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BC Geological Survey
Assessment Report
38622

Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Prospecting and Geochemical Sampling **TOTAL COST:** $84,471.39

AUTHOR(S): Sarah Ryan and Matt Krukowski **SIGNATURE(S):** Sarah Ryan and Matt Krukowski

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A **YEAR OF WORK:** 2019

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5764635

PROPERTY NAME: Empirical Property

CLAIM NAME(S) (on which the work was done): Empirical 1 (1067784), Empirical 2 (1067785), Empirical 3 (1067786)

COMMODITIES SOUGHT: Cu and Au

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092INW088, 092INW090

MINING DIVISION: Lillooet Mining Division **NTS/BCGS:** 092I/12W

LATITUDE: 50 ° 31 ' N " **LONGITUDE:** 121 ° 31 ' W " **(at centre of work)**

OWNER(S):
1) James Rogers 2)

MAILING ADDRESS:
460-688 West Hastings St, Vancouver, BC, V6B 1P1

OPERATOR(S) [who paid for the work]:
1) Clarity Gold Corp 2)

MAILING ADDRESS:
223-1231 Pacific Boulevard Vancouver, BC, V6Z 0E2

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
The Empirical Property is predominantly underlain by low-grade metamorphosed sediments of the Jurassic-Cretaceous Relay Mountain Group. These rocks have been intruded by granodiorite and quartz-diorites of the Cretaceous or younger. The Relay Mountain Group consists mainly of banded argillite, impure quartzite, boulder conglomerate, and contains marine fossils of early Lower Cretaceous age.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 1098, 1918, 2530, 7211, 7569, 8347, 9405, 9427, 14971, 14973, 15073, 15835, 18160, 21181, 29554.

Next Page

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt	50 talus fines	Empirical 1 (1067784)	$1,772.50 + $19,598.57
Rock	102 rock samples	Empirical 1,2,3 (1067784-1067786)	$4,304.70 + 19,598.57
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)		Empirical 1,2,3 (1067784-1067786)	$39,197.05
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$84,471.39

LONGFORD EXPLORATION

ASSESSMENT REPORT

On the

Empirical PROPERTY

SOUTHERN INTERIOR, BRITISH COLUMBIA, CANADA

Located Within:
NTS Sheet: 092I/12W

Centered at Approximately:
50"53'N Latitude North by Longitude 121"8'West

Report Prepared for:

Clarity Gold Corp.

Report Prepared by:

Longford Exploration Services Ltd.

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EFFECTIVE DATE: NOV 21st, 2019

traverse the earth

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1 Summary

The Empirical Property is located 12 km south of Lillooet, British Columbia in the vicinity of Mount Brew. The Property is in the Lillooet Mining Division, on NTS map sheet 92I/12 and centred at approximately 121"51'W longitude, 50"31'N latitude. The Property consists of 3 unpatented mineral claims totalling 5,401.36 hectares.

Permitting is yet to be completed to allow for further in-depth investigations.

The Property can be accessed west of Lillooet on Route 99 via an old logging road that partially follows Enterprise Creek from Duffy Lake Road and onto the Empirical 1 claim. Texas Creek Road is also accessible via Route 99 and runs between 1 and 2 km from the east side of the property. The property does not currently have road access within the claim boundaries and the topography is steep and rugged, therefore helicopter access for exploration is the most practical means of access. Helicopter service is available from Lillooet, BC.

The property area encompasses a series of barren ridges rising to an elevation of 2,200 m, and inter-webbing valleys and alpine meadows. Elevations over the property range from 1,250 m in the valley of Enterprise Creek to over 2,591 m on Mount Bew. This region is characterized by a warm-summer humid continental climate although it may experience a mixture of hot-summer continental climate and semi-arid climate types.

Mineral exploration in the Lillooet district began in the 1860's with the discovery of placer gold on gravel bars along the Fraser River below Lillooet. Placer gold was subsequently mined from the Bridge River and Cayoosh Creek. In the 1960s, auriferous quartz veins hosted in quartz-diorite and hornfelsed sediments were discovered within the Spray Creek area. Increased interest in the area ensued following the discovery of anomalous base and precious metal concentrations in sediments through regional silt surveys carried out by a number of companies. This prompted staking in the vicinity of Enterprise Creek, Riley Creek, and Spray Creek. The first reported exploration work over the property was carried out in 1967 by Dalex Mines who carried out an IP survey over the Nancy Group of claims. Various work programs were carried out between 1967 and 2008, consisting of prospecting, geological mapping, geochemical sampling, low-level aerial photography and diamond drilling.

In 2019 Longford Exploration Services Ltd. carried out prospecting, and geochemical sampling activities over the property to evaluate the property's prospectivity for copper and gold mineralization and to verify results of historical reports. 102 rock samples were collected as the property was prospected for alteration and visible mineralization. 50 talus fine samples were collected in the vicinity of the historical Spray sill and drill program. Rock samples results returned up to 117.50 ppm Cu, 513.00 ppm Mo and 3,175.40 ppb Au; talus fines/soil samples returned up to 426.10 ppm Cu, 748.00 ppm Mo, and 4.50 ppb Au.

An assessment credit of $84,471.39 is to be applied to this property for work performed in 2019.

A two-phase exploration program is recommended to further define zones of anomalous mineralization identified in the 2019 exploration program. Work should consist of geological and structural mapping, prospecting, and soil sampling to test the highest-ranking target areas for further mineralization. Geophysics may also be implemented to further define zones of high priority after additional groundwork is undertaken.

2 Introduction and Terms of Reference

2.1 Purpose of Report

This Assessment Report on the Empirical Property (the "Property") was commissioned by Clarity Gold Corp. (the "Company") and completed by Longford Exploration Services Ltd. ("Longford") a company incorporated in British Columbia, Canada, with offices at 460 – 688 West Hastings St, Vancouver, BC. The Property is located within the Nanaimo Mining Division of British Columbia near the town of Port Hardy.

The sources of information accessed in preparation of this report are listed in the References section of this report (Section 13). The authors have also relied upon information and discussions with the Longford field personnel prior to the site visit.

The Longford's field program ran from October 4 – 12th, 2019. During this visit the crew were acting as independent consultants to the Company to appraise the Property of its mineral potential and to provide opinion on future exploration plans on the Property. There has been no further exploration work on this Property subsequent to the last site inspection.

The authors have no reason to doubt the reliability of the information provided by the Company. The authors reserve the right, but will not be obliged, to revise the report and conclusions if additional information becomes known subsequent to the date of this report.

2.2 Geographic Terms

The following geographic areas and features are briefly described for orientation with respect to the text, tables, and figures.

2.3 Terms of Reference

In August of 2019 Longford Exploration Services Ltd. (Longford) was commissioned by Clarity Gold Corp. to carry out a prospecting program on the Empirical Property in Northeast Vancouver Island, BC to assess the property's prospectivity for copper mineralization.

This Report is intended to be read in its entirety.

2.4 Abbreviations and Units of Measurement

Metric units are used throughout this report and all dollar amounts are reported in Canadian Dollars (CAD$) unless otherwise stated. Coordinates within this report use EPSG 26909 NAD83 UTM Zone 9N unless otherwise stated. The following is a list of abbreviations which may be used in this report:

Table 2.1 Abbreviations and Units of Measurement

Abbreviation	Description
%	percent
AA	atomic absorption
Ag	silver
AMSL	above mean sea level
as	arsenic
Au	gold
AuEq	gold equivalent grade
Az	azimuth
b.y.	billion years

Abbreviation	Description
li	limonite
m	metre
m^2	square metre
m^3	cubic metre
Ma	million years ago
mg	magnetite
mm	millimetre
mm^2	square millimetre
mm^3	cubic millimetre

Abbreviation	Description
CAD$	Canadian dollar
cl	chlorite
cm	centimetre
cm^2	square centimetre
cm^3	cubic centimetre
cc	chalcocite
cp	chalcopyrite
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
Cu	copper
cy	clay
°C	degree Celsius
°F	degree Fahrenheit
DDH	diamond drill hole
ep	epidote
ft	feet
ft^2	square feet
ft^3	cubic feet
g	gram
gl	galena
go	goethite
GPS	Global Positioning System
gpt	grams per tonne
ha	hectare
hg	mercury
hm	hematite
ICP	induced coupled plasma
kf	potassic feldspar
kg	kilogram
km	kilometre
km^2	square kilometre
l	litre

Abbreviation	Description
mn	pyrolusite
Mo	Molybdenum
Moz	million troy ounces
ms	sericite
Mt	million tonnes
mu	muscovite
m.y.	million years
NAD	North American Datum
NI 43-101	National Instrument 43-101
opt	ounces per short ton
oz	troy ounce (31.1035 grams)
Pb	lead
pf	plagioclase
ppb	parts per billion
ppm	parts per million
py	pyrite
QA	Quality Assurance
QC	Quality Control
qz	quartz
RC	reverse circulation drilling
RQD	rock quality description
sb	antimony
Sedar	System for Electronic Document Analysis and Retrieval
SG	specific gravity
sp	sphalerite
st	short ton (2,000 pounds)
t	tonne (1,000 kg or 2,204.6 lbs)
to	tourmaline
um	micron
US$	United States dollar
Zn	zinc

3 Reliance on Other Experts

The authors have relied on ownership information and information developed by both the Company and past owners of the Property. The authors have not researched property title or mineral rights to the Empirical Property and express no opinion as to the ownership status of the property.

This report is based upon personal examination, by the authors, of all available reports and data on the Empirical Property. The Longford crew visited the Property from Oct 5th to 11th, 2019 to appraise the geological environment and assess the Property. The information, opinions and conclusions contained herein are based on:

- Information available to the authors at the time of preparation of this report;
- Assumptions, conditions, and qualifications as set forth in this report;
- Data, reports, and other information supplied by the Company and other third-party sources;
- Site visit to the Property between Oct 5th and 11th, 2019; and
- The authors' review of all available reports retained samples and legal documents.

As of the date of this report, the authors are not aware of any material fact or material change with respect to the subject matter of this technical report that is not presented herein, or which the omission to disclose could make this report misleading.

4 Property Description and Location

4.1 Location

The Empirical Property is located 12 km south of Lillooet, British Columbia in the vicinity of Mount Brew (Figure 4.1). The property is in the Lillooet Mining Division, on NTS map sheet 92I/12 and centred at approximately 50"53'N latitude North by longitude 121"8' West.

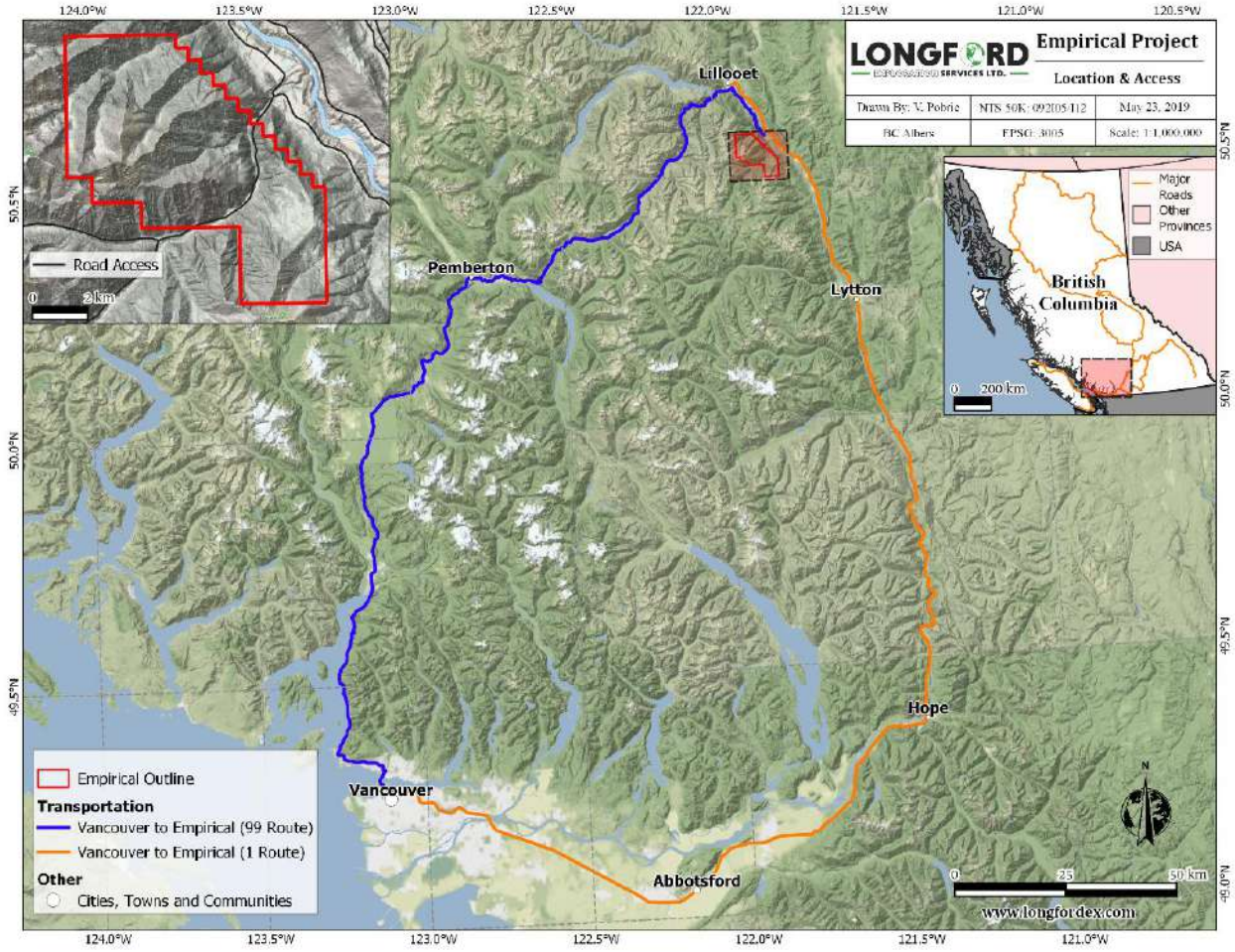

Figure 4.1: Empirical Property location map.

4.2 Mineral Titles

The Property consists of 3 unpatented mineral claims located in the Lillooet Mining Division totalling 5,401.36 hectares (Figure 4.2). The claims are currently shown in the online registry as being owned 100% by James Rogers who holds the claims in Bare Trust for Longford Capital Corp., the beneficial owner. The claims are in good standing as of the date of this report (Table 4.1).

Table 4.1: Empirical Property mineral tenure.

Title Number	Claim Name	Issue Date	Good to Date	Status	Area (ha)
1067784	Empirical 1	2019-04-08	2020-04-08	GOOD	2,032.36
1067785	Empirical 2	2019-04-08	2020-04-08	GOOD	1,643.09
1067786	Empirical 3	2019-04-08	2020-04-08	GOOD	1,725.91
				TOTAL	**5,401.36**

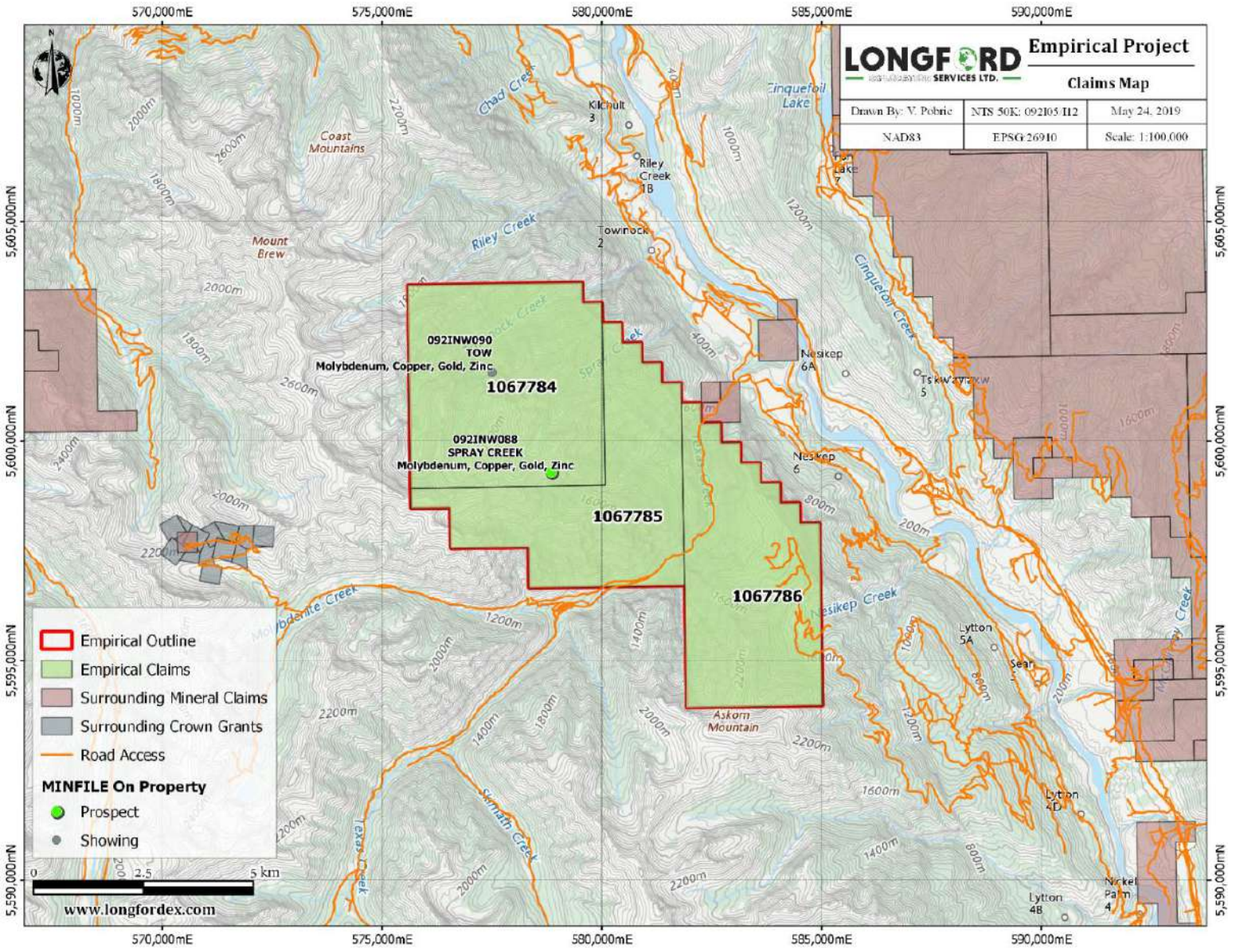

Figure 4.2: Empirical mineral claims outline.

4.3 Mineral Rights in British Columbia

Mineral Claims in British Columbia are subdivided into two major categories: Placer and Mineral. Both are acquired using the Mineral Titles Online (MTO) system. The online MTO system allows clients to acquire and maintain (register work, payments, etc.) mineral and placer claims. Mineral Titles can be acquired anywhere in the province where there are no other impeding interests (other mineral titles, reserves, parks, etc.).

The electronic Internet map allows you to select single or multiple adjoining grid cells. Cell sizes vary from approximately 21 hectares (457m x 463m) in the south to approximately 16 hectares at the north of the province. Cell size variance is due to the longitude lines that gradually converge toward the North Pole.

MTO will calculate the exact area in hectares according to the cells you select and calculate the required fee. The fee is charged for the entire cell, even though a portion may be unavailable due to a prior legacy title or alienated land. The fee for Mineral Claim registration is $1.75 per hectare.

Upon immediate confirmation of payment, the mineral rights title is issued and assigned a tenure number for the registered claim. Email confirmation of your transaction and title is sent immediately.

Rights to any ground encumbered by existing legacy claims will not be granted with the cell claim except through the Conversion process. However, the rights held by a legacy claim or lease will accrue to the cell claim if the legacy claim or lease should terminate through forfeiture, abandonment, or cancellation, but not if the legacy claim is taken to lease. Similarly, if a cell partially covers land that is alienated (park, reserve etc.) or a reserve, no rights to the alienated or reserved land are acquired. But, if that alienation or reserve is subsequently rescinded, the rights held by the cell expand over the former alienated or reserve land within the border of the cell.

Upon registration, a cell claim is deemed to commence as of that date (“Date of Issue”) and is good until the “Expiry Date” (Good to Date) that is one year from the date of registration. To maintain the claim beyond the expiry date, exploration and development work must be performed and registered, or a payment instead of exploration and development may be registered. If the claim is not maintained, it will forfeit at the end of the “expiry date” and it is the responsibility of every recorded holder to maintain their claims; no notice of pending forfeiture is sent to the recorded holder.

A mineral or placer claim has a set expiry date (the “Good to Date”), and in order to maintain the claim beyond that expiry date, the recorded holder (or an agent) must, on or before the expiry date, register either exploration and development work that was performed on the claim, or a payment instead of exploration and development. Failure to maintain a claim results in automatic forfeiture at the end (midnight) of the expiry date; there is no notice to the claim holder prior to forfeiture.

When exploration and development work or a payment instead of work is registered, you may advance the claim forward to any new date. With a payment, instead of work the minimum requirement is 6 months, and the new date cannot exceed one year from the current expiry date; with work, it may be any date up to a maximum of ten years beyond the current anniversary year. “Anniversary year” means the period of time that you are now in from the last expiry date to the next immediate expiry date.

All recorded holders of a claim must hold a valid Free Miners Certificate (“FMC”) when either work or a payment is registered on the claim.

Clients need to register a certain value of work or a "cash-in-lieu of work" payment to their claims in MTO. The following tables outline the costs required to maintain a claim for one year:

Table 4.2 BC work requirements for mineral tenures.

Anniversary Years	Work Requirements
1 and 2	$5 / hectare
3 and 4	$10 / hectare
5 and 6	$15 / hectare
7 and subsequent	$20 / hectare

Table 4.3: BC cash-in-lieu for mineral tenures.

Anniversary Years	Cash Payment-in-Lieu of Work
1 and 2	$10 / hectare
3 and 4	$20 / hectare
5 and 6	$30 / hectare
7 and subsequent	$40 / hectare

4.4 Property Legal Status

The Mineral Titles Online website (https://www.mtonline.gov.bc.ca/mtov/home.do) confirms that claims of the Empirical property as described in Table 4.1 were in good standing at the date of this report and that no legal encumbrances were registered with the Mineral Titles Branch against the titles at that date. The author makes no further assertion with regard to the legal status of the property. The property has not been legally surveyed to date and no requirement to do so has existed.

There are no other royalties, back-in rights, environmental liabilities, or other known risks to undertake exploration.

4.5 Nature of Title to Property

A Bare Trust agreement in place between Longford Capital Corp. and James Rogers dated April 8th, 2019 shows James Rogers holding the claims in Bare Trust for Longford Capital Corp.

As stated above, 1222991 B.C. Ltd. (Clarity Gold Corp.) as purchaser, and Longford Capital Corp. and James Rogers (together, the "**Vendors**") are party to a purchase agreement dated October 1st, 2019 pursuant to which 1222991 B.C. Ltd. agreed to purchase and the Vendors agreed to sell, a 100% interest in the "Empirical Claims" for the following considerations:

Upon Closing

- Issuing 2,000,000 shares to Longford Capital Corp.

On the first anniversary of closing

- Have performed an additional $80,000 of expenditure on the project in the first year

On the second anniversary of closing

- Have performed an additional $200,000 of expenditures on the project in the second year

Upon Shares being approved for listing on a stock exchange

- Paying $50,000 cash

In addition, the Vendors shall be granted a 2% Net Smelter Royalty ("NSR") on the Empirical Mineral Titles. 1% of the NSR may be purchased by the Royalty Holder by making an aggregate payment of $1,500,000. Payment may be made by way of certified cheque or bank draft payable to the Royalty Holder (or other method of payment acceptable to the Royalty Holder) along with written notice of Purchaser's intent to exercise Buy-Back-In-Right.

In addition to the terms outlined above, the option agreement contains a 1 km area-of-influence provision pursuant to which any claims staked by 1222991 B.C. Ltd. (Clarity Gold Corp.) within 1 km of the Optioned Property boundary (as defined by the Empirical claims) will automatically be included in the agreement and subject to the Net Smelter Royalty.

There are no other royalties, back-in rights, payments or other agreements to which the Empirical Property is subject.

4.6 Surface Rights in British Columbia

Surface rights are not included with mineral claims in British Columbia. However, the Mineral Tenure Act allows persons holding a valid free miner certificate (free miner) to enter mineral lands to explore for minerals whether surface is owned privately or by the Crown. Right of entry onto these lands does not include land occupied by a building, the area around a dwelling house, orchard land or land under cultivation, protected heritage property or land in a park.

Miners entering on private lands must serve notice in the prescribed manner and compensate the landowner for any loss or damages resulting from the mining activities including prospecting, mapping, sampling, geophysical surveys, as well as any activities that disturb the surface. Landowners must be notified prior to persons entering onto private land for any mining activity and may not begin until eight days after giving notice to the owners of the surface area where the activity will take place. Notice must include the dates when the activities will take place, where the activity will occur, the names and addresses of the free miner or recorded holder and of the on-site person responsible for the operations. Details describing the activities that will be carried out, the number of people that will be on-site including a map or written description of where the activities will take place. Notices may be e-mailed, faxed, or hand delivered to the landowner. Any substantial changes to the activity described in the notice must be given to the landowner in an amended notice and work may not begin until eight days after the amended notice has been given.

4.7 Permitting

Any work which disturbs the surface by mechanical means on a mineral claim in British Columbia requires a Notice of Work (NOW) permit under the Mines Act. The owner must receive written approval from a Provincial Mines Inspector prior to undertaking such work. This includes but is not limited to the following types of work: drilling, trenching, excavating, blasting, construction of a camp, demolition of a camp, induced polarization surveys using exposed electrodes, and reclamation.

