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# Assessment Report on Exploration at the Ghost Lake Claims, Wawa, Ontario

UTM 16U 673717mE 5321854mN 379m asl

# Report Prepared for 12551110 Canada Inc.



Report Prepared By:

Ryder & Associates, 118 Fletcher St. Bradford, ON L3Z-2Y9

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## Notice/Avis

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Frontispiece: Ghost Lake Claim Group - Patented and Unpatented Claims

## 1.0 Summary

#### 1.1 Scope of Work and Location

This report was prepared by Ryder & Associates ("RA") at the request of Mr. Jim Steel, CEO of 12551110 Canada Inc. ("12551110") an Ontario based, privately held company that does not have Reporting Issuer status. The purpose of this report is to satisfy assessment requirements on the Ghost Lake Claim Group as described under Section 65 (1) of the *Mining Act* and Ontario Regulation 65/18.

The Ghost Lake Claim Group (the Property) is located in northern Ontario, approximately 170 km directly north northwest of the city of Sault Ste. Marie and 5 km east of the town of Wawa, in the Municipality of Wawa, Chabanel & Esquega Townships on the 1:50,000 NTS sheet 042C/02.



Figure 1.1 Location Map

#### **1.2 Tenure and Encumbrances**

The Ghost Lake Project encompasses 8 mining claims covering 172.3 hectares. Required works total \$1,600.00.

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**

The Michipicoten greenstone belt has been of economic interest since the early 1900s, when iron and gold were discovered near Wawa, Ontario. Exploration on the legacy claim group since 2000 was initially focussed on diamonds then gold and base metals. Prospecting, outcrop sampling for diamonds, gold, base metals, diamond drilling and remote sensing were the methods employed.

#### 1.4 Geology & Mineralization

The property is underlain by rocks of the Archean Michipicoten Greenstone Belt (MGB), part of the Wawa subprovince, Superior Province. The Michipicoten Greenstone Belt is approximately 140 km long and reaches a maximum width of approximately 45 km.

Mafic metavolcanics of Archean Michipicoten Greenstone Belt underlie the claims and are cut by a number of northwesterly and north-easterly mafic dykes. The semi-regional north east trending Wawa fault transects the claim group close to the termination of the southern end of the Kapuskasing Structural Zone. The Kapuskasing Structural Zone (KSZ) extends east from the shore of Lake Superior, northeast through Kapuskasing and into James Bay

The Michipicoten greenstone belt has been of economic interest since the early 1900s, when iron and gold were discovered near Wawa, Ontario. The Ghost Lake Project is located less than 5km from the Surluga gold camp to the west and the Lakemount copper-nickel deposit to the north east. Gold and copper values have been found on the claims (Archibald, 2001)

#### **1.5 Exploration**

Interpretation of Long Wave InfraRed (LWIR) spectral survey data collected on 16th August 2021 utilizing proprietary algorithms to build a digital signal model of the spectral reflectance and emissivity emanating from the rocks at the Ghost Lake Project after water, vegetation, clouds, and cloud shadow had been removed by Aster Funds Ltd. of Toronto.

Long wave infrared (LWIR) spectra were categorized by minerals and target vector minerals (TVM's) identified for gold and nickel deposits to define target areas for gold and base metal exploration. In addition, Quadratic Determinant Function Classifiers (QDFC) were constructed as predictor/fingerprint maps to outline areas of the claims prospective for gold mineralization between 17<sup>th</sup> and 28<sup>th</sup> August 2021.

A site visit was made and three rock samples were collected on the 30<sup>th</sup> of October 2021.

All data locations reported in UTM's or WGH 84 lat/long.

#### **1.7 Conclusions**

The Long Wave Infrared remote sensing survey showed the presence of monticellite, orthoclase, talc, pyrrhotite, epidote, beryl, kaolinite, cerussite, breccia, feldspar, (not specific feldspars), alunite, augite, cordierite, and goethite on the Ghost Lake claim group. Target vector mineral analysis for gold and base metals showed areas of preferential exploration based on mineral distribution overlap once they had been sorted into those relevant to specific deposit types. Quadratic and Linear Determinant Function Classifiers were established for different gold deposits/prospects/occurrences in the region, with discrete exploration anomalies being found on the claims for gold.

The rock sample geochemical results did not show any elevated values for gold and base metals.

# **2.0 Introduction**

#### 2.1 Introduction and Terms of Reference

The following is a summary of the interpretation of (remote sensing) Long Wave Infrared (LWIR) data by Aster Funds Ltd on the Ghost Lake Project. In addition, a proprietary analysis products called the Quadratic and/or Linear Determinant Classifiers Function (an n-dimensional quadratic regression) was used to determine areal extent and intensity of exploration anomalies for gold.

#### **2.2 Site Visits**

A site visit was made by the author and Mr. Fred Archibald P. Geo on October 30<sup>th</sup> 2021. Three rock samples were taken and assayed.

#### **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, and are so indicated where appropriate.

#### 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 12551110 Canada Inc. 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 12551110 Canada Inc., 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 12551110 Canada Inc. 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 12551110 Canada Inc. 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 Property Description**

#### **3.1 Project Location**

The Ghost Lake Project is located in northern Ontario, approximately 170 km directly north northeast of the city of Sault Ste. Marie and 5 km east of the town of Wawa, in the Municipality of Wawa, on the 1:50,000 NTS sheet 042C/02. Highway 101 passes through the centre of the claim group (Figure 3.1).



Figure 3.1 Claim Group Location Map

The centre of the claim group is located at 48°1'37.31"N, 84°40'18.53"W or UTM 16, 673577mE, 5321927mN within the boundaries of claim 319308. The majority of the claims are in Chabanel Township (Figure 3.2 and Figure 3.3 overleaf).

#### 3.2 Tenure

The Ghost Lake claim group is comprised of eight contiguous claims (Figure 3.2) totaling 172.3 hectares of which 14.3 hectares are patented land (Figure 3.3). 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.



Figure 3.2 Ghost Lake Claim Group



Figure 3.3 Patented & Unpatented Claims

Expenditures including cash payments resulting from the previous explorer on the claims before the acquisition of same by 12551110 Canada Inc., are not sufficient to fully offset current work requirement expenditure (Figure 3.4). Work expenditures in 2020-2021 though, are sufficient.

Claim	Cell ID	Claim Holder	Claim	Legacy	Registration	Anniversary	Work Required	Total Work	Total Payment	Reserve
Number			Туре	Claim	Date	Date	\$	\$	In Place	\$
152894	42C02B253	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	105.00	0.00
321455	42C02B254	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	105.00	0.00
364807	42C02B272	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	105.00	0.00
319308	42C02B273	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	105.00	0.00
206734	42C02B274	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	105.00	0.00
206735	42C02B292	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	305.00	0.00
264808	42C02B293	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	305.00	0.00
169471	42C02B294	12551110 Canada Inc.	SCMC	1235485	2018-04-09	2022-06-27	200.00	95.00	105.00	0.00
8							\$1,600.00	\$760.00	\$1,240.00	\$0.00

Figure 3.4 Claim Tenure – Ghost Lake Claim Group Table

Note: The Legacy claim1235485 is 90% coincident with the majority of the current unpatented claims and absent from the patented land. Current claims #264807 and #206735 were only partially coincident with the legacy claims.

#### **3.4 Permits**

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

#### **3.4 Royalties and Taxes**

There are no royalties payable on Ghost Lake production and only municipal taxes area to be paid.

#### **3.5 Environmental Liabilities**

There are no known defined environmental liabilities on the Ghost Lake Project.

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

#### 4.1 Accessibility

The Ghost Lake claims are accessed by paved Highway 101 from Wawa which cuts through the middle of the claims (Figure 3.2 and Figure 3.3)

#### 4.2 Climate

The climate in the Ghost Lake area is typical of northern Ontario. The summers are long, comfortable, and partly cloudy and the winters are frigid, snowy, and overcast. Over the course of the year, the temperature typically varies from -18 °C to 21 °C and is rarely below -29 °C or above 26 °C. Lakes are ice-free starting from late May to early June through until late-October. Snow alone is most common from November 20 to March 25.

#### **4.3 Local Resources**

A full variety of services, including fuel, stores, hospital, policing, various mining contractors, an airport, and a helicopter base are available in Wawa.

#### **4.4 Infrastructure**

There is presently no infrastructure on the Property apart from a power line along the paved road -HWY101 that runs through the centre of the claims. Abundant water supply is available from Wawa Lake.

#### 4.5 Physiography

The Ghost Lake Project overlooks Wawa Lake is relatively low to moderately undulating terrain with a portion of the property having cliffs up to 30 metres in height. In general, Quaternary materials in the Wawa area were deposited during the Late Wisconsinan by the Labrador sector of the Laurentide Ice Sheet. The distribution and orientation of ice flow indicators illustrate a regional southwest ice flow between 159° and 240°. This flow event also resulted in the deposition of a thin (less than 1 m) subglacial till over much of the study area. The properties of this till largely reflect those of the local bedrock terrane.

In the Ghost Lake Claim Group there is a general north-easterly grain to topographic features paralleling the main glacial direction with rock outcrops (5%), although there is a thin blanket of till, around 1m in thickness over the greater part of the property. A small area of thick (30m+) glaciofluvial outwash of sand and gravel on the eastern margin of the property plus a small area of glaciolacustrine deposits of sand occur at the eastern end of Wawa Lake (Figure 4.1).



Figure 4.1 Quaternary Geology Map (Morris 2001)

The elevation of the Ghost Lake claim group ranges from 293masl on the shore of Wawa Lake to 420masl in the north eastern corner of the property. Vegetation consists of mature birch and poplar deciduous hardwood forest.

## **5.0 History**

Exploration by mining companies in the Wawa area commenced in 1902 when the Algoma Steel iron Corporation conducted geological surveying/mapping in the area east of Wawa. In 1898 the Hillside Mine, a gold occurrence was discovered immediately south of the claim group and it is reported that a 45.7 metre section of vein (0.51m in width) averaged 1.4 ounces of gold per ton.

Between 1927 and 1935 Wawa Goldfields South and Wawa Goldfields North developed two gold occurrences south of the claim group by shaft and adit. Gold values ranged from 0.03 ounces per ton to 12.82 ounces per ton with associated chalcopyrite, sphalerite and galena mineralization. In 1927, Mammoth Metals discovered some 0.8 kms west of the claim group, a silver-gold-sphalerite showing which was reinvestigated in 1967 by Algoma Ore properties Division. Values as high as 54.6 ounces per ton Silver and 9.5% zinc were reported.

In 1952 Jalore Mining drilled three short holes in and adjacent to the south east corner of the property (Claim169471) where Hole#1 intersected five feet of massive pyrrhotite with low copper and nickel values.

