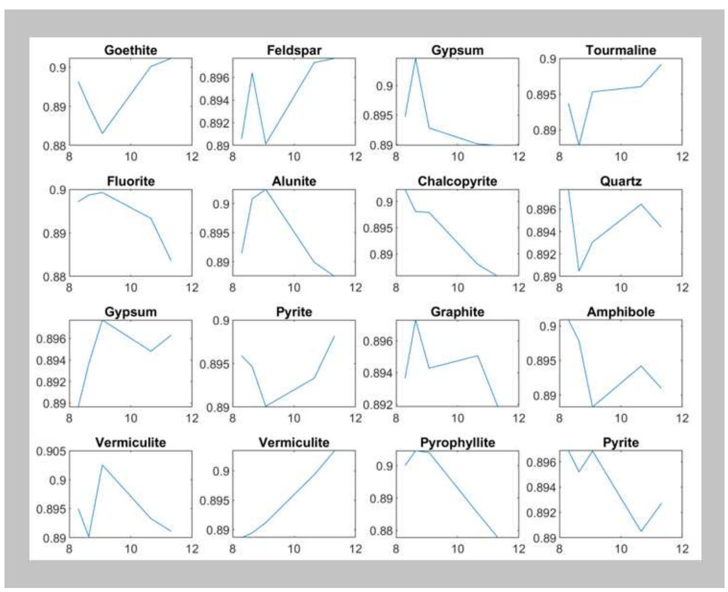

Figure 7.1. Spectral endmembers and their interpreted mineral.

Graphite and Vermiculite are of great importance to Earth Resources and thanks to the emissivity property of minerals, the spectral signature for minerals such as graphite and vermiculite may be mapped, even beneath vegetation. They have distinctive spectral shapes in the longwave infrared [LWIR] region of the electromagnetic spectrum see below.

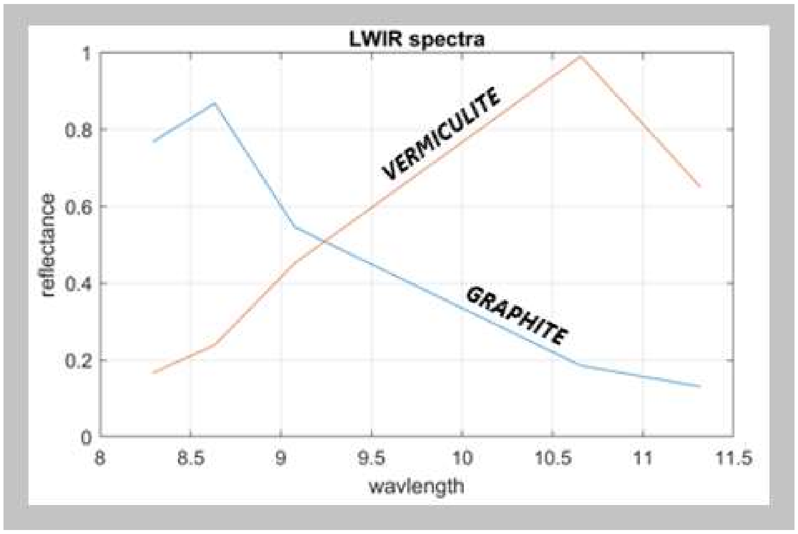

Figure 7.2 Vermiculite & Graphite Spectra

Interpretation of the mineral abundances is carried out by comparing their corresponding spectral endmembers to 324 library spectra collected by Johns Hopkins University. The closet matches with their correlation coefficients are tabulated below (Table 2).

ENDMEMBER NUMBER	INTERPRETED MINERAL	CORRELATION COEFFICIENT	RANKING BY ABUNDANCE
Em 1	Goethite	95%	15
Em 2	Feldspar	91%	6
Em 3	Gypsum #1	99%	10
Em 4	Tourmaline	98%	7
Em 5	Flourite	94%	9
Em 6	Alunite	99%	8
Em 7	Chalcopyrite	99%	8
Em 8	Quartz	86%	2
Em 9	Gypsum #2	98%	1
Em 10	Pyrite #1	97%	5
Em 11	Graphite	91%	3
Em 12	Amphibole	96%	11
Em 13	Vermiculite	91%	14
Em 14	Pyrrhotite	100%	13
Em 15	Pyrophyllite	99%	12
Em 16	Pyrite #2	99%	4

Table 2. Endmembers and their interpreted corresponding mineral

* *Several minerals: Gypsum (Em#3 & Em#9), Vermiculite (Em #13 & Em#14) and Pyrite (Em#10 & Em#16) occur more than once. This could be on account of the endmembers not being pure minerals or an effect of grain size and/or texture which modifies the spectral response.*

Endmember identification with a particular mineral may be erroneous based on their correlation coefficient as only five thermal bands are collected by the satellite. However, for exploration purposes, once the combination and spatial relationship of mineral abundance**s** that occurs at a location of geological and/or economic mineral interest is identified then those areas where the same spectral pattern is found are worthy of examination.

Several minerals: gypsum, pyrite and vermiculite occur more than once. This could be on account of the endmembers not being pure minerals or an effect of grain size and/or texture which modifies the spectral response.

Spectral unmixing allows us to produce estimates of various minerals potentially present in a scene and a histogram of the distribution of dominant endmembers for the area is shown below in Figure 7.3.

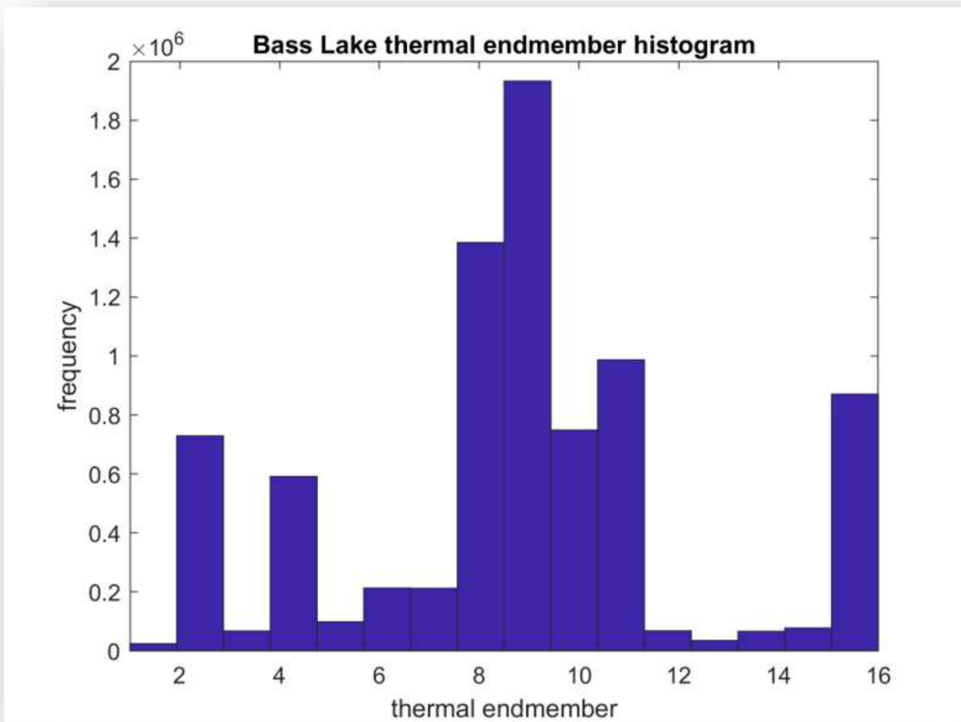

Figure 7.3. LWIR Endmember Abundance Histogram

In summary, the spectral mixture paradigm of decomposing multiband Aster thermal data into a linear combination of sparse non-negative spectral abundances is remarkably effective for inferring mineral distributions. Each abundance corresponds to a spectral endmember which may be identified through comparison to a library of spectra measured in a laboratory. The distribution of the 16 endmember minerals on the claims is shown in Figures 7.4 to 7.19 and it is as if the Client properties is analyzed for geological and deposit relevant exploration from the basis of 100% outcrop. The various endmember colour patterns on the maps reflect the degree of endmember abundance from low endmember abundance (blue) to high endmember abundance (red). White areas reflect absence of the endmember.

For the Long Wave Infrared survey, the minimum resolvable unit (pixel) is 90m x 90m and the signal emanates from the bedrock. If Aster Short Wave Infrared is used, the minimum resolvable distance is 30m x 30m, but the signal emanates from the first millimetre of surface content, whatever it may be. Satellite revisit time to a particular area is about two weeks, giving a digital reference time series for any physical point. Historical spectral analysis surveys are available for Long Wave Infrared to the present day and Short-Wave Infrared (SWIR) to 2008 for the Aster Terra satellite. However, the European Sentinel satellites are currently acquiring SWIR/VNIR data with up to 10 metre resolution.

Some of the minerals and elements that have been used in previous Spectral Analysis surveys include: alunite, tourmaline, quartz, and kaolinite for epithermal gold deposits; augite, epidote, and goethite for host rocks in which volcanogenic massive sulphides and base metals deposits are found; pyrrhotite and pyrite for nickel and copper deposits; and monticellite for diamond deposits. Other searches can be made subsequent to the initial search to define specific deposit-type minerals.

7.2 Linear Determinant Classifier Functions

In the case of LDFC one LWIR endmember is used to define deposits, an example spodumene for lithium where a linear discriminant function from univariate statistics is used. A standard regression equation is used where values above the line of best fit qualify and values below the line of best fit are rejected. The LDF chart is a simpler classifier using a linear manifold in 16-dimensional space.

For the graphite and vermiculite LDFC Predictor-Fingerprint mapping a number of occurrences located in the Loom Lake area were selected as trainers.

Figures 7.4 to 7.19 overleaf show the mineral distribution and abundance maps for each of the thirty-two long wave infrared minerals identified on the claims. The various endmember mineral colour patterns on the maps reflect the degree of endmember abundance from low endmember abundance (blue) to high endmember abundance (red). White areas reflect absence of the endmember.

Figures 7.20 and 7.21 overleaf show the different LDFC predictor-fingerprint target maps for vermiculite and graphite. The LDFC predictor-fingerprint target maps are colour coded to visually assist with correlation to the LWIR fingerprint of the trainer deposit(s) where the warmer the colour the greater the correlation. In summary*, "the end product is known as a LWIR LDFC predictor/fingerprint target map which outlines areas in the spectral survey area that have the same/similar LWIR fingerprint as the trainer mineral deposit(s). The degree of correlation with the trainer deposit(s) is shown by the warmer the map colours the higher the prediction of mineralization where for example* red colours equate with a greater than 90% correlation with the deposit(s) used as trainers."