Exploration activities which do not require a NOW permit include prospecting with hand tools, geological/geochemical surveys, airborne geophysical surveys, ground geophysics without exposed electrodes, hand trenching, and the establishment of grids. These activities and those that require Permits are outlined and governed by the Mines Act of British Columbia.

The Chief Inspector of Mines makes the decision if land access will be permitted. Other agencies, principally the Ministry of Forests, Lands and Natural Resources (FLNRO), determine where and how the access may be constructed and used. With the Chief Inspector's authorization, a mineral tenure holder must be issued the appropriate "Special Use Permit" by FLNRO, subject to specified terms and conditions. The Ministry of Energy and Mines makes the decision whether land access is appropriate and FLNRO issue a Special Use Permit. However, a collaborative effort and authorization between ministries, jointly determine the location, design and maintenance provisions of the approved road.

Notification must be provided before entering private land for any mining or exploration activity, including non-intrusive forms of mineral exploration such as mapping surface features and collecting rock, water or soil samples. Notification may be hand delivered, mailed, emailed or faxed to the owner shown on the British Columbia Assessment Authority records or the Land Title Office records. Mining activities cannot start sooner than eight days after notice has been served. Notice must include a description or map of where the work will be conducted and a description of what type of work will be done, when it will take place and approximately how many people will be on the site.

The issuer does not currently have any permits pertaining to exploration on the property.

5 Accessibility, Infrastructure and Climate,

5.1 Accessibility

The property can be accessed west of Lillooet on Route 99 via an old logging road that partially follows Enterprise Creek from Duffy Lake Road and onto the Empirical 1 claim block. Texas Creek road is also accessible via Route 99 and runs between 1 and 2 km from the property's edge along its eastern border. Currently the property does not have road access within the property boundaries and the topography is steep and rugged, therefore helicopter access for exploration would be the most practical means of access. Helicopter service is available from the town of Lillooet.

Road distances from the Property to select cities and ports are summarized in the following table:

Table 5.1: Driving distances to the Property.

Location	Description	Distance
Lillooet (pop. 2,321)	Nearest town with services	12 km
Richmond (pop. 216,288)	Vancouver International airport	263 km
Vancouver (pop. 675,218)	Port, mining services centre	251km
2016 Census Canada, Sourced: https://www12.statcan.gc.ca/census-recensement/index-eng.cfm		

5.2 Climate and Physiography

This region is characterized by a warm-summer humid continental climate although it may experience a mixture of hot-summer continental climate and semi-arid climate types. This type of climate generally produces hot and dry summers and cold dry winters with very little snowfall. In the spring, the area experiences little to moderate precipitation.

Average daily temperatures in the summer range from 18 to 21 °C, and -2.4 to 5.2 °C in the winter (Table 5.1). The total average annual rainfall for Lillooet area is 322.5 mm with the most significant amount of precipitation occurring between October and January. Spring and summer months are considerably drier, therefore provide ideal conditions for the entire exploration season.

The nearest active weather station to the property is Lillooet Seton BCHPA weather station, 130 km northeast of Whistler, BC.

Table 5.1 Climate Data for Lillooet Seton BCHPA Weather Station (Environment Canada).

Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Total
Daily Average (°C)	-2.4	0.4	5.2	9.9	14.8	18.6	21.6	21.3	15.9	8.8	2.1	-2.4	**9.5**
Record High (°C)	18.5	16.0	22.0	29.5	38.5	39.0	**41.5**	40.5	35.5	28.0	20.0	17.0	**N/A**
Record Low (°C)	-26.1	-22.5	-18.3	-5.0	0.0	4.0	7.5	5.5	-2.8	-17.0	-28.0	-28.3	**N/A**
Avg Precip. (mm)	38.3	20.3	16.8	19.0	26.1	23.7	35.5	25.7	23.7	33.8	44.4	41.7	**349.0**
Avg Rainfall (mm)	30.9	17.1	15.2	19.0	26.1	23.7	35.5	25.7	23.7	33.2	40.6	31.9	**322.5**

Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Total
Avg Snowfall (cm)	7.5	3.3	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.7	3.8	9.7	**26.5**
1981 to 2010 Canadian Climate Normals Lillooet Seton BCHPA weather station data;													

The property lies just to the east of Mount Brew within the Pacific Ranges which are the southernmost subdivision of the Coast Mountains. They run northwest from the lower stretches of the Fraser River to Bella Coola and Burke Channel and include 4 of the 5 major coastal icecaps in the Southern Coast Mountains. The icecaps are the largest temperate-latitude icecaps in the world and feed a number of major rivers (by volume). The highest peak in the Pacific Ranges is Mount Waddington at an elevation of 4,019 m.

The property area encompasses a series of barren ridges rising to an elevation of 2,200 m, and inter-webbing valleys and alpine meadows. Elevations over the property ranges from 1,250 m in the valley of Enterprise Creek to over 2,591 m on Mount Bew.

Below 2,000 m the treeline begins and is populated by a variably thick forest of jack pine, while spruce trees cover the less rugged slopes and valley floors. Lining the creeks are thick growths of alder, willow and devils club.

The fauna in the area include black bears, grizzly bears, cougars, coyotes, wolves, bobcats, birds of prey as well as rattle snakes in the arid interior.

6 History

6.1 Historic Exploration Activity

Mineral exploration in the Lillooet district began in the 1860s with the discovery of placer gold on gravel bars along the Fraser River below Lillooet. Placer gold was subsequently mined from the Bridge River and Cayoosh Creek. In the 1960s, auriferous quartz veins hosted in quartz-diorite and hornfelsed sediments were discovered within the Spray Creek area. Increased interest in the area ensued following the discovery of anomalous base and precious metal concentrations in sediments through regional silt surveys carried out by a number of companies. This prompted staking in the vicinity of Enterprise Creek, Riley Creek, and Spray Creek.

In 1967, Dalex Mines carried out an IP survey over the Nancy Group of claims and discovered a large, split anomaly (or two parallel anomalies) northwest of Nesikep Creek. The anomalies had a length in excess of 600 m and opened to the southeast. Another IP survey was carried out the following year which consisted of 118 stations over 6,600 ft of surveyed line. This survey identified an anomalous zone coincident with a Cu-rich sulphide showing in the surface rocks. The anomaly had a magnitude of approximately six times that of background values over a length of approximately 600 ft (opening to the south). In 1970, a geochemical soil survey was carried over the claims, 538 soil samples were collected along 400 ft lines spaced at 200 ft intervals. Results indicated that nickel in the rocks was associated with silicates rather than sulphides and any mineralization in the area would not be significant enough to be considered economic.

In 1979, Duval Mining Ltd. carried out a geological and geochemical survey over the Tow 1 and 2 claims. Mapping activities were carried out over a 2.5 km^2 area; 62 rock chip samples and 33 soil samples were collected. The program explored two area of pervasive disseminated pyrite; the northern area encloses a potassic-phyllic zonal complex, however the alteration zones in the south was not identified. Zn anomalies were also found to be present in northern and southern areas of the claim block with highest values returned from the south. Strongest Tungsten values occur in the southern zone of pyritization, and strongest Mo values are found in the northern area of pyritization. Rock chip sampling showed an area in the northern area that has more than 100 ppm (> 0.1%) Mo, but none were more than 100 ppm in the south. Duval continued exploration on the property up until 1981 with work including prospecting, mapping and sampling, and a 900 m diamond drill program in 1981. The Tow claims were abandoned by Duval in 1984.

In 1985, the Brew claims were staked by Greg McKillop, based on unreported results from Duval indicating the presence of free gold in the sediments of Enterprise Creek and anomalous gold and arsenic concentrations in the talus fines along the east side of the upper valley of the south fork of the creek (ARIS 21181). The claims were optioned by Geostar Mining Corp. and later the option was assumed by Miramar Energy Corp in 1986. Work carried out over the claims consisted of prospecting, some sampling and drilling 4 diamond drill holes over the Spray claims at the southern end of the claim block. Miramar allowed the option to drop and the claims were subsequently optioned by Kerr Addison Mines Ltd. in 1987.

From 1987 to 1988 Kerr Addison Mines Ltd. focused mainly on the Spray Claims, however, they did carry out more detailed mapping and geochemistry in the Brew area. This work confirmed and expanded the area of anomalous gold and arsenic values in talus fines. This work defined the area to be approximately

1 km long and 0.5 km wide with fairly consistent gold values in excess of 100 ppb Au in talus fines. Kerr allowed the option to drop in late 1988 due to poor results from the Spray diamond drill program and the merging of Kerr Addison's exploration activities with those of Minnova.

In 1991, prospecting and sampling was carried out over the Brew claims by owner Greg McKillop. Thirteen rock samples and 3 bulk sediment samples were collected over two traverses (upper and lower). Au values returned from Lower traverse were consistently <5 ppb and arsenic did not exceed 25 ppm. The upper traverse returned Au values consistently <5 ppb and arsenic values were <10 ppm. Sediment samples returned values of 15 ppb, 255 ppb, and 147 ppb Au respectively.

In 2008, Glen Hawke Minerals Ltd. utilized low level aerial photography completed in 2002 to create high ortho-photo mosaic and 2 m detailed contour map complete with a digital elevation model to provide a base for geo-referencing historic sample and drill hole locations (Einsiedel, 2008).

Historical work over the Empirical Property has been summarized in Table 6.1 and Figure 6.1 below.

Table 6.1 Work history of mineral occurrences in proximity to the Empirical Property.

Year	Title Holder	Report ID	Claims	Author	Summary	Comments	Reference
1967	Dalex Mines Ltd.	1098	Nancy Group	Mouritsen, S.A.	IP Survey	A large split anomaly with a length in excess of 2000 ft and are open to the southeast.	ARIS_01098, 1967, Geophysical Report on the Induced Polarization Survey for Dalex Mines Ltd., on the Nancy Group of Claims, Geofax Surveys, Mouritsen, S.A.
1968	Dalex Mines Ltd.	1918	Nancy Group	Mouritsen, S.A.	IP Survey: 118 stations occupied, representing 6600 ft of surveyed line	An anomalous zone coincident with Cu sulphide showings in surface rocks has a magnitude approx. 6 times that of background (4 milliseconds).	ARIS_01918, 1968, Geophysical Report on the Induced Polarization Survey for Dalex Mines Ltd., on the Nancy Group of Claims, Geofax Surveys, Mouritsen, S.A.
1970	Dalex Mines Ltd.	2530	Nancy Group	Tri-Con Exploration Surveys Ltd.	538 soil samples (400 ft spaced lines at 200 ft intervals)	Nickle in rock associated with silicates rather than sulphides but not be significant enough to be economic.	ARIS_02530, 1970, Nancy Property Geochemical Report, Tri-Con Exploration Surveys Ltd.
1979	Duval Mining Ltd.	7211	Tow 1 and 2	Hollister, Victor F.	Map scale: 1:10,000 over 2.5 M m^2; 62 rock chip samples, 33 soil samples.	Rock chip sampling disclosed an area in the northern area that has more than 100 ppm (> 0.1%) Mo.	ARIS_07211, 1979, Preliminary Report on the Geology and Geochemistry of the Tow 1 and 2 Claims, Duval Mining Ltd.
1979	Duval Mining Ltd.	7569	Tow 1, 2, 3 and 4	McKillop, Gregory R.	Map Scale: 1:10000 over ~1300 ha; 91 rock chip samples, 10 soils samples, 19 silt samples.	Mo occurs as disseminations and fracture coatings in quartz veins with variable amounts of PO and CPY.	ARIS_07569, 1979, Report on the Geology and Geochemistry of the Tow 1, 2, 3, and 4 Claims, Duval Mining Ltd.
1980	Duval Mining Ltd.	8347	Tow 1, 2, 3 and 4	McKillop, Gregory R.	Map scale: 1:5000 over 40 ha; 1 silt sample, 4 soil samples, and 49 rock samples; 2 drill sites, 1	Northeastern area has >50 ppm Mo over area 500 m X 350 m, three consecutive 30 m surface chip samples returned 450 ppm	ARIS_08347, 1980, Report on Geological and Geochemical Surveys and Physical Work Conducted

Year	Title Holder	Report ID	Claims	Author	Summary	Comments	Reference
					tent site, 1 heliport, improvement of 1 heliport, and excavation of 6 trenches.	Mo. 300 m X 300 m area of the south zone contain >50 ppm Mo and 10 m chip samples returned up to 1260 ppm Mo.	on the Tow 1, 2, 3and 4 Claims, Duval Mining Ltd
1981	Duval Mining Ltd.	9405	Tow 1	McKillop, Gregory R.	220 m drill hole, half the core sent for sampling	Hole CH81-2 intersected 220.3 m of mineralized qtz diorite and siltstone that averaged 299 ppm Mo.	ARIS_09405, 1981, Report on Diamond Drilling on the Tow #1 Claim, Duval Mining Ltd.
1981	Duval Mining Ltd.	9427	Tow 2	McKillop, Gregory R.	230 m drill hole, half the core sent for sampling	Hole CH81-3 penetrated 230.7 m of mineralized qtz diorite and hornfelsed siltstone which averaged 222 ppm Mo.	ARIS_09427, 1981, Report on Diamond Drilling on the Tow #2 Claim, Duval Mining Ltd.
1986	Geostar Mining Corp. and Miramar Energy Corp. & G. McKillop	14971	Spray 1, 2; Foam 1, 2, 3; Brew 1, 2; Home 1, 2; Free 1, 2	Price, Barry J.	83 rock chip samples, 165 soil samples	High values returned are up to 545 ppb Au, 935 ppm As, 739 ppm Zn, 403 ppm Cu, and 87 ppm Mo.	ARIS_14971, 1986, Geochemical Report on the Spray and Brew Claim Groups, McKillip, G.R.
1986	Geostar Mining Corp. and Miramar Energy Corp. & G. McKillop	14973	Brew 1 and 2	Price, Barry J.	Data compilation	Au values up to 685 ppb returned from Enterprise Creek and 26 soil samples indicate a Au-As anomaly.	ARIS_14973, 1986, Geological Report on the Brew 1 and Brew 2 Claims, Geostar Mining and McKillop, G.R.
1986	Miramar Energy Corp.	15073	Foam 1	Price, Barry J. and Ditson, Carol	Prospecting; Air-photo interpretation	Variation in attitude reveals moderate folding which is terminated by a strong northwesterly trending lineation in northern portion of claim. Structures are abundant. Syncline in the northwest portion is truncated by faulting.	ARIS_15073, 1986, Geological Report: Prospecting and Air-Photo Interpretation of Foam 1 Mineral Claim, Miramar Energy Corporation
1986	G. McKillop & Southern Gold Resources Ltd.	15835	Spray 1, 2; Foam 1, 2,	Rebagliati, C.M.	18 veins sampled (rock chips); 5 short DBD DDH totalling 264.62 m	Au values in the sampled late-qtz veins ranged from 1 to 990 ppb, when geochemically enhanced, the veins generally ranged from	ARIS_15835, 1986, Drilling and Geological Report on the Spray Claim Group: Summary Report

Year	Title Holder	Report ID	Claims	Author	Summary	Comments	Reference
			3; Home 1, 2			150-350 ppb Au. Au concentrations overall (rock chips and core) ranged from 1 to 3300 ppb.	on Spray Creek Gold Project, McKillop, G
1988	Kerr Addison Mines Ltd.	18160	Free 1, 2; Brew 1, 2; Home 1, 2; Foam 1-3; Spray 1, 2	Grexton, L., and Bruland, T.	Prospecting, mapping, 225 samples (rock, soil, and stream seds)	Heavy mineral samples from along Enterprise Creek returned up to 1900 ppb Au, and up to 420 ppm As, silt samples from the same area returned up to 680 ppb Au and up to 180 ppm As.	ARIS_18160, 1988, Prospecting, Mapping, Sampling and Drilling Assessment & In-House Report, Kerr Addison Mines
1991	G. McKillop	21181	Brew 1&2	McKillop, Gregory R.	13 rock samples, 3 bulk sediment samples	Au values returned from Lower traverse were consistently <5 ppb and As did not exceed 25 ppm. Upper traverse returned Au values consistently <5 ppb and As were <10 ppm. Sediment samples returned values of 15 ppb, 255 ppb, and 147 ppb Au.	ARIS_21181, 1991, Geochemical Report on Brew 1 and 2 Claims, McKillop, Gregory, R.
2008	Glen Hawke Minerals Ltd.	29554	Spray	Einsiedel, C.A.	Digital Elevation Model & GIS Drill Hole Location Data Compilation	Maps	ARIS_29554, 2008, Technical Assessment Report: Digital Elevation Model and GIS Drill Hole Location Data Compilation, by Einsiedel, C.A. for Glen Hawke Minerals Ltd.

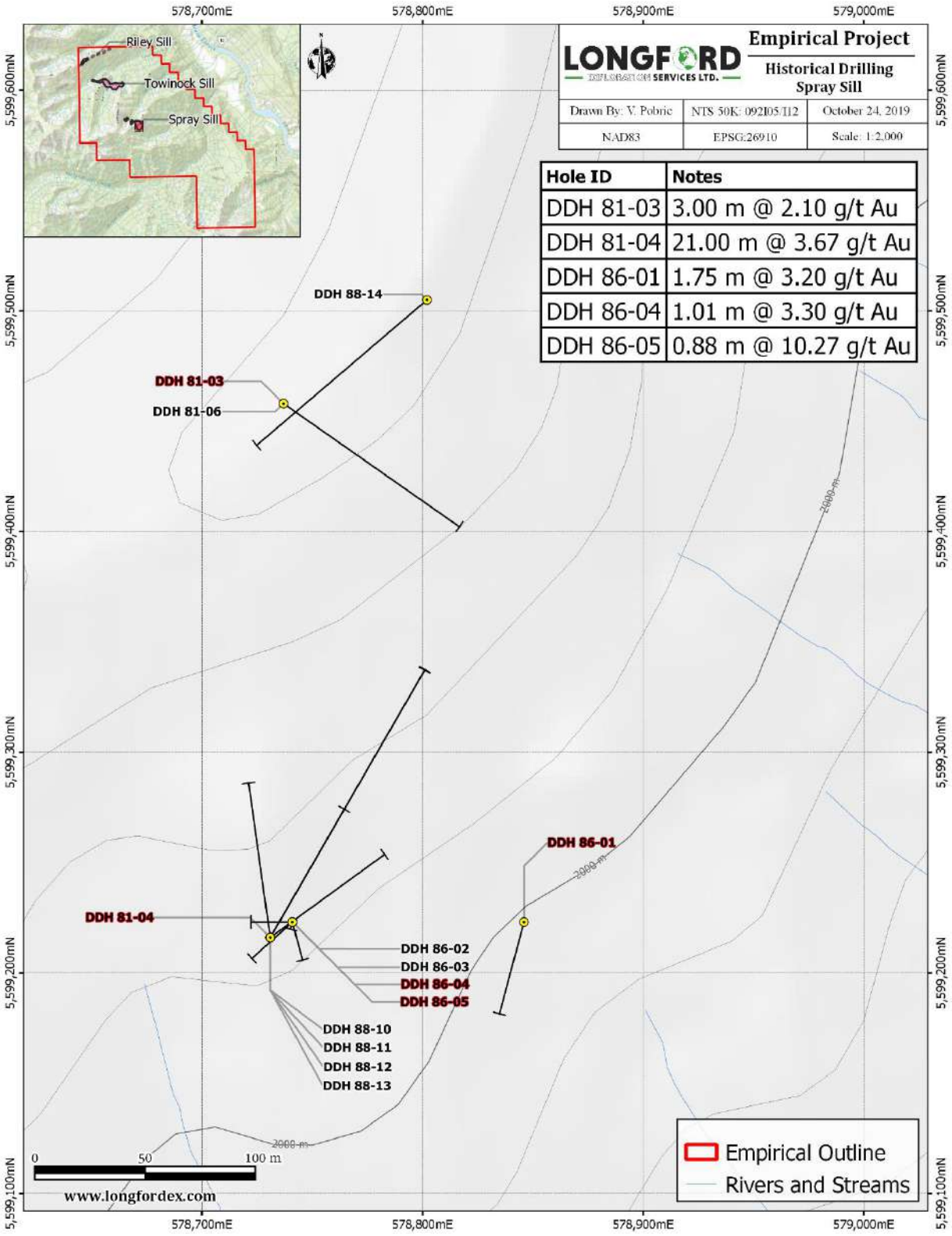

Figure 6.1: Empirical Property historical drilling.

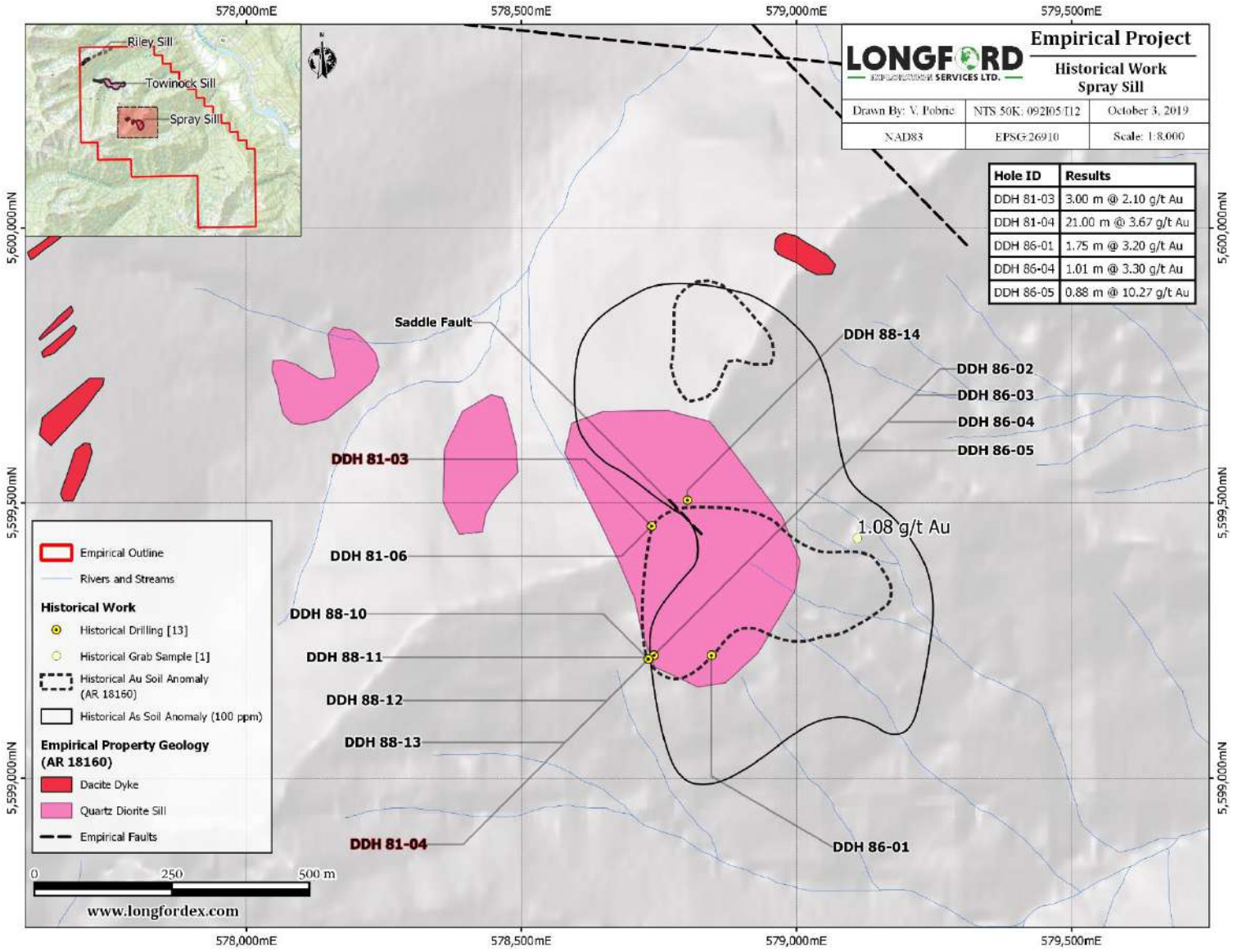

Figure 6.2: Historical work at the Spray sill on the Empirical Property.