In 1970, Pango Gold Mines conducted geological and magnetometer surveys and located chalcopyrite associated with a shear zone in the north eastern quadrant of the claim group.

Between 1979 and 1981 the Geological Survey of Ontario mapped the areas of McMurray and Chabanel townships.

In 1981 airborne magnetic surveys were flown over the claim group and surrounding areas.

Between 1942 and 1993 extensive drilling was conducted by different companies in Esquega Township, eastern adjacent Township, and three deposits of nickel, copper, gold and zinc were outlined (Firesand).

Prospecting and mapping by International Legacy Inc. in 1996 resulted in the drilling of a single diamond drillhole in the north east quadrant of the property (Claim 321455) to a depth of 61.5. The hole 96-1 intersected 15.7m of 15% to 80% pyrite-pyrrhotite sulphides in felsic metavolcanic flows.

Legacy claims #1235485 and #11963556 were staked in July 2000 as a Diamond-Base Metal prospect and the 2000 exploration programme consisted of "prospecting and sampling of ultramafic and lamproite dyke systems. Several bulk samples were taken on the claims and analyzed for heavy mineral concentrations. A single BQ diamond drill hole was drilled to a depth of 59 metres in the NE quadrant of the property (Claim 321455) which intersected a 14.5 m thick olivine peridotite.

The next exploration was in 2008 when the exploration program on claim #1235485 tested surficial gravels for both diamonds and/or diamond indicators, down-ice from possible sources within felsic pyroclastic tuff units and peridotite units. Three bulk sample concentrates from 5.0 kg. to 24.0 kg were collected and sent for caustic dissolution studies at SGS Labs in Lakefield, Ontario. One sample returned positive for diamonds.

Outcrop sampling and diamond drill holes on the legacy claims are shown in the figure overleaf.



Figure 5.1: Legacy Claims, Sampling & Drilling

# 6.0 Geological Setting and Mineralization

#### 6.1 Regional & Local Geology

Data in this section is largely from Masun & Chamois (2020); Morris (2001) and Verley (2009)

The Property is located in the Superior Province of Northern Ontario. The Superior Province is divided into numerous subprovinces (Figure 6-1), each bounded by linear faults and characterized by differing lithologies, structural/tectonic conditions, ages, and metamorphic conditions. These subprovinces are classified into four types by Card and Ciesielski (1986):

- Volcano-plutonic: consisting of low-grade metamorphic greenstone belts, typically intruded by granitic magmas, and products of multiple deformation events.
- Metasedimentary: dominated by clastic sedimentary rocks and displaying low grade metamorphism at the subprovince boundary and amphibolite to granulite facies towards the centres.
- Gneissic-plutonic: comprised of tonalitic gneiss containing early plutonic and volcanic mafic enclaves, and larger volumes of granitoid plutons, which range from sodic (early) to potassic (late).
- High grade gneissic subprovinces: characterized by amphibolite to granulite facies igneous and metasedimentary gneisses intruded by tonalite, granodioritic, and syenitic magmas.



#### Figure 6.1 Regional Geology

The Property is underlain by rocks of the Archean Michipicoten Greenstone Belt (MGB) approximately 140 km long and reaches a maximum width of approximately 45 km and is part of the Wawa subprovince (Figure 6.2 overleaf).



Figure 6.2 Local Geology

The Wawa subprovince is composed of two linear concentrations, or zones of greenstone belts:

- one along its northern border with the Quetico subprovince, comprising the Shebandowan, Schreiber-Hemlo, Manitouwadge-Hornepayne, White River, Dayohessarah, and Kabinakagarni greenstone belts; and
- 2) a second in the south-central portion of the Wawa subprovince, including the Mishibishu, Michipicoten, and Garnitagama greenstone belts (Figure 6-2).

These supracrustal zones are composed dominantly of mafic volcanic rocks, with subordinate ultramafic, intermediate, and felsic flows. Sedimentary rocks are predominantly siliciclastic turbiditic wackes and shales, with minor conglomerates, iron formations, cherts, and carbonates. The two linear concentrations of greenstone belts are separated by domains of tonalite-trondhjemite-granodioritic (TTG) plutonic rocks. For the Wawa subprovince, geological relationships between lithotectonic assemblages and greenstone belts suggest that the various greenstone belts were tectonically assembled prior to the coalescence of the subprovinces of the Superior Province (Williams et al., 1991)

On a local scale there are 4 major sedimentary and metavolcanic rock types recognized within the Michipicoten greenstone belt. These are:

- 1. intermediate to mafic metavolcanic rocks;
- 2. intermediate to felsic metavolcanic rocks;
- 3. clastic metasedimentary rocks;
- 4. chemical metasedimentary rocks.

Intermediate to mafic metavolcanic rock is exposed throughout most of the greenstone belt. The intermediate to felsic metavolcanic rocks are less widespread and restricted to belts and blocks scattered across the greenstone belt. The intermediate to mafic and felsic metavolcanic rocks were deposited during 2 major, and a third minor, volcanic cycles. The materials of the 2 major volcanic cycles range in composition from tholeiitic basalt to calc-alkalic felsic volcanics (Thurston 1986).

Materials of the third minor volcanic cycle represent basaltic to peridotitic komatiite volcanism followed by calc-alkalic felsic volcanism (Sage and Heather 1991)

Metasedimentary rocks are more common in the western part of the study area than in the east. They were deposited within a marine alluvial fan depositional environment and were subsequently buried by materials of a shallow braided stream environment (Neale 1981, Thomas 1984). The metasedimentary rocks consist of either conglomerate, wacke or siltstone or argillite (Sage and Heather 1991).

Iron formation is the dominant chemical metasedimentary rock found within the greenstone belt and most commonly is found in the southwestern, central and northeastern parts of the study area. The iron formation consists of 5 facies that include, in ascending order:

- 1. siderite (carbonate facies);
- 2. pyrite (sulphide facies);
- 3. chert-magnetite wacke (oxide facies);
- 4. argillite-pyrite-graphite;
- 5. facies where calcite occasionally substitutes for siderite (Sage and Heather 1991).

Origin of the iron formation is summarized by Sage and Heather (1991). Several stocks are scattered across the greenstone belt and range in composition from trondhjemite to granodiorite to granite. All are younger than the surrounding supracrustal rocks and may have been emplaced at the same time as the felsic intrusive rocks external to the greenstone belt. Surrounding the supracrustal rocks are felsic intrusive rocks that range in composition from tonalite and trondhjemite to granite (Sage and Heather 1991). Felsic intrusive rocks on the south side of the greenstone belt are older than the same rocks on the north side. Within the felsic intrusive rocks to the southeast is a thin belt of migmatized supracrustal rocks (Ontario Geological Survey 1991).

At present, two tectonic models have been set forth as possible histories for the Early to Middle Archean rocks of the Superior province. The first suggests the Superior province may have formed by repeated accretion of terranes as a result of subduction in a compressional margin (Hoffman, 1989; Williams et al., 1991). This model is supported by seismic, structural and geological data (Calvert et al., 1995; Calvert and Ludden, 1999; Thurston, 2002). Under this model, deformation within the Michipicoten Greenstone Belt resulted from subsequent accretion of volcanic arcs during formation of the belt, and by accretion of the Wawa subprovince to the Superior Craton nucleus (Arias, 1996). The volcanic rocks of Wawa are interpreted to be allochthonous assemblages of island and continental arcs (Sylvester et al., 1987), tectonically transported to their present position (Thurston, 2002). 16 An alternative model calls for an autochthonous origin for the Michipicoten Greenstone Belt, with greenstones being accumulated in place, erupting through and being deposited upon older units (Thurston, 2002; Ayer et al., 2003). Under this model, the Superior Province would have experienced orderly, autochthonous progression from platforms through rifting of continental fragments, and late assembly during the Kenoran orogeny. This interpretation of all cycles of Michipicoten volcanics as intra-cratonic magmatism is supported by geochemical evidence, which records crustal geochemical signatures and significant contributions from continental passive margin sources (Sage and Lightfoot, 1996).

#### **6.2 Property Geology**

The greater part of the property is underlain by mafic metavolcanic flows consisting of pillowed basalts. These are cut by numerous amphibolite, gabbro, and diabase dyke systems trending in a

northwesterly direction. The units are also cut by a series of northwesterly and north-easterly trending faults dipping flatly northeast and steeply southeasterly respectively. The Wawa Lake Fault, which is part of the Kapuskasing Fault system, cuts through the central portion of the property in a north-easterly direction with mapped rock types on either side of the fault consisting mainly of mafic metavolcanics (basalts).

In the north east quadrant of the claims the Webb Lake Peridotite Complex crosses the property and petrographic studies describes the rocks as phlogopite-peridotite.

In the northwest corner of the property is a strong north-easterly trending fault within felsic metavolcanic flows (tuff units). The above rock units are cut by a series of amphibolite, gabbro, diabase, quartz-feldspar porphyry, pyroxenite, lamproite, and peridotite dyke systems.

#### **6.3 Mineralization**

The Michipicoten greenstone belt has been of economic interest since the early 1900s, when iron and gold were discovered near Wawa, Ontario. The Ghost Lake Project is located less than 5km from the Surluga gold camp to the west and the Lakemount copper-nickel deposit to the north east (Figure 6.3).



Figure 6.3: Local Mineralization

Archibald states (2001) "There is a copper and gold showing on the central and eastern section of the claim group respectively, and there are several significant gold, copper, and zinc occurrences on neighbouring properties situated in close proximity and in line of strike with the property. Two linear ultramafic units were observed crossing the main portion of the property, and these units were confirmed by Lakefield Labs to be olivine - peridotite units with copper-nickel mineralization in the matrix."

# 7.0 Exploration

Long Wave InfraRed (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 and on August 16<sup>th</sup> 2021 was downloaded from the Japanese Space Agency site <u>MADAS - AIST (gsj.jp)</u> for the Ghost Lake Claim area by Aster Funds Ltd, Toronto, Ontario.

Between August 17<sup>th</sup> and August 19<sup>rd</sup> 2021 processing of the imagery using proprietary algorithms was undertaken followed by interpretation of a long wave infrared spectral analysis survey over the claims. As well, Quadratic Determinant Classifiers (QDFC) were constructed for specific gold deposits/occurrences in the Michipicoten Greenstone Belt. Target Vector Minerals (TVM's) were identified and mapped for gold, base metals and metallics. The QDFC and TVM overlap mapping was undertaken between August 20<sup>th</sup> and August 28th<sup>th</sup> 2021.

A site visit was made in October 2021 and three rock samples were taken and analysed.