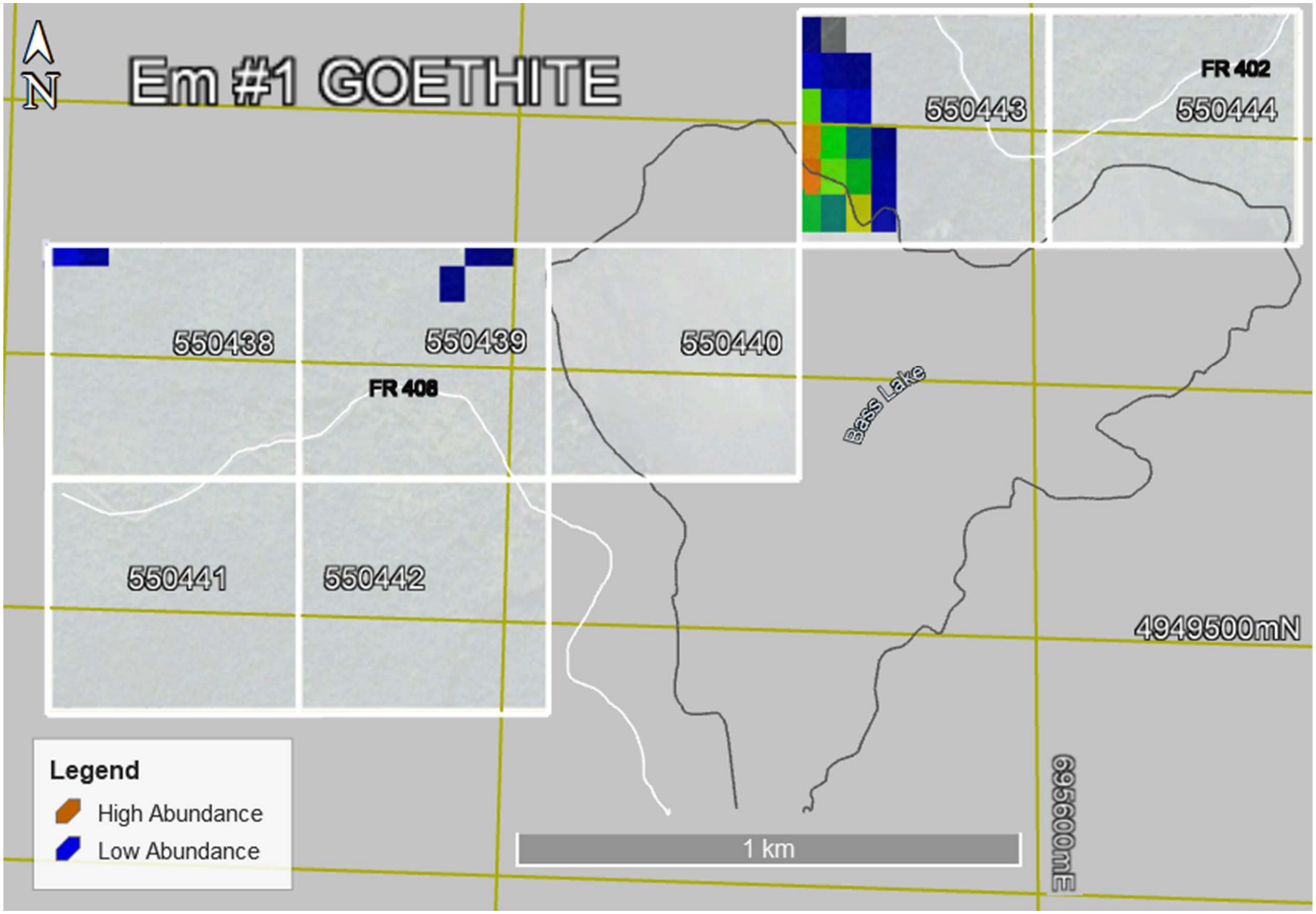

Figure 7.4 Long Wave Infrared Survey: Goethite Abundance Map

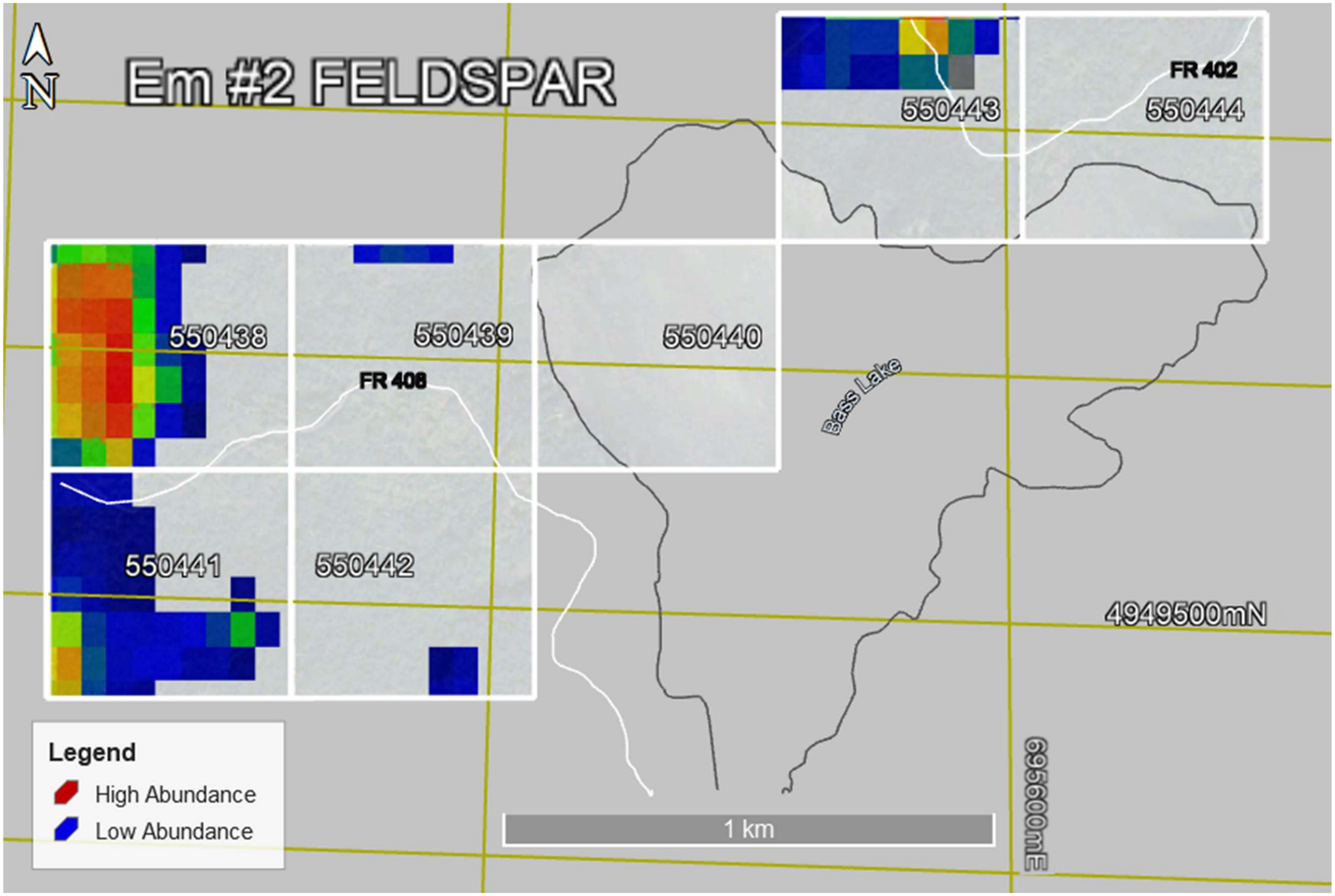

Figure 7.5 Long Wave Infrared Survey: Feldspar Abundance Map

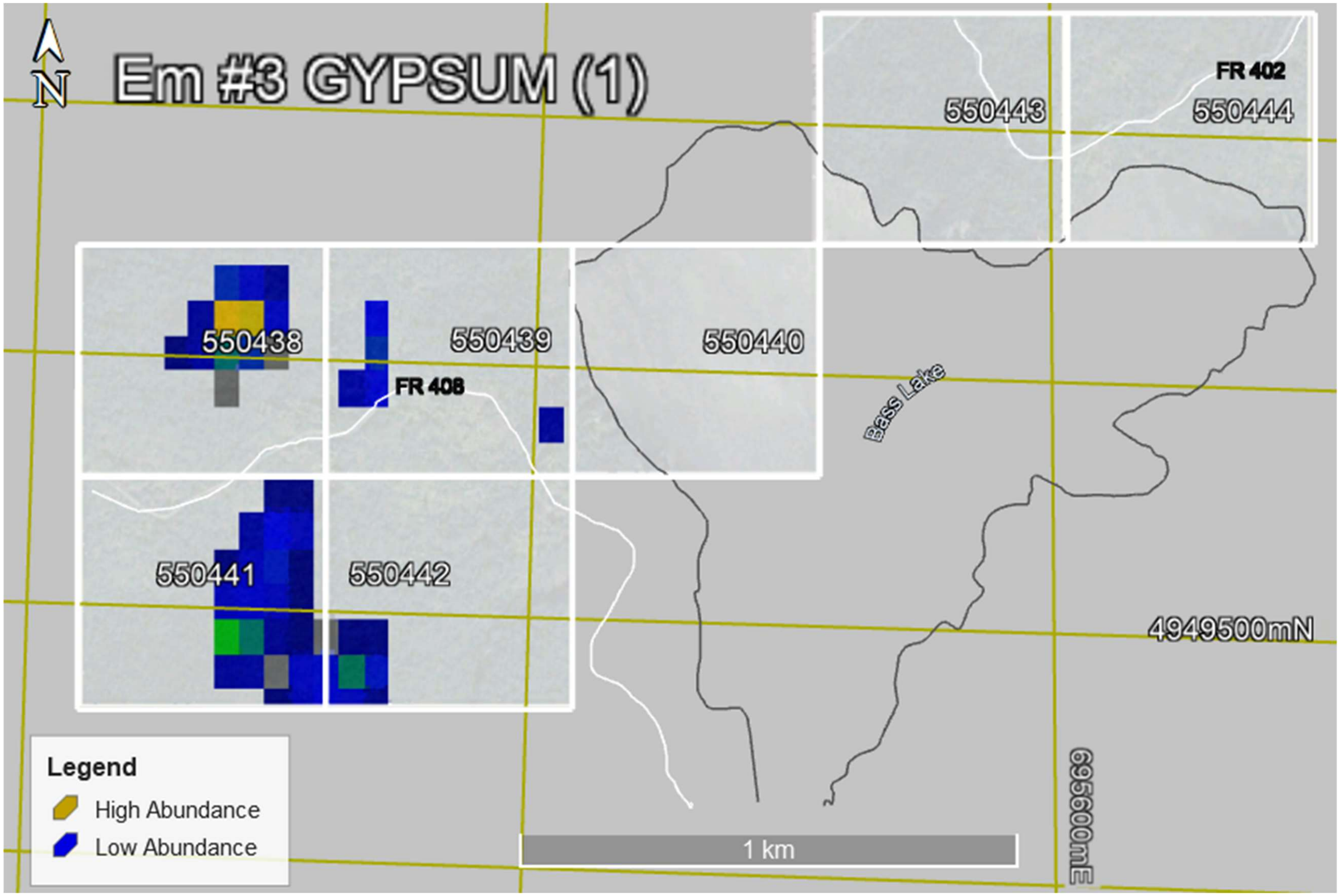

Figure 7.6 Long Wave Infrared Survey: Gypsum (1) Abundance Map

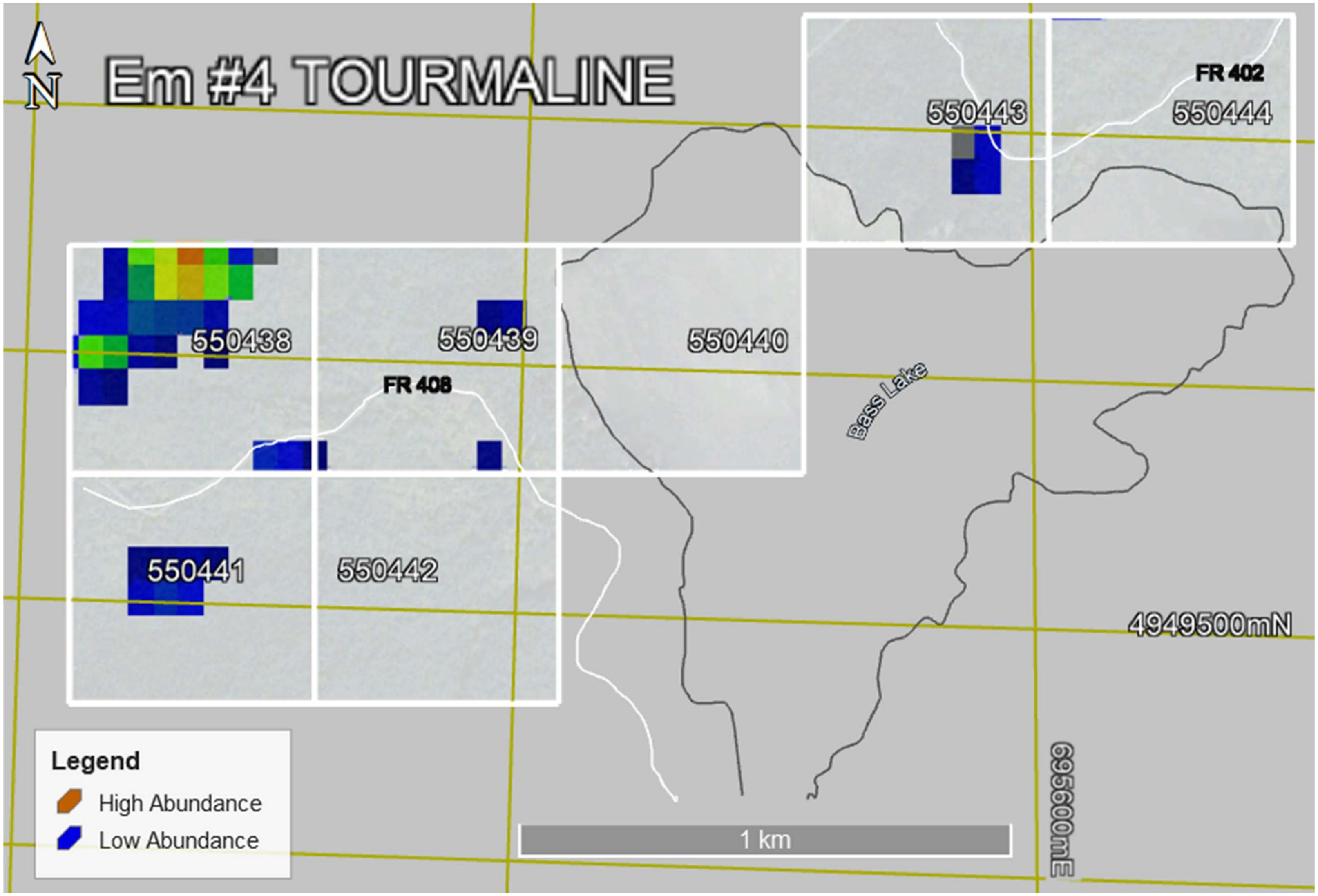

Figure 7.7 Long Wave Infrared Survey: Tourmaline Abundance Map

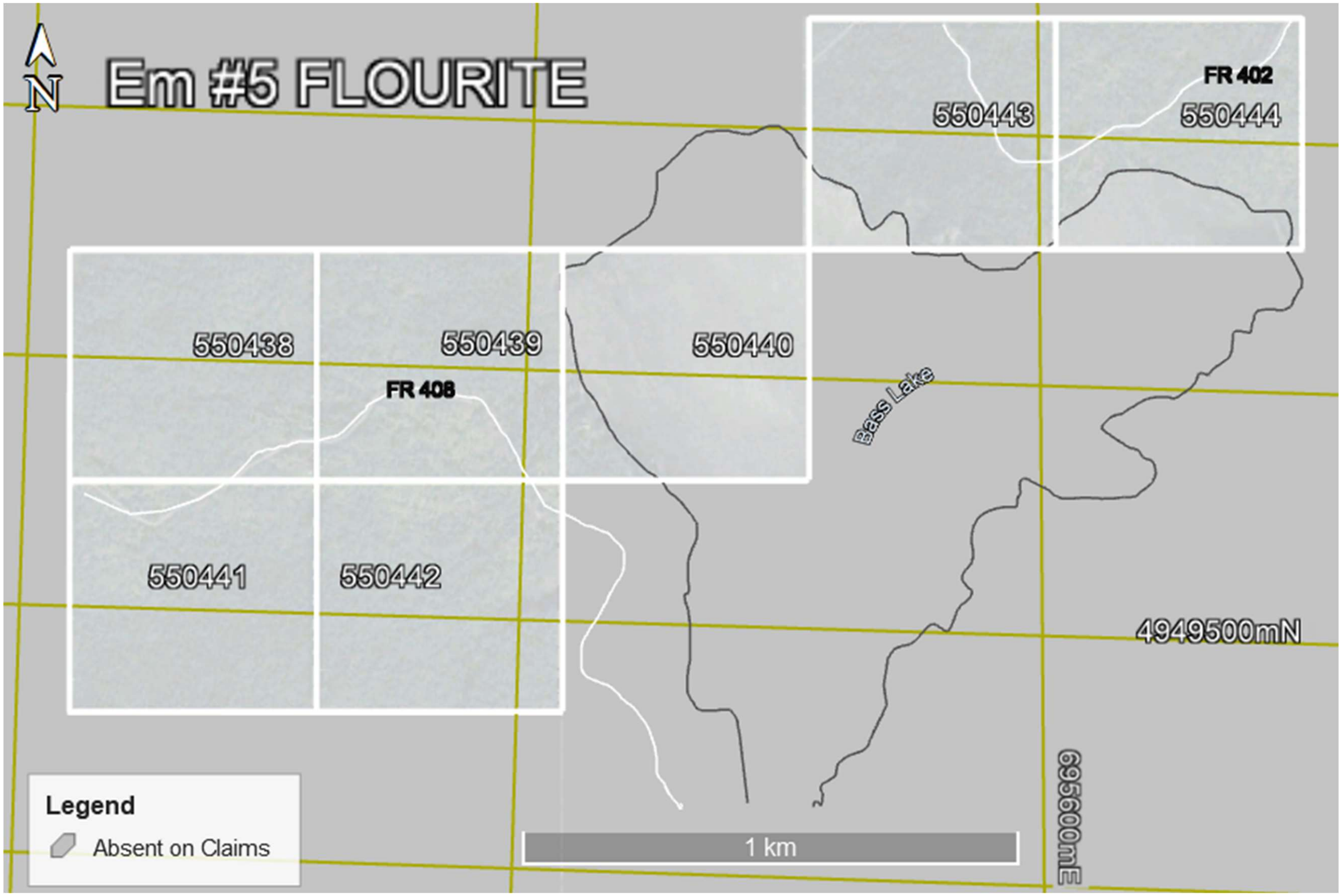

Figure 7.8 Long Wave Infrared Survey: Flourite Abundance Map

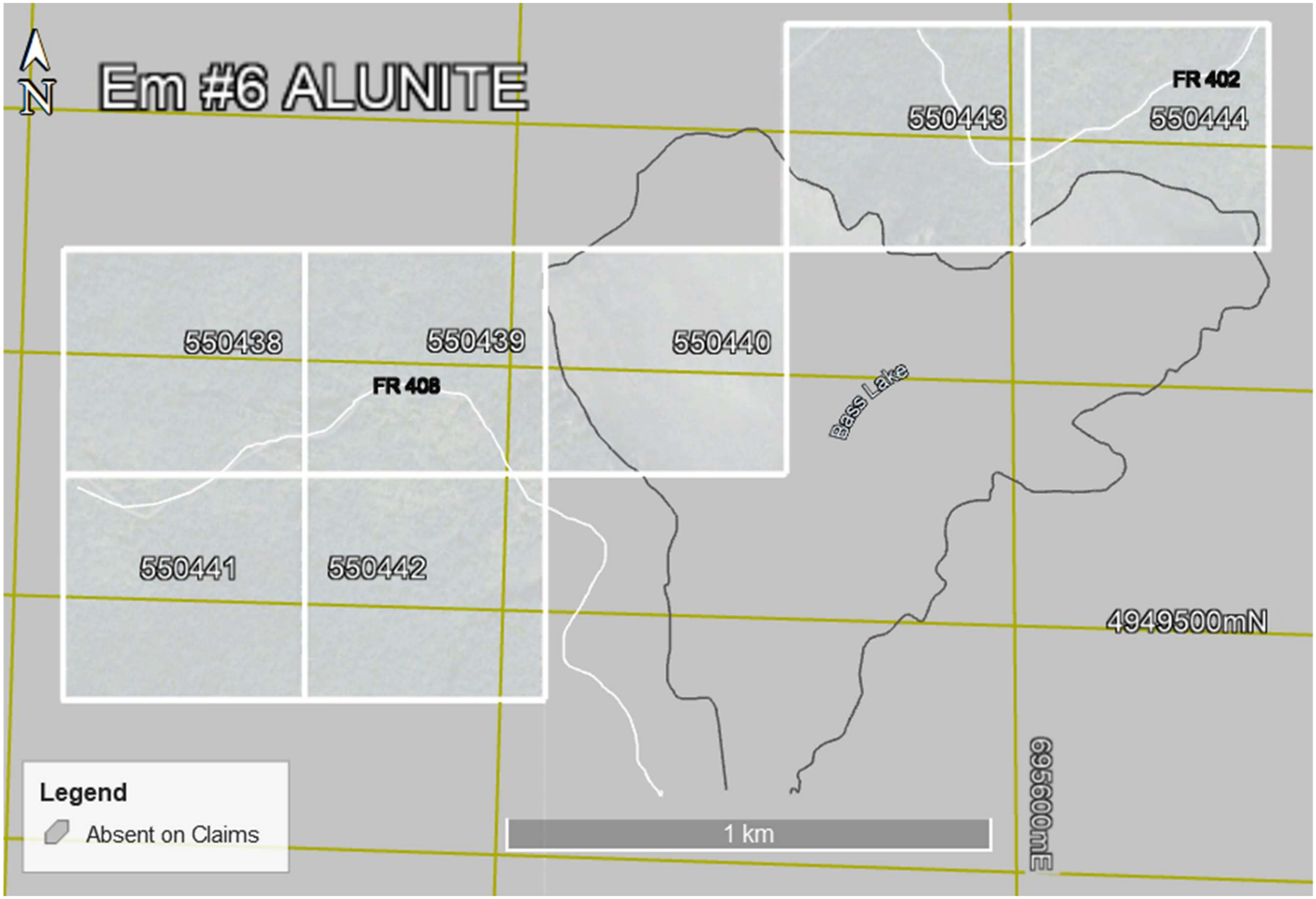
N
Em #6 ALUNITE
550443
550444
FR 402
550438
550439
550440
FR 408
550441
550442
Bass Lake
4949500mN
695600mE
1 km
Legend
Absent on Claims