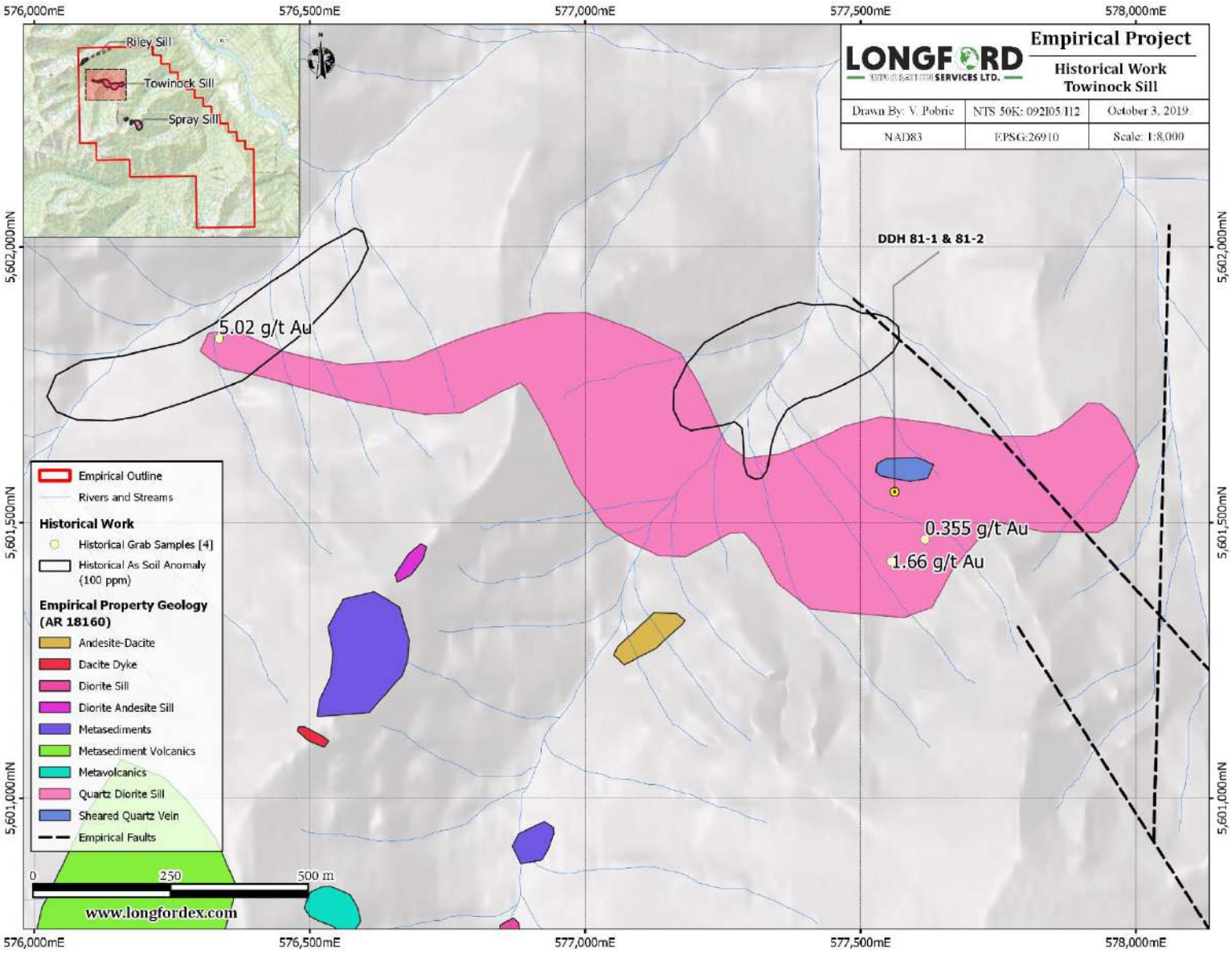

Figure 6.3: Historical work at the Towinock sill on the Empirical Property.

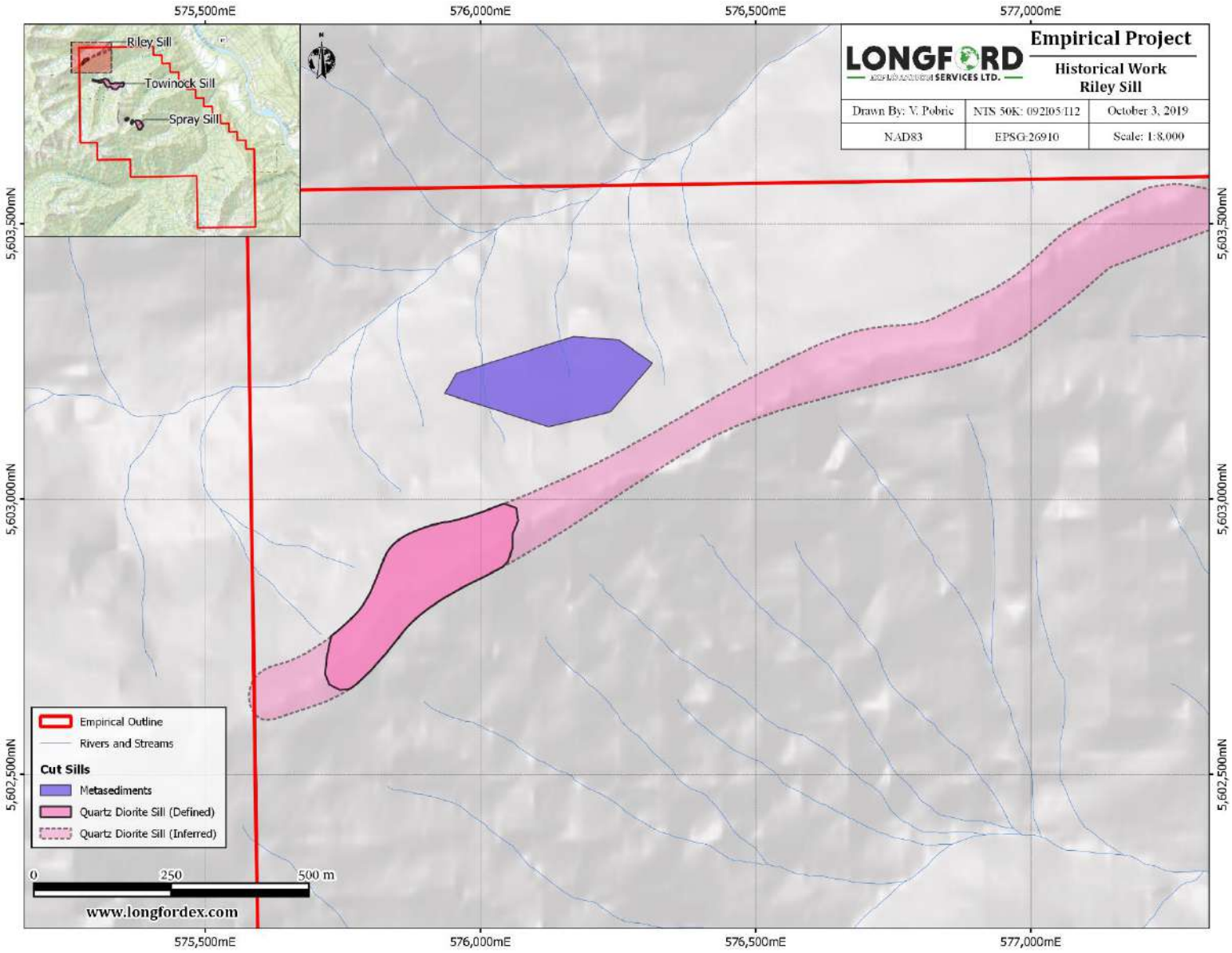

Figure 6.4: Historical work at the Riley sill on the Empirical Property.

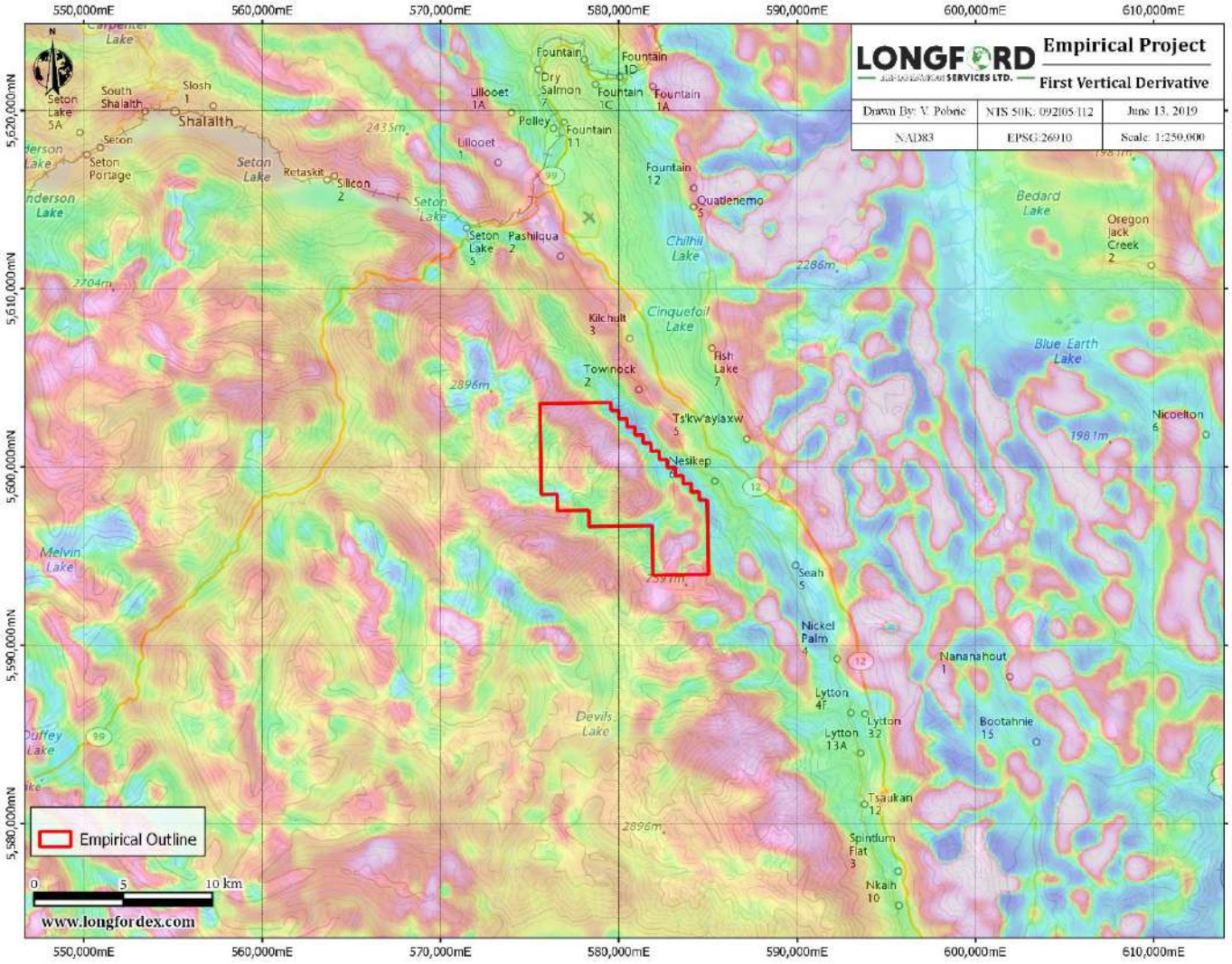

Figure 6.5: Empirical Property regional geophysics - First Vertical Derivative.

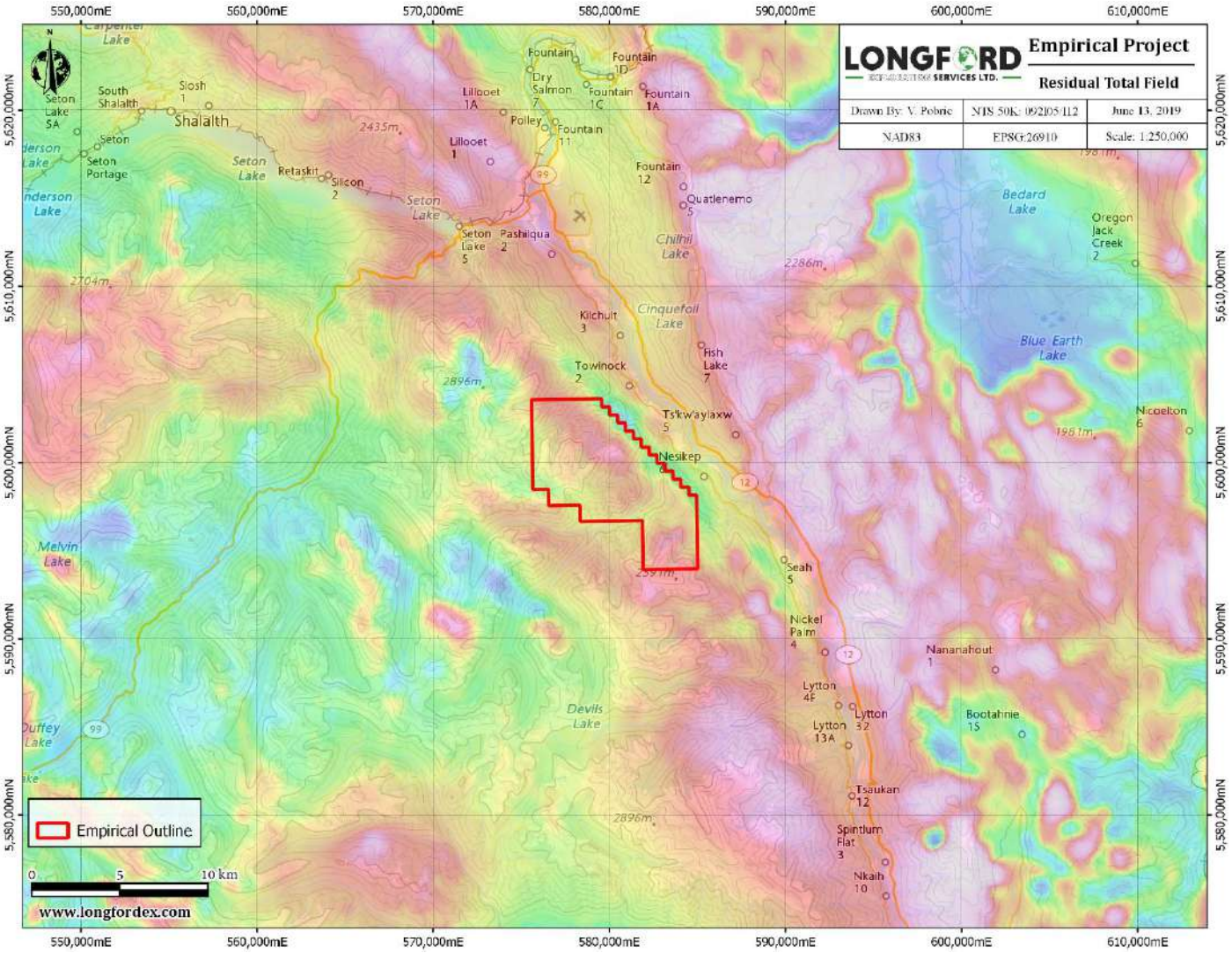

Figure 6.6: Empirical Property regional geophysics - Residual Total Field.

7 Geological Setting and Mineralization

7.1 Regional geology

Southwestern British Columbia is located within the Coast Mountain Belt of western British Columbia, which formed as a result of the collision of the Insular Super Terrane (Wrangelia and Alexander Terranes), the Intermontane Super Terrane (Stikinia, Cache Creek, Quesnellia, slide Mountain and Kootenay Terranes) which accreted to North America during between early Jurassic and Cretaceous (Price, n.d.). The convergence of these terranes led to the formation of two broad suture belts, both of which are characterized by widespread granitic magmatism, crustal thickening and uplift. The Omineca Belt is situated in the suture zone between the Intermontane Super Terrane and the North American Cordilleran miogeocline and the Coast Mountain Belt lies in the suture zone between the Insular Super Terrane and the Intermontane Super Terrane.

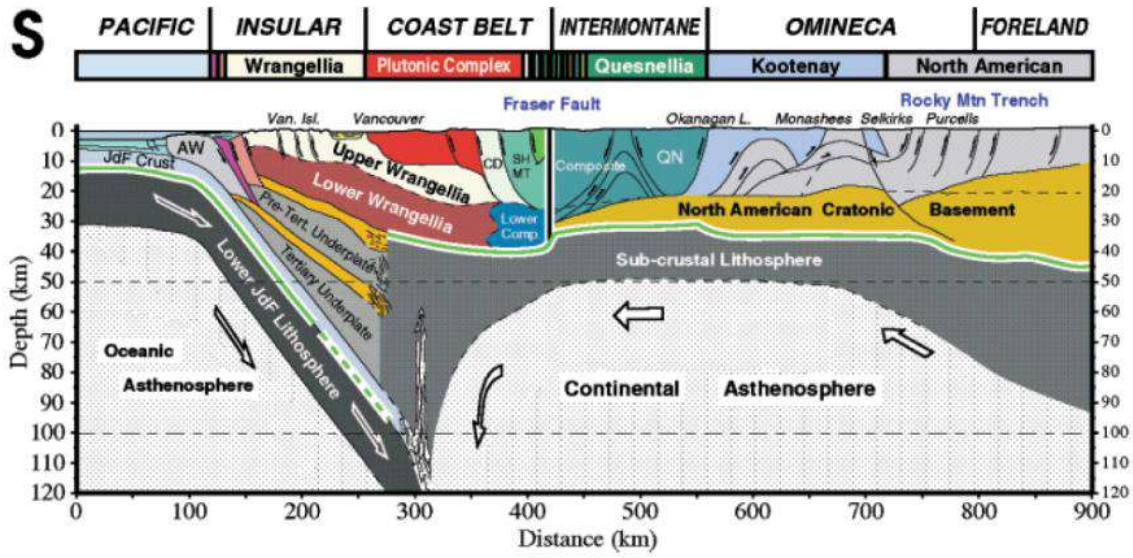

Figure 7.1: Simplified cross section of the accreted terranes of North America. The green line depicts the crust-mantle boundary (Moho). Vertical Exaggeration is 2.7:1 (Monger, 2002).

7.1.1 The Coastal Belt

The Coast Belt is one of the largest calc-alkaline batholitic complexes in the world, extending approximately 1,600 km from southern British Columbia, through the Alaskan Panhandle to southern Yukon. Terranes within the Coast Belt include the Bridge River, Cadwallader, Chilliwack, Harrison, Methow, Shuksan, and Taku terranes.

This magmatic arc formed during transpressive accretion of the outboard Alexander and Wrangellia Terranes (Insular Super Terrane) with the Intermontane Super Terrane and North America during the mid-Cretaceous and Eocene (Hammer & Clowes, 2004; Price, N.d.). Ongoing subduction of the Juan de Fuca (JDF) plate beneath the newly accreted continental margin (Insular Super Terrane) resulted in the formation of a continental volcanic arc, known as the Coast Range Arc. Magma rising from the subducted JDF plate ascended through the newly accreted Insular belt, depositing large quantities of granite within older igneous rocks of the Insular Belt and producing volcanoes along the continental margins. Crustal thickening and uplift exposed areas of extensive regional metamorphism and plutonism as well as

outward verging thrust and fold belts on both flanks (Price, n.d.). Higher-grade metamorphic rocks of amphibolite and greenschist facies and associated granitic rocks are common in both the Coast and Omineca Belts, while only sub greenschist facies rocks are found within the other three belts (Monger, 2002).

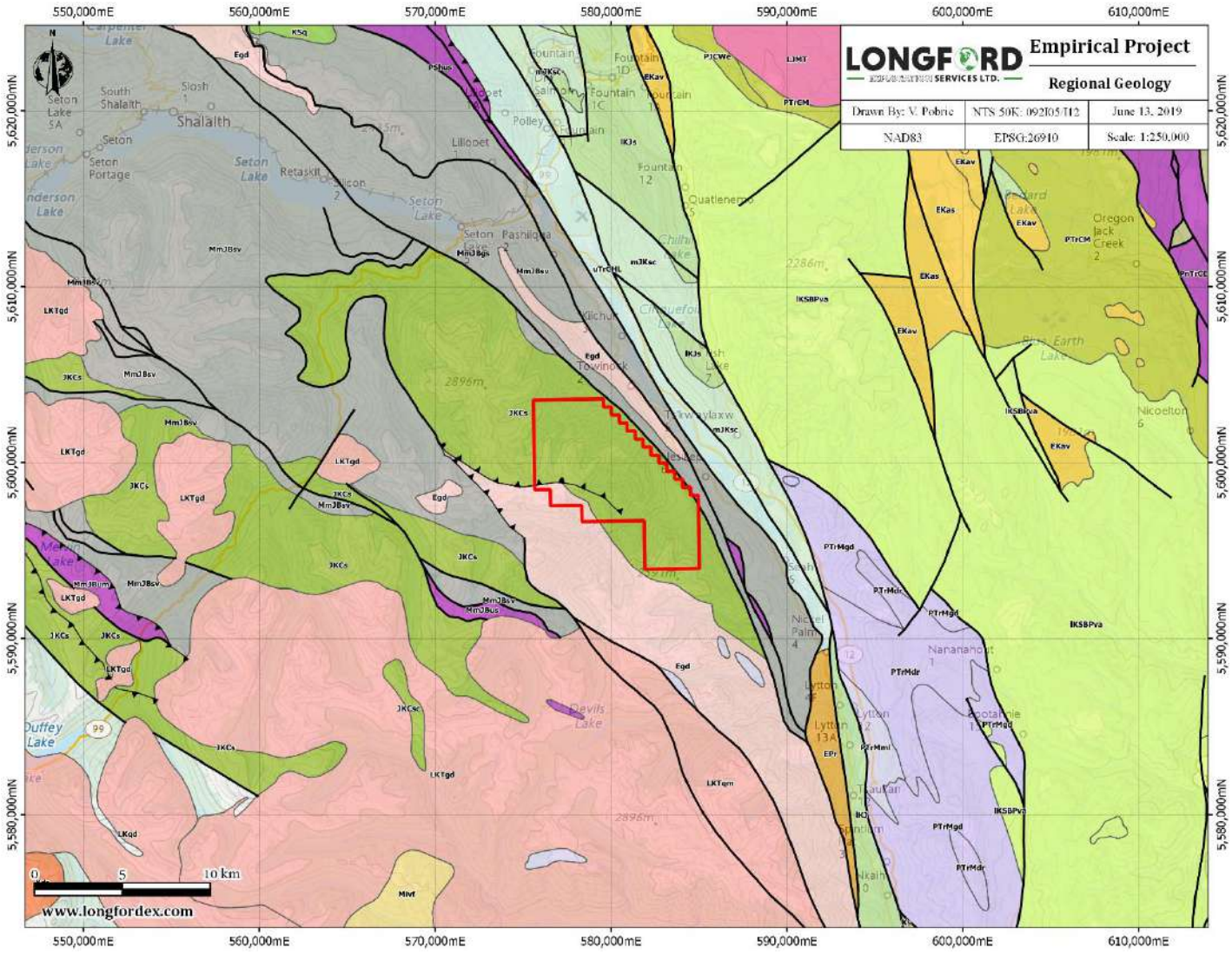

Figure 7.2: Empirical Property regional geology.

Figure 7.3: Empirical Property regional geology legend.

7.2 Regional Mineralization

Several mineral occurrences are known to occur on northern Vancouver Island which includes the following styles of deposits (*after* Pawliuk, 1994):

1. Skarn deposits: Copper-iron and lead-zinc skarns
2. Copper in basic volcanic rocks (Karmutsen Formation): in amygdules, fractures, small shears and quartz carbonate veins, with no apparent relationship to intrusive activity
3. Veins: with gold and/or base metal sulphides, reacted to intrusive rocks
4. Porphyry copper deposits: largely in the country rock surrounding or enveloping granitic rocks and their porphyritic phases

7.3 Property Geology

The Empirical Property (Figure 7.4) is predominantly underlain by low-grade metamorphosed sediments of the Jurassic-Cretaceous Relay Mountain Group (previously referred to as Lillooet and Brew Groups by Duffell and McTaggart in 1951). These rocks have been intruded by granodiorite and quartz-diorites of the Cretaceous or younger. The Relay Mountain Group consists mainly of banded argillite, impure quartzite, boulder conglomerate, and contains marine fossils of early Lower Cretaceous age. Marshall Creek Fault trends northwest across the property and divides the Relay Mountain Group of rocks from the Permian-Jurassic Bridge River Group of metasedimentary rocks. Along the Marshall Creek fault is a large area of carbonate alteration within the greenstones on the southwest side of the fault, and pervasive shear zones approximately 5-30 cm wide (Grexton & Bruland, 1988). Intruding into the Bridge River Complex, south of Reilly Creek and lying between the Marshall Fault and the Lillooet Fault, is a narrow band of Tertiary granodiorite.

Faulting is prevalent in the region with both the Marshall Creek fault and Lillooet fault (splays from the Fraser River Fault System) crossing the property. The area between Towinock Creek and Spray Creek is extensively faulted and gently folded. The locally major, northwesterly trending fault crossing the property was referred to as the Tow Fault by Hollister (1979). The faults follow a predominant northwesterly trend, however north-easterly, northerly, and easterly trends have also been observed on the property. Movement along the faults appear to be predominantly dextral and the age of the faulting is uncertain. However, movement appears to have occurred post-dacite emplacement as dyke swarms have been shattered along the Tow fault line (McKillop, 1979).

A large 200+ m thick quartz-diorite boss intrudes the metasediments on the south fork of Towinock Creek which includes both porphyritic and granitic textures (McKillop, 1986). Results from Duval's 1979 work program reported that the boss was largely devoid of magmatic orthoclase, but contained variable amounts of quartz, biotite, hornblende and plagioclase (Hollister, 1979).

The boundaries of two small Cretaceous/Tertiary quartz diorite sills south of Spray Creek were refined by Hollister in 1979, however the bosses were so altered by ground water the precise mineralogy could not be determined. Numerous north-easterly trending, fine-grained dacite dykes were found between these sills and described as fresh mixtures of quartz and plagioclase with lesser orthoclase and mica-believed to be differentiates of the quart-diorite sills (Hollister, 1979; McKillop, 1979). Dyke swarms are vertical to steep, west-dipping and reportedly occur parallel to the major faults on the property suggesting that the emplacement was structurally controlled (McKillop, 1979; McKillop, 1986). Metamorphic grade of rocks also increased at higher elevations suggesting that reverse faulting may be present in the claims area (McKillop, 1979).

The northern most quartz diorite boss (south of Towinock Creek) was reported by Hollister (1979) to show zones of potassic and phyllic alteration with areas of erratic pyritization occurring throughout. However, this was not confirmed by McKillop during the follow-up program of the same year. The follow-up program did suggest that the sericite and biotite alteration observed within the quartz-diorite boss may be related to a northwesterly trending set of quartz veins, as alteration appeared to decrease with increasing distance from the veins (McKillop, 1979). Quartz veins vary from 0.3 cm to approximately 1 m in width and are predominantly sub-parallel to faulting, however many other directions were also reported (McKillop, 1979). Composition of quartz veins in order of decreasing abundance: pyrrhotite, pyrite, molybdenite, and chalcopyrite (McKillop, 1979).