#### 7.1 Spectral Analysis (LWIR and/or SWIR)

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) and/or Short-Wave Infrared (SWIR) 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/SWIR endmembers to be derived for each survey area from outcrops, shallow cover and beneath vegetation and overburden (Figures 7.1 to 7.16). It is as if the Client property is analyzed for geological and deposit relevant exploration from the basis of 100% outcrop.

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 Quadratic Determinant Classifier Function

A quadratic determinant classifier is a descriptive term for a statistical classification based on multivariate statistical analysis. It is designed to separate thermal spectral from mineral deposits/occurrences from the rest of the coverage image, be it short wave infrared or long wave infrared.

Two Gaussian distributions are estimated; one, with the voxel values of the spectral imaging from areas with no mineralization of the type sought. Second, with the voxel values of the area that is acting as the source for data, in this instance, specific gold deposits in the Goudreau Gold Camp and numerous occurrences in the Michipicoten Greenstone Belt.

An n-dimensional regression is then performed using a quadratic equation in which the independent variables are the 16 minerals in the search area. A quadratic surface is estimated which includes the 16 minerals as orthogonal axes (in that each acts independently of any other one).

Values above the quadratic surface are plotted in terms of intensity and distribution, as they represent dependencies based on the source data. Values below the quadratic surface are not plotted, as they are deemed to represent areas in which there are no dependencies of data and thus do not represent valid exploration areas.

For the gold QDFC Predictor-Fingerprint mapping four and fourteen different gold deposits in the Goudreau gold camp and two hundred and eighty-one gold occurrences throughout the Michipicoten Greenstone Belt area were selected as trainers:

- 1. Four (4) gold deposits: The Magino, Kremzar, Cline and Edwards
- 2. Fourteen (14) drilled gold areas: 8 Prospects & 6 Occurrences excluding the 4 deposits above in the Goudreau Gold Camp
- 3. Two hundred and eighty-one (281) gold occurrences from drilled to trenched outcrops within the Michipicoten Greenstone Belt area used.

Figures 7.1 to 7.16 overleaf show the mineral distribution and abundance maps for each of the long wave infrared minerals identified on the Ghost Lake Claim Block. The various endmember mineral colour patterns on the <u>maps reflect the degree of endmember abundance from low endmember</u> <u>abundance (blue) to high endmember abundance (red). White areas reflect absence of the endmember.</u>

Figures 7.17 to 7.19 overleaf show the different QDFC predictor-fingerprint target maps for each of the different gold trainers used. The gold QDFC 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 QDFC 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 7.1 Long Wave Infrared Survey; Monticellite Abundance Map

Figure 7.2 Long Wave Infrared Survey; Orthoclase Abundance Map



Figure 7.3 Long Wave Infrared Survey; Talc Abundance Map





Figure 7.5 Long Wave Infrared Survey; Epidote Abundance Map

Figure 7.6 Long Wave Infrared Survey; Beryl Abundance Map



Figure 7.7 Long Wave Infrared Survey; Kaolinite Abundance Map

Figure 7.8 Long Wave Infrared Survey; Cerussite Abundance Map



Figure 7.9 Long Wave Infrared Survey; Breccia Abundance Map

Figure 7.10 Long Wave Infrared Survey; Feldspar Abundance Map



Figure 7.11 Long Wave Infrared Survey; Alunite Abundance Map

Figure 7.12 Long Wave Infrared Survey; Augite Abundance Map



Figure 7.13 Long Wave Infrared Survey; Gypsum Abundance Map

Figure 7.14 Long Wave Infrared Survey; Cordierite Abundance Map



Figure 7.15 Long Wave Infrared Survey; Pyrite Abundance Map

Figure 7.16 Long Wave Infrared Survey; Goethite Abundance Map



Figure 7.17 Gold QDFC Predictor Target Map – Trained on 4 Deposits





Figure 7.19 Gold QDFC Predictor Target Map – Trained on 281 Occurrences

Figure 7.20 Summary: Gold QDFC Predictor Fingerprint Targets

### 7.3 Prospecting and Sampling

The author and Mr. Fred Archibald P. Geo visited the claims on October 30<sup>th</sup> 2021 specifically claims #264807 and #319308 to prospect and locate access to various TVM and QDFC targets. Three chip samples were taken and analysed at Actlabs, Ancaster, Ontario (Figure 7. 21 and 7.22).

- 1. Sample #213482 Mafic dyke, very fine grained with fine quartz
- 2. Sample #213483 Greenstone with quartz and iron carbonate
- 3. Sample #213484 Greenstone/mafic dyke contact, alteration, sample of rock chips taken over 30 m either side of the contact

Figure 7.21 shows area prospecting route and sample sites, claims #264807 and #319308



Figure 7.21 Prospecting and Sample Sites

Gold and base metal content in mafic dyke rock samples is elevated compared to regular meta volcanic (basalt) sample (Figure 7.22).

					Repor	t Numk	ber:A2	1-21153	3			
					Repor	t Date:	20/12/2	2021				
Analyte Symbol	Ti	S	Р	Li	Be	в	Na	Mg	AI	к	Bi	Са
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%
213482	0.096	< 1	0.017	12.2	0.4	3	0.024	2.9	3.51	0.03	< 0.02	0.97
213483	0.003	< 1	0.065	8.4	< 0.1	3	0.098	0.5	0.92	0.04	< 0.02	0.33
213484	0.169	< 1	0.015	6	0.4	3	0.013	2.03	2.56	0.02	0.6	14.1
	Sc	v	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As
	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
213482	21.9	220	37	1300	8.48	43.5	81.7	110	90.6	13.4	< 0.1	1.7
213483	5.3	26	18	504	2.86	9.7	19	4.7	53.4	4.76	< 0.1	1.6
213484	9.2	114	73	2030	4.96	27	63.6	155	61.2	6.56	< 0.1	1.4
	Rb	Sr	Y	Zr	Nb	Мо	Ag	In	Sn	Sb	Те	Cs
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
213482	1.9	20.6	6.06	1.2	< 0.1	0.15	0.047	0.06	0.12	< 0.02	< 0.02	0.2
213483	1.2	11.5	3.65	0.7	< 0.1	0.21	0.021	< 0.02	0.11	< 0.02	< 0.02	0.07
213484	1.2	143	9.53	0.9	< 0.1	0.25	0.047	< 0.02	0.2	0.08	< 0.02	0.05
	Ва	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd	Tb	Dy
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
213482	42.1	2.8	4.8	0.09	0.9	4.43	0.9	0.4	0.3	1.2	0.2	1.2
213483	26.3	13.8	31.2	0.06	3.3	12.4	2.3	0.5	0.5	1.5	0.2	0.8
213484	9.1	1.2	2.92	0.24	0.4	2.33	0.8	0.7	0.4	1.1	0.3	1.7
	Но	Er	Tm	Yb	Lu	Hf	Та	w	Re	Au	TI	Pb
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm
213482	0.2	0.7	< 0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.3	0.02	1.2
213483	0.1	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1	< 0.02	0.5
213484	0.3	1.1	0.2	1	0.2	< 0.1	< 0.05	< 0.1	0.001	7.4	< 0.02	1.8
	Th	U	Hg									
	ppm	ppm	ppb									
213482	1.5	< 0.1	< 10									
213483	1.3	0.2	< 10									
213484	0.9	< 0.1	< 10									

Figure 7.22 Geochemistry Results Table



Figure 7.23 Sample Site 213484

## 8.0 Interpretation

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 gold and copper-nickel mineralization in a survey area 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 Vector An example is Sphalerite. This is a sulphide ore mineral for zinc and as such can be used as TVM's<sup>™</sup> 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. In the Ghost Lake survey area, four metallic TVM's are present: Pyrrhotite, Cerussite, Goethite and Pyrite.
- 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 and also for each mineralization style for that commodity (vein, fault, breccia).The relevant TVM data, for example vein gold, is utilized by overlapping the TVM's identified for vein 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 in specific areas for gold exploration. When combined with geology, geophysics and geochemistry then target areas for exploration can be further defined and ranked.

#### 8.2 Direct LWIR Mineral Target Vectors

Cerussite is a lead carbonate mineral can be used directly as TVM's for lead and zinc by outlining areas of high abundance as target area(s) for exploration. Similarly pyrrhotite is known as a pathfinder mineral for nickel and is present with the gold in the survey area. On the property cerussite abundance is seen in Figure 7.8 where there are two small areas of low to moderate abundance while high abundance pyrrhotite is present as an one kilometre long NE trendind zone (Figure 7.4).

#### 8.3 LWIR Metallic Target Vector Minerals

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

- Em#4 is interpreted as Pyrrhotite (iron sulphide) with a 100% correlation coefficient.
- Em#8 identified as Cerussite (lead carbonate) with an 80% correlation coefficient.
- Em#15 equates to Pyrite another iron sulphide with a 97% correlation coefficient
- > Em#16, interpreted as goethite (iron oxide) with a 96% correlation coefficient.

The "metallic's "- sulphides, an oxide and a carbonate 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 property (Figure 8.1 overleaf).

The metallic TVM overlap map outlined four areas of metallic mineral overlap:

- 1. Claims 264807 and 206735: a 10 Hectare NE trending 2 Metallic Overlap target zone with a very small (<1 ha) 3 metallic TVM overlap target area
- 2. Claim 321455: a 4.5 ha N-S orientated 2 metallic TVM Overlap target with two historic drill holes located on the targets western edge. Hole 96-1 drilled to the SE and into the zone intersected between 10% and 80% pyrrhotite/pyrite over 15.7 metres from 7m to 22.7m depth. The other drill hole was drilled to the west away from the metallic TVM overlap target intersecting minor pyrrhotite/pyrite.
- 3. Small (2 ha) 2 metallic TVM overlap target straddling the boundary of claims 319308 and 264808.
- 4. Claim 152894, very small (1ha) 2 metallic TVM overlap target



Figure 8.1 LWIR Metallic TVM Overlap Map

Utilizing the TVM overlap methodology two target areas on the Ghost Lake property are worthy of follow-up prospecting.

#### 8.4 Commodity Specific Target Vector Minerals (LWIR)

Numerous gold deposits, one active gold mine , two deposits under mine construction and hundreds of gold occurrences are present in the Michipicoten Greenstone Belt in addition to a number of bedrock nickel occurrences and a 3.2 million tonne copper-nickel deposit.

Gold and base Metal (copper-nickel) TVM's were determined and their respective TVM Overlap maps were produced for the property.