Figure 7.9 Long Wave Infrared Survey: Alunite Abundance Map

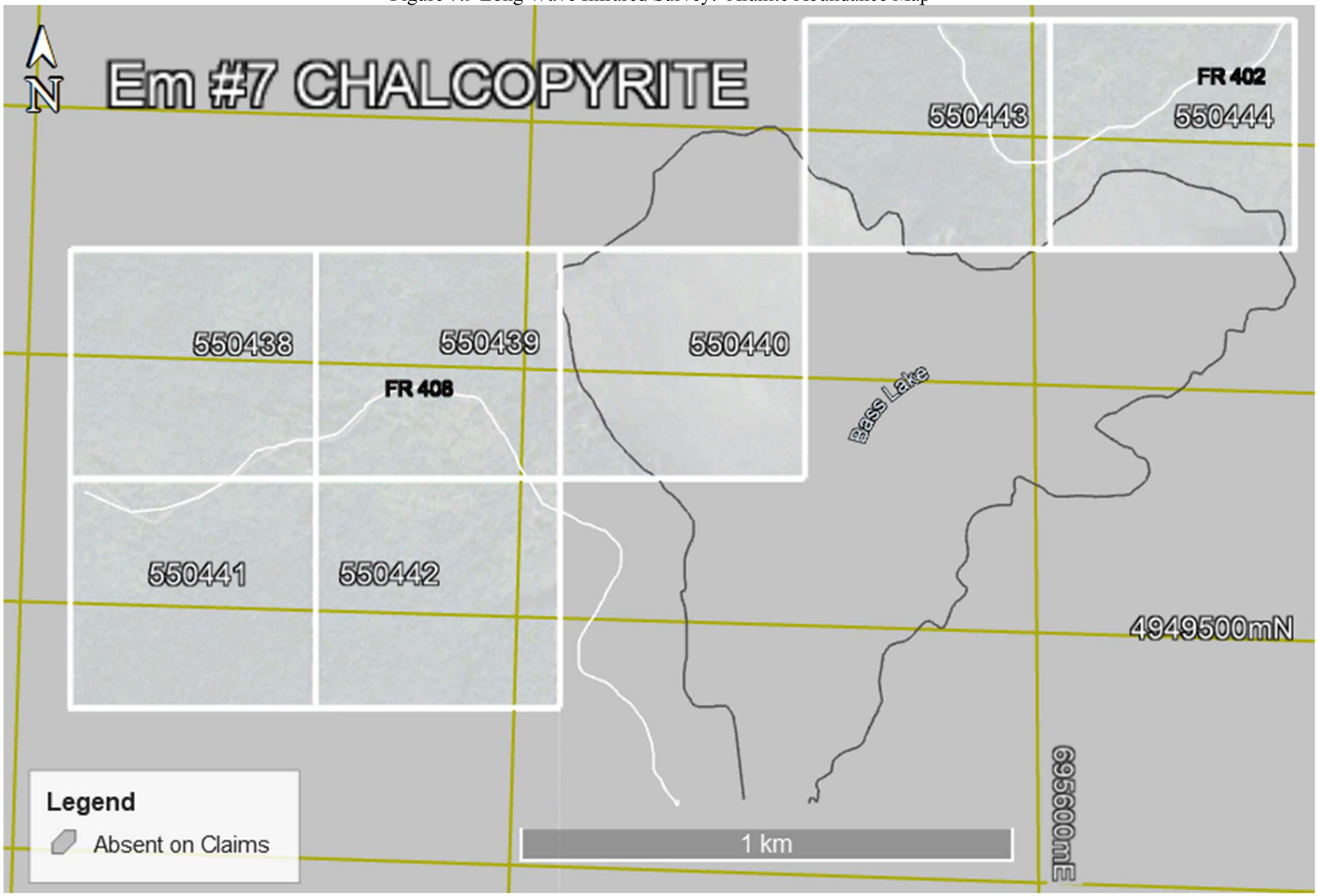

Figure 7.10 Long Wave Infrared Survey: Chalcopyrite Abundance Map

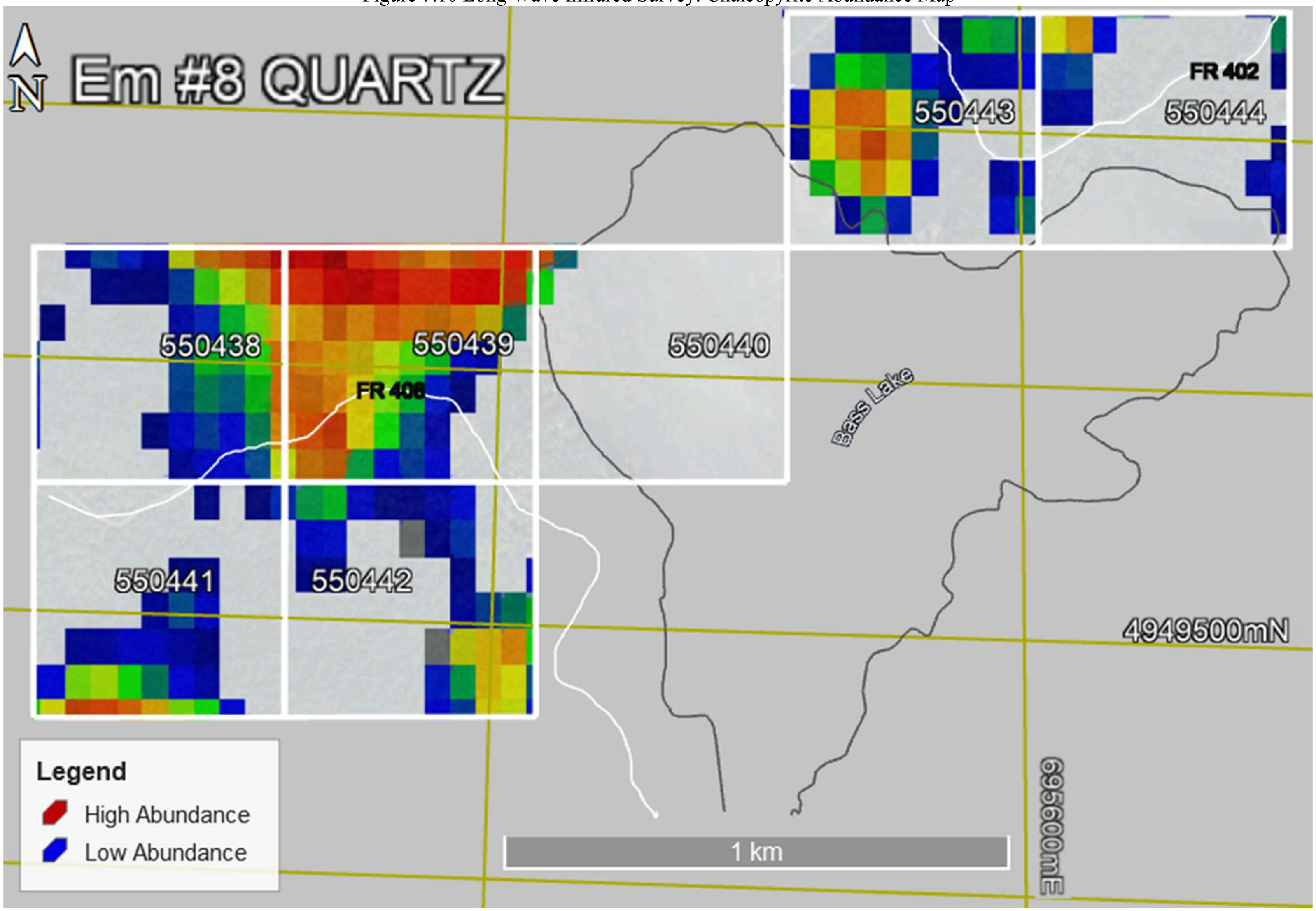

Figure 7.11 Long Wave Infrared Survey: Quartz Abundance Map

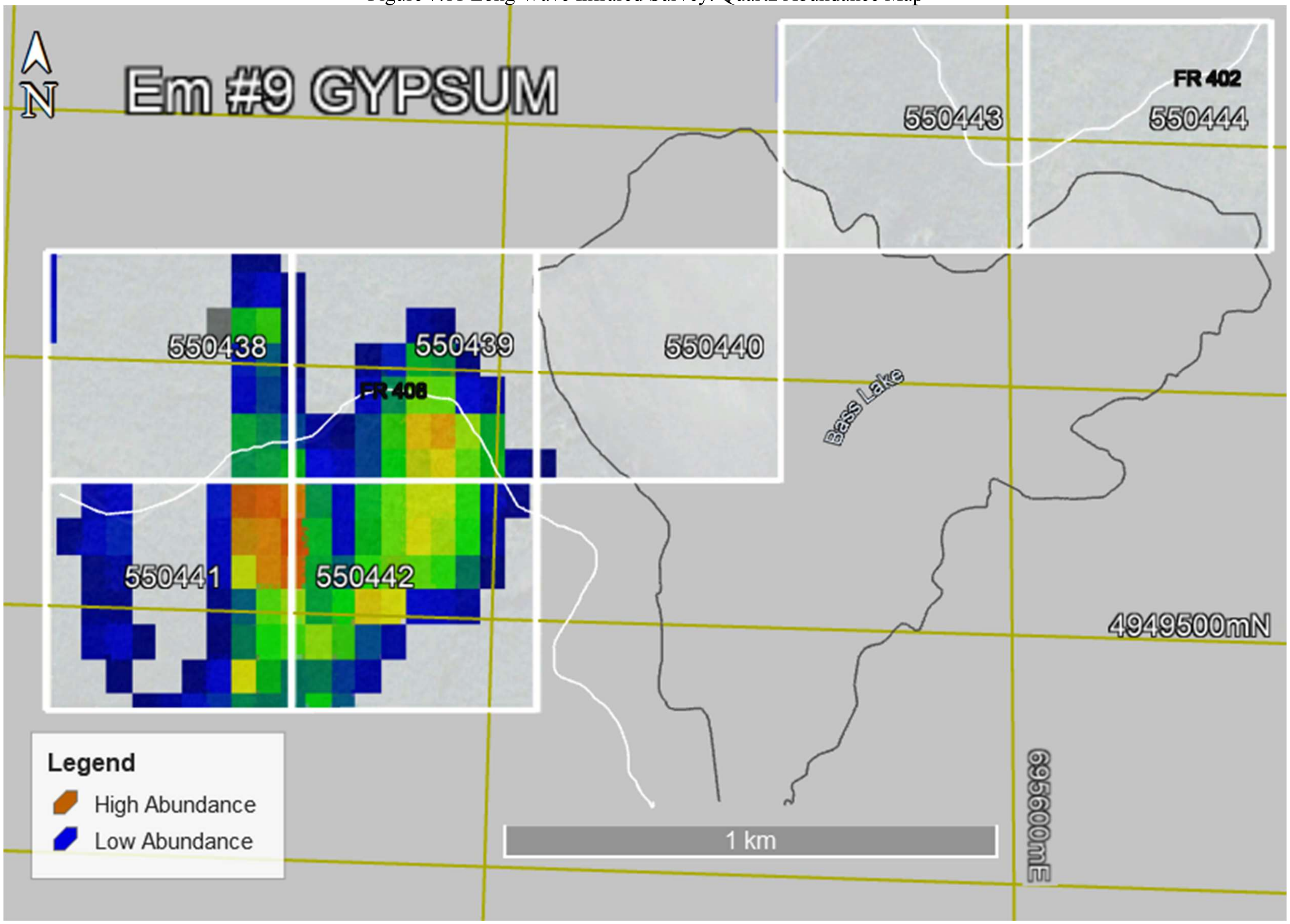

Figure 7.12 Long Wave Infrared Survey: Gypsum (2) Abundance Map

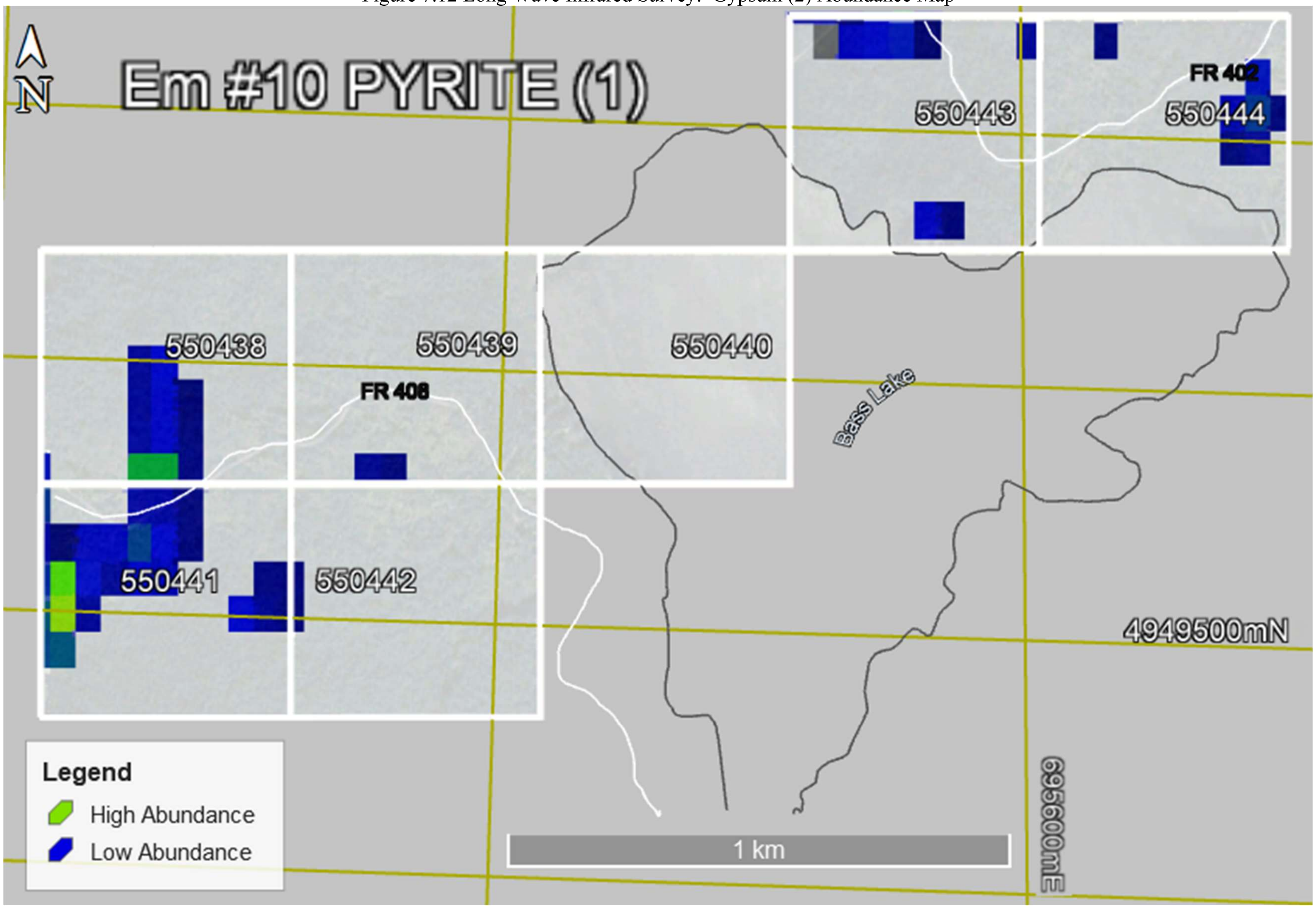

Figure 7.13 Long Wave Infrared Survey: Pyrite (1) Abundance Map

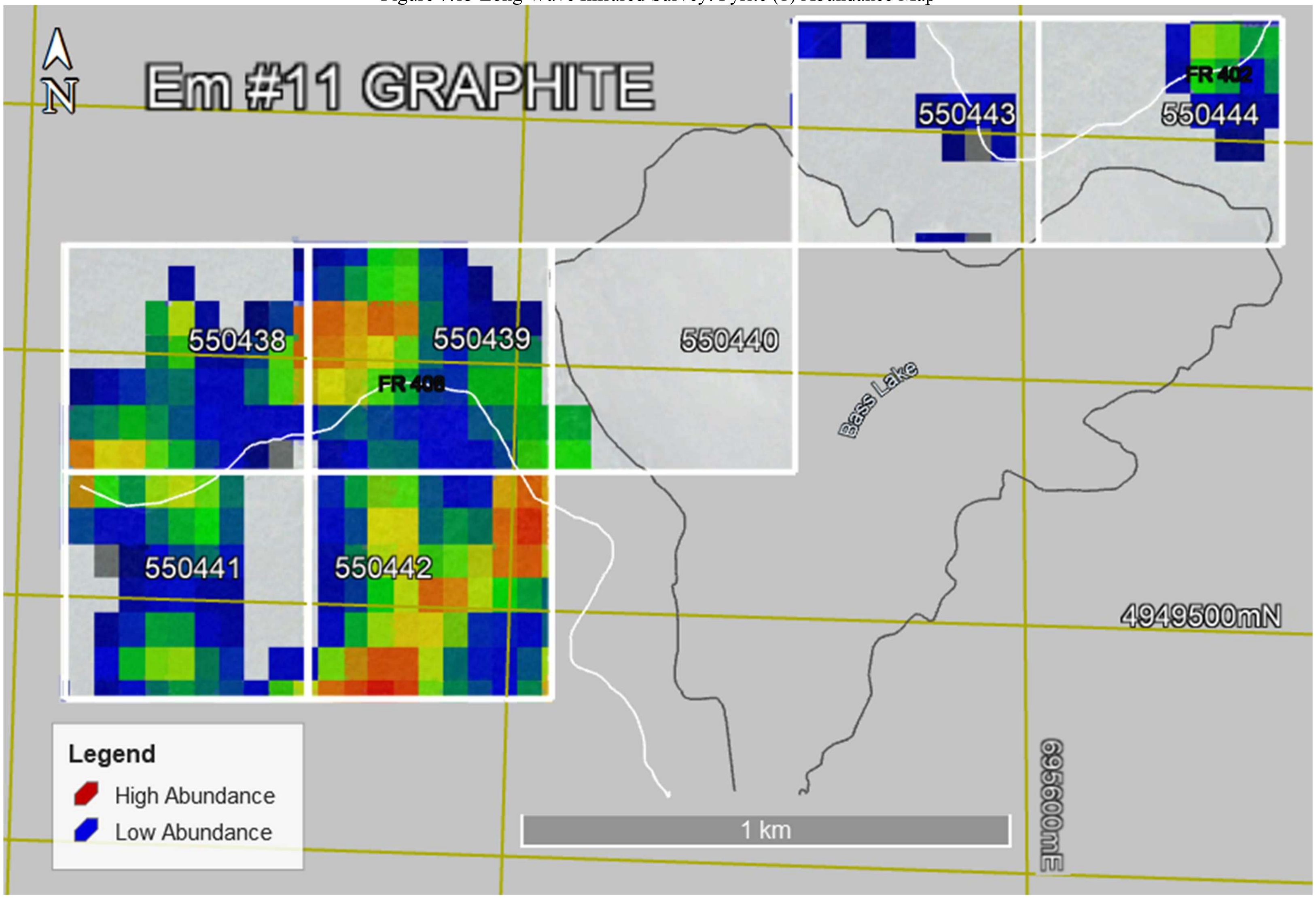

Figure 7.14 Long Wave Infrared Survey: Graphite Abundance Map

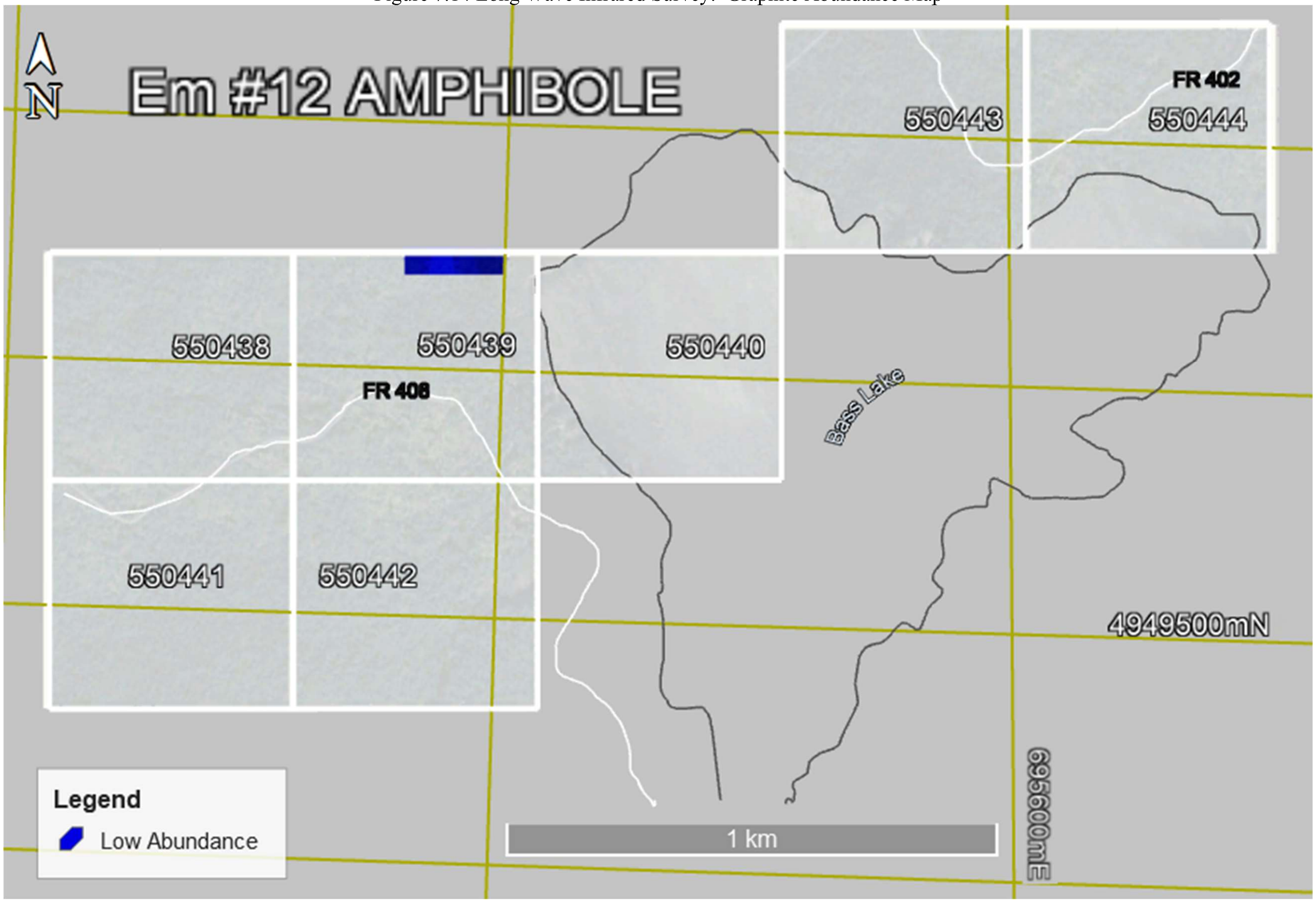

Figure 7.15 Long Wave Infrared Survey: Amphibole Abundance Map

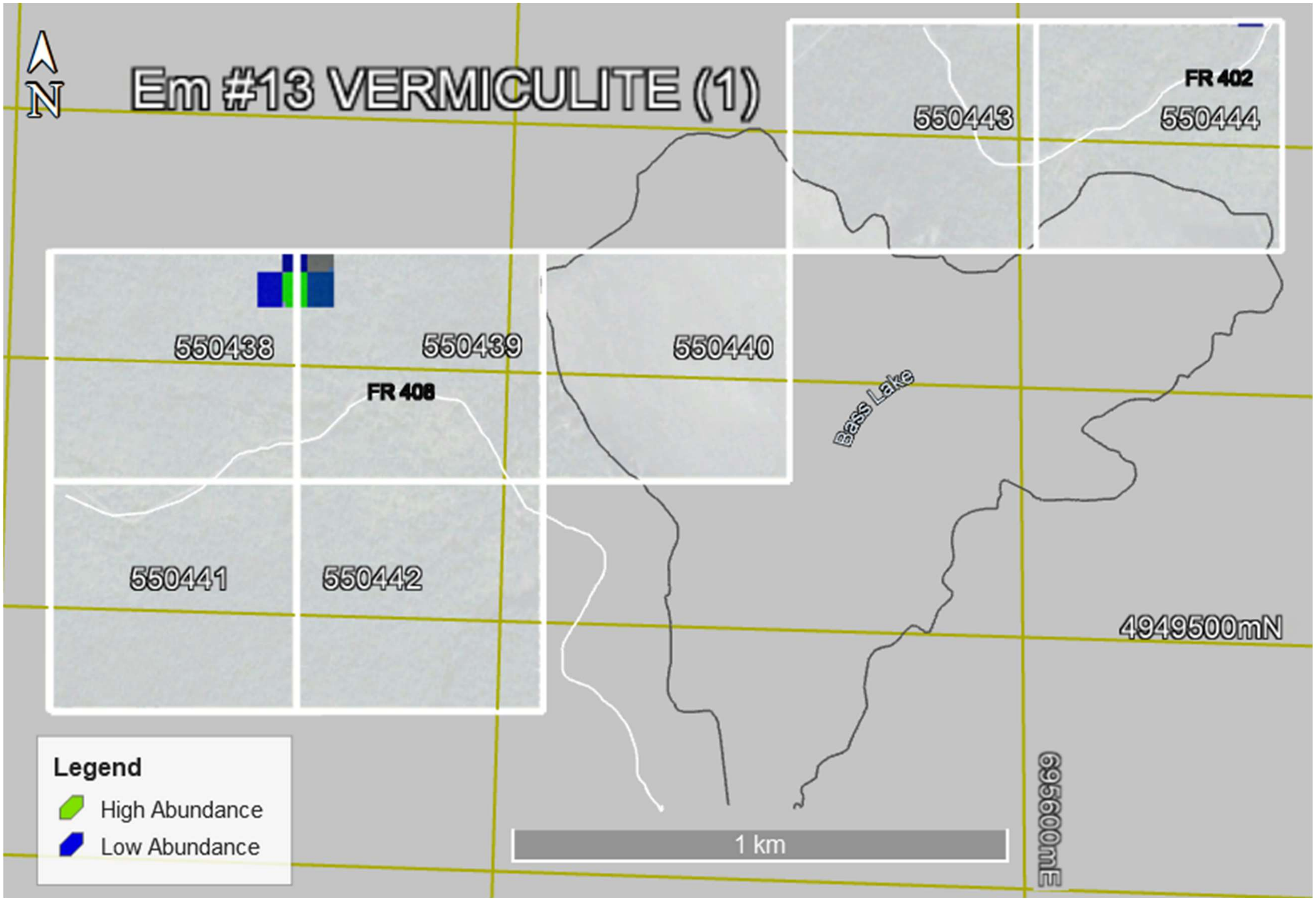

Figure 7.16 Long Wave Infrared Survey: Vermiculite (1) Abundance Map

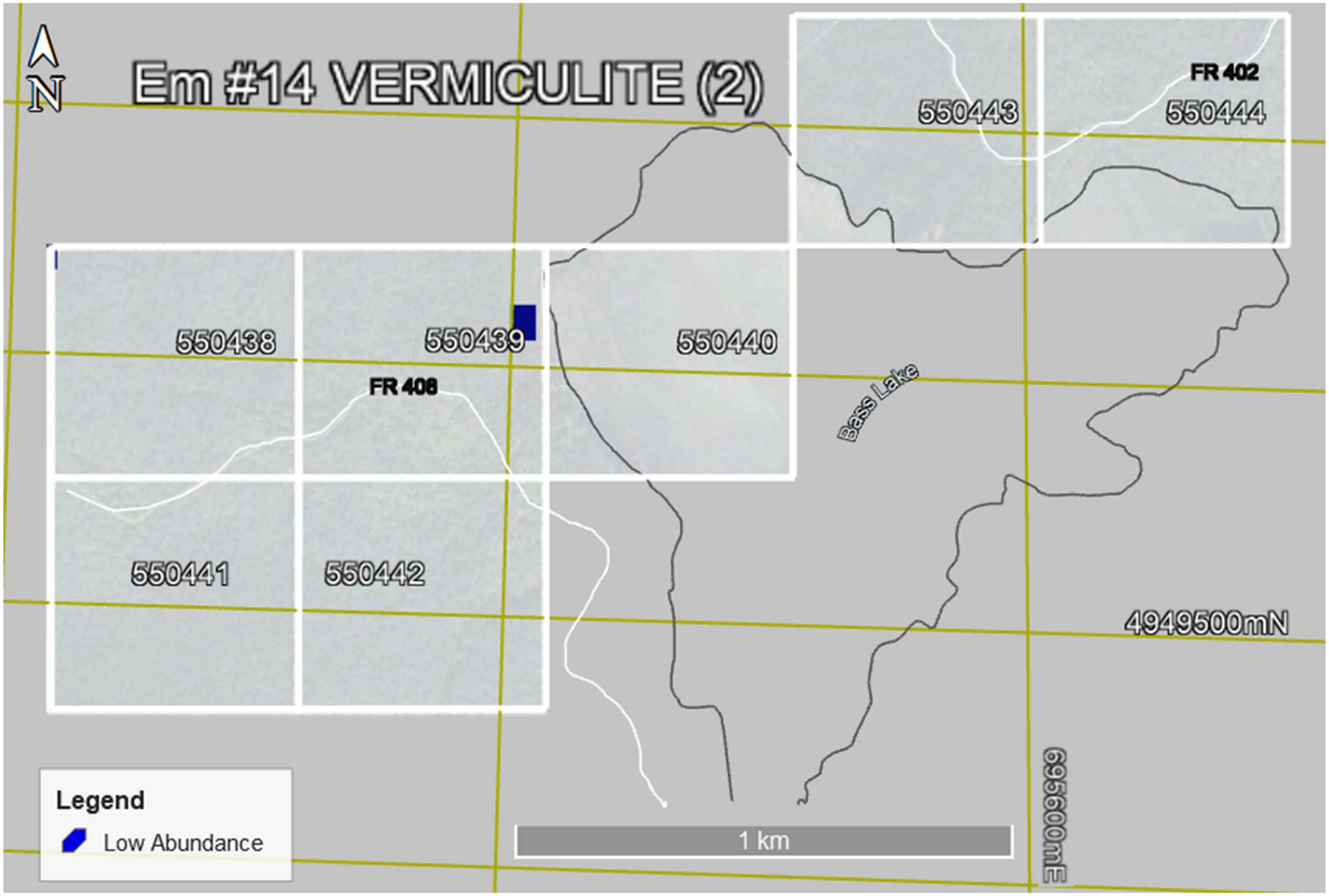

Figure 7.17 Long Wave Infrared Survey: Vermiculite (2) Abundance Map

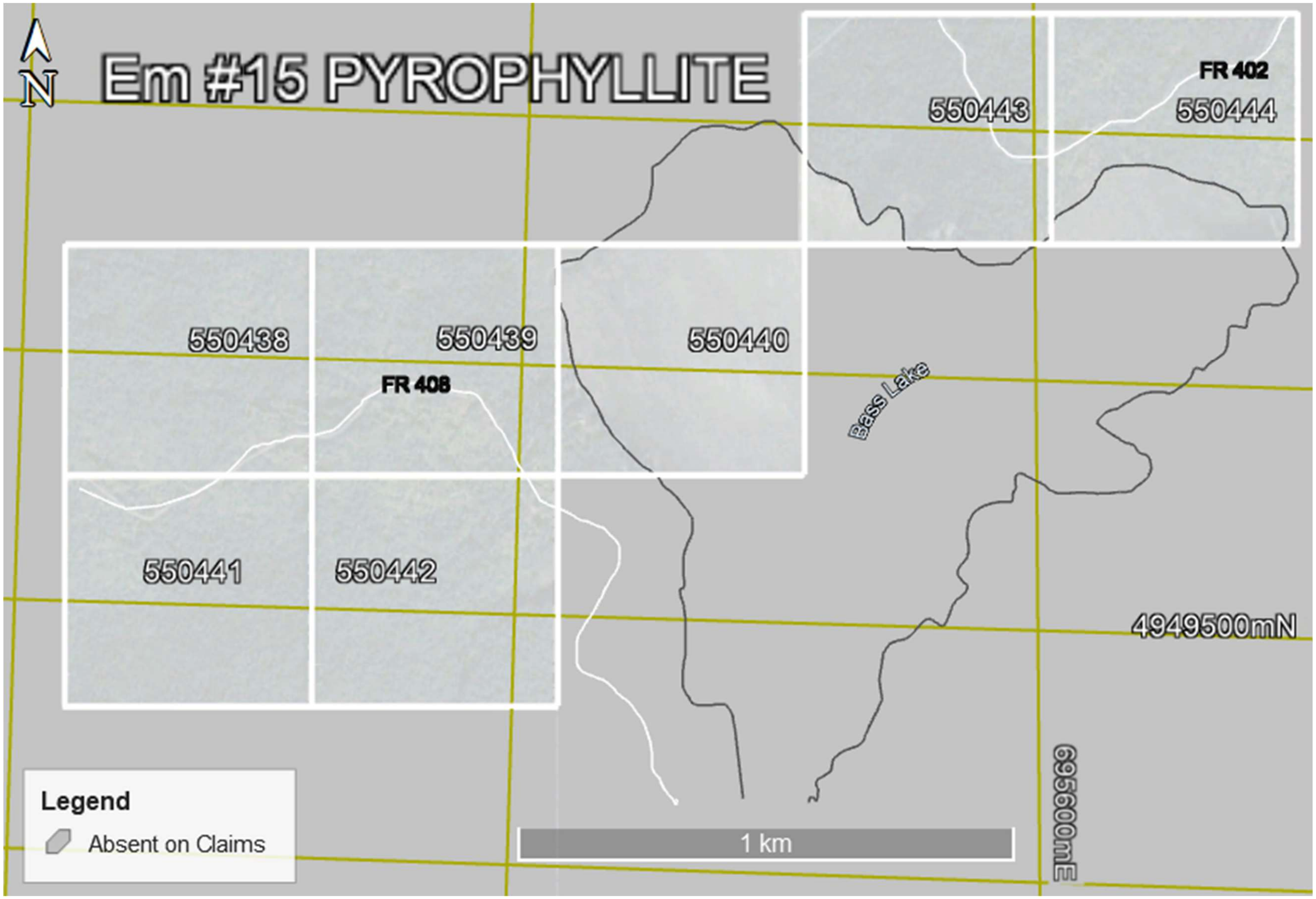

Figure 7.18 Long Wave Infrared Survey: Pyrophyllite Abundance Map

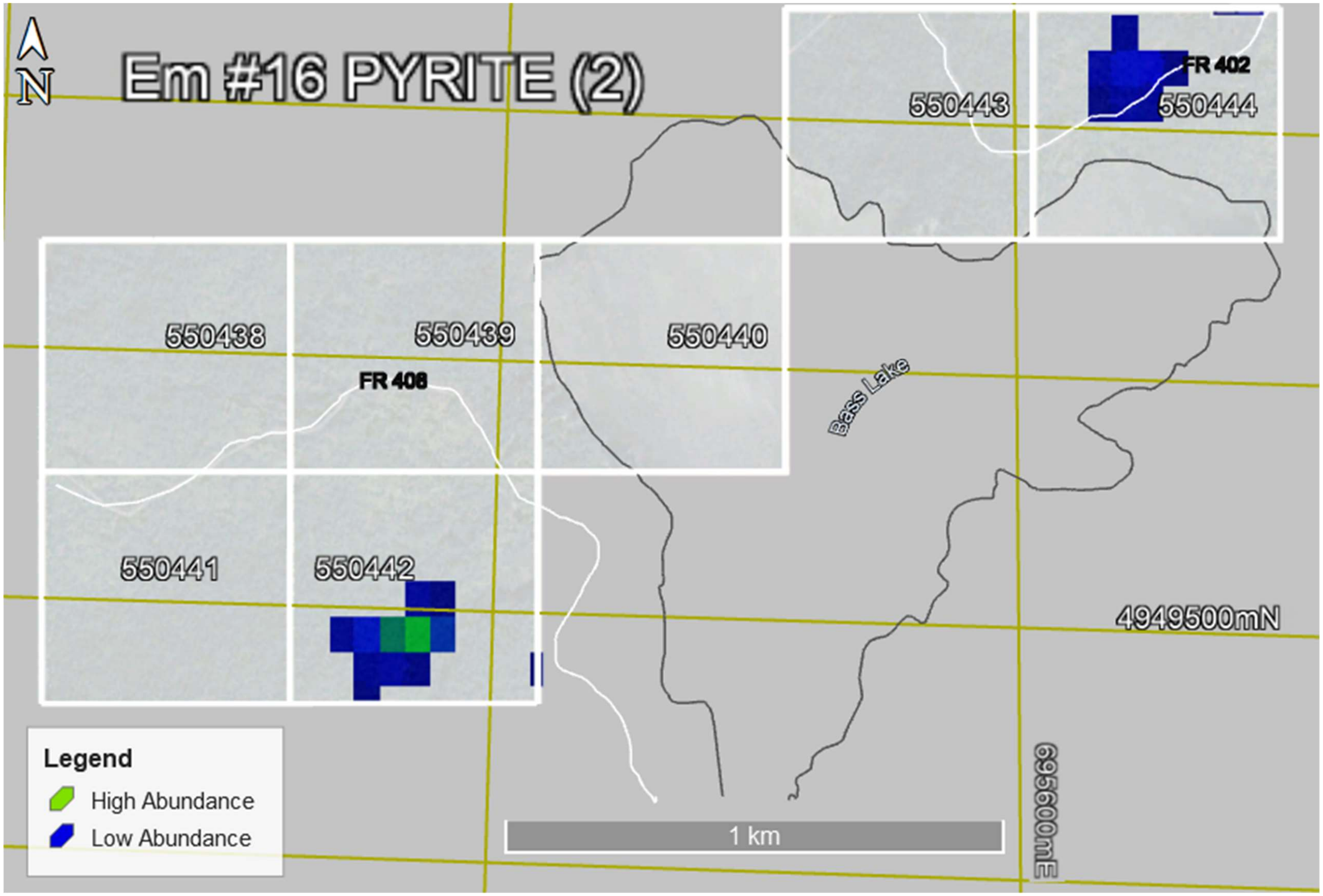

Figure 7.19 Long Wave Infrared Survey: Pyrite (2) Abundance Map

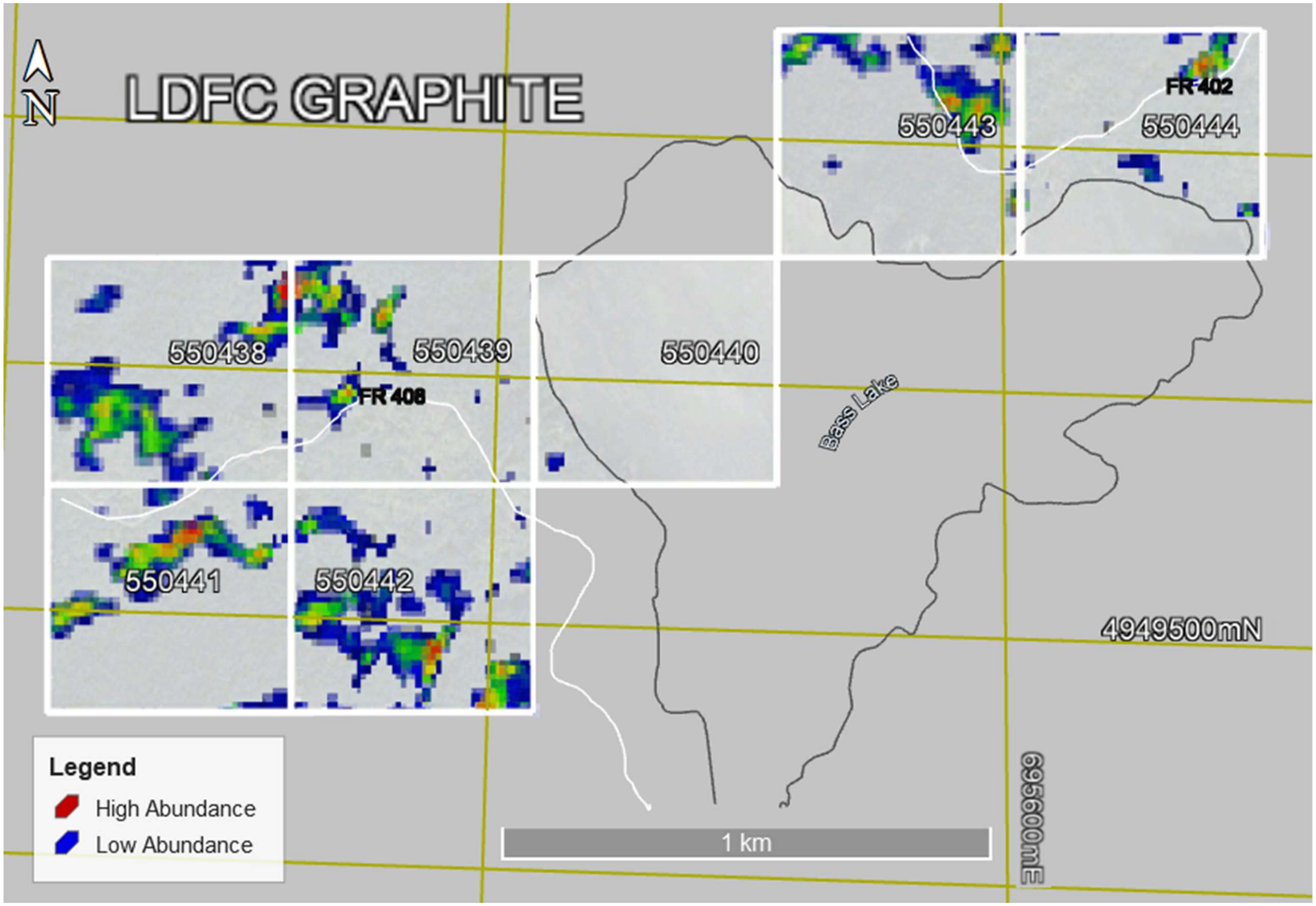

Figure 7.20 Graphite LDFC Predictor Target Map – Trained on 4 Occurrences

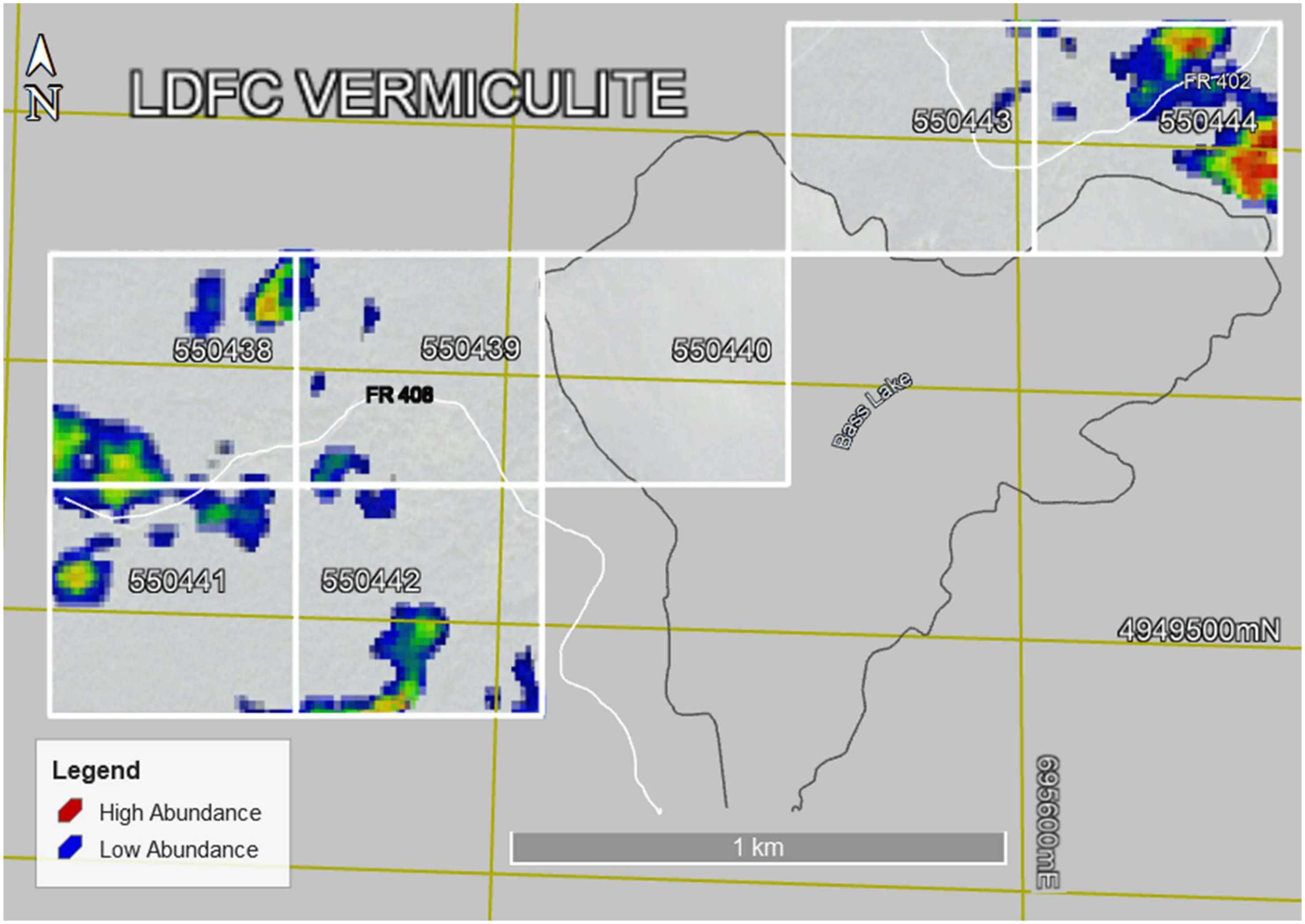

Figure 7.21 Vermiculite LDFC Predictor Target Map – Trained on 2 Occurrences

8.0 Spectral Interpretation & Metallurgical Testing

The relatively coarse spectral and spatial resolution of Aster means that identification of specific minerals is tentative and needs to be viewed in conjunction with other exploration datasets, geological models and geochemical samples. In essence, the imagery requires extensive ground confirmation of this or any interpretation.

The 90m resolution of Aster Funds Ltd anomalies means that identification of specific minerals is done on comparison to industry accepted reference spectra, not field identification. This analysis is an input to a diversified exploration strategy with geoscientific models and geochemical/geophysical inputs. The imagery and analysis herein always require ground verification in project mapping.