The southern quartz diorite bosses (south of Spray Creek) were reportedly strongly pyritized, however due to extensive weathering it was no longer possible to categorize hypogene alteration stages at the surface (Hollister, 1979).

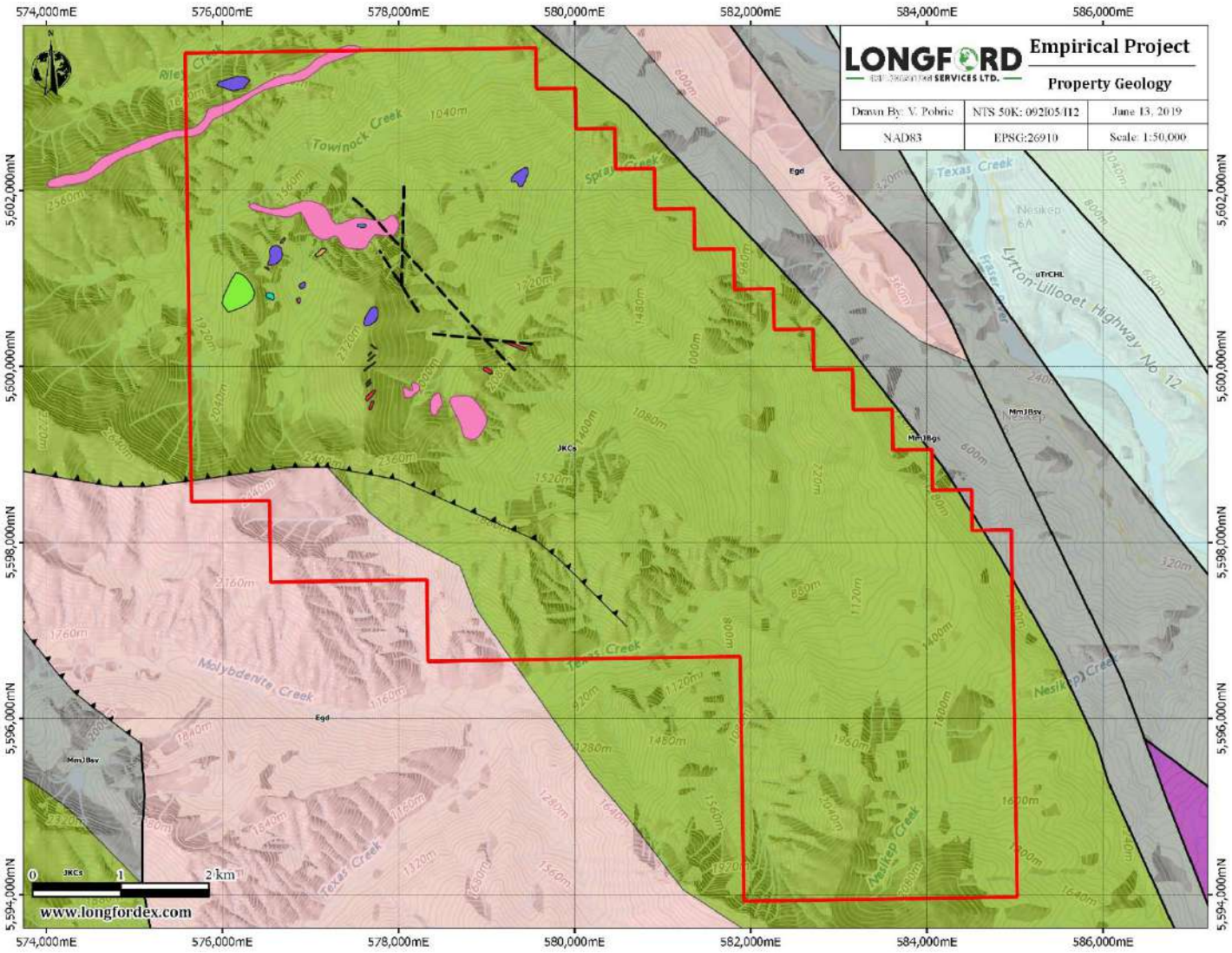

Figure 7.4: Empirical Property geology.

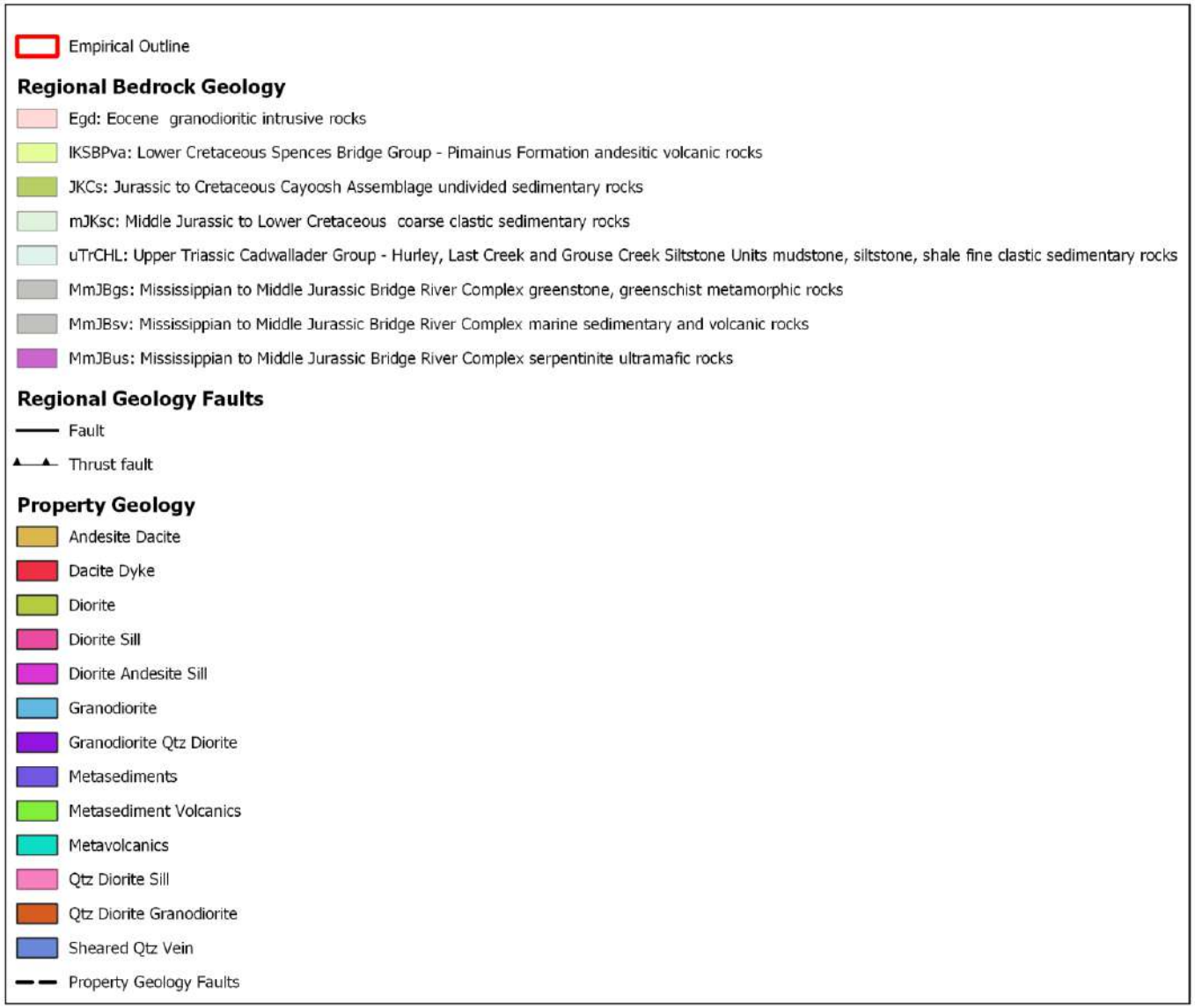

Figure 7.5: Empirical Property geology legend.

7.3.1 Lithological Units

The lithological units underlying the Empirical Property are described after Grexton & Bruland (1988):

TERTIARY:

Tgd Granodiorite, felsite, in part Eocene age.

CRETACEUOUS AND/OR TERTIARY:

KTgd Granodiorite with locally abundant septae of Relay Mtn or Bridge River Group rocks.

CRETACEOUS:

Kgd, qm Granodiorite, quartz monzonite. Few or no included metamorphics.

UKk Kingsvale Group: Basalt, local volcaniclastics.

IKsb Spences Bridge Group: Andesite, dacite, rhyolite, intercalated volcaniclastics, sandstone, shale, local conglomerate.

lKjm Jackass Mountain Group: Sandstone, conglomerate, shale.

JURASSIC AND CRETACEOUS:

JKrm Relay Mountain Group: Argillite, siltstone, sandstone, and metamorphosed equivalents.

JKqd Granodiorite, quartz monzonite.

PERMIAN TO JURASSIC:

PJbr Bridge River Group: Radiolarian chert, argillite, basalt, local carbonate, serpentine, ultramafics, phyllite, greenstone, schists.

7.4 Mineralization

Sulphide mineralization on the property consists of widely scattered but rare disseminations of sphalerite in fractures within both intrusive and intruded rocks, and very rare coarse-grained molybdenite in quartz filled fractures (Hollister, 1979, McKillop, 1986). Molybdenite and minor chalcopyrite mineralization associated with the quartz stockwork veining on the property is characteristic of porphyry type mineral deposits. Molybdenite mineralization is mainly located in the quartz-diorite stock south of Towinock Creek (north zone), known as the Tow Showing (Minfile 092INW090) and the stock located south of Spray Creek (south zone) is known as the Spray Occurrence (Minfile 092INW088). Pyrrhotite and lesser pyrite are also common as disseminations and as fracture plane coatings. Pyrrhotite and chalcopyrite are commonly associated with the molybdenite in quartz veins but are less common in higher grade zones (McKillop, 1979). A later set of larger veins (5-160 cm) are also reported to contain arsenopyrite, sphalerite, and rare scheelite within quart-diorite stocks (Hollister, 1979, Minfile 092INW090). These veins trend between 090° and 130° and cut the quartz-diorite stock and the enclosing sediments (Minfile 092INW090). These larger veins tend to occur where rock and soil geochemistry indicated higher concentrations of gold and arsenic within the larger area of anomalous molybdenum values (McKillop, 1981).

Strong stockwork zones are often identified on the surface by a light-yellow stain caused from the weathering of pyrite or pyrrhotite within veins, fractures and as disseminations (Minfile 092INW090). It was also noted that ferrimolybdite was observed.

Trace amounts of scheelite was reportedly recovered by panning stream gravel in Towinock Creek just below the north zone sill, but not above it (McKillop, 1979).

Alteration associated with mineralization includes chloritization, sericitization, biotitization, and intense silicification without any evident pattern of alteration zoning (Price & Ditson, 1986). However, an extensive biotite hornfels aureole postdating the porphyry-type mineralization was reported to envelop the intrusion and the sediments (Minfile 092INW090).

An investigative drill program carried out by Duval in 1981 yielded significant Au values in two drill holes, with 3 m of 2,100 ppb Au (0.06 ounces/ton) in DDH-CH81-3, and 21 m of 3,670 ppb Au (0.107 ounces/ton) and 3 m interval grading 7,860 ppb Au in DDH-CH81-4 (Price & Ditson, 1986). A series of easterly trending, 70°N-dipping, branching network of quartz veins between 5-130 cm in thickness outcrop in the vicinity of DDH-CH81-4 which commonly extend to 30 m from the main vein before pinching out (Rebagliati, 1986). Drill core also revealed zones of intense silicification and sericitization which completely obscure porphyritic textures and most quartz veinlets (Minfile 092INW088).

Five short DBD diamond drill holes were drilled in 1986 to follow up on the 1981 program and targeted the auriferous zone in hole CH81-4. All holes intersected a fine to medium grained biotitic porphyritic quartz diorite with irregular intervals of chlorite and silica alteration (Rebagliati, 1986). Porphyry type molybdenum and copper mineralization was reported in every hole and 3 possible modes of gold mineralization were identified: porphyry-type grey quartz stockwork veining; pervasively silicified zones; and late, white, branching quartz vein (Rebagliati, 1986). Hole 86-5 contained an 0.88 m interval of disseminated pyrrhotite and pyrite, porphyry-type molybdenum-bearing stringers, and a 13 cm thick brecciated grey quartz vein within which graded 10,270 ppb Au (0.289 oz/ton Au) (Rebagliati, 1986). Eighteen late quartz veins were sampled and compared to 9 similar vein intersections in split core which returned gold concentrations between 1 and 3,300 ppb Au (Rebagliati, 1986). Results indicate that gold is not uniformly distributed in the late veins, and no evidence of zoning was identified in the cluster of late veins distributed across the broad geochemical anomaly.

Gold values returned from the stockwork quartz-sulphide vein zone drill core suggests either surface depletion or zoning to higher gold concentration at depth (Price & Ditson, 1986).

8 Deposit Types

8.1 Cu-Au-Mo Porphyry Style Deposit

The Empirical Property is likely associated with a widespread hydrothermal Cu-Au-Mo porphyry style deposit (Figure 8.1). The mineralized zones are believed to be located within quartz diorite stockworks located just south of Towinock Creek near the Tow Showing and just south of Spray Creek near the Spray Occurrence. This area is underlain by a thick sequence of schistose argillites of the Jurassic-Cretaceous Relay Mountain Group which have been intruded by porphyritic quartz diorite stocks (Minfile 092INW090). The porphyritic quartz-diorite stocks, and to a lesser degree, the enclosing sediments have undergone multiple episodes of fracturing and related quartz veining providing the pathways for sulphide mineralization.

The formation of this style of deposit is related to orogenic belts at convergent plate boundaries (subduction-related magmatism), or extension settings related to strike-slip faulting or back arc spreading during continent margin accretion (Panteleyev, 1995). It is generally recognised that Cu-Au-Mo porphyry deposits are associated with granodiorite, quartz monzonite, quartz diorite granitoid rock types. Cu-Au-Mo porphyries tend to occur as large zones of hydrothermally altered host rock and are closely related to island-arc volcano-plutonic suites. Composition of intrusions range from basalt-andesite volcanic and gabbro-diorite-quartz-diorite associations. These deposits are characterized by quartz stockworks, veins, sulphide bearing veins (pyrite, chalcopyrite, bornite, with lesser molybdenum), closely spaced fractures and fracture selvages. These subvolcanic Intrusions are commonly emplaced by multiple successive intrusive phases and a wide variety of breccias. Grain size may range from coarse-grained phaneritic to porphyritic stocks, batholiths and dike swarms.

The timing of gold mineralization within these systems can be early or late and is related to magmatic or circulating meteoric waters. Early gold mineralization is closely associated with the potassic alteration zone and bornite and late mineralization is associated with pyrite and either sericitic, advanced argillic or skarn-destructive argillic alteration (Gendall, 1994). These deposits may be present in stockwork veins, skarns, or as carbonate and non-carbonate replacement (Gendall, 1994). Copper-gold style porphyries tend to be smaller in size compared to copper-molybdenum style porphyries. Regional structures and structural lineaments act as mineralization controls in these systems and therefore the degree of fracturing and veining tends to favour the concentration of Cu and Au in these areas (Gendall, 1994; Panteleyev, 1995).

Mineralized zones occur at depths of 1 km or less and are mainly associated with the development of brecciated zones or preferential replacement in host rocks with a high degree of primary permeability (Panteleyev, 1995). Ore-grade stockworks are linked to zones of intensely developed fractures that are coincident or intersect multiple fracture sets. Propylitic alteration halo is widespread and generally surrounds an early potassic alteration core (which is commonly well-mineralized). Overprinting of early mineralization by younger mineralized phyllic alteration is also common. Pyrite is typically the predominant sulphide mineral, and the predominant ore minerals are chalcopyrite, molybdenite, lesser bornite and rare (primary) chalcocite. Subordinate minerals include tetrahedrite/tennantite, enargite and minor gold, electrum and arsenopyrite.

These deposits can be of the silica-oversaturated, silica-saturated and silica-oversaturated subtypes based on the modal composition of the associated alkalic intrusions and to a lesser extent on alteration (Lang &

McClaren, 2003). The Empirical property shows characteristics consistent with that of a silica-oversaturated alkalic copper-gold porphyry deposit on the basis of abundant quartz-sulphide veins, siliceous alteration, widespread, but weak sericitic alteration, and the presence of strong molybdenum mineralization, however the quartz-normative composition has not been reported in historical reports (Lang & McLaren, 2003). This particular style of deposit is favourable because, on average, they contain a greater tonnage of mineralization compared to other alkalic copper-gold porphyry types. Significant examples of silica-oversaturated alkalic copper-gold-molybdenum deposits include Goonombla/North Parks and Cadia-Ridgeway in Australia and Skouries in Greece (Lang & McLaren, 2003).

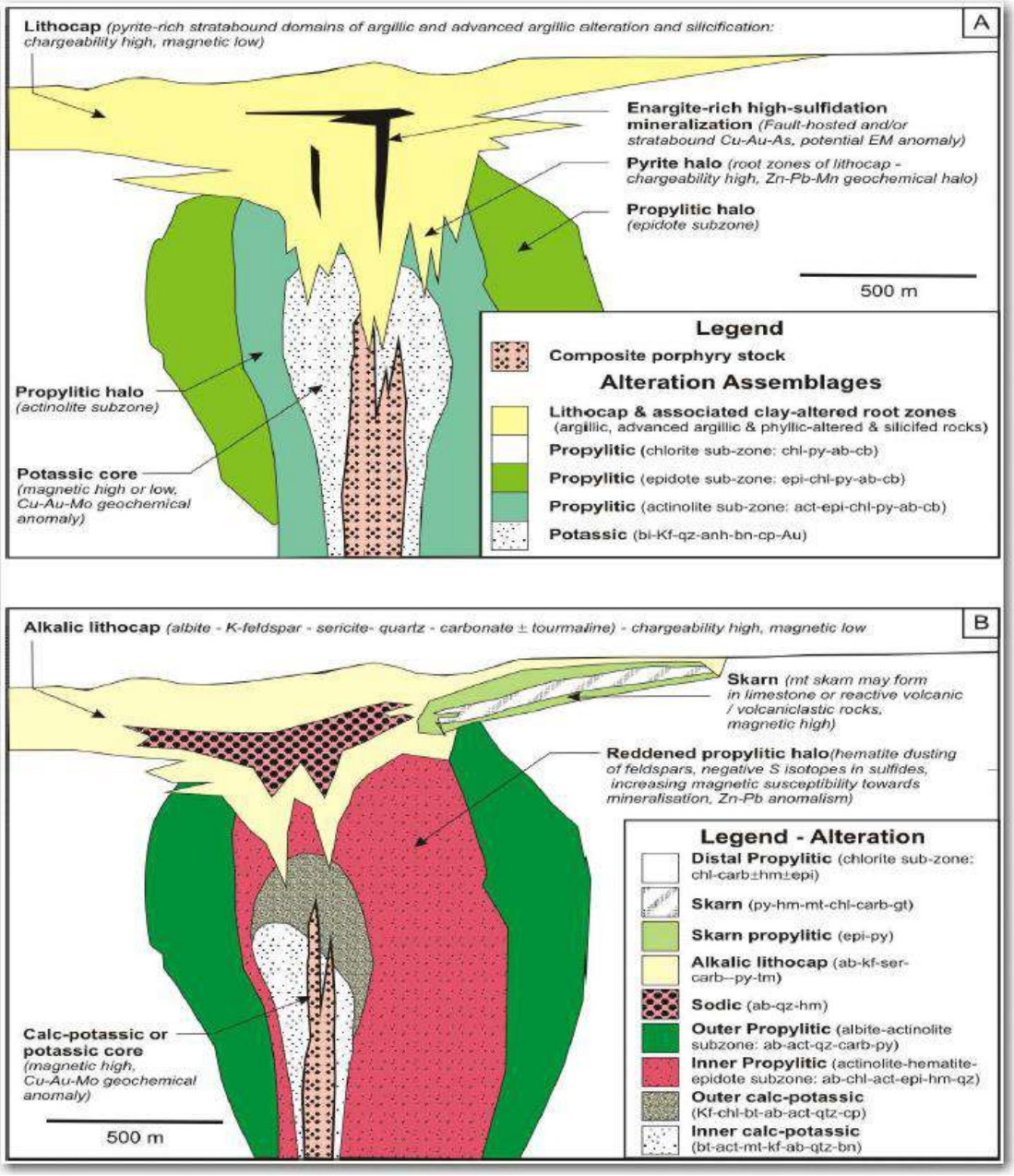

Figure 8.1: Zoned porphyry system model after Holliday and Cooke, 2007.

9 Exploration

9.1 2019 Exploration

Longford Exploration Services mobilized a crew of three from Vancouver, BC on Oct 4th, 2019 to carry out a geological mapping, prospecting and sampling program on the Empirical Property. The field program ran from October 4 - 12, 2019, with the crew being dispatched from the Lillooet Blackcomb Helicopter base or utilizing the Texas Creek forest service road for access.

The program was a first pass exploration plan designed to assess the property's potential for gold and copper mineralization and verify historical results and previous workings. A total of 102 rocks and 50 soil samples were collected during the program which are further described in Appendix D and E.

Prospecting activities focused on locating structures, contacts, mineralization and observed lithologies, particularly in the area surrounding the Towinock and Spray showings of quartz-diorite sills where previous work (Minfile 092INW090 and 092INW088) reported samples returning values of 2,100 ppb Au over 3 m in DDH-CH81-3, 3,670 ppb Au over 21 m, and a 3 m interval grading 7,860 ppb Au in DDH-CH81-4 (Price & Ditson, 1986).

Given the steep terrain and snow, crews sampled along the outcropping quartz diorite found on the ridges of the Towinock and Spray sills. To the north of Towinock Creek, a third, poorly explored, quartz diorite Riley sill was explored and prospected briefly but due to deep snow and cliffs the area was left for future exploration in better conditions. Focus was given to drill collar locations of DDH-81-03 and DDH-81-04 which intercepted 3.00 m and 21.00 m at 2.10 g/t and 3.67 g/t Au during a 1981 program. Historical drill hole collars were identified, and core box stashes were found and prospected for mineralization. Pictures of the core boxes and mineralized core can be seen in Figures 9.1 and 9.2 below. The condition of the historic core and boxes is well preserved with some sample tags still legible; future programs might spend time to relog and resample this core.

Figure 9.1: Example of mineralized historical core found on the Empirical Property.

Figure 9.2: Empirical Property historical Core (Including DDH-CH81-3).

9.1.1 2019 Daily Exploration Summary

October 5th, 2019

At 8:00 am the Longford crew had a safety briefing with Blackcomb Helicopter pilot, Scott Taylor. The crew departed at 8:30am and had a 20-minute tour of all three target locations (Spray, Towinock & Riley) where three historic drill-pads were identified and recorded.

The crew landed on the Spray Sill helipad and prospected approximately 150 m south of the Saddle Creek fault. 16 rock samples from outcrop/sub-crop were collected – these samples recorded sulphides (Molybdenite, Chalcopyrite and Pyrite) of less than 5%. In addition, quartz veining and geological contacts were mapped and explored.

October 6th, 2019

The crew departed at 8:30 am and landed at the Spray Sill helipad. The northern contact between the quartz diorite sill and metavolcanics/hornfelsed metasediments was mapped and sampled. Drill-pad 88-04, west and downslope of the ridge, was visited with multiple samples taken along the way. The crew was then flown from the 88-04 helipad to the Towinock Creek helipad (adjacent hole 81-01 & 81-2) at 1:30 pm. All three helipads (including the saddle location) have been mapped and flagged. Downslope of hole 81-01 & 81-2 samples were taken across the dacite/quartz diorite contact. Overall, 25 samples were taken with visible mineralization noted, including molybdenite, chalcopyrite and bornite.

Concluding the day of work, the crew scouted potential helipads to access the north-western ridge of the Towinock sill. No nearby locations were identified, however traversing from safer, more distant helipads may be possible.

October 7th, 2019

The crew departed at 8:30 am from the Lillooet hangar. Turbulent and strong winds forced the crew to land at base and abandon the day's plan to prospect the Riley sill. As a result, the crew decided to test road access along the Texas Creek road entering the south east claim area - the roads are in good condition. 11 samples were taken from the road and multiple contacts/faults were mapped indicating minor units of felsic intrusions. The crew identified a few samples with visible sulphides (1-3%) hosted within folded quartz veins in the metasedimentary host rock.

October 8th, 2019

The crew was grounded till 12:30pm due to intense weather and very low clouds. The crew proceeded with the pilot's discretion to not land at the two desired sills at higher elevation after flying the drainages to the mountain saddles and experiencing heavy weather conditions.

Crew was dropped off to the south of the claims-boundary at lower elevations but still above the snow line. 11 samples were collected from metasediments with intrusions of diorite and quartz veins. Minimal visible mineralization was encountered but the potential of disseminated mineralized in fold hinges and quartz veins is possible.

October 9th, 2019

The Crew set out at 8:30 to the Reilly Sill in the north-west of the property, the crew encountered steep cliffs and deep snow (20cm) on ridgeline making traversing too dangerous. 4 samples were taken of minor mineralization found within the phyllite/metasedimentary unit.

The crew then moved to the Spray showing and took 3 samples and 25 soil talus fine samples.

For a third dump the crew then moved to the southeast of the property to continue sampling on the deactivated logging road from the previous day taking 11 samples of metasediments, dykes, and intrusives.

October 10th, 2019

The Crew set out at 8:30 am from the Lillooet airbase to the Spray showing where a secondary line of talus samples was completed (25 samples), approximately 10 m north of the previous line.