#### 8.4.1 Gold

Seven endmember minerals spatially associated with the gold occurrences were identified as target vector minerals (TVM's) for gold:

- Em#1 is interpreted as Monticellite (calcium magnesium silicate) with a 95% correlation coefficient.
- Em#2 is interpreted as Orthoclase (K-feldspar) with a 95% correlation co-efficient.
- > Em#4 is interpreted as Pyrrhotite (iron sulphide) with a 100% correlation co-efficient.
- > Em#8 identified as Cerussite (lead carbonate) with an 80% correlation co-efficient.
- > Em#15 equates to Pyrite another iron sulphide with a 97% correlation co-efficient

> Em#16, interpreted as goethite (iron oxide) with a 96% correlation coefficient. Pyrrhotite

and they are in order of dominance:

Pyrrhotite>/= Epidote> Orthoclase = Monticellite >/= Cerussite > Pyrite>Goethite

Within the Ghost Lake property three possible gold TVM Overlap target areas (5+6 TVM, yellow/red) (Figure 8.2) were outlined:

- 1. a 450m long, NE trending (5 & 6) TVM Overlap zone on claim 264807
- 2. a 250m long NE trending (5) TVM Overlap zone adjacent to gold bearing outcrops and two drill holes in the NE corner of the property on claim 321455.
- 3. a North-South (5) TVM trend running for 170m on the western border of claim 206735.



Figure 8.2 Gold TVM Overlap Map

The three gold TVM target areas are coincident with two of the metallic target areas (Figure 8.1)

#### 8.4.2 Base Metal (Copper-Nickel)

Four LWIR endmembers for copper-nickel were identified and they are in order of dominance:

Monticellite >Pyrrhotite > Epidote > Beryl

Em#6 equates to Beryl (Beryllium Aluminum Silicate) with a 97% correlation co-efficient

The above four minerals are found spatially associated with the copper-nickel deposit and mineral occurrences in the Michipicoten Greenstone Belt area.

Six base metal (4) TVM Overlap target areas occur in the centre of the property with five of them located in the centre of the claim block within a NE trending (3) TVM Overlap zone (Figure 8.3).



Figure 8.3 Base Metal TVM Overlap Map

It is interesting to note that the base metal drill hole and outcrop mineralization are spatially associated with a NE trending (3) TVM Overlap zone metallic in the NE quadrant of the property. The base metal (4) TVM Overlap map is not coincident with either the gold (5 and 6) or metallic (3) TVM overlap distribution.

#### 8.5 Spectral Exploration Target Areas

Figure 8.4 is a compilation of the interpreted Aster LWIR TVM and QDFC data which outlined four exploration areas for gold and/or base metals. The target areas on claims #319308 and #152894 are primarly for base metals while the other two are prospective for both gold and base metals.



Figure 8.4 LWIR Spectral Exploration Target Areas.

## 9.0 Conclusions

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

Aster Funds Ltd LWIR Target Vector Minerals (TVM) were identified for gold; copper-nickel (base metals) by determining the minerals associated with the respective mineral occurrences in the ASTER satellite tile mosaic area. Processing and plotting of the LWIR TVM overlap data on the Ghost Lake property outlined a number of gold, base metal and Metallic targets. All of the TVM targets are located on the north side of the major Wawa Lake fault having a generally trending north east. One of the gold TVM target areas on Claim #321455 is spatially associated with historic rock samples with elevated gold and base metals – gold (94ppm-210ppb), copper 44ppm-4,460ppm) and nickel (723ppm-1,670ppm).

QDFC predictor target maps were produced for:

- > Gold based on the Magino, Kremzar, Cline and Edwards deposits
- Gold based on fourteen drilled gold prospects (Goudreau gold camp)
- Gold based on known mineral occurrences (281)

The Ghost Lake gold LWIR QDFC predictive results for the property indicates areas adjacent to and overlapping a gold TVM Overlap target on claim #264807 area having the QDFC gold "fingerprint" for further investigation.

In summary, the interpreted Aster LWIR TVM and QDFC data outlined four exploration areas from three hectares to eighteen hectares for gold and/or base metals.

Limited rock chip sampling indicated potential increase in gold and base metal content in altered (iron, quartz) dykes and basalts. Overall rock geochechemistry is unspectacular.

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 is recommended. Details:

- Detailed prospecting of the four exploration target areas on claims #264807, #319308, #152894 and #321455.
- Selected rock chip sampling of outcrops on claims #264807, #319308, #152894 and #321455.
- Soil sampling over each of the gold and base metal TVM targets where warranted.

### **11.0 Cited References**

Archibald F.T. 2001. Diamond-Base Metal Prospect McMurray and Chabanel Townships. Ontario. Assessment Report.

Archibald, F.T. 2008. Technical Report, Bulk Sampling Program for Norcanex Resources Inc. Claim 1235485- Chabanel Township, Ontario NTS 42-C/2. Assessment Report

Masun, K. M., Chamois, P. 2021. TECHNICAL REPORT ON THE STARGROVE DIAMOND PROJECT, ALGOMA DISTRICT, NORTHERN ONTARIO, CANADA NI 43-101 Technical Report.

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

Rupert, R. J., 1979. Geology of McMurray Township and parts of Surrounding Townships. Ontario Geological Survey, Open File Report 5283.

Verley, C.G. 2009. UPDATE OF ACTIVITIES ON THE LEADBETTER DIAMOND PROJECT (Pursuant to National Instrument 43-101 of the Canadian Securities Administrators) NTS 42C/2, Chabanel Township, Ontario Centered at Latitude: 480 03' 57" N, Longitude: 840 42' 15"E or 671,030E; 5,326,160N (UTM, NAD83, zone 16).

Ryder, J.M. 2021. Report, Aster Satellite-Based Long Wave Infrared (LWIR) Surveys, Leadbetter Area, Wawa Ontario for Kishar research Inc. Private report, Ryder & Associates, Bradford, Ontario.



Fred Archibald P. Geo

# <u>APPENDIX I</u>

# **ROCK SAMPLING**

DATE	SAMPLE	SAMPLE	UTM	EASTINGS	NORTHINGS	SAMPLE DESCRIPTIONS
	TYPE	NUMBER	ZONE			
30/10/2021	ROCK CHIP	213482	16 U	673057.00mE	5321714.00mN	Mafic Dyke, finr grained w quartz
30/10/2021	ROCK CHIP	213483	16 U	673094.00mE	5321750.00mN	Quartz, iron carbonate, greenstone
30/10/2021	ROCK CHIP	213484	16 U	673119.00mE	5321847.00mN	Dyke/Greenstone contact, chip sampling 30m
	3 Samples		16U			

# **APPENDIX II**

# LABORATORY RESULTS

SAMPLES: 213482 – 213484 (Ghost Lake)

Quality Analysis ...



Innovative Technologies

Report No.:	A21-21153
Report Date:	20-Dec-21
Date Submitted:	10-Nov-21
Your Reference:	

STEEL AND ASSOCIATES 10 MALVERN CT BRAMPTON ON L6W 1H1 Canada

ATTN: JIM STEEL

#### CERTIFICATE OF ANALYSIS

6 Rock samples were submitted for analysis.

The following analytical package(s) were requested		Testing Date:
UT-1-0.5g	QOP Ultratrace-1 (Aqua Regia ICPMS)	2021-12-02 14:29:03

REPORT A21-21153

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

#### Notes:

Assays are recommended for values above the upper limit. The Au from AR-MS is for information purposes, for accurate Au fire assay 1A2 should be requested.



LabiD: 266

ACTIVATION LABORATORIES LTD. 41 Bittem Bitreet, Ancester, Ontario, Canada, L9G 4V5 TELEPHONE +905 649-9611 or +1 888.226 5227 FAX +1 905 649 9613 E-MAIL Ancester@schate.com ACTLABS GROUP WEBBITE www.actiate.com CERTIFIED BY:

Emmanuel Eseme , Ph.D. Quality Control Coordinator

Page 1

#### Results Activation Laboratories Ltd. Report: A21-21153

Analyte Symbol	Ti	s	P	Li	Be	В	Na	Mg	A	К	Bi	Ca	So	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.2	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS										
213479	0.084	<1	0.045	7.5	0.3	4	0.049	0.19	1.23	0.06	0.07	0.43	2.9	30	22	208	1.53	3.9	10.0	4.0	26.5	4.39	< 0.1
213480	0.192	<1	0.055	22.8	0.2	7	0.138	0.83	1.39	0.13	0.11	1.14	4.3	50	11	323	2.58	11.1	17.3	47.5	54.5	7.36	< 0.1
213481	0.105	<1	0.045	8.7	0.3	5	0.068	0.29	1.46	0.08	0.08	0.37	3.6	38	23	170	1.93	4.5	11.2	7.5	20.5	4.65	< 0.1
213482	0.096	<1	0.017	12.2	0.4	3	0.024	2.90	3.51	0.03	< 0.02	0.97	21.9	220	37	1300	8.48	43.5	81.7	110	90.6	13.4	< 0.1
213483	0.003	<1	0.065	8.4	< 0.1	3	0.098	0.50	0.92	0.04	< 0.02	0.33	5.3	26	18	504	2.86	9.7	19.0	4.7	53.4	4.76	< 0.1
213484	0.169	<1	0.015	6.0	0.4	3	0.013	2.03	2.56	0.02	0.60	14.1	9.2	114	73	2030	4.96	27.0	63.6	155	61.2	6.56	< 0.1

ults
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Activation Laboratories Ltd.

Report: A21-21153

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	h	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	ppm	opm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm						
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS								
213479	0.8	6.5	19.4	3.46	2.3	1.6	0.36	0.075	< 0.02	0.51	0.03	< 0.02	0.75	37.6	8.2	18.5	0.07	2.0	7.77	1.5	0.6	0.3	1.2
213480	0.6	7.5	53.7	3.11	1.3	0.3	0.19	0.047	< 0.02	0.45	< 0.02	< 0.02	0.93	35.4	22.6	43.7	0.02	4.0	13.5	1.8	0.4	0.4	1.2
213481	1.5	5.2	29.0	4.13	2.4	1.0	0.35	0.029	< 0.02	0.56	0.02	< 0.02	0.52	26.6	7.0	16.7	0.09	1.7	6.81	1.2	0.7	0.3	1.1
213482	1.7	1.9	20.6	6.06	1.2	< 0.1	0.15	0.047	0.06	0.12	< 0.02	< 0.02	0.20	42.1	2.8	4.80	0.09	0.9	4.43	0.9	0.4	0.3	1.2
213483	1.6	1.2	11.5	3.65	0.7	< 0.1	0.21	0.021	< 0.02	0.11	< 0.02	< 0.02	0.07	26.3	13.8	31.2	0.06	3.3	12.4	2.3	0.5	0.5	1.5
213484	1.4	1.2	143	9.53	0.9	< 0.1	0.25	0.047	< 0.02	0.20	0.08	< 0.02	0.05	9.1	1.2	2.92	0.24	0.4	2.33	0.8	0.7	0.4	1.1

#### Results

Activation Laboratories Ltd.