8.1 Target Vector Minerals

The LWIR Target Vector Minerals identified for commodities such as gold; copper; nickel; uranium, lithium etc. mineralization may be used in many different ways to define target areas for mineral exploration.

To define specific target areas for different elements/commodities, in a spectral survey area, a number of TVM methods are used:

- **Direct Mineral Vectors** An example is Sphalerite. This is a sulphide ore mineral for zinc and as such can be used as TVM's for zinc by outlining areas of high abundance which become target area(s) for exploration. Similarly, pyrrhotite is a well known pathfinder mineral for nickel that can be used directly to define target areas where spectral surveys show it in high abundance.
- **Metallic Target Vector Minerals** Where more than three metallic oxide/sulphide/carbonate mineral endmembers occur, they can be used as TVM's to outline target areas of metallic concentration by using the TVM overlap method. Seven metallic TVM's are present in the claims area.
- **Conceptual Target Vector Minerals** If geological data suggests an environment for a commodity deposit type is present but has not been found nor mapped, then specific minerals (ore, gangue, pathfinder, alteration etc.) associated with the particular deposit type can be used as Target Vector Minerals, if present in the raw data.

- **Commodity Specific Target Vector Minerals**– If mineral occurrences are present in the survey area then TVM's can be identified for each commodity.The relevant TVM data, for example gold, is utilized by overlapping the TVM's identified for gold either as mineral outlines or anomalies. Once plotted the overlap areas are coloured. This technique further defines potential mineral trends and target areas for exploration.

8.1.1 LWIR Direct Mineral Vector

Graphite is closely and spatially coincided with the vermiculite zones in the area though there is a very limited vermiculite endmember mineral spectral response on the claims (Figures 7.16 & 7.17). LDFC vermiculite fingerprint mapping (Figure 7.21) outlined a number of narrow areas for vermiculite.