James Rogers and Rory Kutluoglu (QP) flew in from the Langley airstrip and met-up with the crew on the Spray saddle where project geologist gave a brief tour of the property, showing the current/historic workings. The core from the 1980's drilling left on the mountain was observed in two locations and in addition, three historic drill hole locations were visited including the Towinock showing, where representative samples were collected by the QP.

The Crew called for an airlift (at 12:30 pm) to the south of the property to continue mapping and sampling the deactivated road from the previous day. The project geologist joined the crew around 1:30 pm after finishing the site visit with the QP and James. The Longford crew proceeded along the road until overburden and nonmineralized metasediments were encountered. 6 samples were taken.

October 11th, 2019

The crew drove on the Texas creek forest service road and did a field traverse to a folded geologic feature identified from the helicopter on a previous day. 10 samples were taken of the mineralized feature as well as structural measurements recorded. 5 samples were taken along the Texas Creek forest service road while leaving the property.

9.1.2 2019 Rock Sampling

Table 9.1 below outlines the 102 rock sample assay results from the 2019 preliminary prospective program performed on the property by Longford Exploration Services. These results are illustrated in Figure 9.1 to 9.4 below and a more detailed map is available in APPENDIX H.

Table 9.1: Empirical Property 2019 rock assay results (NAD83, Zone 10N).

Sample ID	Easting	Northing	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Au (ppb)	Ag (ppm)
3270016	578770	5599482	36.2	8.2	2.5	137	3.2	1.2	0.05
3270017	578803	5599490	13.2	257.3	2.7	43	0.8	1	0.05
3270018	578800	5599492	12.1	94.2	13.3	37	0.8	3,175.4	2.7
3270019	578820	5599515	59.7	58.4	2	53	4.5	0.9	0.1
3270020	578824	5599516	27	32.2	1.8	42	2.5	2.9	0.05
3270021	578832	5599607	40.4	23.1	4.3	46	2.5	12.6	0.2
3270022	578828	5599647	30.8	7.9	6.8	63	6.5	2.3	0.1
3270023	578670	5599407	57.5	5.6	4.2	58	1.9	1.5	0.4
3270024	578667	5599393	41	4.1	4.6	272	14.5	1.1	0.1
3270025	578686	5599363	45.5	23	6.5	291	16	0.8	0.2
3270026	578688	5599360	61	21.2	7.4	1,026	10.4	0.25	0.3
3270027	578735	5599196	50.2	513	1.9	40	2.5	2	0.3
3270028	577503	5601514	70.2	54.4	3.4	72	2.2	59.7	0.3
3270029	577494	5601502	59.9	4.8	6	41	1.3	557.9	0.6

Sample ID	Easting	Northing	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Au (ppb)	Ag (ppm)
3270030	577497	5601500	54.1	71.4	2.2	49	1.1	138.9	0.2
3270031	577488	5601492	35.7	218.9	2.8	52	0.7	1.2	0.2
3270032	581610	5597396	54.8	2.3	2.8	97	32.1	0.25	0.3
3270033	581851	5597433	15	0.5	1.4	49	56.9	2.5	0.05
3270034	581844	5597432	117.5	2	1.8	116	30.1	0.9	0.4
3270035	581896	5597451	29.4	1.1	4.2	80	21.3	2.3	0.05
3270036	582080	5597541	33.1	11.2	11.2	37	3.8	0.25	0.2
3270037	582476	5598747	80.6	3.3	2.3	139	27	0.6	0.1
3270038	584861	5595196	3.2	0.7	1.5	73	17.8	0.25	0.05
3270039	584849	5595182	97.3	0.2	2.7	35	74.4	0.25	0.1
3270040	584832	5595159	43.7	0.4	0.8	44	42.5	0.25	0.05
3270041	584748	5595106	40	1.4	5.2	120	16	0.25	0.3
3270051	584648	5595120	58.8	1	2.5	67	22.1	0.25	0.2
3270052	575643	5602641	19.5	1.1	2.2	71	5.2	3.3	0.1
3270053	575664	5602654	22.1	1.1	12	97	1.2	8.4	0.1
3270054	578812	5599535	27.2	74.7	1.5	19	0.8	0.5	0.05
3270055	578814	5599544	33.6	110.7	2.7	28	0.7	0.25	0.05
3270056	578816	5599556	22.5	85	1.5	26	0.5	0.25	0.05
3270057	578827	5599583	39.2	5.6	2.1	53	2.4	47.8	0.2
3270058	584703	5596854	62.2	4.3	8.8	144	25.2	5	0.5
3270059	584683	5596899	20.1	0.2	0.4	6	1,290.4	0.8	0.05
3270060	584610	5597040	35	0.6	2.9	61	47.2	0.25	0.05
3270061	582359	5598727	36.6	2.6	7.3	55	12.4	0.25	0.05
3270062	582351	5598726	28.5	0.2	4.5	75	27.5	0.25	0.1
3270063	582351	5598726	45.1	1	13	68	5.5	0.25	0.6
3270064	582266	5599346	89.2	7.3	2.2	71	20.6	0.25	0.1
3270065	582318	5599801	73.1	2	6.3	99	21.8	0.5	0.3
3270066	578811	5599523	17.7	42.8	196.1	112	1.3	14.7	31.9
3270067	578820	5599568	22.2	12.4	1.3	21	1.2	0.7	0.05
3270068	578825	5599615	33.7	53.3	1.9	85	3.3	2.6	0.2
3270069	578671	5599412	56.8	3.2	2.7	117	2.5	0.9	0.2
3270070	578670	5599391	21.2	4.4	2.3	89	3.3	1.6	0.2
3270071	578724	5599250	36.7	93.4	2.1	49	1	1.9	0.2
3270072	577503	5601511	26.1	31.9	1.4	17	1.1	3.2	0.05
3270101	577492	5601501	9.4	6.4	0.6	25	1.3	0.9	0.05
3270102	577523	5601495	46.7	107.3	1.9	36	1.3	1.1	0.2
3270103	584856	5595189	8.1	0.4	1.5	39	17	0.25	0.05
3270104	584836	5595167	27.5	1	4.4	49	8.5	1.1	0.2
3270105	584653	5595118	22.9	0.6	7.2	84	26.7	0.25	0.05
3270106	584705	5596855	41.8	3.7	8.9	130	23.2	0.8	0.5
3270107	584685	5596893	7	0.05	0.7	13	1,939.3	17.2	0.05
3270108	584610	5597024	30.8	0.8	5.6	98	11	2.3	0.2
3270109	584437	5597451	46.7	0.8	13.1	99	11.5	3.2	0.2
3270110	584431	5597595	47.9	0.2	1.6	57	33.1	1.3	0.1

Sample ID	Easting	Northing	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Au (ppb)	Ag (ppm)
3270111	582350	5598722	24.5	0.1	3.8	65	27.7	0.7	0.05
3270112	582349	5598726	26.5	0.2	2.7	84	33.1	0.7	0.1
3270113	582349	5598726	25.6	0.2	4.8	56	27.5	0.25	0.05
3270114	582269	5599338	100.3	3.6	1.6	52	13.8	0.25	0.2
3270115	582338	5599735	42.3	1	4.3	66	9.1	0.25	0.1
3270116	578800	5599489	32.4	49.4	1.5	31	1.7	0.25	0.05
3270117	578804	5599489	17.7	72	2.5	21	1	5.4	0.6
3270118	578811	5599516	31	118.5	3	9	0.5	0.25	0.2
3270119	578826	5599490	36.7	168.6	1.9	15	1.4	3.1	0.1
3270120	578813	5599561	13.6	170.6	1.1	18	0.5	0.5	0.05
3270121	578852	5599711	30.8	97	1.2	41	0.9	6	0.2
3270122	578666	5599407	26.7	3.7	3.4	74	1.3	1.7	0.4
3270123	578617	5599394	76.8	4.8	3.8	126	2.2	0.25	0.2
3270124	578708	5599291	44	168.5	1.5	146	5.3	0.25	0.05
3270125	578707	5599290	33.1	410.9	1.7	60	4.3	0.25	0.05
3270126	578717	5599261	73.1	481.1	4.4	35	1	4.7	0.3
3270127	578720	5599229	52.6	50	2.4	57	16.2	0.25	0.05
3270128	577504	5601513	26.4	10.5	1.5	15	1.6	111.4	0.2
3270129	577494	5601504	11.1	6.6	1.4	5,093	0.7	71.3	0.1
3270130	577492	5601497	78	72.3	5.2	108	2.5	1.8	0.2
3270131	577534	5601504	66.5	100.1	2.6	101	7.9	29	0.2
3270132	581594	5597380	13.4	43.2	1.7	12	3.2	0.8	0.05
3270133	581921	5597456	90.7	1	3	133	67.9	0.5	0.2
3270134	581845	5597432	45.3	2.1	0.5	9	2.7	0.6	0.1
3270135	582373	5598836	6.8	0.4	2.4	23	191.7	0.25	0.05
3270136	582403	5599337	3.7	9.7	1.5	2	2.1	0.9	0.05
3270137	584854	5595191	88	0.6	0.7	31	6.9	4.7	0.4
3270138	584834	5595167	7	0.3	1.2	11	4.6	0.25	0.05
3270139	584648	5595120	59.7	1	20.3	101	92.7	0.25	0.2
3270016	575644	5602639	12	1.2	1.3	45	2.8	0.25	0.05
3270017	575646	5602640	12.7	1.2	2.9	96	4.1	4	0.05
3270018	584699	5596866	57.8	6.2	10	191	35.9	23.3	0.5
3270019	584666	5596928	9.4	0.05	0.7	18	2,125.5	0.8	0.1
3270020	584611	5597018	39.9	1.8	5.1	70	8.3	0.25	0.3
3270021	584604	5597044	34.7	1.8	7.5	50	13.1	0.25	0.3
3270022	584552	5597180	17.6	0.5	4.5	73	4.9	0.25	0.05
3270023	584423	5597464	32.3	2	6	28	3	0.25	0.2
3270024	584430	5597597	11.9	2.9	2.5	72	6.4	0.25	0.05
3270025	584420	5597643	99.5	3.3	7.8	58	17.4	0.25	0.4
3270026	582359	5598726	58.6	2.9	6.6	56	10.6	0.25	0.2
3270027	582362	5598733	35.6	3	6.3	65	7.8	0.25	0.1
3270028	582359	5598742	62.8	12.1	6.1	138	70	0.25	0.3
3270029	582348	5598721	22	0.4	6	26	3.9	0.25	0.1
3270030	582323	5599767	7.6	0.9	6.5	75	5.8	0.25	0.05

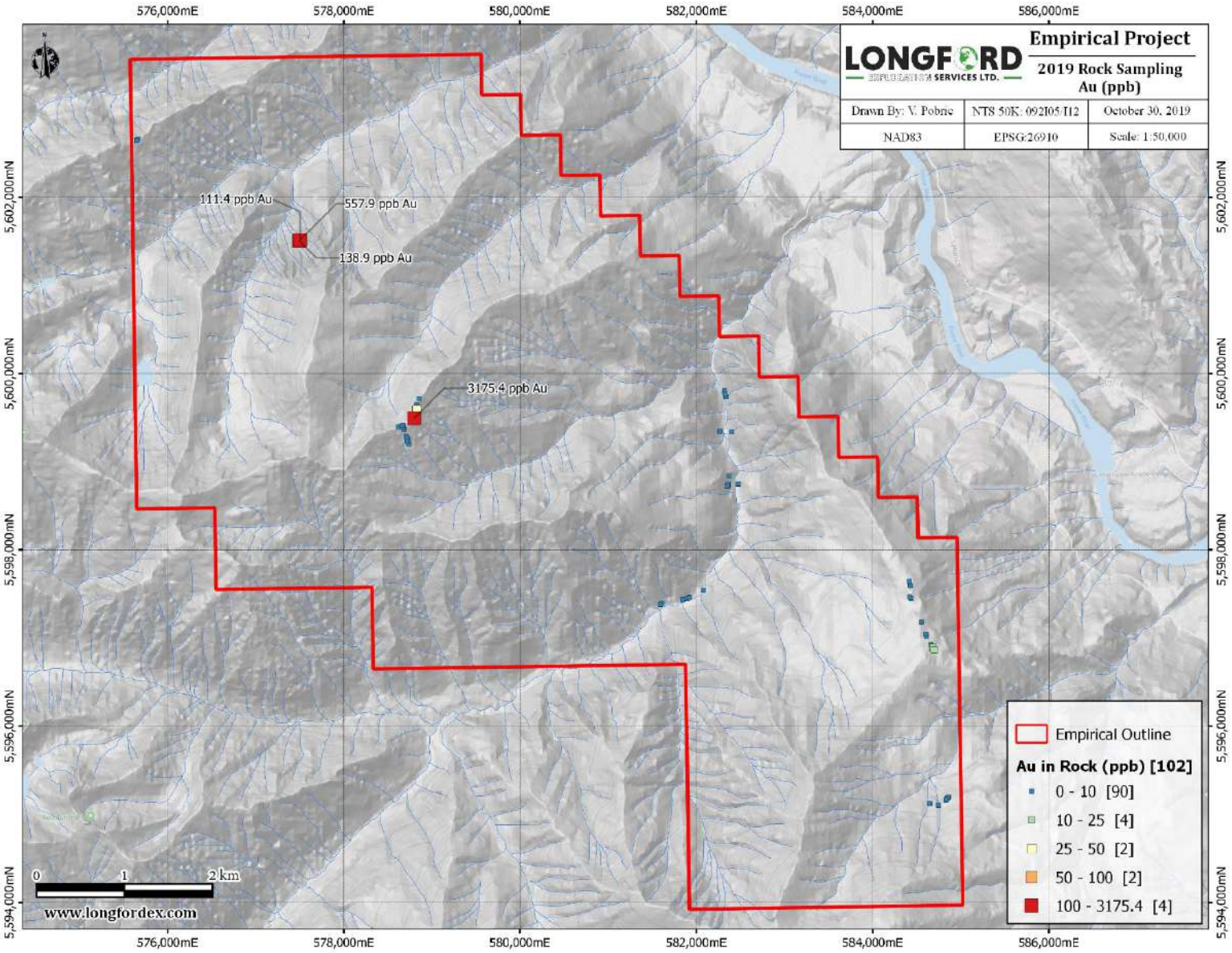

Figure 9.3: 2019 Empirical Property Au in rock results (ppb).

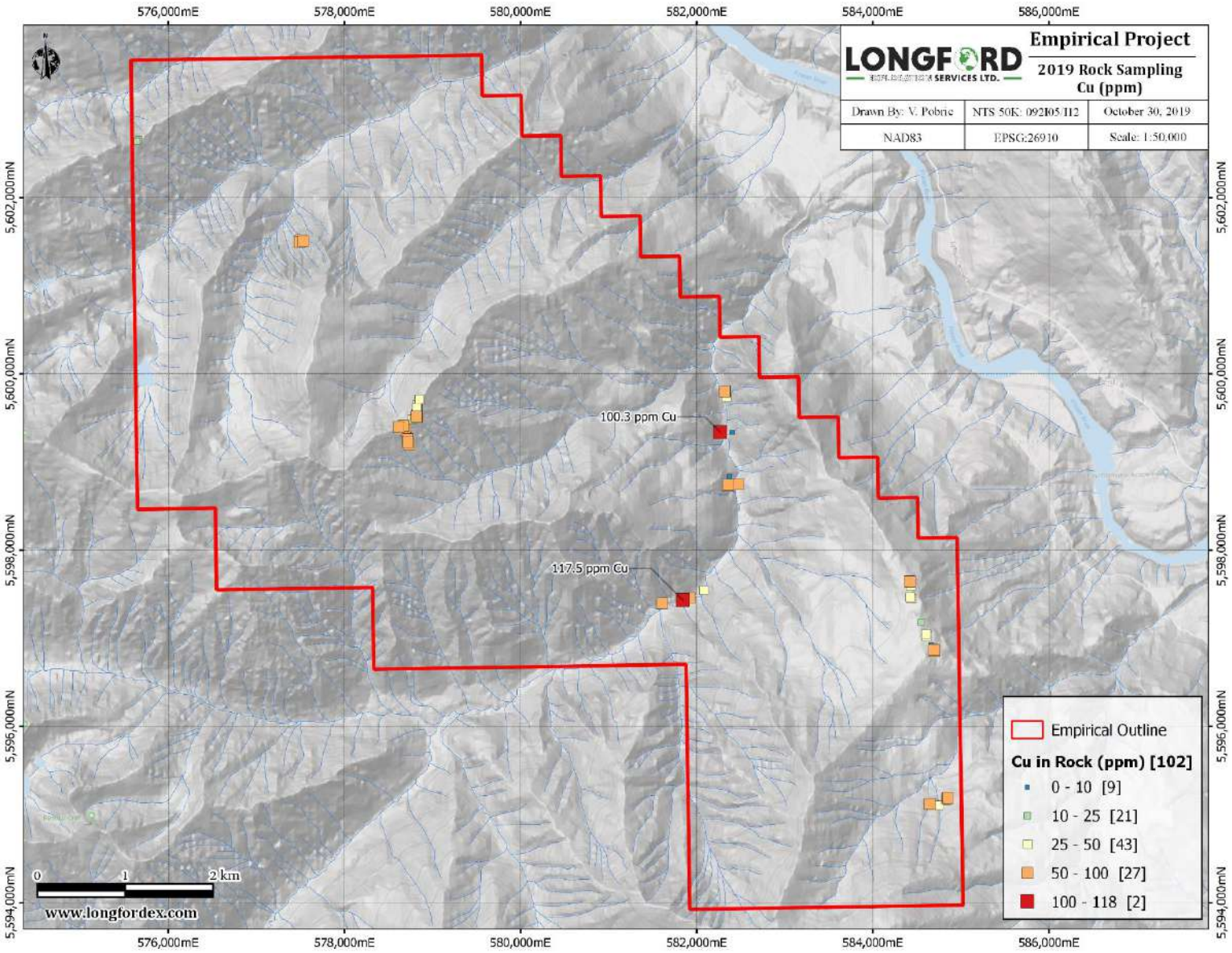

Figure 9.4: 2019 Empirical Property Cu in rock results (ppm).

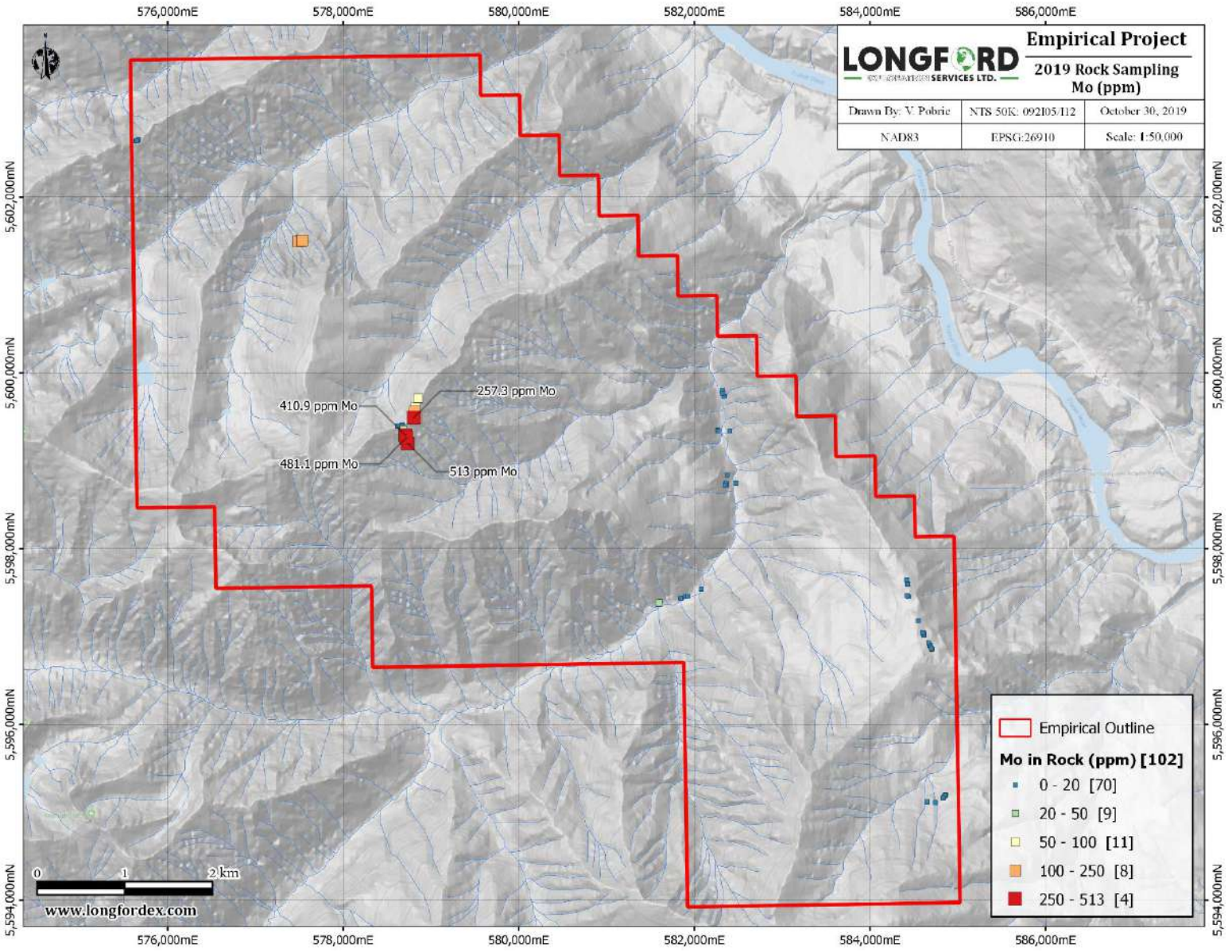

Figure 9.5: 2019 Empirical Property Mo in rock results (ppm).

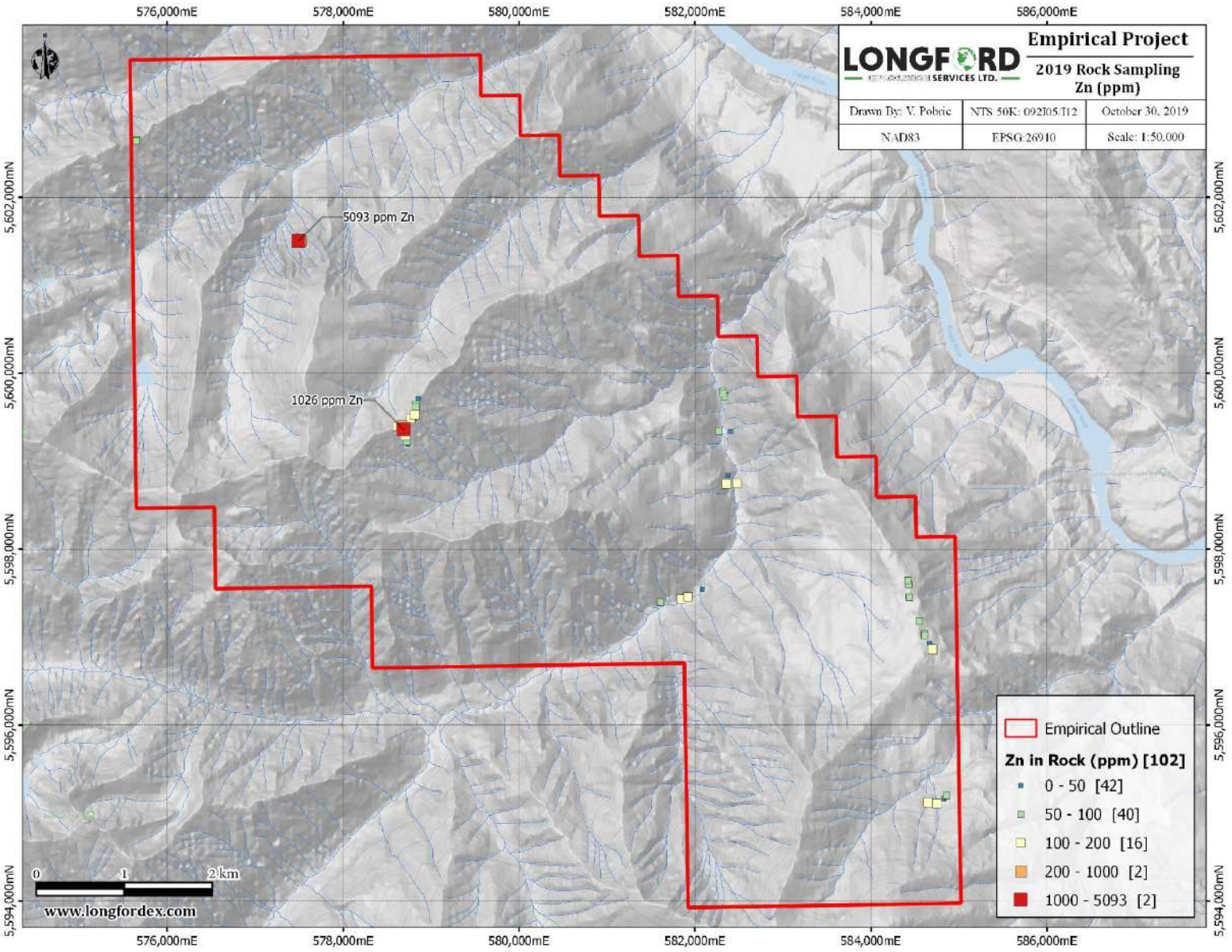

Figure 9.6: 2019 Empirical Property Zn in rock results (ppm).