Report: A21-21153

Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	n	Pb	Th	U	Hg
Unit Symbol	ppm	ppm	mqq	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm.	ppm	ppm	ppb
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.1	0.1	0.1	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS								
213479	0.2	0.7	0.1	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	2.1	0.05	4.4	2.4	0.4	30
213480	0.1	0.6	0.1	0.3	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1.5	0.05	2.8	3.8	0.2	< 10
213481	0.2	0.8	0.2	0.4	< 0.1	0.4	< 0.1	< 0.1	< 0.05	0.4	< 0.001	2.9	0.04	4.2	2.7	0.5	20
213482	0.2	1.2	0.2	0.7	< 0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.3	0.02	1.2	1.5	< 0.1	< 10
213483	0.2	0.8	0.1	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1.0	< 0.02	0.5	1.3	0.2	< 10
213484	0.3	1.7	0.3	- 1.1	0.2	1.0	0.2	< 0.1	< 0.05	< 0.1	0.001	7.4	< 0.02	1.8	0.9	< 0.1	< 10

# Samples #: 213482 - 213484: Ghost Lake Claims

				Repor	t Numb	per: A2	1-21153	3				
				Repor	t Date:	20/12/	2021					
Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	AI	ĸ	Bi	Ca
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%
213482	0.096	< 1	0.017	12.2	0.4	3	0.024	2.9	3.51	0.03	< 0.02	0.97
213483	0.003	< 1	0.065	8.4	< 0.1	3	0.098	0.5	0.92	0.04	< 0.02	0.33
213484	0.169	< 1	0.015	6	0.4	3	0.013	2.03	2.56	0.02	0.6	14.1
	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As
	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppn
213482	21.9	220	37	1300	8.48	43.5	81.7	110	90.6	13.4	< 0.1	1.7
213483	5.3	26	18	504	2.86	9.7	19	4.7	53.4	4.76	< 0.1	1.6
213484	9.2	114	73	2030	4.96	27	63.6	155	61.2	6.56	< 0.1	1.4
	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Те	Cs
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppn
213482	1.9	20.6	6.06	1.2	< 0.1	0.15	0.047	0.06	0.12	< 0.02	< 0.02	0.2
213483	1.2	11.5	3.65	0.7	< 0.1	0.21	0.021	< 0.02	0.11	< 0.02	< 0.02	0.07
213484	1.2	143	9.53	0.9	< 0.1	0.25	0.047	< 0.02	0.2	0.08	< 0.02	0.05
	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd	Tb	Dy
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppn
213482	42.1	2.8	4.8	0.09	0.9	4.43	0.9	0.4	0.3	1.2	0.2	1.2
213483	26.3	13.8	31.2	0.06	3.3	12.4	2.3	0.5	0.5	1.5	0.2	0.8
213484	9.1	1.2	2.92	0.24	0.4	2.33	0.8	0.7	0.4	1.1	0.3	1.7
	Но	Er	Tm	Yb	Lu	Hf	Та	w	Re	Au	TI	Pb
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm
213482	0.2	0.7	< 0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.3	0.02	1.2
213483	0.1	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1	< 0.02	0.5
213484	0.3	1.1	0.2	1	0.2	< 0.1	< 0.05	< 0.1	0.001	7.4	< 0.02	1.8
	Th	U	Hg									
	ppm	ppm	ppb									
213482	1.5	< 0.1	< 10									
213483	1.3	0.2	< 10									

				Repor	t Numb	er: A2	1-21153	3				
				Repor	t Date:	20/12/2	2021					
Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	AI	ĸ	Bi	Ca
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%
213482	0.096	<1	0.017	12.2	0.4	3	0.024	2.9	3.51	0.03	< 0.02	0.97
213483	0.003	< 1	0.065	8.4	< 0.1	3	0.098	0.5	0.92	0.04	< 0.02	0.33
213484	0.169	<1	0.015	6	0.4	3	0.013	2.03	2.56	0.02	0.6	14.1
	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As
	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppn
213482	21.9	220	37	1300	8.48	43.5	81.7	110	90.6	13.4	< 0.1	1.7
213483	5.3	26	18	504	2.86	9.7	19	4.7	53.4	4.76	< 0.1	1.6
213484	9.2	114	73	2030	4.96	27	63.6	155	61.2	6.56	< 0.1	1.4
	Rb	Sr	Y	Zr	Nb	Мо	Ag	In	Sn	Sb	Те	Cs
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppn
213482	1.9	20.6	6.06	1.2	< 0.1	0.15	0.047	0.06	0.12	< 0.02	< 0.02	0.2
213483	1.2	11.5	3.65	0.7	< 0.1	0.21	0.021	< 0.02	0.11	< 0.02	< 0.02	0.07
213484	1.2	143	9.53	0.9	< 0.1	0.25	0.047	< 0.02	0.2	0.08	< 0.02	0.05
	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd	Tb	Dy
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppn
213482	42.1	2.8	4.8	0.09	0.9	4.43	0.9	0.4	0.3	1.2	0.2	1.2
213483	26.3	13.8	31.2	0.06	3.3	12.4	2.3	0.5	0.5	1.5	0.2	0.8
213484	9.1	1.2	2.92	0.24	0.4	2.33	0.8	0.7	0.4	1.1	0.3	1.7
	Но	Er	Tm	Yb	Lu	Hf	Та	w	Re	Au	TI	Pb
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppn
213482	0.2	0.7	< 0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.3	0.02	1.2
213483	0.1	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1	< 0.02	0.5
213484	0.3	1.1	0.2	1	0.2	< 0.1	< 0.05	< 0.1	0.001	7.4	< 0.02	1.8
	Th	U	Hg									
	ppm	ppm	ppb									
213482	1.5	< 0.1	< 10									
213483	1.3	0.2	< 10									
	0.0	<01	< 10									

#### QC Activation Laboratories Ltd.

Analyte Symbol	Ti	ŝ	ρ	Li	Be	B	Na	Mg	A	К	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.2	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
OREAS 45d (Aqua Regia) Meas		<1	0.034	15.6			0.032	0.17	5.12	0.10	0.24	0.09	40.9	172	437	387	13.7	26.0	186	337	33.9	15.7	
OREAS 45d (Aqua Regia) Cert		0.045	0.035	11.9			0.031	0.144	4.860	0.097	0.30	0.09	41.50	201.0	467	400.000	13.650	26.2	176.0	345.0	30.6	17.9	
OREAS 922 (AQUA REGIA) Meas		<1	0.068	22.6	0.7		0.021	1.33	2.60	0.39	12.1	0.37	3.8	30	43	751	5.25	18.9	33.7	2190	258	7.26	< 0.1
OREAS 922 (AQUA REGIA) Cert		0.386	0.063	22.8	0.65		0.021	1.33	2.72	0.376	10.3	0.324	3.15	29.4	40.7	730	5.05	19.4	34.3	2176	256	7.62	0.10
OREAS 922 (AQUA REGIA) Meas		<1	0.063	22.0	0.7		0.021	1.28	2.54	0.37	9.09	0.35	3.4	29	41	724	4.92	17.4	32.6	2080	247	6.89	< 0.1
OREAS 922 (AQUA REGIA) Cert		0.386	0.063	22.8	0.65		0.021	1.33	2.72	0.376	10.3	0.324	3.15	29.4	40.7	730	5.05	19.4	34.3	2176	256	7.62	0.10
OREAS 923 (AQUA REGIA) Meas		<1	0.065	22.9	0.7			1.41	2.60	0.40	22.2	0.41	4.2	33	42	920	6.04	22.0	37.0	4680	333	8.50	
OREAS 923 (AQUA REGIA) Cert		0.684	0.061	23.4	0.61			1.43	2.80	0.322	21.8	0.326	3.09	30.6	39.4	850	5.91	22.2	32.7	4248	335	8.01	
OREAS 907 (Aqua Regia) Meas	0.018	<1	0.021	4.9	0.9		0.078	0.18	1.11	0.30	22.8	0.26	2.2	5	8	326	8.34	44.4	4.9	6690	147	15.3	
OREAS 907 (Aqua Regia) Cert	0.0170	0.0660	0.0240	4.05	0.870		0.0860	0.221	0.945	0.286	22.3	0.280	2.16	5.12	8.59	330	8.18	43.7	4.74	6370	139	14.7	
Oreas 621 (Aqua Regia) Meas		4	0.027	7.0	0.5		0.153	0.43	1.57	0.33	4.18	1.62	2.3	12	37	542	3.48	29.4	29.5	3850	> 5000	10.7	
Oreas 621 (Aqua Regia) Cert		4.50	0.0335	8.17	0.530		0.160	0.435	1.60	0.333	3.85	1.65	2.20	10.9	31.3	520	3.43	27.9	25.8	3560	51700	9.29	
Oreas 621 (Aqua Regia) Meas		5	0.035	6.7	0.5		0.152	0.44	1.55	0.31	3.88	1.55	2.4	11	28	523	3.50	29.5	24.3	3570	> 5000	9.42	
Regia) Cert		4.50	0.0335	8.17	0.530		0.160	0.435	1.60	0.333	3.85	1.60	220	10.9	31.3	520	3.43	27.9	20.8	3050	51700	9.29	
Regia) Meas		4.50	0.028	8.17	0.5		0.140	0.436	1.62	0.29	3.74	1.5/	2.0	10.9	31.3	490	3.30	27.3	23.7	3550	\$ 5000	0.9/	
Regia) Cert			0.046	21.6	1.3		0.078	0.455	1.00	0.40	0.62	1.05	3.8	26	55	507	3.61	33.6	72.7	90.5	136	4.57	
(Aqua Regia) Meas									1.00	0.10	0.02	1.00	0.0				0.01	00.0					
(Aqua Regia) Cert		0.126	0.0410	20.1	1.22		0.0790	0.593	1.29	0.288	0.570	1.03	3.52	22.8	48.0	490	3.68	31.0	72.0	87.0	127	4.92	
(Aqua Regia) Meas		<1 <1	0.043	18.7	1.1		0.071	0.60	1.00	0.30	0.58	1.01	3.6	24	53	400	3.43	28.2	08.0	04.2	127	4.43	
OREAS 263 (Aqua Regia) Cert		0.126	0.0410	20.1	1.22		0.0790	0.593	1.29	0.288	0.570	1.03	3.52	22.8	48.0	490	3.68	31.0	72.0	87.0	127	4.92	
OREAS 130 (Aqua Regia) Meas	0.028	6	0.094	29.7				0.94	1.13	0.50	3.01	1.71	3.7	35	24	1650	7.43	26.7	34.1	231	> 5000	4.64	
OREAS 130 (Aqua Regia) Cert	0.0270	6.02	0.0860	29.9				0.892	1.10	0.500	3.05	1.81	3.42	33.1	23.2	1630	7.27	27.1	35.2	226	16900	4.78	
OREAS 130 (Aqua Regia) Meas	0.028	6	0.092	31.4				0.93	1.18	0.49	3.05	1.67	3.8	36	24	1620	7.17	26.2	34.2	235	> 5000	4.61	
OREAS 130 (Aqua Regia) Cert	0.0270	6.02	0.0860	29.9				0.892	1.10	0.500	3.05	1.81	3.42	33.1	23.2	1630	7.27	27.1	35.2	226	16900	4.78	