LWIR graphite abundance (Figure 7.14) is clearly seen to occur on claims #550438, #550439; #550441 and #550442 (Figure 8.1). Here, high abundance graphite forms a 150m wide north-south trend encompassing high grade (14.5%) graphite sample #13915 plus a north east-southwest trend paralleling the Main Graphite Zone (Figure 8.2) encompassing another high-grade graphite sample of 54.6Cg% (#17558).

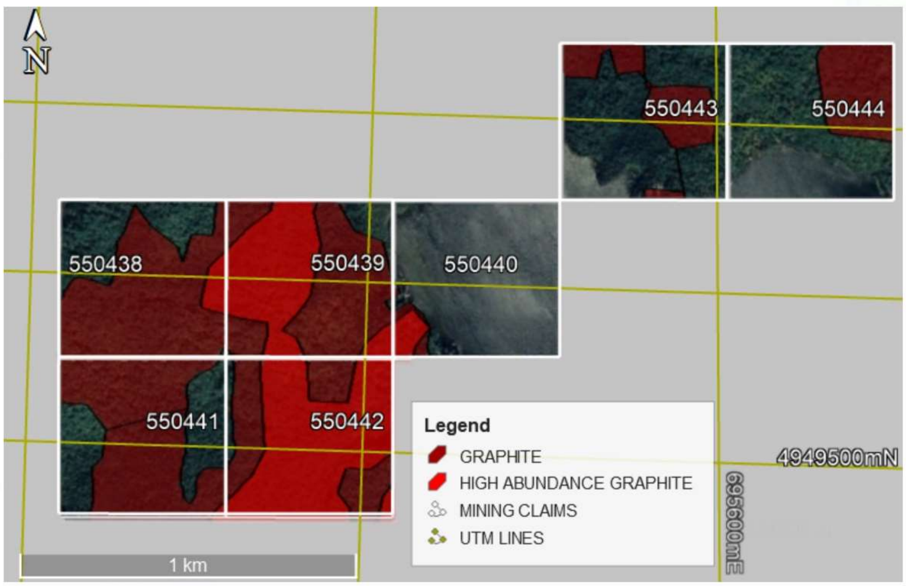

Figure 8.1: Graphite Abundance Distribution

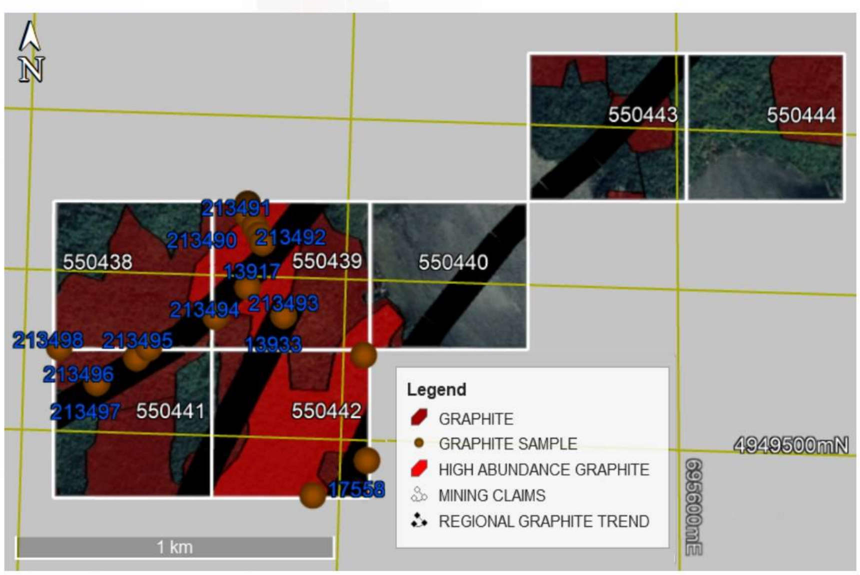

Figure 8.2: Graphite Abundance & Sampling

8.1.2 LWIR Metallic Target Vector Minerals

The Aster LWIR survey mapped four metallic minerals in the survey area:

- Goethite (iron oxide) with a 95% correlation coefficient
- Pyrrhotite (iron sulphide) with a 100% correlation co-efficient
- Pyrite (iron sulphide) with a 99% & 97% correlation co-efficient
- Chalcopyrite (Copper iron sulphide) with a 96% correlation coefficient.

The "metallic's "- sulphides and oxides indicate that mineralization processes were active in the survey area. Their abundance maps can be directly used to assist in defining areas for exploration. Where more than three metallic oxide/sulphide/carbonate mineral endmembers occur they can be used as TVM's to outline target areas of metallic concentration by using the TVM overlap method.

Utilizing the TVM overlap methodology a metallic TVM overlap map was produced for the Bass Lake Claims (Figures 8.3 below).

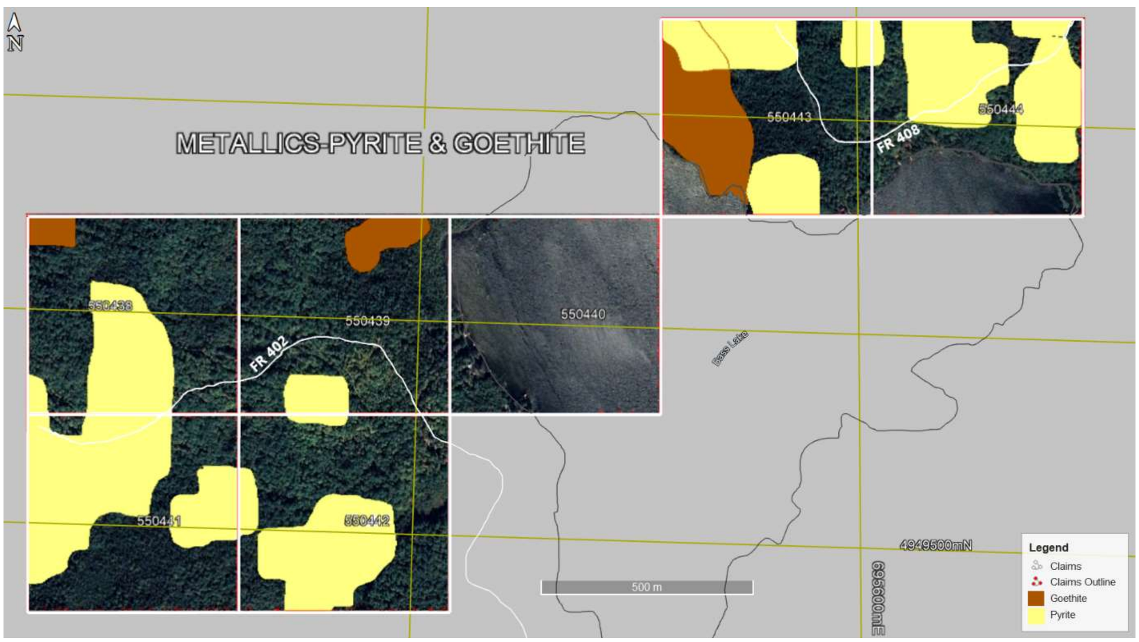

Figure 8.3: Metallic (Pyrite & Goethitr) Map

Both chalcopyrite and pyrrhotite are absent from the claims area.

8.1 Metallurgical Testing

Material from three samples #13915, #13933 & #17558 (Figure 8.2 & Table 3) was combined to form a single 59 kg sample that was delivered to SGS Lakefield in April 2021 (Table 3 overleaf). Testing commenced in July 2021 and a final report was produced in October 2021 (Appendix II). The primary objectives of the tests were to develop a preliminary understanding of the comminution requirements and the metallurgical response including graphite recovery, concentrate grade, as well as flake size distribution and total carbon grades of different size fractions.