9.1.3 2019 Talus Fine Sampling

50 talus fine samples were collected across the Spray sill saddle in the vicinity of the historic in-soil copper/gold anomalies. Select samples were taken in proximity to historic sampling to verify historically reported analytical results, as well as to the North West and South East of historic samples to test for an extension of highly anomalous results.

Table 9.2 below outlines the soil sample assay results from the 2019 preliminary field surveys performed on the property by Longford Exploration Services. These results are illustrated in Figure 9.5 to 9.6 below.

Table 9.2: Empirical Property 2019 soil sample coordinates and assay results (NAD83, Zone 10N).

Sample ID	Easting	Northing	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Au (ppb)	Ag (ppm)
3293551	578804	5599515	102.4	358.7	6.1	137	14.2	27.6	0.2
3293552	578796	5599508	136.4	95.1	10.5	375	16.9	1.6	0.2
3293553	578789	5599501	165.1	126.3	14.5	399	21.6	6.3	0.3
3293554	578782	5599495	196.5	255.4	117.9	420	15.7	8.8	4.5
3293555	578774	5599489	329.6	557.9	28.4	568	19.3	8.8	0.9
3293556	578765	5599482	357.6	748	25	395	21	88.8	0.8
3293557	578757	5599476	356.2	533.9	35.4	347	21.3	40.3	0.9
3293558	578747	5599471	138.5	149.6	12.5	351	29.7	16.4	0.4
3293559	578740	5599464	149.8	57.3	13.7	696	31.3	5.1	0.3
3293560	578735	5599457	137.8	62.3	14	886	41.6	9.5	0.5
3293561	578733	5599457	140.1	60.3	14.1	922	39.9	8	0.5
3293562	578725	5599450	149.8	27.5	13.2	1,200	38.1	7.3	0.4
3293563	578718	5599442	181.8	13.7	9.7	1,095	23.4	12	0.6
3293564	578710	5599434	221.2	28.9	15.8	2,223	50.3	9.2	0.8
3293565	578701	5599428	54.4	10.7	6.4	383	35.2	4.9	0.3
3293566	578692	5599421	154.1	18.8	21.8	494	25.7	7.9	0.3
3293567	578684	5599413	201.9	12.4	16.9	560	15	5.4	0.8
3293568	578675	5599408	192.1	20.3	23	1,427	42.6	3.2	0.3
3293569	578665	5599401	121.6	9.8	5.1	146	13.2	2.7	0.2
3293570	578655	5599399	168.2	7.9	10.9	669	43.3	2.8	0.2
3293571	578656	5599400	181.6	8.7	11.1	708	46.3	3.1	0.2
3293572	578644	5599398	130.6	6.7	6.9	1,180	47.9	2.1	0.2
3293573	578633	5599393	208.8	13.1	11.5	935	73	1.5	0.2
3293574	578623	5599390	135.9	13.7	9.5	1,010	38.2	1.8	0.3
3293575	578612	5599384	105	30.8	6.7	265	12.2	1.3	0.1
3293576	578796	5599520	152.4	225.8	14.1	256	11.3	13.6	0.1
3293577	578788	5599512	187.4	149.1	14.7	332	17.1	6.7	0.3
3293578	578781	5599506	286.9	229.2	94	596	33.6	18.1	1.3
3293579	578774	5599501	351.1	398.9	49.2	846	29.5	87.1	1.7
3293580	578765	5599496	426.1	559.2	27	681	31.4	11.6	1.1
3293581	578765	5599496	415.9	571	27.2	633	30.5	10.8	1.1
3293582	578756	5599491	283.3	493.5	23	375	23.4	78.8	1.1
3293583	578748	5599485	167.2	176.3	20.3	566	40.6	11	0.7
3293584	578741	5599493	111.5	38.1	20.2	441	26.9	5.3	0.2

Sample ID	Easting	Northing	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Au (ppb)	Ag (ppm)
3293585	578730	5599486	185.7	127.3	21.9	694	46.2	13.8	0.5
3293586	578742	5599479	147.3	113	20.2	831	62.7	15.7	0.4
3293587	578733	5599471	168.6	53	14.1	855	42.5	7	0.5
3293588	578723	5599464	149.1	34.9	34.9	913	25.4	3.9	0.9
3293589	578715	5599457	205.6	27.4	12.5	2,452	104.4	7.5	0.7
3293590	578707	5599448	248.3	10.6	10.9	6,845	83.1	7.5	0.6
3293591	578707	5599448	239.3	10.8	10.4	6,077	79.8	5.1	0.6
3293592	578699	5599440	177.5	22.8	88.3	1,130	27.7	26.1	2.8
3293593	578693	5599432	234.1	10.7	26.3	862	41.9	9.9	0.5
3293594	578684	5599429	173.4	36	17.7	684	17.2	14.7	0.9
3293595	578674	5599420	181.9	13.3	22.1	1,293	25.9	1.6	0.4
3293596	578667	5599415	163.5	19.1	20.5	649	15.4	9.2	0.6
3293597	578658	5599409	164.8	15.3	14.2	661	38.7	4.6	0.4
3293598	578649	5599409	106.8	7.3	10.5	621	30.7	1.1	0.2
3293599	578641	5599407	119.6	9.7	7.4	892	39.8	1.2	0.2
3293600	578629	5599404	95.7	9.3	6.8	867	35.7	1	0.2

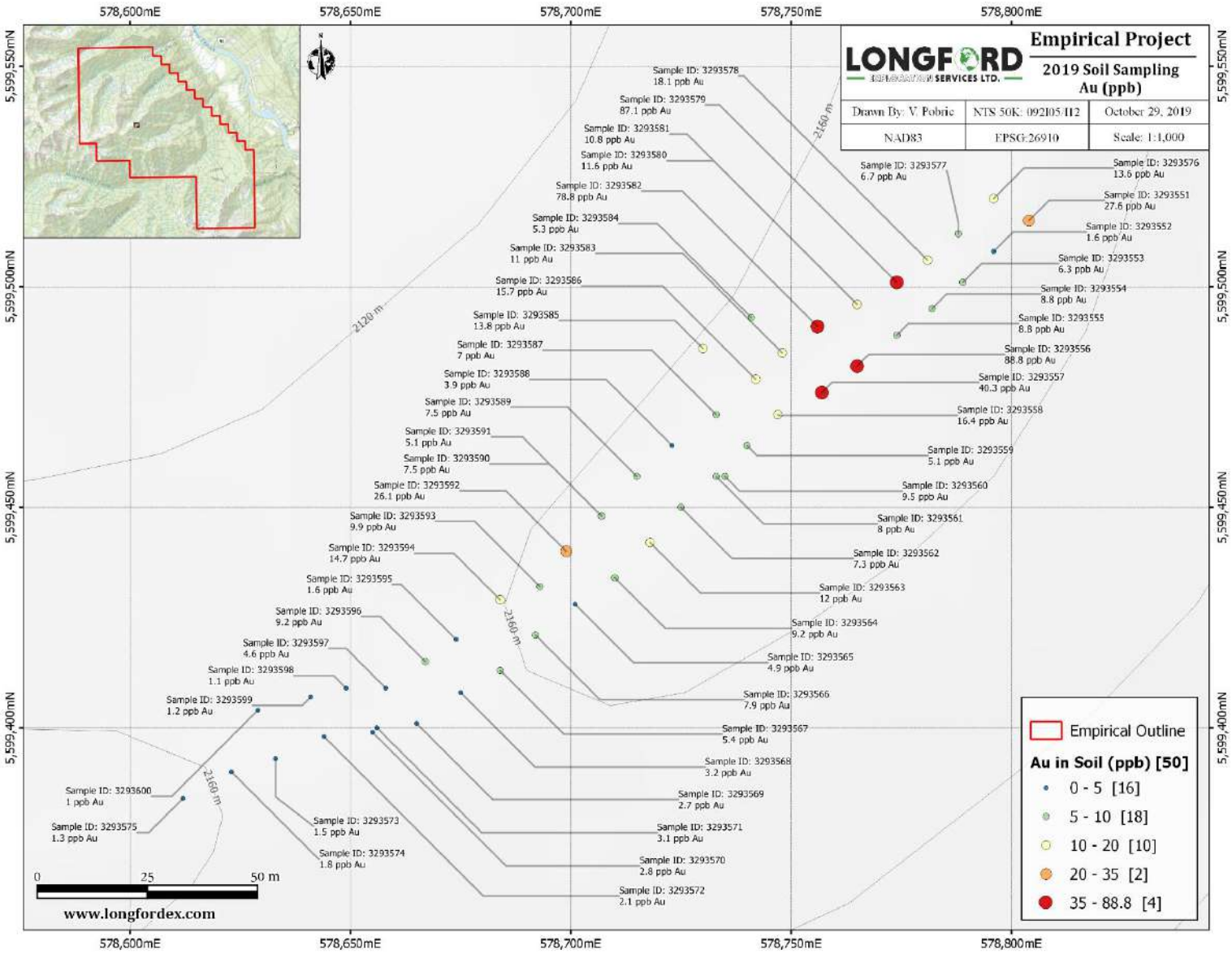

Figure 9.7: 2019 Empirical Property Au in soil results (ppb).

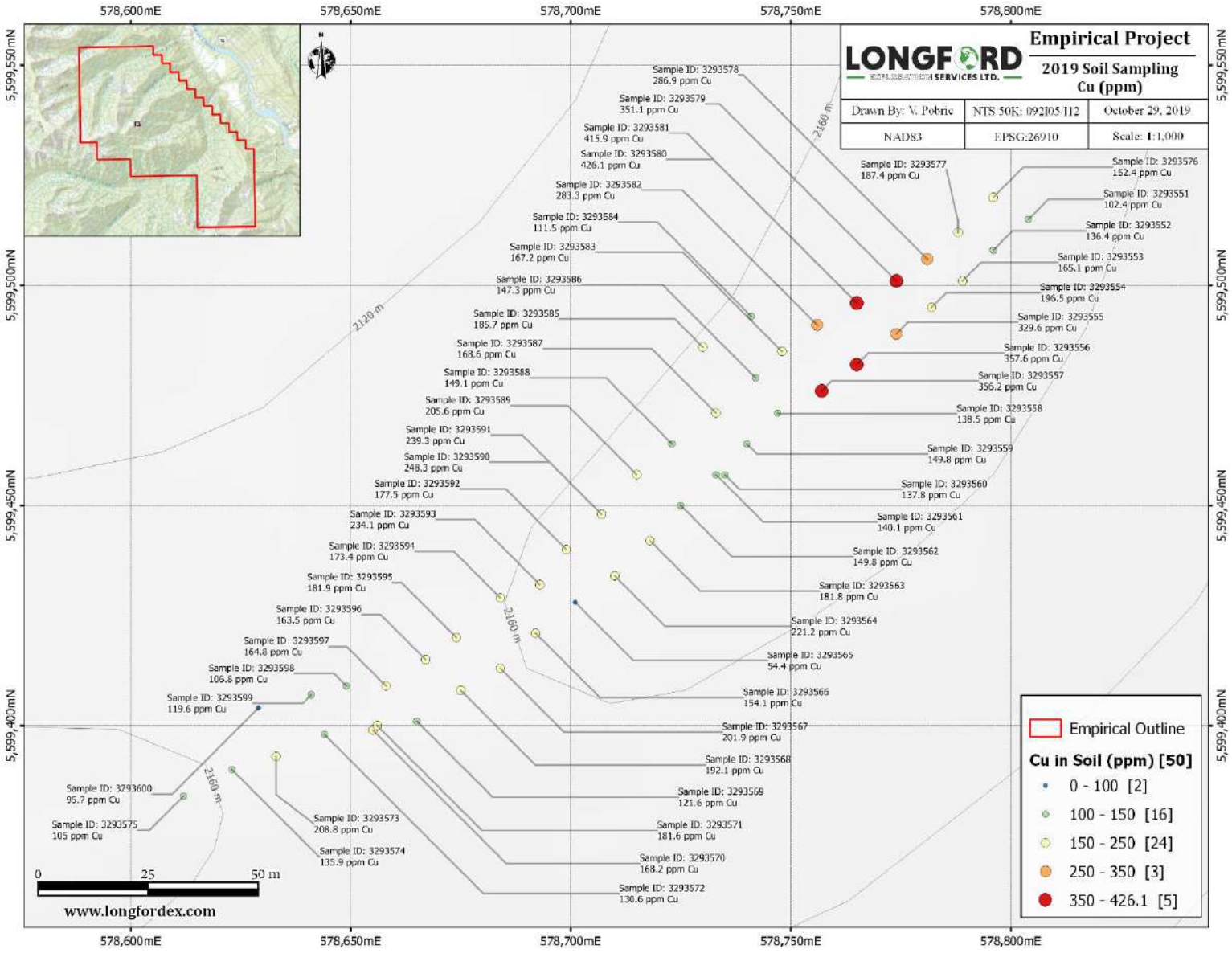

Figure 9.8: 2019 Empirical Property Cu in soil results (ppm).

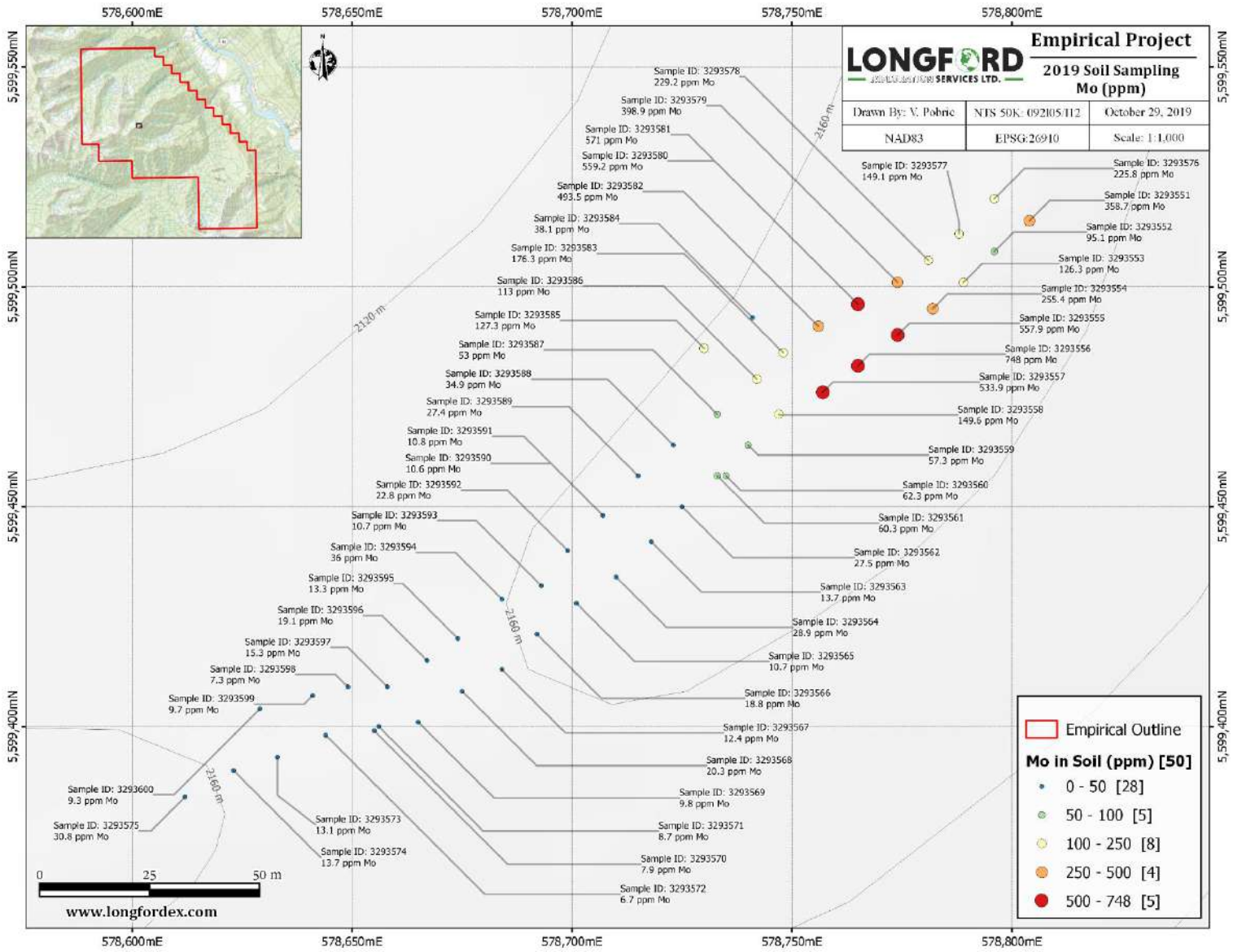

Figure 9.9: 2019 Empirical Property Mo in soil results (ppm).

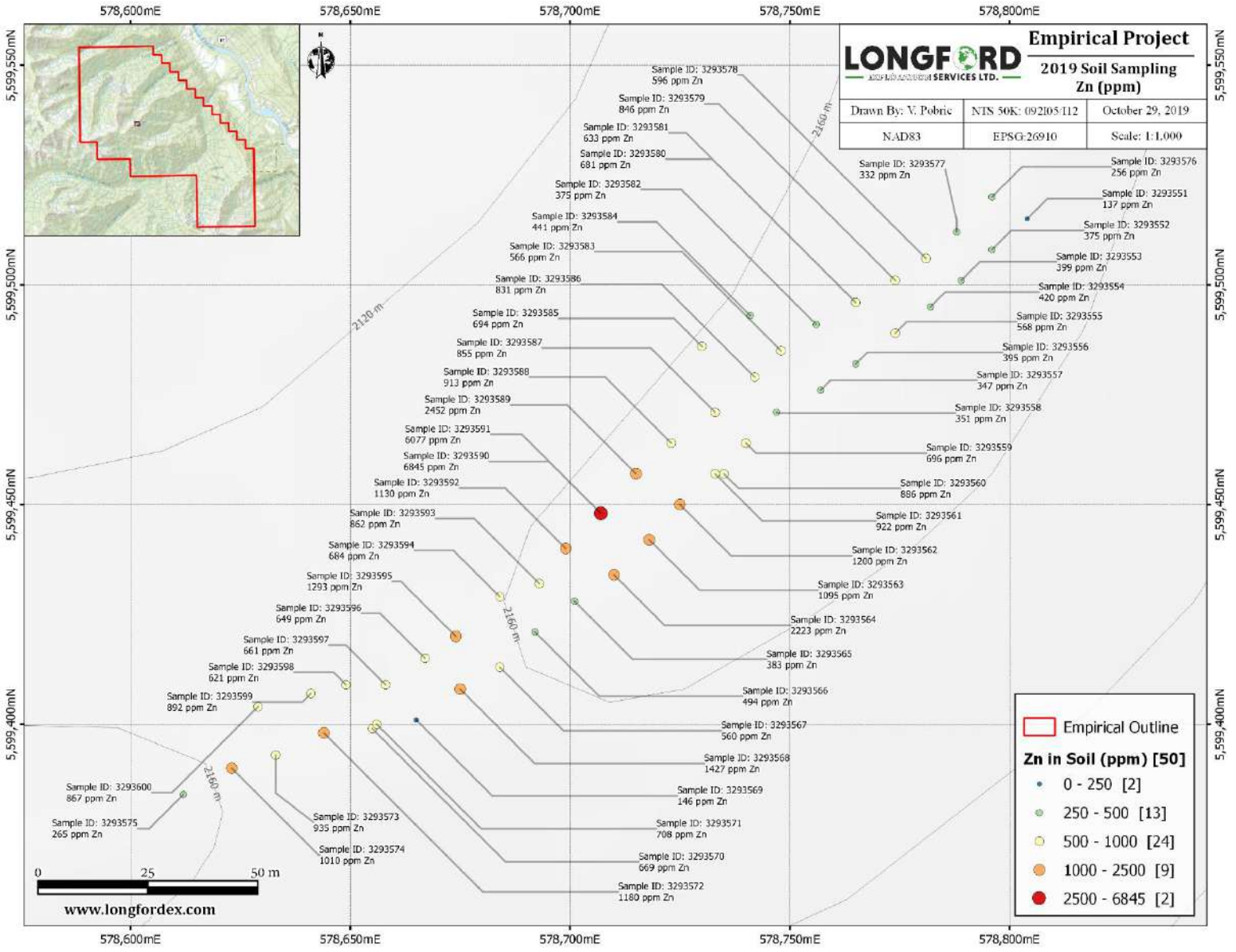

Figure 9.10: 2019 Empirical Property Zn in soil results (ppm).

9.2 Statement of Costs

The following table describes the costs of the work program which are eligible for assessment credit. The amount being applied for is $84,471.39 The full invoice can be viewed in Appendix A.

Table 9.3: Statement of costs for 2018 Empirical property exploration program.

Dates	Item Description	Units	Cost/Unit	Total
Oct 4th, Oct 10th, 2019	Project Manager- J.Rogers	2	$1000	$2,000
Oct 10th, 2019	P. Geo-R. Kutluoglu	1	1,200	$1,200
Oct 4th to Oct 12th, 2019	Geologist-Krukowski	8.5	$800	$6,800
Oct 4th to Oct 12th, 2019	Geologist-Leach	8.5	$700	$5,950
Oct 4th to Oct 12th, 2019	Geologist-Long	8.5	$700	$5,950
Oct 4th to Oct 12th, 2019	Food per diem (per person/ day)	25.5	$75	$1,912.50
Oct 4th to Oct 12th, 2019	Lodging (per person/day)	22.5	$150	$3,375
Oct 4th to Oct 12th, 2019	Truck (1 ton with safety and recovery gear)	8.5	$140	$1,190
Oct 4th to Oct 12th, 2019	Fuel (per km)	700	$0.65	$455
Oct 4th to Oct 12th, 2019	Helicopter (incl. fuel)	12.1	$1,647.18	$19,930.90
Oct 4th to Oct 12th, 2019	Electronics Kit (Radio, Sat phone, GPS)	25	$26.5	$662.50
Oct 4th to Oct 12th, 2019	Chainsaw and PPE (incl, fuel/oil)	8.5	$20	$170
Oct 4th to Oct 12th, 2019	XRF Rental	8.5	$175	$1487.50
Oct 4th to Oct 12th, 2019	Field/Office Consumables	30	$26.5	$795
	Analysis-Rock	102	$35.85	$3,554.70
	Analysis-Soil	50	$30.45	$1,522.50
	Sample Shipping	1	$1000	$1,000
	Pre/Post field data compilation/GIS, report and maps	2	$6000	$12,000
	Estimated Sub Total			$69,955.60
	Management Fee (15% of Est. Sub Total)			$10,493.34
	Sub Total			$80,448.94
	GST (@ 5%)			**$4,022.45**
	Total			$84,471.39

10 Sample Preparation, Analysis, and Security

10.1 Sampling Procedure

During the 2019 program a total of 102 rock samples, 50 soil samples were collected. These samples were collected to enable detailed descriptions out of the field and were secured in a manner where sample integrity and provenance was maintained for future analytical procedures.

Rock samples collected were located by GPS in NAD83 UTM Zone 9N, the sample location was recorded in field notebooks, an assay sample tag book and as a waypoint on a Garmin 64s GPS unit. Each sample was collected into its own 18" x 12" poly bag labeled with the locale (i.e. "Empirical") and a unique 7-character sample ID (i.e. 3270001) assigned from a barcoded Tyvek sample book. A tear-out tag with the barcode and unique sample ID was inserted in the bag with the sample and the bag was sealed with a cable tie in the field. The sample locations are marked in the field with flagging type and the unique sample ID number written on the flagging tape.

Soils/talus fine samples were collected at 10 m intervals along lines spaced 10 m apart. All talus sample locations were recorded using hand-held GPS units. Sample sites are marked by flagging tape with the sample number written to it and tied/wrapped around a rock placed at the site. The talus samples were collected from 10 to 20 cm deep holes using hand-held geo-tools with larger rocks and pebbles removed by hand. The samples were placed into individually pre-numbered Kraft paper bags with corresponding sample tags inserted. The talus fine samples were sent to Bureau Veritas in Vancouver, BC where they were dried and screened to -80 mesh, dissolved using an aqua regia digestion and analyzed for 35 elements using the inductively coupled plasma-mass spectrometry technique (ICP-MS).

10.2 Chain of Custody

The Longford Exploration Crew maintained custody of all samples until they were delivered in person to Bureau Veritas Laboratories in Vancouver, BC.

10.3 QA/QC

Longford Exploration Services applies a high-level QA/QC program for early stage exploration programs. A Duplicate rock sample is collected every twentieth sample, while stream sediment is duplicated every tenth sample to confirm consistency of the data stream. More comprehensive QA/QC procedures are applied to larger systematic sampling programs.

More comprehensive QA/QC procedures are applied to larger systematic sampling programs.

10.4 Sample Analysis

Sample analysis has been and will be carried out by Bureau Veritas at its Vancouver location which is ISO/IEC 17025:2005 and ISO 9001:2015 certified and independent of the issuer.

The analysis methods requested from the lab for the samples collected in the 2019 field exploration program are set out below:

Table 10.1: Analytical methods requested from Bureau Veritas Laboratory.

Analytical Methods	
Analysis – Rock	PRP70-250, AQ200
Analysis – Soil	SS80, AQ200

Standard preps were chosen for the rock and talus/soil samples. A multi acid digestion (ICP-ES/MS - AQ200) analysis was chosen as it gives near total values for all the elements of interest.

10.5 Adequacy of Procedures

All sample collection and analysis performed by the Longford Exploration field crew are in general conformance with industry best practices and are in accordance with typical CIM standards.