#### QC Activation Laboratories Ltd. Rep

	_					_		_		_							_						
Analyte Symbol	Tì	S	ρ	Li	Be	В	Na	Mg	A	K	Bi	Ca	Sc	V.	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.2	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
OREAS 153b (Aqua Regia) Meas	0.053	1	0.056	3.9	0.2		0.156	1.50	2.50	0.39	1.79	1.41	11.8	156	17	262	3.71	15.5	11.9	7020	113	8.19	
OREAS 153b (Aqua Regia) Cert	0.0500	1.27	0.0470	3.28	0.180		0.148	1.47	2.28	0.365	1.81	1.32	9.98	153	16.2	240	3.60	14.9	11.1	6700	118	8.06	
OREAS 153b (Aqua Regia) Meas	0.048	1	0.046	3.5	0.2		0.147	1.49	2.33	0.32	1.72	1.23	10.1	149	16	250	3.64	14.8	10.9	6700	117	7.40	
OREAS 153b (Aqua Regia) Cert	0.0500	1.27	0.0470	3.28	0.180		0.148	1.47	2.28	0.365	1.81	1.32	9.98	153	16.2	240	3.60	14.9	11.1	6700	118	8.06	
Oreas 623 (Aqua Regia) Meas		10	0.045	9.6	0.4		0.068	1.13	1.64	0.17	17.9	1.09	4.6	16	20	572	13.6	223	17.5	> 10000	> 5000	12.3	
Oreas 623 (Aqua Regia) Cert		8.75	0.0400	10.0	0.370		0.0680	1.11	1.80	0.175	16.9	1.09	4.63	15.8	19.4	570	13.0	216	15.6	17200	10100	11.9	
Oreas 623 (Aqua Regia) Meas		9	0.042	9.1	0.4		0.072	1.11	1.61	0.16	17.2	1.02	4.9	15	22	542	12.8	215	16.1	> 10000	> 5000	12.4	
Oreas 623 (Aqua Regia) Cert		8.75	0.0400	10.0	0.370		0.0680	1.11	1.80	0.175	16.9	1.09	4.63	15.8	19.4	570	13.0	216	15.6	17200	10100	11.9	
OREAS 521 (Aqua Regia) Meas	0.151	2	0.089	17.0	0.6		0.050	1.24	1.44	0.53	6.65	4.06	10.3	214	35	3390	22.3	443	75.5	6470	28.6	14.3	0.2
OREAS 521 (Aqua Regia) Cert	0.141	2	0.081	16.7	0.5		0.045	1.10	1.44	0.53	5.84	3.66	10.0	200	33	3000	20.0	374	68.0	5990	23.6	14.3	0.3
OREAS 521 (Aqua Regia) Meas	0.132	2	0.085	16.2	0.5		0.055	1.14	1.34	0.49	5.74	3.63	10.3	199	34	3250	21.6	405	72.3	6060	26.0	11.8	< 0.1
OREAS 521 (Aqua Regia) Cert	0.141	2	0.081	16.7	0.5		0.045	1.10	1.44	0.53	5.84	3.66	10.0	200	33	3000	20.0	374	68.0	5990	23.6	14.3	0.3
Method Blank	< 0.001	<1	< 0.001	< 0.1	< 0.1	- 4	0.008	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	1	<1	<1	< 0.01	< 0.1	< 0.1	0.3	0.8	0.09	< 0.1
Method Blank	< 0.001	<1	< 0.001	< 0.1	< 0.1	2	0.005	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	1	<1	<1	< 0.01	< 0.1	< 0.1	0.2	0.4	0.07	< 0.1
Method Blank	< 0.001	<1	< 0.001	< 0.1	< 0.1	4	0.005	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	<1	<1	<1	< 0.01	< 0.1	< 0.1	0.2	0.3	0.05	< 0.1
Method Blank	< 0.001	<1	< 0.001	< 0.1	< 0.1	5	0.005	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	<1	<1	<1	< 0.01	< 0.1	< 0.1	0.3	0.8	0.04	< 0.1
Method Blank	< 0.001	<1	< 0.001	< 0.1	< 0.1	3	0.007	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.1	<1	<1	<1	< 0.01	< 0.1	< 0.1	< 0.2	0.2	0.10	< 0.1