Sample Number	UTM Zone	Easting	Nothing	Grade Cg%
13915	17T	694288.00 m E	4950227.00 m N	**14.5**
13917	17T	694338.00 m E	4950108.00 m N	**1.94**
13933	17T	694411.00 m E	4949883.00 m N	**2.77**
17558	17T	694686.00 m E	4949439.00 m N	**54.6**
213490	17T	694328.00 m E	4950132.00 m N	**1.25**
213491	17T	694288.00 m E	4950192.00 m N	**0.97**
213492	17T	694313.00 m E	4950158.00 m N	**2.37**
213493	17T	694296.00 m E	4949968.00 m N	**2.07**
213494	17T	694199.00 m E	4949872.00 m N	**1.28**
213495	17T	693992.00 m E	4949769.00 m N	**2.91**
213496	17T	693955.00 m E	4949736.00 m N	**1.89**
213497	17T	693833.00 m E	4949655.00 m N	**1.68**
213498	17T	693712.00 m E	4949762.00 m N	**1.82**

Table 3: Graphite Sampling

The following testwork was carried out on the sample:

- **Comminution Testing**
  1. Bond Abrasion Test
  2. Bond Ball Mill Grindability Test
- **Flotation Testing**
  1. Rougher Flotation Tests
  2. Primary Cleaner Flotation Tests
  3. Secondary Cleaner Flotation Tests
  4. Desulphurization Flotation
- **Static Environmental Tests**

and the following conclusions by SGS were derived from the test results:

- Production of a graphite concentrate grading over 95% C(t)
- A standard graphite reagent regime consisting of diesel and MIBC proved suitable to achieve these results.
- possible to minimize the degradation of larger flakes with the exclusive use of polishing mills for the coarse fraction
- Between 25% and 30% of the graphite flakes reported to the +80 mesh size fractions at grades as high as 97% C(t).

9.0 Conclusions

Proprietary algorithms were applied to collect and categorize the spectral reflectance and emissivity emanating from the rocks over the Bass Lake Claims. Spectral LWIR frequencies so collected were correlated against a reference database of rocks, minerals, and other substances from Johns Hopkins University and sixteen minerals were identified including graphite and vermiculite.

Aster Funds Ltd identified four (4) LWIR Target Vector Minerals (TVM) for metallics. Processing and plotting of the LWIR TVM overlap data on the Bass Lake Claims outlined scattered areas of pyrite (Figure 8.3). A graphite LDFC predictor target map was produced and a number of areas with a high correlation to the graphite occurrence trainers were outlined as exploration targets (Figure 9.1)

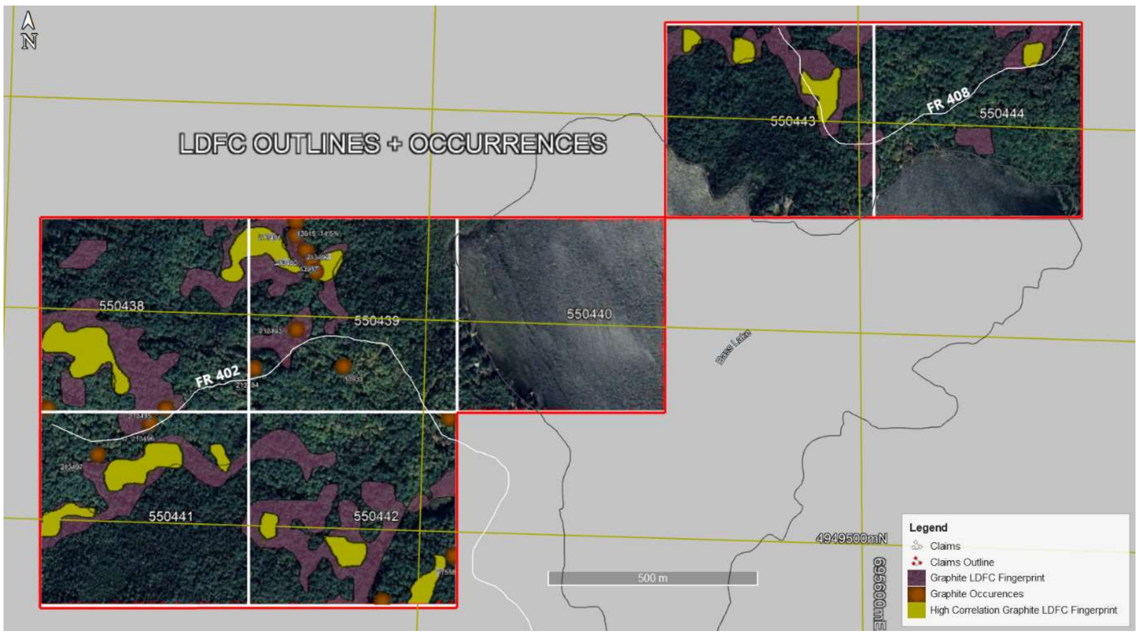

Figure 9.1: Graphite LDFC Outlines & Graphite Occurrences

In addition to the LDFC fingerprint map the high graphite abundance (Figure 8.1) areas on the claims are priority areas for further exploration.

In summary, the interpreted Aster LWIR mineral abundances and LDFC fingerprint mapping outlined exploration target areas for followup prospecting and exploration. Metallurgical testing of the graphite on the claims confirms that production of a graphite concentrate grading over 95% C(t) is possible.

All spectral data and interpretations should be integrated with other exploration datasets such as geochemistry, geophysics (gravity, magnetics, radiometric) as well lithological and structural interpretations for better results.

The various mineral abundances presented in this report need to be correlated with geological information and fieldwork to improve the interpretation and generate other reliable exploration targets.

10.0 Recommendations

Field follow-up work and further metallurgical testing is recommended. Details:

- Detailed prospecting of the high abundance graphite areas
- Detailed prospecting of the LDFC graphite exploration target areas.
- Selected rock chip sampling and trenching in the target areas
- Flotation testing should be carried out on a Master composite that represents a larger area of the mineralization and includes both vein and disseminated material.
- Optical mineralogy on graphite concentrates to characterize the types and association of gangue minerals and to determine if interlayering occurs.
- Preliminary comminution tests to establish the crushing and grinding energy requirements of the mineralization. The comminution tests should be carried out on the Master composite.
- Variability flotation testing to confirm the robustness of the proposed flowsheet
- Environmental testing consisting of a net acid generation (NAG) and modified acid-base accounting (ABA) test on disseminated material

11.0 Cited References

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Hewitt, D. F. (1965) Graphite in Ontario. Industrial Minerals Report No. 20, Ontario Department of Mines.

Morris, T.F 2001. ONTARIO GEOLOGICAL SURVEY Open File Report 6055 Quaternary Geology of the Wawa Area, Northeastern Ontario.

Percival, J.A., Easton, R.M. 2007. Geology of the Canadian Shield in Ontario: An Update. Geological Survey Open File Report 6196 Geological Survey of Canada Open File 5511 Ontario Power Generation Report Number 06819-REP-01200-10158-R00

SGS, August 2021, An Investigation into THE SCOPING LEVEL EVALUATION OF TWO SAMPLESFROM AN ONTARIO GRAPHITE PROSPECT. Project 16698-02 – Final Report

https://weatherspark.com

12.0 Certificate of Qualification

1, John Mark Ryder, HB.Sc., P.Geo., do hereby certify that:

1. I am a consulting exploration geologist and President of Ryder & Associates of 118 Fletcher Street, Bradford, Ontario L3Z 2Y9
2. I graduated with an Honours Bachelor of Science degree (Geology) in 1973 from University College Dublin (UCD), Republic of Ireland.
3. I am a Licensed Professional Geologist, being a member of the Association of Professional Geoscientists of Ontario (Permit # 2105)
4. I have worked as a geologist for the past 49 years since graduation from University College Dublin.
5. I am responsible for the preparation of the Assessment Report on the Bass Lake Claims, Galway Township, County of Peterborough, Southeastern Ontario, Canada.
6. I am not aware of any material fact or material change in the subject matter of this Assessment Report, nor am I aware of any data that could make this Technical Report misleading.

Signed:

J. M. Ryder, HB.Sc. Geol. P. Geo APGO# 2105,

Bradford, May 15th 2022

APPENDIX I

HISTORY

GALWAY TOWNSHIP

73 Assessment Files

Report Number	Year	Company	Property	Work Type
20000017923	2019	David J Ross	-	Prospecting By Licence Holder
20000013521	2017	David John Ross	Galway-Cavendish Property	Prospecting By Licence Holder
20000017249	2017-2019	Peterburton Mineral Corp	Peterborough-Haliburton County Vermiculite Deposit	Bulk Sampling, Industrial Mineral Testing and Marketing, Reserve/Resource Calculations
20000014846	2016	Earth Resources Ltd	Loom Lake Graphite Occurrence, Solerno Creek Graphite Zone	Bedrock Trenching, Geological Survey / Mapping, Overburden Stripping
20000014223	2015	John C Archibald	Loom Lake Graphite Occurrence	Assaying and Analyses, Bedrock Trenching, Channel Sampling, Geological Survey / Mapping
20000009172	2013-2014	Earth Resources Ltd, John Charles Archibald	Cavendish Township Graphite Occurrence, Galway Township Graphite Occurrence	Assaying and Analyses, Geological Survey / Mapping, Overburden Stripping, Prospecting By Licence Holder
20000007720	2012	Murray Kenneth Mcgil		Recutting Claim Lines Once Every 5 Years
20000009031	2012-2013	1447136 Ontario Inc, Earth Resources Ltd		Assaying and Analyses, Diamond Drilling, Environmental Studies, Geological Survey / Mapping
20000009220	2012-2013	Earth Resources Ltd, John Charles Archibald, John Charles Archibaldearth Resources Li	Galway Township Graphite Occurrence	Diamond Drilling, Electromagnetic, Induced Polarization, Metallurgical Testing and Bulk Sampling, Overburden Stripping
20000008894	2011-2012	1447136 Ontario Inc		Diamond Drilling
20000001723	2006	Murray Kenneth Mcgill		Linecutting, Magnetic / Magnetometer Survey
20000001724	2006	Murray Kenneth Mcgill		Linecutting, Magnetic / Magnetometer Survey
20000001943	2006	Earth Resc Ltd		Assaying and Analyses, Radiometric
20000003382	2006-2008	Earth Resc Ltd		Assaying and Analyses, Bedrock Trenching, Benefication Studies, Boring Other Than Core Drilling, Environmental Studies, Geological Survey / Mapping, Metallurgical Testing and Bulk Sampling, Overburden Stripping
20000000704	2005	Murray Kenneth Mcgill		Prospecting By Licence Holder, Recutting Claim Lines Once Every 5 Years
20000001152	2005	David Webster		Assaying and Analyses, Metallurgical Testing and Bulk Sampling
20000001811	2005-2006	Earth Resc Ltd		Benefication Studies, Overburden Stripping
31D09NW2031	2004	F T Archibald		Benefication Studies, Manual Labour
31D09NW2034	2004	David J Ross		Assaying and Analyses, Prospecting By Licence Holder
31D10NE2008	2004	F T Archibald		Diamond Drilling
31D10NE2009	2004	F T Archibald		Diamond Drilling
31D10NE2010	2004	M K Mcgill		Electromagnetic Very Low Frequency, Geological Survey / Mapping, Manual Labour
31D16SW2013	2004	F T Archibald		Geological Survey / Mapping, Industrial Mineral Testing and Marketing, Mechanical, Overburden Stripping

31D09NW2027	2003	David Webster	Assaying and Analyses, Diamond Drilling, Geological Survey / Mapping, Industrial Mineral Testing and Marketing, Mechanical, Overburden Studies
31D09NW2028	2003-2004	David Webster	Assaying and Analyses, Geological Survey / Mapping, Mechanical, Microscopic Studies, Overburden Stripping
31D09NW2029	2003	1447136 Ontario Inc	Geological Survey / Mapping, Industrial Mineral Testing and Marketing, Mechanical
31D09NW2030	2003	F T Archibald	Geological Survey / Mapping, Industrial Mineral Testing and Marketing, Mechanical, Overburden Stripping
31D09NW2032	2003-2004	Blue Marble Mining Corp	Geological Survey / Mapping, Industrial Mineral Testing and Marketing
31D09NW2033	2003-2004	Blue Marble Mining Corp	Geological Survey / Mapping, Industrial Mineral Testing and Marketing
31D10NE2004	2003	M K Mcgill	Geological Survey / Mapping, Prospecting By Licence Holder
31D10NE2006	2003	David Webster	Geological Survey / Mapping, Industrial Mineral Testing and Marketing, Mechanical, Overburden Stripping
31D10NE2007	2003	Rhonda G Smerchanski	Geological Survey / Mapping, Industrial Mineral Testing and Marketing, Mechanical, Overburden Stripping
31D16SW2012	2003	Rhonda G Smerchanski	Geological Survey / Mapping, Overburden Stripping
31D09NW2026	2002	David Webster	Assaying and Analyses, Diamond Drilling, Filling in of Pits, Trenches, Shafts, and Adits, Industrial Mineral Testing and Marketing, Mechanical
31D10NE2002	2002	Murray Kenneth Mcgill	Prospecting By Licence Holder
31D10NE2005	2002-2003	Mervin John Johnston	Geological Survey / Mapping, Manual Labour, Mechanical, Overburden Stripping
31D09NW2013	2001	Jeff Parnell Contracting Ltd	Geological Survey / Mapping, Mechanical, Overburden Stripping
31D09NW2015	2001-2002	Parnell Quarries Ltd	Mechanical
31D10NE2003	2001	Jeff N Chesher, John Charles Archibald	Industrial Mineral Testing and Marketing, Mechanical
31D16SW2006	2001	John Charles Archibald	Assaying and Analyses, Diamond Drilling, Geochemical, Mechanical, Overburden Stripping
31D16SW2008	2001	Jeff N Chesher, John Charles Archibald	Assaying and Analyses, Diamond Drilling, Industrial Mineral Testing and Marketing, Mechanical
31D16SW2005	2000-2001	Blue Marble Mining Corp	Geochemical, Manual Labour, Mechanical, Overburden Stripping, Regional or Reconnaissance Ground Exploration
31D09NW2010	1999-2000	John Charles Archibald	Geochemical, Geological Survey / Mapping
31D09NW2011	1999-2000	John Charles Archibald	Geochemical, Geological Survey / Mapping
31D10NE2001	1999	Mervin John Johnston	Mechanical, Overburden Stripping
31D09NW2001	1998	Jeff Parnell Contracting Ltd	Geological Survey / Mapping, Open Cutting

31D09NW2015	2001-2002	Parnell Quarries Ltd	Mechanical
31D10NE2003	2001	Jeff N Chesher, John Charles Archibald	Industrial Mineral Testing and Marketing, Mechanical
31D16SW2006	2001	John Charles Archibald	Assaying and Analyses, Diamond Drilling, Geochemical, Mechanical, Overburden Stripping
31D16SW2008	2001	Jeff N Chesher, John Charles Archibald	Assaying and Analyses, Diamond Drilling, Industrial Mineral Testing and Marketing, Mechanical
31D16SW2005	2000-2001	Blue Marble Mining Corp	Geochemical, Manual Labour, Mechanical, Overburden Stripping, Regional or Reconnaissance Ground Exploration
31D09NW2010	1999-2000	John Charles Archibald	Geochemical, Geological Survey / Mapping
31D09NW2011	1999-2000	John Charles Archibald	Geochemical, Geological Survey / Mapping
31D10NE2001	1999	Mervin John Johnston	Mechanical, Overburden Stripping
31D09NW2001	1998	Jeff Parnell Contracting Ltd	Geological Survey / Mapping, Open Cutting

31F07SW0001	1992	R V Stewart	Geochemical, Geological Survey / Mapping, Microscopic Studies, Prospecting By Licence Holder, Regional or Reconnaissance Ground Exploration
31C13SW0010	1991	A Soever, R Jackson	Geochemical, Geological Survey / Mapping
31D10NE0001	1981	William R Barnes Co Ltd	Diamond Drilling
31D10NE0002	1981	William R Barnes Co Ltd	Diamond Drilling
31D10NE0003	1980	St Joseph Exploration Ltd	Electromagnetic Very Low Frequency, Magnetic / Magnetometer Survey
31D16SW0005	1978	St Joseph Exploration Ltd	Magnetic / Magnetometer Survey
31D16SW0027	1977	Rayrock Mines Ltd	Bedrock Trenching, Geological Survey / Mapping, Radiometric
31D09NW0003	1973	F Halas	Diamond Drilling
31D09NW0050	1973	F Halas	Diamond Drilling
31D09NW0004	1970	F Halas	Bedrock Trenching, Diamond Drilling, Magnetic / Magnetometer Survey, Radiometric
31D16SW0033	1970	G C Stevens	Diamond Drilling
31D16SW0042	1970	Swiss Oils Of Can Ltd	Geological Survey / Mapping, Radiometric
31D16SW0028	1968-1971	Swiss Oils Of Can Ltd	Diamond Drilling
31D16SW0038	1968	Belra Expl Ltd	Radiometric
31D16SW0035	1958	C H Burbridge	Diamond Drilling
31D16SW0032	1957	Unknown	Diamond Drilling
31D16SW0037	1957	Godfry Group	Diamond Drilling
31D09NW0001	1956	Newkirk Mining Corp Ltd	Diamond Drilling
31D09NW0002	1956	Newkirk Mining Corp Ltd	Diamond Drilling
31D09SW0002	1956	Gray Wolf Expl Co Ltd	Diamond Drilling
31D16SW0030	1955	Kenmac Chibougamau Mines Ltd	Diamond Drilling

31D16SW0034	1955	Tait Group	Diamond Drilling
31D16SW0039	1955	G A Labine	Geological Survey / Mapping, Radiometric
31D16SW0029	1954	Tait Group	Diamond Drilling
31D16SW0031	1954	B Day	Diamond Drilling
31D16SW0036	1954	W Blott	Diamond Drilling

79 Drill Holes

APPENDIX I

SGS METALLURGICAL REPORT

An Investigation into

THE SCOPING LEVEL EVALUATION OF TWO SAMPLES FROM AN ONTARIO GRAPHITE PROSPECT

prepared for

EARTH RESOURCES LIMITED

Project 16698-02 – Final Report

October 20, 2021

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Executive Summary

A scoping level flowsheet development metallurgical program was completed on one sample from a graphite target in Ontario. The primary objectives of the tests were to develop a preliminary understanding of the comminution requirements and the metallurgical response including graphite recovery, concentrate grade, as well as flake size distribution and total carbon grades of different size fractions

A representative head sample was extracted during sample preparation and pertinent results are presented in Table 1. Most of the carbon was associated with graphite at grades of 36.8% C(t) and 35.2% C(g). The samples also contained small quantities of organic carbon and carbonate carbon. The very low sulphur content of 0.02% S suggests that the flotation tailings will not be acid generating.