11 Interpretation and Conclusions

During the 2019 Empirical exploration program a strongly bedded sequence of meta-sedimentary rocks intruded by quartz diorite and dacite sills/dykes, that were subsequently folded and faulted, were observed on the property. Later intrusions of andesite-dacite feldspar porphyry and basaltic dykes were also observed followed by a lessor folding and faulting event. Meta-sedimentary rocks observed consisted of locally dominant, argillite with siltstone, phyllite and calcite-chlorite sub schist and minor quartzite and chert. Most sedimentary/volcanic derived rocks were weakly calcareous, with or without calcite-ankerite lenses and laminae. More massive, dark grey-black (graphitic) argillite and intrusive rocks were observed to be non-calcareous. The pervasive, moderately to strongly hornfelsed character of the metasedimentary and volcanic rocks masked the local effects of sill and dyke emplacement. Mineralization was primarily observed in 2-10 cm wide quartz veins and fracture surfaces in the medium to coarse grained light grey quartz diorite found at the Towinock and Spray sills. Blebs of sulphides were found within quartz veins and disseminated throughout the vein selvedges with visible pyrite, chalcopyrite, trace sphalerite, black to red gossanous weathered material and minor molybdenum.

Table 11.1 below highlights the number of rock and soil/talus samples collected on the Empirical property which fall within the anomalous range.

Table 11.1: 2019 exploration program samples which fall within the anomalous range (ppb/ppm), n=102 rocks n=50 soils.

Element	Crustal Abundance	Typical Anomalous Conc in Rock (ppm)	# of Rock Samples within anomalous range	Typical Anomalous Conc in Soil (ppm)	# of Soil/Talus Fine Samples within anomalous range
Au	4 ppb	50-100 ppb	2	40-100 ppb	4
Ag	70 ppb	0.5-1	8	0.2-0.5	48
Cu	55 ppm	100-200	3	50-200	50
Pb	13 ppm	40-100	0	40-100	4
Zn	70 ppm	100-500	20	200-300	48
Mo	1.5 ppm	5 to 20	50	2 to 5	50
W	1.5 ppm	10 to 50	1	2 to 10	0
Ni	75 ppm	100-200	2	100-200	1
As	1.8 ppm	5 to 10	41	5 to 20	50

Tables 11.2 and 11.3 below highlight the average, maximum and minimum values returned for both rock and talus fine samples, respectively.

Table 11.2: Statistical analysis of 2019 Empirical exploration program rock results (n=102).

Element	Au (ppb)	Ag (ppm)	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)
Mean	42.82	0.51	39.45	40.87	5.85	125.76
Median	0.80	0.10	34.85	3.70	2.70	57.50
Mode	0.25	0.05	30.80	0.20	1.50	49.00
Max	3,175.40	31.90	117.50	513.00	2.00	5,093.00
Min	0.25	0.05	3.20	0.05	0.40	2.00

Table 11.3 Statistical analysis of 2019 Empirical exploration program talus fines/soil results (n=50).

Element	Au (ppb)	Ag (ppm)	Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)
Mean	13.19	0.65	191.20	131.79	21.78	976.86
Median	7.50	0.45	168.40	32.85	14.35	682.50
Mode	1.60	0.20	149.80	13.70	14.10	375.00
Max	88.80	4.50	426.10	748.00	117.90	6,845.00
Min	1.00	0.10	54.40	6.70	5.10	137.00

The presence of visible sulphides, alteration and multiple generations of intrusions and dykes found within the Empirical property supports the potential for a sufficiently large system capable of emplacing a Cu-Au-Mo porphyry deposit. The Cordilleran Continental Arc, where Empirical resides, is known to host 26 significant porphyry deposits, including Imperial Metal's historic Huckleberry Mine and Noranda's historic Babine Porphyry camp. Potentially analogous Cordilleran Continental Arc porphyries from the South Eastern Coast Mountains within 150 km of Empirical property includes:

- Fish Lake (Prosperity) 1,150 Mt @ 0.22% Cu and 0.41 g/t Au
- Poison mountain 808 Mt @ 0.24% Cu and 0.12 g/t Au
- Taseko 15 Mt @ 0.53% Cu and 0.53 g/t Au

The Cordilleran Continental Arc is suspected to contain a high quantity of undiscovered porphyry deposits and the historic drill results, confirmed visual mineralization and surface alteration warrants further exploration on the Empirical Property.

12 Recommendations

During the 2019 Empirical exploration program the Longford crew located historic workings, visible sulphide mineralization, and verified historically reported assay results. Evidence suggests the property could potentially host a larger mineralizing system.

A two-phase exploration program is recommended to further define zones of anomalous mineralization corresponding to the 2019 exploration program. A cost estimate is provided in Table 12.1. The exploration should consist of geological and structural mapping, prospecting, and soil sampling to test the highest-ranking target areas for further mineralization. Geophysics may also be implemented to further define zones of high priority after additional groundwork is undertaken. Once more defined areas of mineralization are established, diamond drilling should commence if warranted.

12.1 Geophysics

A property wide VTEM survey is recommended to define magnetic and conductive anomalies at a higher resolution than currently available in regional data. A clear magnetic survey will help define the property's potential to host a large mineralizing system. VTEM™ Plus Time Domain EM system is excellent for locating discrete conductive anomalies as well as mapping lateral and vertical variations in resistivity.

12.2 Prospecting

The magnetic and conductive anomalies identified in the geophysical phase will require ground truthing to prospect and correlate with known lithological mapped units and mineralization. This phase of prospecting will be aimed at defining future drill targets over anomalies and will therefore include rock and soil sampling.

12.3 Drilling

Data collected from the geophysical and prospecting programs will be used to identify drill targets. Ideally, the drill targets will show soil anomalies or evidence of mineralization at the surface and correlate with a geophysical anomaly to help define dimensions of any mineralized body. Any targets identified from the budgeted program above are recommended to be followed up with drilling.

12.4 Budget

A budget for a VTEM geophysical survey, follow-up prospecting, and drilling has been proposed in the Table 12.1 below.

Table 12.1.1 Proposed Exploration Budget

	Description	**Estimated Cost (CAD)**
Phase 1	**Geological and Structural Mapping, Prospecting, Soil Sampling**	
	2 weeks, 4-person crew (1 Project Manager, 2 Geologists, 1 helper)	$150,000
	VTEM geophysical survey	$100,000
	Interpretation of results-14 days	$20,000

	Description	Estimated Cost (CAD)
Phase 2	**Anomaly Follow Up (contingent on results from Phase 1)**	
	500 m of trenching	$100,000
	1,500 m of diamond drilling to test geophysical, geochemical, and mapping targets	$500,000
	TOTAL	**$870,000**

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APPENDIX A: Statement of Costs

Date: November 7, 2019

SEND TO:
Suite 223-1231 Pacific Boulevard
Vancouver, BC
V6Z 0E2

Longford Exploration Services
Suite 460 688 West Hastings Street
Vancouver, BC
Canada V6B 1P1
778-809-7009

Empirical Cost Summary

Personnel			Days	Rate	Line Total
	James Rogers	4th, 10th October 2019	2	$ 1,000.00	$ 2,000.00
	P. Geo	10th October 2019	1	$ 1,200.00	$ 1,200.00
	Project Geologist	4th-12th October 2019	8.5	$ 800.00	$ 6,800.00
	Geologist	4th-12th October 2019	8.5	$ 700.00	$ 5,950.00
	Geologist	4th-12th October 2019	8.5	$ 700.00	$ 5,950.00
			25.5	**Cat. Total**	**$ 21,900.00**
Food and Lodging			Units	Rate	Line Total
	Food and Groceries	per diem per man day	25.5	$ 75.00	$ 1,912.50
	Lodging	Reynold's Hotel, Lillooet	22.5	$ 150.00	$ 3,375.00
				Cat. Total	**$ 5,287.50**
Transportation			Units/Days	Unit Price	Line Total
	Truck	1 ton with safety and recovery gear	8.5	$ 140.00	$ 1,190.00
	Fuel	per km for truck	700	$ 0.65	$ 455.00
	Helicopter Vancouver	2600 per hour for 3 hours	2.7	$ 2,600.00	$ 7,020.00
	Helicopter Lilooet	1373.50 per hour	9.4	$ 1,373.50	$ 12,910.90
				Cat. Total	**$ 21,575.90**
Equipment Rentals			Units	Unit Price	Line Total
	Electronics Kit	Radios, Sat phones, GPS, drone, per man day	26.5	$ 25.00	$ 662.50
	XRF rental	4th-12th October 2019	8.5	$ 175.00	$ 1,487.50
	Chain saw and safety kit	4th-12th October 2019	8.5	$ 20.00	$ 170.00
				Cat. Total	**$ 2,320.00**
Consumable			Units	Unit Price	Line Total
	Field / Office Consumables	per field man day	26.5	$ 30.00	$ 795.00
				Cat. Total	**$ 795.00**
Analytical			Units	Unit Price	Line Total
	Analysis - rock	Bureau Veritas:PRP70-250, AQ200	102	$ 34.85	$ 3,554.70
	Analysis - soil/silt	Bureau Veritas:SS80, AQ200	50	$ 30.45	$ 1,522.50
	Sample Shipment		1		$ 1,000.00
				Cat. Total	**$ 6,077.20**
Pre and Post Field			Units	Unit Price	Line Total
	Pre Field-	GIS maps, historical work processing, geo-referencing	1	$ 6,000.00	$ 6,000.00
	Post Field-	Assessment report with work filing	1	$ 6,000.00	$ 6,000.00
				Cat. Total	**$ 12,000.00**

Estimated Sub Total	$ 69,955.60
Management 15%	$ 10,493.34
Sub total	**$ 80,448.94**
GST 5%	$ 4,022.45
Total	**$ 84,471.39**

APPENDIX B: Statement of Qualifications

I, Sarah Ryan, of office 460-688 Hastings St., Vancouver, British Columbia, Canada do hereby certify the following:

- I graduated from Memorial University with a degree in Earth Sciences in May 2018, and I have practiced my profession continuously since 2018.
- From 2018 to present I have been working in Canada as a mineral exploration geologist and have been actively involved in projects in BC, YK, ON, and QC.
- I am Geologist in Training member of PEGNL in good standing.
- I am a Consulting Geologist and have been so since September 2018.

Nov 15, 2019

Sarah Ryan Date

APPENDIX C: Statement of Qualifications

I, Mateusz Krukowski, of office 460-688 Hastings St., Vancouver, British Columbia, Canada do hereby certify the following:

- I graduated from Simon Frazer University with a degree in Earth Science majoring in Geology in 2012, and I have practiced my profession continuously since 2012.
- From 2012 to present I have been working in Canada as a mineral exploration manager and have been actively involved in projects in BC, YK, ON, and QC.

Nov 15, 2019

Mateusz Krukowski Date

APPENDIX D: 2019 Empirical Property Rock Sample Descriptions

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270001	578770	5599482	2167	float/scree	Quartz diorite	Ridge top scree sample of medium to coarse grained light to dark grey quartz diorite with weathered oxidized sulphides creating an open boxwork texture. Visible trace sulphides ~5% highly weathered, 1-3% chalcopyrite.
3270002	578803	5599490	2178	outcrop	Quartz diorite	Coarse grained light grey quartz diorite with ~2cm quartz vein with weathered sulphides (3-5%) and trace molybdenum.
3270003	578800	5599492	2179	outcrop	Quartz vein	5cm quartz vein with open boxwork and weathered sulphides. Striking at 305/80.
3270004	578820	5599515	2161	outcrop	Quartz vein	3 cm quartz vein with sooty black disseminated weathered sulphides in open boxworks.
3270005	578824	5599516	2166	outcrop	Quartz vein	5cm quartz carbonate vein with open boxwork and weathered sulphides with chaotic black sulphides stringers. Striking at 300/70.
3270006	578832	5599607	2181	subcrop	Quartz diorite	Medium to coarse grained light to dark grey quartz diorite with weathered oxidized sulphides creating an open boxwork texture. ~2% Molybdenite.
3270007	578828	5599647	2166	outcrop	Quartz diorite	Fine grained oxidized quartz diorite with disseminated molybdenum and copper/iron sulphides throughout ~2-5%.
3270008	578670	5599407	2162	outcrop	Quartz diorite	Fine grained oxidized and silicified quartz diorite with disseminated limonite/iron sulphides throughout ~2-5%.
3270009	578667	5599393	2157	outcrop	Quartz diorite	Edge of contact between the diorite and quartzite. The chilled margin of the diorite was sampled containing a 3cm

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
						quartz vein with trace chalcopyrite, molybdenum and a black oxidized sooty material in the vein salvages.
3270010	578686	5599363	2133	outcrop	Quartz diorite	Edge of contact between the diorite and quartzite with shear development. The chilled margin of the diorite was sampled containing a chaotic quartz-veinlets with trace chalcopyrite, molybdenum and a black oxidized sooty material in the vein salvages.
3270011	578688	5599360	2133	outcrop	metasediments	Highly oxidized (possible scorodite) with limonite alteration and open boxworks in a very fine grained to microcrystalline meta-sediment.
3270012	578735	5599196	2041	outcrop	metasediments	Highly oxidized rusty sample with limonite alteration and open boxworks in a very fine grained to microcrystalline meta-sediment. Trace sulphides.
3270013	577503	5601514	1647	outcrop	Quartz diorite	1cm quartz vein with sooty black disseminated weathered sulphides in open boxworks within a very oxidized medium grey medium grained quartz diorite.
3270014	577494	5601502	1646	float	Quartz vein	Massive quartz boulder with highly weathered sulphides ~10% including pyrite, pyrrhotite and black disseminated sulphide.
3270015	577497	5601500	1648	outcrop	Quartz diorite	Medium to coarse grained dark grey quartz diorite with weathered oxidized sulphides creating an open boxwork texture. ~5% Molybdenite.
3270016	577488	5601492	1645	outcrop	Quartz diorite	Medium to coarse grained dark grey quartz diorite with quartz veinlets and silicification.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270017	581610	5597396	625	outcrop	Phyllite/schist	Dark grey silicified biotite garnet phyllite/schist with chaotic quarts veinlets with 5% pyrite. Schistosity is at 135/80.
3270018	581851	5597433	608	outcrop	pyroxenite	Black to grey coarse grained pyroxenite with 1.5cm quartz vein and trace sulphides.
3270019	581844	5597432	607	outcrop	Phyllite/schist	Dark grey silicified biotite garnet phyllite/schist with chaotic quarts veinlets with trace pyrite and chalcopyrite. Schistosity is at 130/60.
3270020	581896	5597451	603	outcrop	Granodiorite	Fresh fine-grained granodiorite with oxidized cubic pyrite 1-3%.
3270021	582080	5597541	587	outcrop	Quartz vein	Massive quartz boulder below cliff face of dark grey silicified phyllite with chaotic quarts veinlets and weathered open boxworks
3270022	582476	5598747	462	outcrop	graphitic schist	Highly fissile graphitic schist fold hinge with on echelon quartz veining with moderate oxidation and weathered disseminated sulphides.
3270023	584861	5595196	1535	outcrop	graphitic schist	Meta-sediment of graphite schist and phyllite with open boxworks quartz veins and moderate oxidation on the edge of a fold hinge (trend 298 plunge 20). Potential fault zone 164/32 orientation.
3270024	584849	5595182	1526	outcrop	diorite	Medium to coarse grained dark grey diorite with quartz veinlets.
3270025	584832	5595159	1522	outcrop	diorite	Diorite dykes (3270024) in the metasedimentary unit (3270023) with 2% weathered pyrite.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270026	584748	5595106	1515	outcrop	metasediments	Dark grey to black metasediments with chaotic quartz veinlets and trace sulphides.
3270027	584648	5595120	1509	outcrop	metasediments	Dark grey to black metasediments with chaotic quartz veinlets and trace sulphides in contact with dacite. 1% pyrite
3270028	575643	5602641	2172	outcrop	Phyllite	Dark grey silicified biotite garnet phyllite/schist with chaotic quarts veinlets.
3270029	575664	5602654	2173	outcrop	Phyllite	Dark grey silicified biotite garnet phyllite/schist with chaotic quarts veinlets with trace pyrite and chalcopyrite.
3270030	578812	5599535	2184	outcrop	Quartz diorite	Medium grained grey quartz diorite that is silicified and weathered with a high degree of oxidation on the altered mafics. Disseminated sulphides throughout >5% (mostly pyrite).
3270031	578814	5599544	2180	outcrop	Quartz diorite	Medium grained grey quartz diorite that is silicified and weathered with a high degree of oxidation on the altered mafics. Disseminated sulphides throughout >5% (mostly pyrite) weathering with open boxworks and limonite.
3270032	578816	5599556	2178	outcrop	Quartz diorite	Medium to coarse grained light to dark grey quartz diorite with weathered oxidized sulphides creating an open boxwork texture in a 1-2cm quartz vein.
3270033	578827	5599583	2183	outcrop	Quartz diorite	Medium to coarse grained light to dark grey quartz diorite with weathered oxidized sulphides creating an open boxwork texture.
3270034	584703	5596854	1458	outcrop	Phyllite	Rusty oxidized phyllite with folded quartz 1cm veins with trace oxidized sulphides. Strong foliation at 148/34.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270035	584683	5596899	1458	outcrop	serpentinite	Waxy black green serpentinite with stringers of calcite and quartz.
3270036	584610	5597040	1445	outcrop	Granodiorite	Light grey aphanitic dyke with blebs of sulphides (pyrite/pyrrhotite) with moderate magnetism. Possible granodiorite.
3270037	582359	5598727	563	outcrop	metasediments	Silicified mudstone/metasediments with chaotic quartz veinlets with 3-5% sulphides disseminated throughout (mostly pyrite). Highly altered next to 1m granodiorite intrusion with sporadic quartz veinlets.
3270038	582351	5598726	568	outcrop	Granodiorite	Fine to medium grained granodiorite chilled margin of dyke next to fold hinge in the metasediments. Pyrite is disseminated throughout.
3270039	582351	5598726	568	outcrop	Meta-sediments	Silicified mudstone/metasediments with chaotic quartz veinlets with 3-5% sulphides disseminated throughout (mostly pyrite). Highly altered next to 1m granodiorite intrusion with sporadic quartz veinlets and open boxwork of weathered pyrite and sulphides.
3270040	582266	5599346	474	outcrop	Phyllite	Rusty oxidized phyllite with folded quartz 1cm veins with trace oxidized sulphides. 2-5% Pyrite.
3270041	582318	5599801	439	outcrop	Phyllite	Meta-sediment of graphite schist and phyllite with open boxworks quartz veins and moderate oxidation on the edge of a fold hinge (trend 298 plunge 20). Potential fault zone 164/32 orientation.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270051	578811	5599523	2174	Rock	Diorite/quartz vein	5 cm quartz vein (305/80) hosted within oxidised and sheared diorite. Vein dextrally offset by 0.30 m 1 m above sample.
3270052	578820	5599568	2179	Rock	Quartz diorite	Ripped-up, highly oxidized quartz clasts within shear zone. Trace py and mo. 20% limonite alteration with high percentage of biotite present
3270053	578825	5599615	2173	Rock	Quartz diorite	Contact with coarse-grained (biotite-rich) quartz diorite & and a finer-grained quartzite. Disseminated sulphides (cpy, py, bn) throughout and within stringers at <1%.
3270054	578671	5599412	2164	Rock	Quartz diorite	Highly oxidised (60%) quartz diorite on ridge with 2% disseminated py.
3270055	578670	5599391	2154	Rock	Diorite	Fine-grained, highly oxidised (80%) diorite with 5% py hosted within 1 mm wide stringers
3270056	578724	5599250	2073	Rock	Granodiorite	Disseminated Mo (2%) within highly oxidised (60%) granodiorite within the Saddle Fault boundary.
3270057	577503	5601511	1642	Rock	Quartz vein	Quartz vein 10 m adjacent to drill-pad 81-01. 2% py, 1% mo, trace cpy.
3270058	577492	5601501	1643	Rock	Quartz vein	30 cm wide, discontinuously folded, and dextrally off-set (20 cm) quartz vein hosting 2% mo, 2% py. 318/65 N
3270059	577523	5601495	1670	Rock	Diorite	Disseminated py, 5%. Highly oxidised (70%) diorite taken 5 m below the Tow helipad
3270060	584856	5595189	1528	Rock	Diorite	Chilled margin of diorite with high chlorite alteration. Highly sheared quartz vein.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270061	584836	5595167	1521	Rock	Phyllite/quartz vein	Sheared quartz (5 cm wide) within phyllite outcrop. Veining crosscuts foliation. No visible sulphides.
3270062	584653	5595118	1510	Rock	Diorite	Contact between chloritic diorite and hornblende dacite. No visible sulphides.
3270063	584705	5596855	1462	Rock	Phyllite/quartz vein	Highly sheared phyllite with 2 mm wide quartz veinlet crosscutting perpendicular to shear. No visible sulphides.
3270064	584685	5596893	1459	Rock	Serpentinite	Extensive package of conjugate quartz-carbonate veining (2 mm wide) within folded and sheared serpentinite
3270065	584610	5597024	1447	Rock	Mudstone	Highly oxidised (80%) and sheared mudstone/meta-sediment. Fresh and disseminated py, 5%.
3270066	584437	5597451	1430	Rock	Phyllite/quartz vein	3 cm quartz vein within phyllite. Oxidised (40%) with trace sulphides within quartz vein.
3270067	584431	5597595	1427	Rock	Granodiorite	1-2 m wide intrusive fine-grained granodiorite within metasediments. Trace disseminated pyrite within 1 mm quartz stringers.
3270068	582350	5598722	572	Rock	Granodiorite	Granodiorite with high chlorite alteration. 1% disseminated py and trace mo.
3270069	582349	5598726	572	Rock	Granodiorite	Granodiorite with high chlorite alteration. 2% disseminated py and trace mo.
3270070	582349	5598726	572	Rock	Mudstone	Highly sheared quartz vein 10 cm wide within meta-sediment. 20% oxidised with no visible sulphides.
3270071	582269	5599338	473	Rock	Granodiorite	Intrusive contact with mudstone. Highly oxidised (80%) and dense. Unable to identify presence of sulphides.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270072	582338	5599735	435	Rock	Mudstone	Mudstone with high oxidation (60%). Dense sample with 1% sulphides hosted within quartz stringers 1 mm wide.
3270101	578800	5599489	2174	Sub-crop	Quartz Diorite	Medium grained, Diss Moly, some qtz veining.
3270102	578804	5599489	2175	Outcrop	Quartz	4cm thick qtz vein. Some vein salvage material too.
3270103	578811	5599516	2160	Outcrop	Quartz	Highly oxidized vein material
3270104	578826	5599490	2143	Outcrop	Quartz	6cm thick qtz vein, shearing.
3270105	578813	5599561	2179	Outcrop	Quartz Diorite	Porphyritic quartz in dark aphanitic groundmass. Quartz is blobby, Moly diss and in stringers
3270106	578852	5599711	2167	Outcrop	Quartzite	Meta-sed, qtz rich, oxidized.
3270107	578666	5599407	2163	Outcrop	Quartz Diorite	5% pyrite diss.
3270108	578617	5599394	2161	Outcrop	Quartz Diorite – meta-sed contact	Contact zone of qtz diorite – meta-sed. Highly oxidized with 1-4% diss pyrite
3270109	578708	5599291	2101	Outcrop	Granodiorite	Near small fault trending 207/58. Granodiorite - contact zone of qtz diorite intrusion. 1% Moly. Thin 1cm qtz veins oxidized.
3270110	578707	5599290	2097	Outcrop	Quartz	Qtz vein next to fault 207/58 (same as 3270109 along strike). Some voids. 15cm thick.
3270111	578717	5599261	2082	Sub-crop	Quartz	Qtz vein, highly oxidized, moly 1-3%. Peacock Cu staining (Bornite or cpy)
3270112	578720	5599229	2065	Outcrop	Quartz Diorite Gouge	Fault gouge, qtz + qtz diorite rich. 1m wide. Trace py, highly oxidized.