Analyte Symbol         As         Rb         V         Zr         Nb         Mo         Ag         In         Sin         Sin         Te         Cs         Ba         La         Ce         Cd         Pr         Nd         Sin         Se         Eu           Lint Symbol         opm	Gd ppm 0.1 AR-MS
Unit Symbol         ppm         ppm <th< th=""><th>0.1 AR-MS</th></th<>	0.1 AR-MS
Lower Limit         0.1         0.1         0.1         0.1         0.1         0.1         0.01         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.01         0.1 <th>0.1 AR-MS</th>	0.1 AR-MS
Method Code         AP.MS	AR-MS
OPEAS 45d (Apua Regia) Meas OREAS 45d (Apua Regia) Meas OREAS 45d (Apua Regia) Meas         4.0         19.4         12.2         3.97          0.07         1.71          80.1         10.0         23.1              OREAS 45d (Apua Regia) Meas         6.50         20.9         11.0         5.08         0.065         1.950         80         9.960         24.8	
CPEAS 45d (Apual Regin) Cent         6.50         20.9         11.0         5.08         0.085         1.950         80         9.960         24.8         1         1           CPEAS 922 (ACULA REGIA) (ACULA REGIA) (ACULA REGIA) (ACULA REGIA) Corr         6.7         23.7         16.6         18.3         10.1         0.6         0.93         0.739         0.24         4.05         0.69         1.97         73.2         36.5         72.0         0.26         7.6         29.0         6.0         2.4           OPEAS 922 (ACULA REGIA)         6.12         22.7         15.0         16.0         22.3         0.35         0.69         0.851         0.24         3.83         0.57         1.76         70         32.5         6.3         0.28         7.33         27.5         4.98         3.44           OPEAS 922 (ACULA REGIA)         5.1         23.1         15.7         17.8         4.8         0.7         0.63         0.747         0.27         3.87         0.63         1.85         75.5         35.0         69.6         0.27         7.4         2.7.4         5.1         2.4           Meas         0.69         0.851         0.24         3.63         0.57         1.76         70         32.5	1
OFEAS 922 (AOUA REGIA) Meas         6.7         23.7         16.6         18.3         10.1         0.6         0.93         0.739         0.24         4.05         0.69         1.97         73.2         36.5         72.0         0.26         7.6         29.0         6.0         2.4           Meas         6.7         23.7         16.6         18.3         10.1         0.6         0.93         0.739         0.24         4.05         0.69         1.97         73.2         36.5         72.0         0.26         7.6         29.0         6.0         2.4           OPEAS 922 (AOUA REGIA)         6.12         22.7         15.0         16.0         22.3         0.63         0.747         0.27         3.87         0.63         1.85         75.5         35.0         69.6         0.27         7.4         27.4         5.1         2.4           ABAS         0.27         1.63         0.24         3.83         0.57         1.76         70         32.5         63         0.28         7.33         27.5         4.98         3.44           OPEAS         922         6.61         2.2.7         15.0         16.0         22.3         0.35         0.69         0.851         0.24	
OFEAS 922 (AOUA REGIA)         6.12         22.7         15.0         16.0         22.3         0.35         0.69         0.851         0.24         3.83         0.57         1.76         70         32.5         63         0.28         7.33         27.5         4.98         3.44           OREAS 922 (AQUA REGIA)         5.1         23.1         15.7         17.8         4.8         0.7         0.63         0.747         0.27         3.87         0.63         1.85         75.5         35.0         69.6         0.27         7.4         27.4         5.1         2.4           Meas         0.762A5 922 (AQUA REGIA)         6.12         22.7         15.0         16.0         22.3         0.35         0.69         0.851         0.24         3.63         0.57         1.76         70         32.5         63         0.28         7.33         27.5         4.98         3.44           OREAS 922 (AQUA REGIA)         6.12         2.3         0.35         0.69         0.851         0.24         3.63         0.57         1.76         70         32.5         63         0.28         7.33         27.5         4.98         3.44           OREAS 922 (AQUA REGIA)         7.6         23.5         1	4.7
OFEAS 922 (AOUA REGIA) Meas         5.1         23.1         15.7         17.8         4.8         0.7         0.63         0.747         0.27         3.87         0.63         1.85         75.5         25.0         69.6         0.27         7.4         27.4         5.1         2.4           Meas         0.074 REGIA) Meas         6.12         22.7         15.0         16.0         22.3         0.35         0.69         0.851         0.24         3.83         0.57         1.76         70         32.5         63         0.28         7.33         27.5         4.98         3.44           OREAS 923 (AOUA REGIA)         7.6         23.5         14.2         19.1         3.3         0.86         1.70         0.41         6.51         0.11         1.38         18.4         33.6         70.6         0.43         7.9         30.8         5.2         7.1           Meas         7.07         19.6         13.6         14.3         22.5         0.84         1.62         0.45         5.99         0.58         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99           OREAS 923         7.07         19.6         13.3	4.44
OPEAS 922 (AQUA REGIA) Cert         6.12         22.7         15.0         16.0         22.3         0.35         0.69         0.851         0.24         3.83         0.57         1.76         70         32.5         63         0.28         7.33         27.5         4.98         3.44           OPEAS 922 (ACULA REGIA) Meas         7.6         23.5         14.2         19.1         3.3         0.86         1.70         0.41         6.51         0.11         1.38         18.4         33.6         70.6         0.43         7.9         30.8         5.2         7.1           OPEAS 923 (AQUA REGIA) Meas         7.6         70         19.6         14.3         22.5         0.84         1.62         0.45         5.99         0.58         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99           OPEAS 927 (AQUA REGIA) Cert         7.0         18.6         13.3         6.73         4.8         5.62         1.24         2.46         2.57         2.53         0.27         1.36         253         37.8         7.3         0.57         7.6         28.4         5.1         8.8           OPEAS 907         35.1         18.7         1	4.6
OFEAS 922 (AQUA REGIA)         7.6         23.5         14.2         19.1         3.3         0.86         1.70         0.41         6.51         0.11         1.38         18.4         33.6         70.6         0.43         7.9         30.8         5.2         7.1           Meas         OREAS 923 (AQUA REGIA)         7.0         19.6         13.6         14.3         22.5         0.84         1.62         0.45         5.99         0.58         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99         0.68         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99         0.68         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99         0.68         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99         0.68         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99         0.58         1.56         54         30.0         6.0         7.6         28.4         51         8.8         0.71 <td< td=""><td>4.44</td></td<>	4.44
OREAS 922 (AQUA REGIA)         7.07         19.6         13.6         14.3         22.5         0.84         1.62         0.45         5.99         0.58         1.56         54         30.0         60         0.40         6.79         25.4         4.34         5.99           OREAS 907 (Aqua Regia)         35.1         18.6         13.3         6.73         4.8         5.62         1.24         2.46         2.57         2.53         0.27         1.36         253         37.8         73.6         0.57         7.6         28.4         5.1         8.8           OREAS 907 (Aqua Regia)         35.1         18.6         13.3         6.73         4.8         5.62         1.24         2.46         2.57         2.53         0.27         1.36         253         37.8         73.6         0.57         7.6         28.4         5.1         8.8           OREAS 907 (Aqua Regia)         37.0         16.7         11.7         5.64         1.30         2.35         2.34         2.28         0.230         1.17         225         36.1         7.30         0.54         7.36         2.7.8         4.9         0.7.8         2.7.8         4.9         0.7.8         2.7.8         4.9         0.7.86	4.5
OPEAS 907 (Aqua Regia) Meas         35.1         18.6         13.3         6.73         4.8         5.62         1.24         2.46         2.57         2.53         0.27         1.36         253         37.8         73.6         0.57         7.6         28.4         5.1         8.8           OPEAS 907         37.0         16.7         11.7         6.52         43.7         5.64         1.30         2.35         2.34         2.28         0.20         1.17         225         36.1         73.0         0.540         7.36         2.7.8         4.79         9.05         0.4           OPEAS 907         37.0         16.7         11.7         6.52         43.7         5.64         1.30         2.35         2.34         2.28         0.20         1.17         225         36.1         73.0         0.540         7.36         2.7.8         4.79         9.05         0.51           OPEAS 221 (Aqua         81.4         18.1         8.01         11.4         15.2         71.0         1.77         3.16         88.1         1.01         20.0         45.9         309         4.9         2000         4.9         2000         4.9         2000         4.9         2000         4.9	4.07
OPEAS 907         37.0         16.7         11.7         6.52         43.7         5.64         1.30         2.35         2.34         2.28         0.20         1.17         225         36.1         73.0         0.540         7.36         27.8         4.79         9.05         0.1           Opeas 621 (Aqua Regia) Cert         Opeas 621 (Aqua Regia) Mass         0.540         1.14         15.2         71.0         1.77         3.16         88.1         1.01         20.0         45.9         309         4.9         Opeas 621 (Aqua Regia) Mass         Opeas 621 (Aqua Regia) Mass         0.54         7.56         4.79         9.05         0.1           Opeas 621 (Aqua Regia) Mass         Opeas 621 (Aqua Regia) Mass         0.101         19.4         39.6         27.8         4.99         0.564 <td>3.6</td>	3.6
Oreas 621 (Aqua Regia) Mass         81.4         18.1         8.01         11.4         15.2         71.0         1.77         3.16         88.1         1.01         20.0         45.9         309         4.9           Oreas 621 (Aqua Regia) Mass         75.0         18.9         6.87         55.0         13.3         68.0         1.73         2.68         107         1.01         19.4         39.6         278         5.64	3.45
Creas 621 (Aqua 75.0 18.9 6.87 55.0 13.3 68.0 1.73 2.68 107 1.01 19.4 39.6 278 5.64	
Regia) Cert	
Oreas 621 (Aqua Regia) Meas         72.9         17.8         7.07         64.0         13.0         62.2         1.79         2.71         118         1.06         18.1         39.2         295         3.5	
Oreas 621 (Aqua 75.0 18.9 6.87 65.0 13.3 68.0 1.73 2.68 107 1.01 19.4 39.6 278 5.64 Regia) Cert	
Oreas 621 (Aqua Regia) Mass         68.8         14.6         6.76         6.3         12.1         59.4         1.71         2.44         47.4         1.01         16.4         37.4         275         3.9	
Oreas 621 (Aqua 75.0 18.9 6.87 65.0 13.3 68.0 1.73 2.68 107 1.01 19.4 39.6 278 5.64	
OHEAS 263 31.8 19.6 12.3 0.62 0.323 0.03 8.08 0.22 201 0.34 5.4 (Aqua Regia) Meas	4.0
OREAS 263         30.8         16.9         12.0         0.570         0.285         0.0290         7.37         0.210         175         0.270         4.41         0.8           (Aqua Regia) Cert         0.570         0.285         0.0290         7.37         0.210         175         0.270         4.41         0.8	3.89
OREAS 263 28.0 18.1 10.8 0.58 0.282 0.03 7.77 0.20 189 0.27 3.6 (Aqua Regia) Meas	3.8
OREAS 263 30.8 16.9 12.0 0.570 0.285 0.0290 7.37 0.210 175 0.270 4.41 0.8 (Aqua Regia) Cert	3.89
CPEAS 130 196 43.4 21.0 12.4 27.6 7.53 5.75 0.21 4.70 0.18 3.13 23.2 51.0 31.7 5.6 (Aqua Regia) Meas	3.4
OREAS 130         205         41.6         23.2         13.0         19.0         8.25         6.27         0.200         4.69         0.170         2.96         26.4         54.0         28.8         5.93	3.53
CPEAS 130 (Aqua Regia)         190         43.9         21.5         12.0         17.7         7.59         5.61         0.21         2.59         0.15         3.03         22.9         50.7         30.8         5.4	3.4
OREAS 130         205         41.6         23.2         13.0         19.0         8.25         6.27         0.200         4.69         0.170         2.96         26.4         54.0         28.8         5.93	3.53

QC Activation Laboratories Ltd. Report: A21-21153

QC

Activation Laboratories Ltd.

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Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	mqq	ppm	ppm	ppm	ppm	ppm	mqq	mqq	mqq	ppm	ppm	ppm	ppm	ppm	mqq	ppm	ppm	ppm	ppm	ppm	ppm	mqq	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
(Aqua Regia) Meas	79.9	7.0	32.9	9.11	0.6		166	1.47	0.19	2.47	0.26	0.20	0.16	14.3	3.5	9.57	0.23		6.81	1.7	12.7		
OREAS 153b (Aqua Regia) Cert	80.0	7.34	31.4	9.38	0.860		156	1.40	0.210	3.27	2.12	0.250	0.260	22.8	3.79	9.11	0.240		6.31	1.71	10.5		
OREAS 153b (Aqua Regia) Meas	75.2	6.4	35.8	8.21	0.9		149	1.35	0.23	3.11	2.37	0.25	0.21	25.4	3.9	9.01	0.20		5.89	1.8	10.2		
OREAS 153b (Aqua Regia) Cert	80.0	7.34	31.4	9.38	0.860		156	1.40	0.210	3.27	2.12	0.250	0.260	22.8	3.79	9.11	0.240		6.31	1.71	10.5		
Oreas 623 (Aqua Regia) Meas	77.8		14.6	8.04	60.4		9.35	18.9	2.14	4.10	22.3	0.63	0.80		18.0	38.2	58.4				19.7		
Oreas 623 (Aqua Regia) Cert	76.0		14.2	7.43	50.0		8.38	20.4	1.94	4.07	20.2	0.570	0.750		17.9	36.4	52.0				18.6		
Oreas 623 (Aqua Regia) Meas	75.1		14.6	7.81	59.5		9.07	18.4	2.09	4.00	22.1	0.53	0.79		17.5	37.0	55.4				18.7		
Oreas 623 (Aqua Regia) Cert	76.0		14.2	7.43	50.0		8.38	20.4	1.94	4.07	20.2	0.570	0.750		17.9	36.4	52.0				18.6		
OREAS 521 (Aqua Regia) Meas	361	31.6	38.5	15.5	28.8	0.8	157	0.901	0.17	6.29	4.57	0.85	0.51		127	121					2.6		
OREAS 521 (Aqua Regia) Cert	333	31.8	54.0	15.0	38.3	0.5	133	0.817	0.17	5.78	3.65	0.74	0.55		147	121					2.4		
OREAS 521 (Aqua Regia) Meas	320	28.9	35.6	13.1	24.8	0.6	132	0.780	0.16	5.67	4.17	0.70	0.52		118	113					1.7		
OREAS 521 (Aqua Regia) Cert	333	31.8	54.0	15.0	38.3	0.5	133	0.817	0.17	5.78	3.65	0.74	0.55		147	121					2.4		
Method Blank	0.3	< 0.1	< 0.5	< 0.01	< 0.1	< 0.1	0.03	0.004	< 0.02	0.09	0.10	0.02	< 0.02	3.2	< 0.5	0.02	< 0.01	< 0.1	< 0.02	< 0.1	0.2	< 0.1	< 0.1
Method Blank	0.3	< 0.1	< 0.5	< 0.01	< 0.1	< 0.1	0.02	0.004	< 0.02	< 0.05	0.05	< 0.02	< 0.02	2.0	< 0.5	< 0.01	0.02	< 0.1	0.02	< 0.1	0.2	< 0.1	< 0.1
Method Blank	0.5	< 0.1	< 0.5	< 0.01	< 0.1	< 0.1	0.05	0.002	< 0.02	< 0.05	0.05	< 0.02	< 0.02	2.5	< 0.5	< 0.01	< 0.01	< 0.1	< 0.02	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank	0.7	< 0.1	< 0.5	< 0.01	< 0.1	< 0.1	0.03	0.003	< 0.02	< 0.05	0.03	< 0.02	< 0.02	2.2	< 0.5	< 0.01	0.02	< 0.1	< 0.02	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank	0.7	< 0.1	< 0.5	< 0.01	0.2	< 0.1	0.02	0.005	< 0.02	0.09	< 0.02	0.02	< 0.02	2.8	< 0.5	< 0.01	0.01	< 0.1	< 0.02	< 0.1	0.5	< 0.1	< 0.1