Table 1: Head Analysis

Assays (%)				
C(t)	C(g)	TOC	CO_3	S
36.8	35.2	1.54	2.95	0.02

Bond abrasion and ball mill grindability tests produced indices of ___g and ___kWh/t, respectively.

The flotation program employed standard graphite flotation reagents were employed, consisting of diesel as the graphite collector and methyl isobutyl carbinol (MIBC) as the frother.

Two rougher flotation tests established a grind size target of approximately P80 = 220-240 microns, which maximizes graphite recovery while minimizing flake degradation. Primary cleaner flotation tests established a polishing grind time of 20 minutes followed by three stages of cleaning.

Secondary cleaner flotation tests evaluated both polishing and stirred media mills (SMM) to upgrade the intermediate concentrate to at least 95% C(t). The polishing mills are not suitable to reach the required concentrate grade in a combined concentrate owing to suspected interlayered graphite. The two tests employing the SMMs achieved concentrate grades of 95.9% C(t) and 96.6% C(t) at open circuit total carbon recoveries of 87.1% to 89.8%. A summary of the mass balances for the two tests is provided in Figure 2.

The mass recovery into the +80 mesh size fractions of the combined concentrate was 31.1% with milder SMM grinding conditions and 25.9% with more aggressive SMM grinding conditions. Increasing the SMM grind times corresponded to a grade gain of 0.7% in the final concentrate.

Table 2: Summary of Mass Balances of Secondary Cleaner Tests Employing SMMs

Test	Product	Weight %	Assays, % C(t)	% Distribution C(t)
F7	Combined Conc	33.7	95.9	89.8
	+80 mesh Clnr Feed	16.3	91.8	41.7
SMM Secondary Cleaning	-80 mesh Clnr Feed	25.2	78.2	54.8
	3rd Clnr Conc	41.5	83.6	96.4
	2nd Clnr Conc	42.7	82.2	97.6
	1st Clnr Conc	44.7	79.2	98.3
80 mesh	Rougher Conc	52.2	68.4	99.2
	Rougher Tails	47.8	0.60	0.8
3/10 min	Head (calc.)	100.0	36.0	100.0
	Head (direct)		35.2	
F8	Combined Conc	32.1	96.6	87.1
	+80 mesh Clnr Feed	16.1	91.7	41.4
SMM Secondary Cleaning	-80 mesh Clnr Feed	24.1	78.9	53.4
	3rd Clnr Conc	40.2	84.0	94.8
	2nd Clnr Conc	41.3	83.0	96.4
	1st Clnr Conc	43.4	79.8	97.3
80 mesh	Rougher Conc	52.7	67.2	99.4
	Rougher Tails	47.3	0.45	0.6
6/15 min	Head (calc.)	100.0	35.6	100.0
	Head (direct)		35.2	

The proposed flowsheet for the high-grade vein mineralization is presented in Figure 1. Suitability of the flowsheet and conditions will have to be validated for disseminated mineralization, which displayed inferior metallurgical response in a previous scoping level test program.

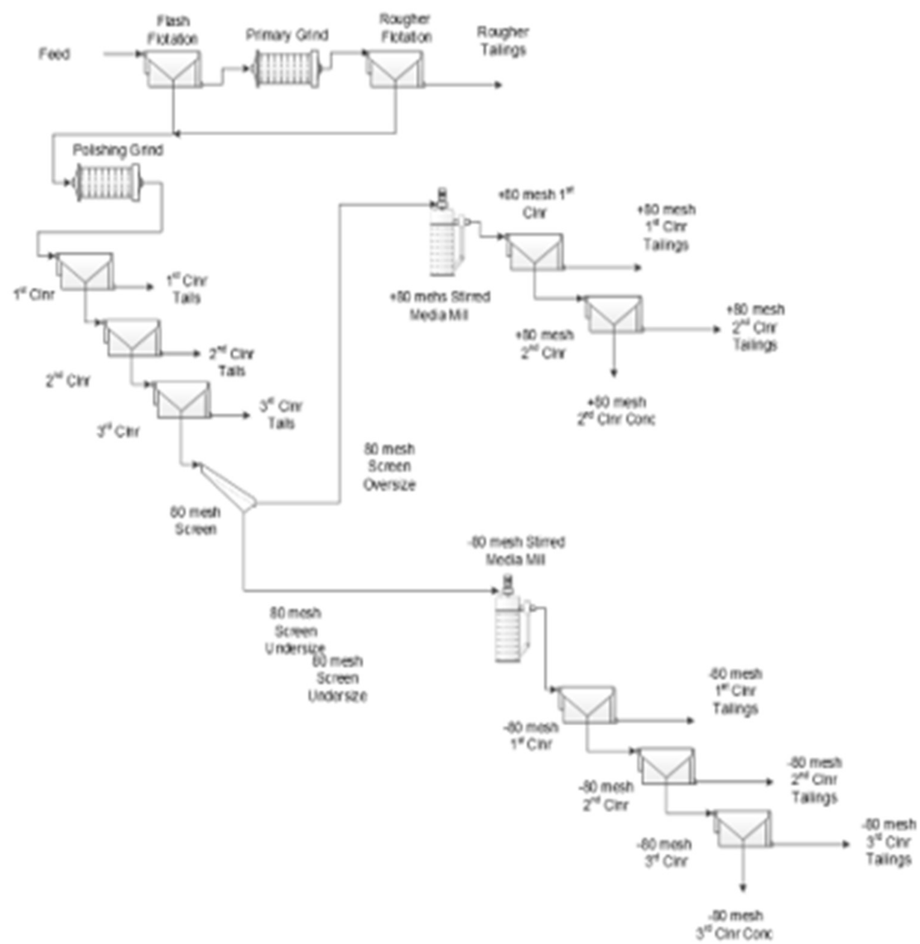

Figure 1: Proposed Flowsheet

A desulphurization test was attempted on the vein composite. Owing to the low sulphur head grade, interpretation of the results is challenging. The data suggests that a combination of sulphide rougher and magnetic separation may be required to minimize the sulphur content in the low-sulphur tailings stream. Static environmental tests indicate that the tailings of the vein mineralization may be acid neutralizing, which was expected based on the significant carbonate content and low sulphur head grade.

The following recommendations are made for future testing:

- Flotation testing should be carried out on a Master composite that represents a larger area of the mineralization and includes both vein and disseminated material. This will ensure that the observed metallurgical response is more representative of the potential average mill feed. Producing a representative mill feed will be critical since the disseminated mineralization yielded more metallurgical challenges.

- Optical mineralogy on graphite concentrates to characterize the types and association of gangue minerals and to determine if interlayering occurs.
- Preliminary comminution tests to establish the crushing and grinding energy requirements of the mineralization. The comminution tests should be carried out on the Master composite.
- Variability flotation testing to confirm the robustness of the proposed flowsheet and conditions including low-grade disseminated material outside the vein area. Composites with different blending ratios of vein and disseminated mineralization should be evaluated to determine the impact of blending on metallurgical response.
- The disseminated sample in the previous round of testing under 16698-01 contained almost 90% of -100 mesh flakes. The revenue of graphite concentrate is driven by grade and flake size with the smallest flakes yielding the lowest revenue. Hence, purification trials should be carried out to determine if the concentrate can be upgraded to grades suitable for high-value applications such as EV batteries.
- Environmental testing consisting of a net acid generation (NAG) and modified acid-base accounting (ABA) test on disseminated material that contains higher concentrations of sulphides compared to the graphite veins. Static environmental tests should be complete on graphite rougher tailings and desulphurized tailings.

Introduction

A scoping level metallurgical program was completed on one sample from a graphite target located in Ontario. The scope of work included sample preparation, chemical characterization, comminution testing, flotation, and static environmental testing.

The sample was received in April 2021. Testing was commenced in July 2021 once the project was setup. Results were forwarded to Mr. Fred Archibald of Earth Resources Limited they became available.

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Reviewed by: Cheryl Mina, Chris Fleming, Dan Imeson

Testwork Summary

1. Background and Objectives

One sample from a graphite prospect in Ontario was subjected to comminution and preliminary flowsheet development tests in April 2021. The primary objectives of the tests were to develop a preliminary understanding of the comminution requirements and the metallurgical response including graphite recovery, concentrate grade, as well as flake size distribution and total carbon grades of different size fractions.

2. Sample Receipt and Preparation

A shipment containing two pails and was received at the SGS Lakefield site on April 16, 2021. The sample was given the SGS sample receipt number 0228-APR21. The total weight was approximately 59 kg.

The sample was crushed to nominal ¾" and homogenized. One 5 kg sub-sample was extracted for Bond abrasion testing. The balance of the material was stage-crushed to -6 mesh to avoid the generation of an excessive amount of fines. The crushed samples were homogenized and then split into 2 kg test charges and one 10 kg test charge for a Bond ball mill grindability test. A representative head sample was extracted for chemical characterization.

3. Chemical Analysis Results

The head sample that was extracted during sample preparation was submitted for chemical analysis. The results of the carbon speciation and sulphur analysis are presented in Table 3.

The total carbon grade of the sample was 36.8% C(t). Most of the carbon in the samples was associated with graphite and yielded 35.2% C(g). The sample also contained 1.54% organic carbon and 2.95% CO_3. The sulphur grade of 0.02% S was close to the detection limit, which suggests that the tailings will likely be non-acid generating.

Table 3: Results of Carbon Speciation and Sulphur Analysis

Assays (%)				
C(t)	C(g)	TOC	CO_3	S
36.8	35.2	1.54	2.95	0.02

The sample was submitted for an ICP-OES scan and silica analysis by XRF. The results are presented in Table 4 and show no elevated concentrations of typical deleterious elements. The most abundant element in the sample was silicon accounting for 19% of the mass. Other abundant elements include aluminium, calcium, iron, potassium, and magnesium.

Table 4: Results of ICP-OES Scan

Assays (g/t)									
Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr
< 2	25,800	< 30	398	0.8	< 20	26,000	< 2	< 5	41
Assays (g/t)									
Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P
< 2	15,000	17,100	47	27,600	150	< 5	3,290	< 20	681
Assays (g/t)									
Pb	Sb	Se	Sn	Ti	Tl	U	V	Y	Zn
< 20	< 10	< 30	< 20	1,480	< 30	< 20	22	9.6	31

4. Comminution Testing

The sample was submitted for a Bond ball mill grindability and a Bond abrasion test.

4.1. Bond Abrasion Test

Tests are pending

4.2. Bond Ball Mill Grindability Test

Tests are pending

5. Flotation Testing

5.1. Rougher Flotation Tests

The composite was subjected to two rougher flotation tests to establish a suitable grinding size that maximizes the recovery of graphite into an intermediate flotation concentrate. Both tests employed a mill-float-mill-float (MF2) approach, which is aimed to minimize flake degradation.

The -6 mesh test charge was subjected to flash flotation to recovery coarse and liberated graphite into a flash concentrate. The flash tailings were then ground for 4 minutes and 6 minutes in tests F1 and F2, respectively. The corresponding rougher tailings grind sizes were P_{80} = 326 microns in test F1 and P_{80} = 231 microns in test F2.

Standard graphite flotation reagents were employed, consisting of diesel as the graphite collector and methyl isobutyl carbinol (MIBC) as the frother.

A summary of the mass balances is presented in Table 5 and complete test details are included in Appendix A. Both tests achieved very high rougher recoveries of 97.1% in test F1 and 99.5% in test F2 owing to the high head grade of 35.2% C(g). However, the finer rougher grind size resulted in a noticeably lower tailings grade of 0.42% C(g) compared to 2.15% C(g) in test F1 with the coarser grind size. Based on these results a decision was made to proceed with the conditions of test F2 in subsequent tests.

Table 5: Summary of Rougher Flotation Tests (F1 and F2)

Test	Product	Weight %	Assays, % C(t, g)	% Distribution C(t)
F1	Flash Conc	90.1	75.4	51.6
	Flash & Rougher Conc	190.1	67.3	97.1
Rougher Tails P80 = 326 microns	Ro Tails	175.7	2.15	2.9
	Head (calc.)	365.7	36.0	100.0
	Head (direct)		35.2	
F2	Flash Conc	27.6	68.5	52.2
	Flash & Rougher Conc	55.4	65.0	99.5
Rougher Tails P80 = 231 microns	Ro Tails	44.6	0.42	0.5
	Head (calc.)	100.0	36.2	100.0
	Head (direct)		35.2	

5.2. Primary Cleaner Flotation Tests

The following three tests, F3 to F5, evaluated the impact of different polishing grind times on the 3rd cleaner intermediate concentrate grade. The combined flash and rougher concentrates were subjected to polish grinding between 10 and 30 minutes. The mill discharge was then upgraded in three stages of cleaner flotation. A summary of the mass balances is provided in Table 6 and complete test details are presented in Appendix B.

Table 6: Primary Cleaning Tests F3 to F6

Test	Product	Weight %	Assays, % C(t)	%Distribution C(t)
F3	3rd Clnr Conc	40.1	83.1	92.8
	2nd Clnr Conc	41.5	81.7	94.5
	1st Clnr Conc	43.7	79.0	96.2
	Rougher Conc	52.1	68.1	98.8
10 min Polish	Rougher Tails	47.9	0.91	1.2
	Head (calc.)	100.0	35.9	100.0
	Head (direct)		35.2	
F4	3rd Clnr Conc	38.3	86.5	89.2
	2nd Clnr Conc	39.5	85.5	91.0
	1st Clnr Conc	42.0	82.8	93.6
	Rougher Conc	51.5	70.7	98.1
20 min Polish	Rougher Tails	48.5	1.43	1.9
	Head (calc.)	100.0	37.1	100.0
	Head (direct)		35.2	
F5	3rd Clnr Conc	36.0	87.0	90.6
	2nd Clnr Conc	37.1	85.9	92.3
	1st Clnr Conc	40.0	81.9	94.8
	Rougher Conc	50.6	66.9	97.9
30 min Polish	Rougher Tails	49.4	1.48	2.1
	Head (calc.)	100.0	34.6	100.0
	Head (direct)		35.2	

The combined concentrate grades ranged between 83.1% C(t) in test F3 with the shortest polishing time of 10 minutes and gradually increased to 87.0% C(t) in test F5 with the longest polishing time of 30 minutes. The open circuit stage recoveries were high in all tests, ranging from 89.2% in test F4 and 92.8% in test F3.

The 3rd cleaner concentrate of the three tests were submitted for a size fraction analysis to develop a better understanding of the composition of the concentrate. The mass and total carbon grade distribution of the three concentrates is depicted in Figure 2 and Figure 3, respectively.

As expected, the mass recovery into the +32 mesh and +48 mesh decreased slightly with longer polishing times. The degree of flake degradation was small at 40.8% mass recovery into the +80 mesh size fraction in test F5 with the longest polishing time of 30 minutes compared to 44.8% in test F3 with the shorted polishing time of 10 minutes.

The grade profile cleaner illustrates the benefit of increasing the polishing time from 10 minutes to 20 minutes, but limited grade gain were achieved by further increasing the grind time to 30 minutes. Since the 3rd cleaner concentrate does not represent a final graphite concentrate product and requires further upgrading in a secondary cleaning circuit, a decision was made to proceed with 20 minute polishing in the remaining three cleaner flotation tests.

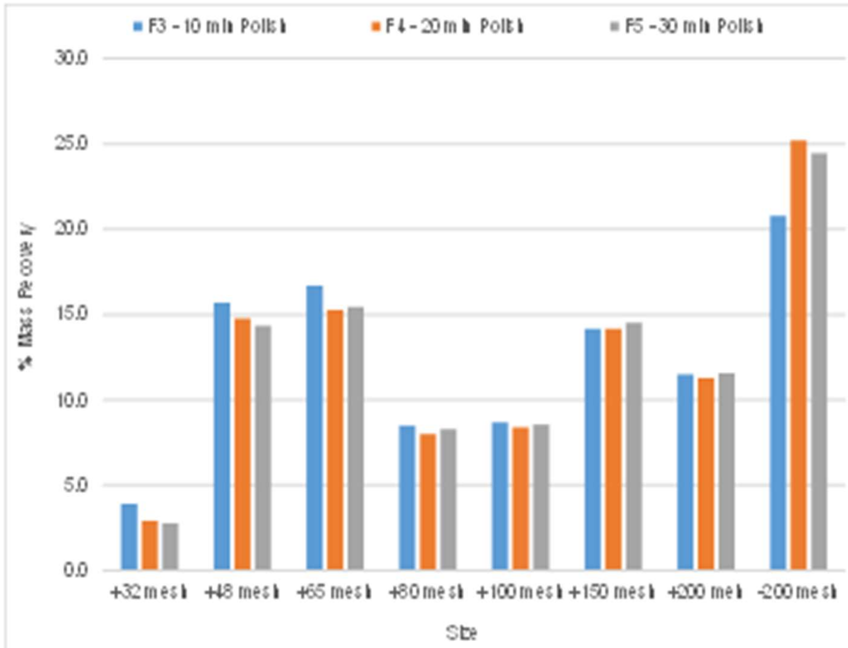

Figure 2: Mass Distribution in Size Fraction of 3rd Cleaner Concentrate (F3 to F5)

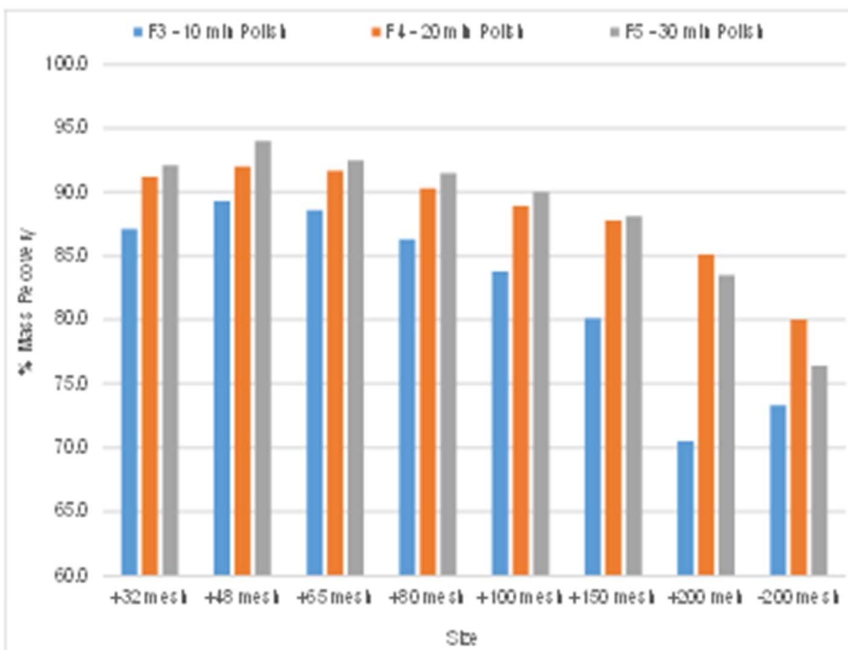

Figure 3: Total Carbon Grades of Size Fractions of 3rd Cleaner Concentrate (F3 to F5)

5.3. Secondary Cleaner Flotation Tests

The last three cleaner flotation tests, F6 to F8, explored secondary cleaning circuits to upgrade the intermediate 3rd cleaner concentrate to a salable concentrate grading at least 95% C(t). Test F6 employed two stages of polishing followed by three stages of cleaning after each polishing grind. The remaining two tests, F7 and F8, classified the 3rd cleaner concentrate at 80 mesh and then subjected the screen oversize and screen undersize to separate stirred media mill (SMM) grinding followed by cleaner flotation. The SMM grind times for the screen oversize and screen undersize in test F7 were 3 minutes and 10 minutes, respectively. These times were increased to 6 minutes and 15 minutes in test F8. The test results are summarized in Table 7 and complete test details are presented in Appendix C.

Table 7: Secondary Cleaning Tests F6 to F8

Test	Product	Weight %	Assays, % C(t)	% Distribution C(t)
F6	6th Clnr Conc	36.4	89.0	88.7
	5th Clnr Conc	37.0	88.4	89.6
2 stages of Polishing	4th Clnr Conc	38.0	87.3	90.9
	3rd Clnr Conc	39.9	84.1	91.8
20/20 min	2nd Clnr Conc	41.0	82.8	93.0
	1st Clnr Conc	42.8	80.2	94.0
10 min Polish	Rougher Conc	50.6	70.7	98.0
	Rougher Tails	49.4	1.48	2.0
	Head (calc.)	100.0	36.5	100.0
	Head (direct)		35.2	
F7	Combined Conc	33.7	95.9	89.8
	+80 mesh Clnr Feed	16.3	91.8	41.7
SMM Secondary Cleaning	-80 mesh Clnr Feed	25.2	78.2	54.8
	3rd Clnr Conc	41.5	83.6	96.4
80 mesh	2nd Clnr Conc	42.7	82.2	97.6
	1st Clnr Conc	44.7	79.2	98.3
3/10 min	Rougher Conc	52.2	68.4	99.2
	Rougher Tails	47.8	0.60	0.8
	Head (calc.)	100.0	36.0	100.0
	Head (direct)		35.2	
F8	Combined Conc	32.1	96.6	87.1
	+80 mesh Clnr Feed	16.1	91.7	41.4
SMM Secondary Cleaning	-80 mesh Clnr Feed	24.1	78.9	53.4
	3rd Clnr Conc	40.2	84.0	94.8
80 mesh	2nd Clnr Conc	41.3	83.0	96.4
	1st Clnr Conc	43.4	79.8	97.3
6/15 min	Rougher Conc	52.7	67.2	99.4
	Rougher Tails	47.3	0.45	0.6
	Head (calc.)	100.0	35.6	100.0
	Head (direct)		35.2	

The combined concentrate of the 6th cleaner concentrate of test F6 using two stages of polishing mill was only 89.0% C(t) at 88.7% total carbon recovery. This result fell significantly short of the minimum grade target of 95.0% C(t). It is postulated that a significant percentage of flakes display interlayering of graphite with gangue minerals. Since polishing grinding will predominantly remove the impurities that are attached to the outside surface of the flakes, this liberation technology is not suitable for this type of graphite flake. Instead, a high-shear grinding environment is required, which is provided by SMMs.

Tests F7 and F8, which both used SMMs, produced significantly higher combined concentrate grades of 95.9% C(t) and 96.6% C(t), respectively. The overall open circuit carbon recovery of 87.1% to 89.8% was comparable to test F6 using polishing mills. Both tests employing SMMs exceeded the minimum grade target of 95% C(t).

The final combined concentrates were submitted for a size fraction analysis. The mass and total carbon grade distribution into the various size fractions is depicted in Figure 4 and Figure 5, respectively.

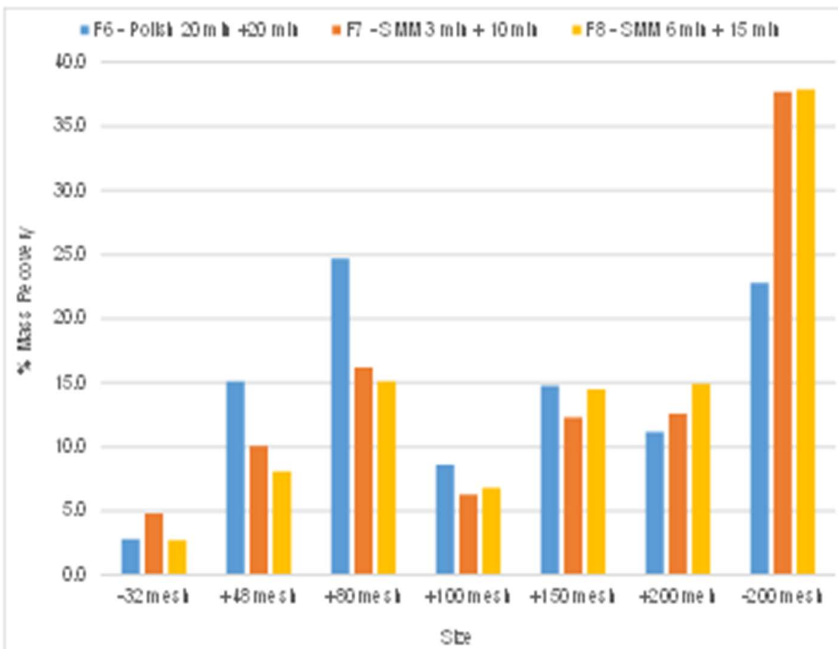

Figure 4: Mass Distribution in Size Fraction of Final Concentrate (F6 to F8)

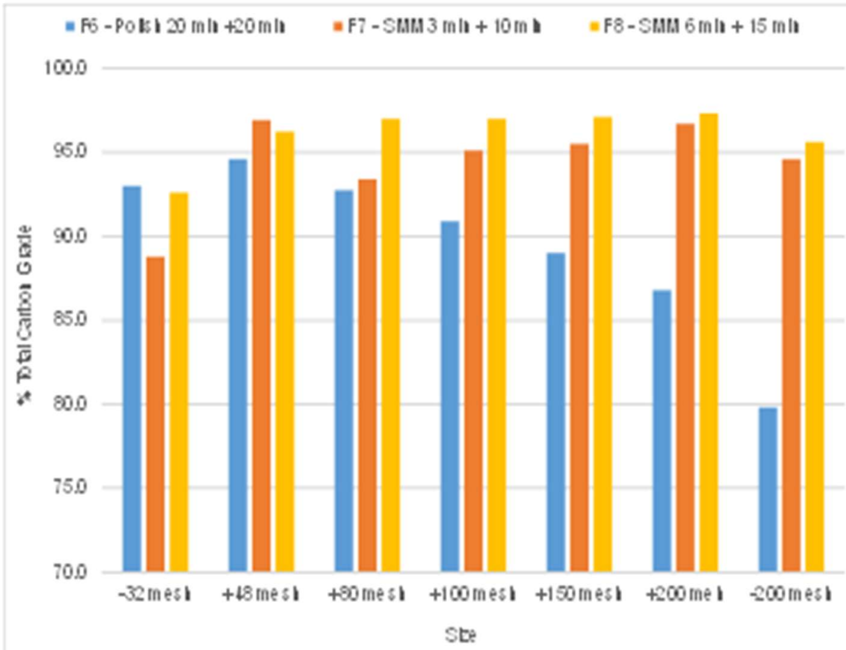

Figure 5: Total Carbon Grades of Size Fractions of Final Concentrate (F6 to F8)

Test F6 with the polishing mill produced a combined concentrate with 42.6% mass recovery into the +80 mesh size fractions. This mass recovery decreased to 31.1% in test F7 and 25.9% C(t) in test F8. The two tests with SMM yielded a substantially higher mass recovery of almost 40% into the -200 mesh size fraction compared to only 22.8% for test F6. However, since polishing mills are not suitable to achieve an acceptable concentrate grade, SMMs are required for secondary processing.

The total carbon grade profile reveals that most of the impurities in test F8 were associated with the smaller size fractions. It may be possible to employ polishing to achieve acceptable grades for the coarser size fractions and employ a SMM for the smaller flake sizes.

The flowsheet, which was employed in tests F7 and F8, produced the best overall results and is presented in Figure 6,

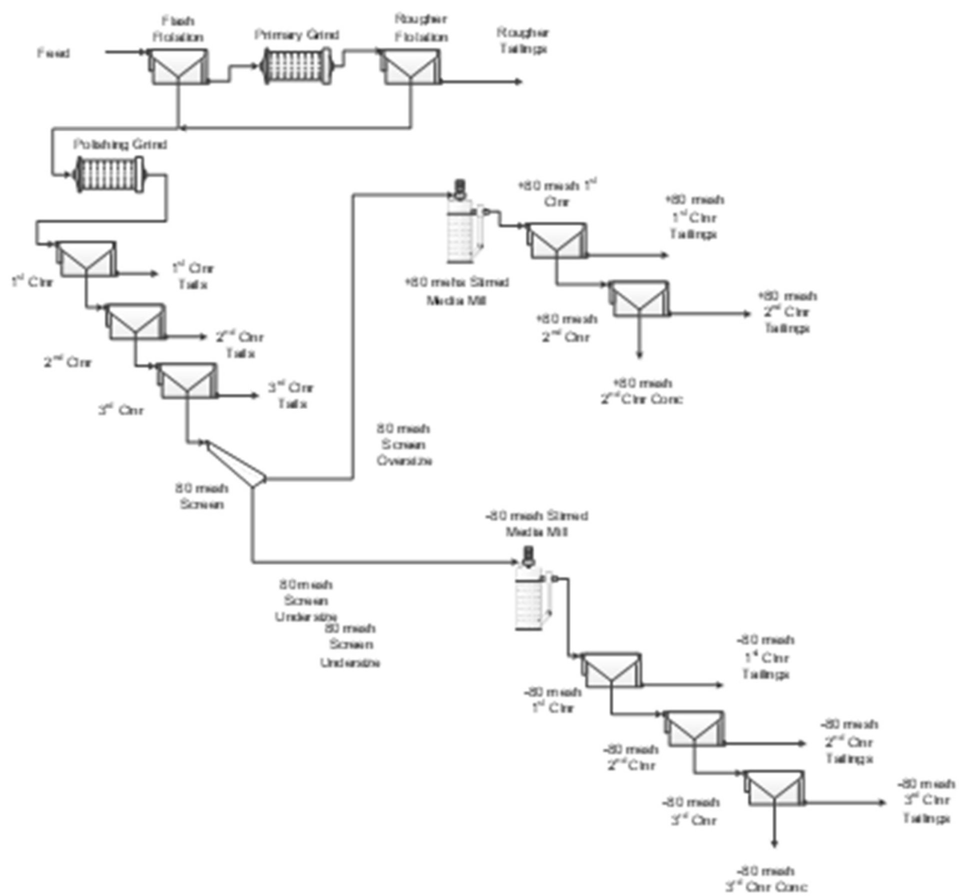

Figure 6: Proposed Flowsheet

5.4. Desulphurization Flotation

One desulphurization test was carried out that subjected the graphite rougher tailings to a sulphide rougher flotation followed by magnetic separation at different field strengths. Although the feed sample already contained very low levels of sulphides, the test evaluated if some of the contained sulphides could be rejected into a low-mass high-sulphide stream. While sulphide rejection is less relevant for the low-sulphur vein samples, previously tested disseminated samples contained elevated levels of sulphides. These disseminated samples will require desulphurization to render most of the tailings non-acid generating. A summary of the desulphurization mass balance is presented in Table 8 and the complete mass balance is included in Appendix D. Owing to the low sulphur head grade and values of products near or below the detection grade, the interpretation of the results is challenging. The flash and rougher concentrate contained over 44% of the sulphur albeit at a low grade of 0.0.2% S. The sulphide flotation concentrate contained approximately 25% of the sulphur at a grade of 0.19% S and a mass recovery of 3.1%. The low concentration of sulphides in the sulphide rougher tailings renders the interpretation of the magnetic separation results difficult due to the low mass recoveries and grades. The data suggest that each magnetic separation stage removed additional sulphur units, albeit at low grades and high field strengths may not be required to achieve non-acid generating tailings even for the disseminated material.

Table 8: Desulphurization Test F9

Product	Weight %	Assays, % S	% Distribution S
Flash & Ro Conc	52.3	0.02	44.1
Sulphide Conc	3.1	0.19	24.9
WHIMS 1,000G Mags	0.2	0.10	0.8
WHIMS 3,000G Mags	0.3	0.18	2.5
WHIMS 7,000G Mags	1.0	0.05	2.1
WHIMS 15,000G Mags	3.6	0.06	9.1
WHIMS Non-mags	39.5	<0.01	16.6
Head (calc.)	*100.0*	0.02	100.0

6. Static Environmental Tests

The rougher tailings of test F4 were submitted for static environmental tests, consisting of a net acid generation (NAG) test and an acid base accounting (ABA) test. The results of the NAG and ABA tests are presented in Table 9 and Table 10, respectively.

The results of both tests suggest that the graphite flotation tails of the vein mineralization are potentially acid neutralizing.

Table 9: Results of Net Acid Generation Test

Parameter	Unit	F4 Ro Tails
Vol H_2O_2	mL	150
Final pH		11.24
NaOH	Normality	0.1
Vol NaOH to pH 4.5	mL	0
Vol NaOH to pH 7.0	mL	0
NAG (pH 4.5)	kg H_2SO_4/tonne	0
NAG (pH 7.0)	kg H_2SO_4/tonne	0

Conclusions and Recommendations

Rougher and cleaner flotation tests were carried out on a sample from Earth Resources Limited's graphite prospect.

Two rougher and six cleaner tests culminated in a flowsheet and conditions that are suitable to produce a graphite concentrate grading over 95% C(t) and high open circuit graphite recoveries from a high-grade vein mineralization. A standard graphite reagent regime consisting of diesel and MIBC proved suitable to achieve these results.

While the flowsheet yielded a combined concentrate grade of over 95% C(t), the grade profile of secondary cleaner test F6 suggests that it may be possible to minimize the degradation of larger flakes with the exclusive use of polishing mills for the coarse fraction.

While the proposed flowsheet and conditions are suitable to treat the vein mineralization, previous testing of lower grade disseminated material concluded that a higher grinding energy input will be required for this mineralization. It is possible that adjustment of the grind times is the only necessary modification or alternatively, the flowsheet would have to be redesigned to treat the more challenging material. Blending the high-grade vein and low-grade disseminated mineralization may be required to produce a consistent plant product.

Between 25% and 30% of the graphite flakes reported to the +80 mesh size fractions at grades as high as 97% C(t). The mass recovery into the +80 mesh fraction of an intermediate 4th cleaner concentrate of 41.0% agrees well with the 44.8% that was obtained in the previous round of testing.

It should also be noted that flake size distribution and concentrate grade are only two properties of the graphite concentrate, and a range of other variables will determine its suitability for specific applications.

The following recommendations are made for future testing:

- Flotation testing should be carried out on a Master composite that represents a larger area of the mineralization and includes both vein and disseminated material. This will ensure that the observed metallurgical response is more representative of the potential average mill feed. Producing a representative mill feed will be critical since the disseminated mineralization yielded more metallurgical challenges.
- Optical mineralogy on graphite concentrates to characterize the types and association of gangue minerals and to determine if interlayering occurs.
- Preliminary comminution tests to establish the crushing and grinding energy requirements of the mineralization. The comminution tests should be carried out on the Master composite.
- Variability flotation testing to confirm the robustness of the proposed flowsheet and conditions including low-grade disseminated material outside the vein area. Composites with different

blending ratios of vein and disseminated mineralization should be evaluated to determine the impact of blending on metallurgical response.

- The disseminated sample in the previous round of testing under 16698-01 contained almost 90% of -100 mesh flakes. The revenue of graphite concentrate is driven by grade and flake size with the smallest flakes yielding the lowest revenue. Hence, purification trials should be carried out to determine if the concentrate can be upgraded to grades suitable for high-value applications such as EV batteries.
- Environmental testing consisting of a net acid generation (NAG) and modified acid-base accounting (ABA) test on disseminated material that contains higher concentrations of sulphides compared to the graphite veins. Static environmental tests should be complete on graphite rougher tailings and desulphurized tailings.

<u>EXPENDITURES</u>

<u>NET</u>

Metallurgical Testing -2 samples – 100% ----- $ 19,41500	1 sample =	@50%	=	$9,707.25
Remote Sensing			=	$3,273.53
Reporting			=	$3,000.00
TOTAL EXPENDITURES ON CLAIMS			**=**	**$15,980.78**