#### QC

#### Activation Laboratories Ltd.

Analyte Symbol	Ть	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	n	Pb	Th	U	Hg
Unit Symbol	ppm	ppm	ppm	ppm	ppm	mqq	ppm	ppm	ppm	ppm	ppm	ppb	ppm	mqq	ppm	mqq	ppb
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.1	0.1	0.1	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
OREAS 45d (Aqua Regia) Meas												16.2		17.9	10.6	1.4	
OREAS 45d (Aqua Regia) Cert												21		17.00	11.3	1.64	
OREAS 922 (AQUA REGIA) Meas	0.7							0.2		1.4			0.17	68.3	16.3	2.2	
OREAS 922 (AQUA REGIA) Cert	0.62							0.61		1.12			0.14	60	14.5	1.98	
OREAS 922 (AQUA REGIA) Meas	0.7							< 0.1		1.3			0.16	66.5	15.5	2.1	
OREAS 922 (AQUA REGIA) Cert	0.62							0.61		1.12			0.14	60	14.5	1.98	
OREAS 923 (AQUA REGIA) Meas	0.7							< 0.1		2.1			0.17	81.4	15.3	2.2	
OREAS 923 (AQUA REGIA) Cert	0.54							0.60		1.96			0.12	81	14.3	1.80	
OREAS 907 (Aqua Regia) Meas	0.4	1.6	0.2	0.6	< 0.1	0.3	< 0.1	< 0.1		1.0		112	0.13	37.9	9.1	2.3	
OREAS 907 (Aqua Regia) Cert	0.430	1.63	0.210	0.430	0.0490	0.290	0.0390	1.09		0.980		101	0.120	34.1	8.04	2.15	
Oreas 621 (Aqua Regia) Meas	0.4					0.7	< 0.1	0.1		0.9		1390	0.78	> 5000	5.2	1.7	4160
Oreas 621 (Aqua Regia) Cert	0.330					0.520	0.0780	1.43		1.00		1230	0.770	13600	5.91	1.63	3930
Oreas 621 (Aqua Regia) Meas	0.3					0.6	< 0.1	1.6		1.1		1320	0.76	> 5000	5.3	1.6	3830
Oreas 621 (Aqua Regia) Cert	0.330					0.520	0.0780	1.43		1.00		1230	0.770	13600	5.91	1.63	3930
Oreas 621 (Aqua Regia) Meas	0.3					0.6	< 0.1	< 0.1		0.7		1290	0.75	> 5000	4.9	1.6	3800
Oreas 621 (Aqua Regia) Cert	0.330					0.520	0.0780	1.43		1.00		1230	0.770	13600	5.91	1.63	3930
OREAS 263 (Aqua Regia) Meas	0.5	2.6	0.5	1.3		1.1							0.59	38.8	12.7	1.4	210
OREAS 263 (Aqua Regia) Cert	0.500	2.64	0.430	1.29		0.990							0.530	34.0	10.6	1.28	170
OREAS 263 (Aqua Regia) Meas	0.5	2.5	0.4	1.1		1.0							0.54	38.4	11.6	1.2	180
OREAS 263 (Aqua Regia) Cert	0.500	2.64	0.430	1.29		0.990							0.530	34.0	10.6	1.28	170
OREAS 130 (Aqua Regia) Meas			0.4				0.2	0.8		1.6			5.39	1430	10.1	8.1	610
OREAS 130 (Aqua Regia) Cert			0.480				0.150	0.610		1.40			5.92	1300	10.3	8.36	670
OREAS 130 (Aqua Regia) Meas			0.4				0.2	0.3		1.3			3.62	1400	10.2	8.1	640
OREAS 130 (Aqua Regia) Cert			0.480				0.150	0.610		1.40			5.92	1300	10.3	8.36	670

#### QC

#### Activation Laboratories Ltd.

Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	ŤI.	Pb	Th	U.	Ha
Unit Symbol	maa	ppm	ppm	nom	mag	mqq	nom	maa	maa	ppm.	mag	opb	mag	mqq	mag	mqq	opb
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.1	0.1	0.1	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
OREAS 1535 (Aqua Regia) Meas	0.3	1.7			0.1	0.8	0.1	4 - 25			0.182	327	8,07	13.0	0.3	< 0.1	90
OREAS 153b (Aqua Regia) Cert	0.310	1.92			0.130	0.83	0.110				0.170	320	0.0640	12.4	0.350	0.0610	66.0
OREAS 153b (Aqua Regia) Meas	0.3	1.6			0.1	0.8	0.1		Î.		0.187	339	0.07	14.0	0.4	< 0.1	40
OREAS 153b (Aqua Regia) Cert	0.310	1.92			0.130	0.83	0.110				0.170	320	0.0640	12.4	0.350	0.0610	56.0
Oreas 623 (Aqua Regia) Meas	0.3					0.9	0.1	1.7	1	2.9		874	0.27	2750	5.1	1.5	730
Oreas 623 (Aqua Regia) Cert	0.340				8 - 8	0.800	0.120	1.32		2.62		797	0.260	2520	4.72	1.43	830
Oreas 623 (Aqua Regia) Meas	0.3					0.8	0.1	1.7	T	2.9		842	0.26	2610	5.0	1.5	730
Oreas 623 (Aqua Regia) Cert	0.340			<u> </u>	i i	0.800	0.120	1.32	imi	2.62		797	0.260	2520	4.72	1.43	830
OREAS 521 (Aqua Regia) Meas	0.5					1.5	0.2	0.5		87.7		390	0.11	9.7	7.2	27.6	
OREAS 521 (Aqua Regia) Cert	0.5			į – 1		1.5	0.2	1		71.0		365	0.11	9.0	7.8	28.2	
OREAS 521 (Aqua Begia) Meas	0.5					1.4	0.2	0.4		73.3	_	366	0.11	9.6	6.6	26.0	
OREAS 521 (Aqua Regia) Cert	0.5				3 - 7	1.5	0.2	1		71.0	{	365	0.11	9.0	7.8	28.2	
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	< 0.02	0.2	< 0.1	< 0.1	20
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	0.6	< 0.02	< 0.1	< 0.1	< 0.1	< 10
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	< 0.02	< 0.1	< 0.1	< 0.1	< 10
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	< 0.02	0.2	< 0.1	< 0.1	< 10
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1.5	< 0.02	0.3	< 0.1	< 0.1	20

# <u>APPENDIX III</u>

# **DAILY LOG**

October 28<sup>th</sup> – November 1<sup>st</sup> 2021





	Quattro Hotel & Conf. Centre, Ascend Hotel Collection 7:44 AM	
	<ul> <li>Pizzatecca + Take Away</li> <li>Add a stop in Quattro Hotel &amp; Conf. Centre, Ascend Hotel Collection</li> </ul>	-
	Driving 2 hrs, 20 mins 🔗 via Trans-Canada Hwy/ON-17 N	Poy
	Tim Hortons     10:04 AM - 10:16 AM       92 Mission Rd, Wawa, ON POS 1K0	tal Falls
Sault Ste Oct 28–2	Driving 7 hrs, 12 mins Marie 19, 2021 28 Thursday October 2021 29 o	ce ▼ PMountain Map data ©20 riday ctober 2021
	Saturday, October 30, 2021	
	Saturday, October 30, 2021	
	Saturday, October 30, 2021 10h 12min Best Northern Motel and Restaurant  7:11 AM 150 ON-17, Wawa, ON POS 1K0	

	DAILY LOG -	FIELD VISIT OC	<b>TOBER 2021</b>	
DATE	ACTIVITY	DISTANCE	PROJECT	COMMENT
		Kms		
Oct.28th 2021	Driving to Sault Ste Marie (7:49am-3:29pm)	630	Ghost Lake	J. Steel P.Geo: F. Archibald P.Geo: J. Ryder P.Geo
Oct. 29th 2021	Sault Ste Marie-Wawa (7:44am-10:04am)	228	Ghost Lake	F. Archibald P.Geo: J. Ryder P.Geo
Oct. 30th 2021	Wawa-Ghost Lake Claims	17	Ghost Lake	F. Archibald P.Geo: J. Ryder P.Geo Prospecting & Sampling
Oct. 31st 2021	Wawa -Sault Ste Marie	228	Ghost Lake	F. Archibald P.Geo: J. Ryder P.Geo Prospecting & Samplin
Nov. 2nd. 2021	Sault Ste Marie-Bradford	630	Ghost Lake	J. Steel P.Geo: F. Archibald P.Geo: J. Ryder P.Geo
Total Kms.		1,733		
	Ghost Lake Kilometres	875	Ghost Lake	

# **APPENDIX IV**

# **HISTORY**

# **CHABANEL TOWNSHIP**

20000003917 2008 Frederick T Archibald	Assaying and Analyses, Metallurgical Testing and Bulk Sampling		
42C02SE2008 2000 Frederick T Archibald	Benefication Studies, Diamond Drilling, Geochemical		
42C02SE0028 1996 Intl Legacy Inc	Assaying and Analyses, Geological Survey / Mapping, Prospecting By Licence Holder		
42C02SE0012 1996 Intl Legacy Inc	Diamond Drilling		
42C02SE0017 1996 Elliot Feder 42C02SE0022 1996 Elliot Feder	Diamond Drilling Diamond Drilling, Electromagnetic Very Low Frequency, Geological Survey / Mapping, Magnetic / Magnetometer Survey		

# **ESQUEGA TOWNSHIP**

42C02SE2010	2002	Gold Insight Resources Ltd	Bailloquet & Chabanel Twp Property	Geochemical, Overburden Drilling	
42C02SE2006	2000	Blue Marble Mining Corp	Firesand Carbonatite Complex	Diamond Drilling, Geochemical, Prospecting By Licence Holder	
42C02SE2003	1998	Elliot Feder		Digging Pits, Geochemical, Microscopic Studies, Prospecting By Licence Holder	
42C02SE2001	1997	Elliot Feder		Metallurgical Testing and Bulk Sampling	
42C02SE0012	1996	Intl Legacy Inc		Diamond Drilling	
42C02SE0017	1996	Elliot Feder		Diamond Drilling	
42C02SE0028	1996	Intl Legacy Inc		Assaying and Analyses, Geological Survey / Mapping, Prospecting By Licence Holder	
42C02SE0004	1995	Elliot Feder		Assaying and Analyses, Digging Pits, Electromagnetic Very Low Frequency, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Mechanical, Microscopic Studies, Prospecting By Licence Holder	

Category	Description	Amount CDN\$
Survey Costs	ASTER	\$1,996.64
Site Visit	Site Visit (F. Archibald & J.Ryder)	\$600.00
Site Visit	Kilometers (\$0.56/km), 875km	\$490.00
Food & Lodging	Best Northern Wawa	\$240.20
Food & Lodging	Kinniwabi Pines	\$78.50
Food & Lodging	Quattro Suites Ste Marie	\$219.00
Assay	3 samples, Actlabs	\$101.25
Report	Assessment Report	\$2,500.00
		\$6,225.59

Per claim \$249.58