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270113	577504	5601513	1650	Outcrop	Quartz	Qtz vein, 10cm thick. Moly 5% (sooty). Py 4%, trace cpy
3270114	577494	5601504	1649	Float	Quartz	3cm wide areas of massive sulphide. Py + grey sulphide. (same location as 3270014)
3270115	577492	5601497	1645	Outcrop	Quartz + quartz diorite	Qtz + fault deformed qtz diorite + granodiorite. Py vein 1cm, discontinuous due to faulting. Py 1-4%
3270116	577534	5601504	1676	Outcrop	Granodiorite	Moly dissem. + 2mm veinlet in granodiorite (1-3%). Adjacent to clean qtz vein.
3270117	581594	5597380	671	Outcrop	Quartz	Qtz vein trending 130/70S. Difficult location. Oxidized and folded.
3270118	581921	5597456	633	Outcrop	Quartz in biotite schist	Qtz vein 6cm thick parallel with foliation: 006/40W. 1-3% pyrite. Pre-foliation vein.
3270119	581845	5597432	632	Outcrop	Quartz	Qtz vein 10 cm thick. Trace py, oxidized. Gneissic granite and meta-sed host rock. Brecciated zone. Vein trending 136/84 SW cut by faults.
3270120	582373	5598836	523	Outcrop	Quartz in graphitic schist	Qtz vein in graphitic schist. Deformed and folded numerous times. Indistinguishable orientations.
3270121	582403	5599337	592	Float	Quartz	Qtz vein in granodiorite. Vein 20cm thick. Pyrite 2%
3270122	584854	5595191	1514	Outcrop	Quartz	Qtz vein, Swelling and pinching, pre-open fold, parallel with foliation on lower limb. Oxidized.
3270123	584834	5595167	1533	Outcrop	Quartz	Qtz vein 1-2m wide. Oxidized, possibly folded. Trending 160/60NE

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270124	584648	5595120	1516	Outcrop	Phyllite - granodiorite	Contact zone phyllite-granodiorite. Possible fault gouge/fine grained baked phyllitic material.
3270125	575644	5602639	2197	Outcrop	Quartz - phyllite	Qtz vein in phyllite. Oxidized with limonite in vugs. Foliation 111/33S. 10cm thick
3270126	575646	5602640	2194	Outcrop	Phyllite + quartzite	Phyllite + quartzite. 1-3% pyrite. Possible Moly.
3270127	584699	5596866	1462	Outcrop	Quartz in phyllite	Qtz vein, oxidized stringers. Parallel with foliation in phyllite: 148/34SW. Swells and pinches.
3270128	584666	5596928	1458	Outcrop	Serpentinite	Some calcite veins crosscutting. Foliation is similar to 3270127. Lots of fracturing.
3270129	584611	5597018	1449	Outcrop	Phyllite	Oxidized phyllite. Near serpentine contact. Py 2% along joint faces and veinlets
3270130	584604	5597044	1448	Outcrop	Phyllite/mudstone	No foliation. Highly oxidized. Py 5% along joint faces
3270131	584552	5597180	1440	Outcrop	Quartz	Qtz vein on contact between py rich plag pheno granite and phyllite. Limonite in vugs.
3270132	584423	5597464	1431	Float	Quartzite	Py 5%. Siliceous grey quartzite. Unknown protolith. Highly oxidized.
3270133	584430	5597597	1428	Sub-crop	Phyllite/mudstone	Oxidized with lots of limonite. Trace py
3270134	584420	5597643	1424	Outcrop	Meta-basalt?	Highly oxidized siliceous unit. Possible metabasalt.1% py
3270135	582359	5598726	573	Outcrop	Silicified mudstone?	Silicified grey, possibly mudstone. Stockworks of qtz + 4% py stringers.
3270136	582362	5598733	576	Outcrop	Quartz in mudstone	Stringers of oxidized qtz. Stockworks in phyllite. Below a fault

Sample ID	Easting	Northing	Elevation	Type	Lithology	Description
3270137	582359	5598742	577	Outcrop	Limonite + phyllite	Orange weathered rock / mud. Highly weathered with some blocks of phyllite.
3270138	582348	5598721	583	Outcrop	Quartz	Highly oxidized qtz vein. 30cm-2cm pinching and swelling. Near folded granodiorite in phyllite.
3270139	582323	5599767	448	Outcrop	Quartz	Qtz vein in highly oxidized phyllite. Gossanous zone, pre-foliation vein with limonite throughout.

APPENDIX E: 2019 Empirical Property Soil/Talus Fines Sample Descriptions

Sample ID	Easting	Northing	Elevation	Type	Description
3293551	578804	5599515	2180	soils	talus fines
3293552	578796	5599508	2177	soils	talus fines
3293553	578789	5599501	2174	soils	talus fines
3293554	578782	5599495	2170	soils	talus fines
3293555	578774	5599489	2167	soils	talus fines
3293556	578765	5599482	2165	soils	talus fines
3293557	578757	5599476	2162	soils	talus fines
3293558	578747	5599471	2160	soils	talus fines
3293559	578740	5599464	2161	soils	talus fines
3293560	578735	5599457	2161	soils	talus fines
3293561	578733	5599457	2162	soils	talus fines
3293562	578725	5599450	2163	soils	talus fines
3293563	578718	5599442	2162	soils	talus fines
3293564	578710	5599434	2159	soils	talus fines
3293565	578701	5599428	2159	soils	talus fines
3293566	578692	5599421	2159	soils	talus fines
3293567	578684	5599413	2156	soils	talus fines
3293568	578675	5599408	2156	soils	talus fines

Sample ID	Easting	Northing	Elevation	Type	Description
3293569	578665	5599401	2153	soils	talus fines
3293570	578655	5599399	2153	soils	talus fines
3293571	578656	5599400	2154	soils	talus fines
3293572	578644	5599398	2154	soils	talus fines
3293573	578633	5599393	2155	soils	talus fines
3293574	578623	5599390	2159	soils	talus fines
3293575	578612	5599384	2159	soils	talus fines
3293576	578796	5599520	2183	soils	talus fines
3293577	578788	5599512	2182	soils	talus fines
3293578	578781	5599506	2179	soils	talus fines
3293579	578774	5599501	2174	soils	talus fines
3293580	578765	5599496	2171	soils	talus fines
3293581	578765	5599496	2171	soils	talus fines
3293582	578756	5599491	2168	soils	talus fines
3293583	578748	5599485	2165	soils	talus fines
3293584	578741	5599493	2159	soils	talus fines
3293585	578730	5599486	2158	soils	talus fines
3293586	578742	5599479	2163	soils	talus fines
3293587	578733	5599471	2162	soils	talus fines

Sample ID	Easting	Northing	Elevation	Type	Description
3293588	578723	5599464	2159	soils	talus fines
3293589	578715	5599457	2158	soils	talus fines
3293590	578707	5599448	2158	soils	talus fines
3293591	578707	5599448	2158	soils	talus fines
3293592	578699	5599440	2157	soils	talus fines
3293593	578693	5599432	2157	soils	talus fines
3293594	578684	5599429	2156	soils	talus fines
3293595	578674	5599420	2154	soils	talus fines
3293596	578667	5599415	2151	soils	talus fines
3293597	578658	5599409	2148	soils	talus fines
3293598	578649	5599409	2147	soils	talus fines
3293599	578641	5599407	2147	soils	talus fines
3293600	578629	5599404	2147	soils	talus fines

APPENDIX F: 2019 Rock Sample Analytical Certificates

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Submitted By: James Rogers
Receiving Lab: Canada-Vancouver
Received: October 15, 2019
Report Date: October 28, 2019
Page: 1 of 5

CERTIFICATE OF ANALYSIS VAN19003068.1

CLIENT JOB INFORMATION

Project: Empirical
Shipment ID:
P.O. Number
Number of Samples: 102

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	102	Crush, split and pulverize 250 g rock to 200 mesh			VAN
AQ200	102	1:1:1 Aqua Regia digestion ICP-MS analysis	0.5	Completed	VAN

SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps
PICKUP-RJT Client to Pickup Rejects

ADDITIONAL COMMENTS

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Longford Exploration Services Ltd.
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1
Canada

CC: Vedran Pobric
Matt Krukowski

GEORGE ARCALA
Instrumentation Unit Supervisor

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	1	0.01	0.001
3270001	Rock	1.64	8.2	36.2	2.5	137	<0.1	3.2	4.1	341	2.38	2.1	1.2	1.2	41	0.7	0.2	0.2	34	0.42	0.078
3270002	Rock	1.62	257.3	13.2	2.7	43	<0.1	0.8	0.7	191	1.49	0.6	1.0	0.9	39	0.2	0.1	0.3	25	0.31	0.052
3270003	Rock	1.87	94.2	12.1	13.3	37	2.7	0.8	0.6	112	0.94	0.8	3175.4	0.3	12	0.5	0.2	241.6	9	0.13	0.017
3270004	Rock	1.82	58.4	59.7	2.0	53	0.1	4.5	9.4	527	1.61	1.5	0.9	2.4	80	0.7	0.1	0.6	13	2.05	0.023
3270005	Rock	1.07	32.2	27.0	1.8	42	<0.1	2.5	3.6	1046	1.53	37.8	2.9	0.5	165	0.4	0.2	0.7	18	8.36	0.018
3270006	Rock	1.65	23.1	40.4	4.3	46	0.2	2.5	3.4	286	2.32	5.1	12.6	1.0	39	0.2	<0.1	0.6	34	0.37	0.061
3270007	Rock	1.39	7.9	30.8	6.8	63	0.1	6.5	4.7	423	2.32	4.1	2.3	1.1	41	0.4	0.3	0.7	44	0.56	0.078
3270008	Rock	1.38	5.6	57.5	4.2	58	0.4	1.9	2.1	699	5.91	1.0	1.5	0.7	24	<0.1	<0.1	0.7	153	0.22	0.079
3270009	Rock	2.52	4.1	41.0	4.6	272	0.1	14.5	16.9	1492	5.27	3.0	1.1	0.9	24	1.9	<0.1	0.5	134	0.94	0.072
3270010	Rock	1.75	23.0	45.5	6.5	291	0.2	16.0	5.5	910	5.47	3.0	0.8	1.2	24	3.3	<0.1	1.8	161	0.46	0.073
3270011	Rock	1.36	21.2	61.0	7.4	1026	0.3	10.4	6.2	843	6.99	1.7	<0.5	1.5	16	13.1	<0.1	2.1	144	0.30	0.054
3270012	Rock	1.20	513.0	50.2	1.9	40	0.3	2.5	2.3	323	2.86	1.2	2.0	1.5	29	0.4	0.1	0.4	127	0.46	0.038
3270013	Rock	1.29	54.4	70.2	3.4	72	0.3	2.2	8.2	479	3.12	411.0	59.7	0.9	43	0.9	0.2	1.5	43	0.33	0.077
3270014	Rock	2.29	4.8	59.9	6.0	41	0.6	1.3	4.8	54	1.54	5.2	557.9	0.1	2	5.7	<0.1	39.8	2	<0.01	0.002
3270015	Rock	1.23	71.4	54.1	2.2	49	0.2	1.1	14.7	337	3.38	5824.1	138.9	0.9	48	0.2	0.4	1.2	57	0.38	0.084
3270016	Rock	1.44	218.9	35.7	2.8	52	0.2	0.7	1.5	343	2.57	7.7	1.2	1.1	58	0.2	<0.1	0.7	42	0.37	0.082
3270017	Rock	2.20	2.3	54.8	2.8	97	0.3	32.1	9.6	265	3.97	3.8	<0.5	1.8	13	<0.1	<0.1	0.1	171	0.22	0.047
3270018	Rock	2.49	0.5	15.0	1.4	49	<0.1	56.9	15.0	534	2.73	4.8	2.5	0.5	38	0.1	<0.1	0.1	97	2.83	0.140
3270019	Rock	1.47	2.0	117.5	1.8	116	0.4	30.1	14.2	278	4.44	<0.5	0.9	1.2	11	0.2	<0.1	0.2	101	0.70	0.048
3270020	Rock	1.71	1.1	29.4	4.2	80	<0.1	21.3	9.6	335	2.12	<0.5	2.3	4.2	19	0.1	<0.1	<0.1	49	0.56	0.057
3270021	Rock	2.63	11.2	33.1	11.2	37	0.2	3.8	2.9	259	2.46	<0.5	<0.5	0.4	12	0.1	<0.1	0.2	36	0.20	0.015
3270022	Rock	3.66	3.3	80.6	2.3	139	0.1	27.0	10.9	529	3.71	52.8	0.6	0.8	71	1.6	0.1	<0.1	47	1.99	0.058
3270023	Rock	1.87	0.7	3.2	1.5	73	<0.1	17.8	7.5	714	3.27	3.3	<0.5	0.7	10	0.3	<0.1	<0.1	43	0.11	0.039
3270024	Rock	1.83	0.2	97.3	2.7	35	0.1	74.4	29.0	607	3.35	25.2	<0.5	0.4	82	<0.1	0.3	<0.1	84	1.47	0.049
3270025	Rock	2.21	0.4	43.7	0.8	44	<0.1	42.5	27.2	806	4.08	10.5	<0.5	0.5	127	<0.1	0.2	<0.1	137	3.43	0.053
3270026	Rock	2.47	1.4	40.0	5.2	120	0.3	16.0	7.9	293	4.43	3.4	<0.5	1.2	32	0.2	0.1	0.1	55	0.08	0.031
3270027	Rock	1.40	1.0	58.8	2.5	67	0.2	22.1	11.4	1173	3.70	4.8	<0.5	0.9	48	0.4	<0.1	<0.1	39	5.52	0.091
3270028	Rock	1.84	1.1	19.5	2.2	71	0.1	5.2	3.5	378	1.47	128.1	3.3	6.5	14	1.3	0.5	0.1	41	0.46	0.027
3270029	Rock	2.07	1.1	22.1	12.0	97	0.1	1.2	7.2	534	4.43	2.8	8.4	1.1	19	0.2	<0.1	<0.1	86	0.29	0.109
3270030	Rock	1.25	74.7	27.2	1.5	19	<0.1	0.8	0.9	294	1.48	2.1	0.5	1.3	81	0.3	0.2	0.2	29	0.60	0.051

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Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
3270001	Rock	6	7	0.79	71	0.106	<20	1.33	0.107	0.27	0.4	0.01	2.5	<0.1	<0.05	6	<0.5	<0.2
3270002	Rock	3	7	0.50	60	0.093	<20	0.85	0.059	0.22	<0.1	<0.01	1.1	<0.1	0.06	4	<0.5	<0.2
3270003	Rock	<1	6	0.13	16	0.014	<20	0.33	0.028	0.04	0.2	<0.01	0.5	<0.1	<0.05	2	1.0	16.6
3270004	Rock	4	5	0.23	49	0.024	<20	0.60	0.059	0.13	0.2	<0.01	1.0	<0.1	0.17	2	0.6	<0.2
3270005	Rock	2	6	0.40	14	0.034	<20	0.65	0.018	0.04	14.5	<0.01	3.4	<0.1	<0.05	3	0.7	<0.2
3270006	Rock	4	7	0.63	60	0.042	<20	1.35	0.118	0.35	0.3	<0.01	2.5	0.2	0.18	5	0.6	<0.2
3270007	Rock	6	15	0.87	101	0.122	<20	1.37	0.089	0.27	0.6	<0.01	3.4	<0.1	0.12	6	0.6	<0.2
3270008	Rock	2	12	1.07	84	0.177	<20	1.59	0.070	0.08	0.1	<0.01	9.9	<0.1	0.16	8	4.4	0.5
3270009	Rock	4	9	1.52	84	0.172	<20	2.26	0.043	0.22	0.3	<0.01	8.5	0.1	0.29	8	1.7	0.3
3270010	Rock	4	16	0.80	130	0.191	<20	1.33	0.073	0.15	0.4	<0.01	9.8	<0.1	0.44	6	5.1	1.1
3270011	Rock	4	13	0.82	134	0.138	<20	1.46	0.048	0.23	0.3	<0.01	6.9	0.2	0.26	6	5.8	0.9
3270012	Rock	3	8	0.59	136	0.184	<20	1.04	0.079	0.21	0.4	<0.01	6.2	0.1	0.38	5	3.4	<0.2
3270013	Rock	5	6	0.69	76	0.072	<20	1.24	0.080	0.20	0.6	<0.01	2.9	<0.1	0.19	5	0.8	0.5
3270014	Rock	<1	6	<0.01	4	<0.001	<20	0.03	0.003	0.01	<0.1	<0.01	<0.1	<0.1	0.63	<1	1.6	9.8
3270015	Rock	4	6	0.83	112	0.074	<20	1.32	0.098	0.21	0.3	<0.01	3.7	<0.1	0.49	7	1.6	2.5
3270016	Rock	5	6	0.76	89	0.070	<20	1.31	0.080	0.19	0.3	<0.01	2.4	<0.1	0.06	6	0.6	<0.2
3270017	Rock	4	98	1.62	97	0.107	<20	2.23	0.072	0.36	<0.1	<0.01	11.6	0.1	0.48	9	2.7	<0.2
3270018	Rock	2	148	1.77	17	0.087	<20	2.32	0.228	0.06	0.3	<0.01	11.4	<0.1	<0.05	7	<0.5	<0.2
3270019	Rock	4	25	1.11	421	0.127	<20	2.18	0.064	0.94	<0.1	<0.01	7.8	0.3	0.73	8	3.2	<0.2
3270020	Rock	10	27	0.73	201	0.079	<20	1.15	0.087	0.39	<0.1	<0.01	4.1	0.1	0.09	5	<0.5	<0.2
3270021	Rock	<1	14	0.39	23	0.066	<20	0.96	0.030	0.07	0.1	<0.01	3.6	<0.1	0.05	4	1.1	<0.2
3270022	Rock	5	11	1.14	56	0.002	<20	1.70	0.049	0.16	<0.1	<0.01	4.3	<0.1	<0.05	5	1.5	<0.2
3270023	Rock	6	20	1.04	59	0.002	<20	1.86	0.028	0.11	<0.1	<0.01	3.7	<0.1	<0.05	6	<0.5	<0.2
3270024	Rock	4	466	2.63	5	0.170	<20	2.56	0.084	0.01	<0.1	<0.01	8.7	<0.1	<0.05	6	<0.5	<0.2
3270025	Rock	5	482	3.03	8	0.219	<20	3.10	0.079	0.01	<0.1	<0.01	16.7	<0.1	<0.05	8	<0.5	<0.2
3270026	Rock	7	29	1.07	77	0.001	<20	2.72	0.080	0.14	<0.1	<0.01	6.3	<0.1	<0.05	8	2.1	<0.2
3270027	Rock	4	25	1.13	68	0.021	<20	1.96	0.032	0.21	<0.1	<0.01	5.4	<0.1	<0.05	5	<0.5	<0.2
3270028	Rock	13	6	0.31	53	0.028	<20	0.67	0.104	0.16	0.2	<0.01	4.4	0.1	0.13	2	0.7	<0.2
3270029	Rock	3	4	1.09	375	0.131	<20	2.13	0.082	0.59	0.1	<0.01	5.7	0.6	0.09	11	0.7	<0.2
3270030	Rock	5	6	0.76	27	0.155	<20	1.31	0.081	0.07	0.1	<0.01	1.9	<0.1	<0.05	6	0.5	<0.2

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Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	1	0.01	0.001
3270031	Rock	2.00	110.7	33.6	2.7	28	<0.1	0.7	1.2	349	2.28	4.0	<0.5	1.3	73	0.2	0.2	0.6	36	0.62	0.077
3270032	Rock	1.72	85.0	22.5	1.5	26	<0.1	0.5	0.8	242	2.28	<0.5	<0.5	1.1	70	<0.1	0.2	0.2	34	0.50	0.069
3270033	Rock	2.26	5.6	39.2	2.1	53	0.2	2.4	3.9	335	2.53	26.8	47.8	1.2	36	0.2	0.3	0.3	24	0.49	0.074
3270034	Rock	0.72	4.3	62.2	8.8	144	0.5	25.2	11.7	357	5.79	39.8	5.0	0.7	35	0.4	0.7	0.1	56	0.12	0.068
3270035	Rock	1.32	0.2	20.1	0.4	6	<0.1	1290.4	63.9	3477	3.37	11.0	0.8	<0.1	190	<0.1	0.6	<0.1	19	6.01	<0.001
3270036	Rock	3.09	0.6	35.0	2.9	61	<0.1	47.2	17.1	747	3.98	1.5	<0.5	0.3	107	<0.1	<0.1	<0.1	72	2.99	0.201
3270037	Rock	1.43	2.6	36.6	7.3	55	<0.1	12.4	5.2	366	2.31	1.1	<0.5	0.7	25	0.3	<0.1	<0.1	36	0.68	0.047
3270038	Rock	1.35	0.2	28.5	4.5	75	0.1	27.5	13.8	612	3.01	1.1	<0.5	0.6	87	0.1	<0.1	<0.1	47	3.28	0.105
3270039	Rock	2.09	1.0	45.1	13.0	68	0.6	5.5	5.6	467	3.83	0.6	<0.5	0.6	53	0.2	0.1	<0.1	27	1.62	0.073
3270040	Rock	2.15	7.3	89.2	2.2	71	0.1	20.6	17.5	542	3.99	2.5	<0.5	1.0	34	0.1	<0.1	<0.1	70	2.35	0.096
3270041	Rock	1.34	2.0	73.1	6.3	99	0.3	21.8	6.8	739	5.15	0.5	0.5	1.3	73	0.2	<0.1	0.1	69	3.26	0.111
3270051	Rock	1.05	42.8	17.7	196.1	112	31.9	1.3	1.6	103	0.89	20.4	14.7	0.3	11	2.1	0.2	71.5	6	0.10	0.012
3270052	Rock	1.78	12.4	22.2	1.3	21	<0.1	1.2	0.8	195	1.74	4.3	0.7	0.5	26	<0.1	0.1	0.2	21	0.27	0.038
3270053	Rock	2.31	53.3	33.7	1.9	85	0.2	3.3	6.2	370	2.71	6.1	2.6	0.9	58	0.2	0.4	0.4	55	0.46	0.066
3270054	Rock	1.84	3.2	56.8	2.7	117	0.2	2.5	4.5	727	6.09	2.8	0.9	0.4	37	0.5	<0.1	0.4	184	0.28	0.069
3270055	Rock	1.80	4.4	21.2	2.3	89	0.2	3.3	7.1	709	4.79	5.3	1.6	0.6	19	0.2	<0.1	0.2	142	0.38	0.066
3270056	Rock	1.95	93.4	36.7	2.1	49	0.2	1.0	1.9	245	2.67	1.5	1.9	1.0	59	0.1	<0.1	0.3	47	0.37	0.070
3270057	Rock	0.95	31.9	26.1	1.4	17	<0.1	1.1	2.1	197	1.42	52.7	3.2	0.3	22	<0.1	<0.1	0.3	13	0.09	0.023
3270058	Rock	1.65	6.4	9.4	0.6	25	<0.1	1.3	1.7	175	0.64	1.6	0.9	<0.1	4	0.5	<0.1	0.5	3	0.07	0.004
3270059	Rock	2.62	107.3	46.7	1.9	36	0.2	1.3	3.3	297	2.86	49.1	1.1	0.9	44	<0.1	0.2	0.4	56	0.37	0.083
3270060	Rock	1.47	0.4	8.1	1.5	39	<0.1	17.0	15.7	1507	3.33	9.9	<0.5	0.2	296	0.1	0.2	<0.1	63	13.06	0.030
3270061	Rock	1.43	1.0	27.5	4.4	49	0.2	8.5	6.0	313	2.93	<0.5	1.1	0.6	13	0.2	0.2	0.1	49	0.09	0.021
3270062	Rock	2.01	0.6	22.9	7.2	84	<0.1	26.7	9.5	573	2.68	5.6	<0.5	1.0	45	0.1	0.1	<0.1	47	1.65	0.123
3270063	Rock	1.77	3.7	41.8	8.9	130	0.5	23.2	10.7	392	4.63	33.7	0.8	0.6	25	0.5	0.5	<0.1	48	0.11	0.050
3270064	Rock	0.80	<0.1	7.0	0.7	13	<0.1	1939.3	102.8	568	4.71	155.7	17.2	0.1	66	<0.1	1.0	<0.1	29	1.55	0.002
3270065	Rock	2.23	0.8	30.8	5.6	98	0.2	11.0	11.4	735	4.39	16.4	2.3	0.6	13	0.2	0.1	<0.1	31	0.08	0.024
3270066	Rock	1.25	0.8	46.7	13.1	99	0.2	11.5	9.1	1366	3.67	6.3	3.2	0.4	295	0.8	<0.1	<0.1	57	4.95	0.051
3270067	Rock	1.38	0.2	47.9	1.6	57	0.1	33.1	28.0	1187	5.30	25.7	1.3	0.6	114	<0.1	0.2	<0.1	161	7.25	0.051
3270068	Rock	0.91	0.1	24.5	3.8	65	<0.1	27.7	13.5	519	2.97	1.4	0.7	0.7	82	0.2	<0.1	<0.1	42	2.59	0.098
3270069	Rock	2.30	0.2	26.5	2.7	84	0.1	33.1	13.9	612	3.08	1.8	0.7	0.6	83	0.2	<0.1	<0.1	48	3.00	0.120

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CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
3270031	Rock	5	7	0.82	29	0.143	<20	1.41	0.080	0.08	0.6	<0.01	1.9	<0.1	<0.05	7	0.9	<0.2
3270032	Rock	5	8	0.73	58	0.149	<20	1.21	0.091	0.21	0.3	<0.01	2.0	<0.1	0.08	6	1.5	<0.2
3270033	Rock	5	5	0.71	80	0.072	<20	1.15	0.066	0.29	0.2	<0.01	1.8	<0.1	0.18	5	0.5	<0.2
3270034	Rock	9	19	0.92	76	0.002	<20	2.25	0.078	0.15	<0.1	<0.01	6.9	0.2	0.07	7	6.7	<0.2
3270035	Rock	<1	959	17.84	10	0.001	22	0.24	<0.001	<0.01	0.3	<0.01	4.9	<0.1	<0.05	<1	<0.5	<0.2
3270036	Rock	16	42	1.60	132	0.007	<20	2.34	0.075	0.30	<0.1	<0.01	4.8	<0.1	0.26	9	<0.5	<0.2
3270037	Rock	4	29	0.80	30	0.157	<20	1.45	0.037	0.09	0.1	<0.01	4.2	<0.1	0.14	5	0.6	<0.2
3270038	Rock	4	29	1.50	75	0.120	<20	2.04	0.057	0.13	0.1	<0.01	2.5	<0.1	0.19	9	<0.5	<0.2
3270039	Rock	4	10	1.22	73	0.188	<20	1.81	0.033	0.21	0.2	<0.01	3.2	<0.1	0.73	5	1.5	<0.2
3270040	Rock	5	16	1.58	39	0.078	<20	2.23	0.049	0.19	<0.1	<0.01	4.9	<0.1	0.18	9	<0.5	<0.2
3270041	Rock	4	32	1.42	81	0.034	<20	2.23	0.025	0.21	0.1	<0.01	5.2	<0.1	0.59	6	3.1	<0.2
3270051	Rock	<1	6	0.11	21	0.017	<20	0.30	0.028	0.08	0.3	<0.01	0.4	<0.1	<0.05	1	2.0	7.3
3270052	Rock	2	7	0.41	29	0.048	<20	0.75	0.076	0.16	0.5	<0.01	1.5	<0.1	0.09	3	0.9	<0.2
3270053	Rock	4	8	0.96	190	0.191	<20	1.56	0.086	0.91	0.2	<0.01	4.1	0.2	0.32	6	0.6	<0.2
3270054	Rock	1	10	1.65	64	0.203	<20	2.41	0.084	0.12	0.2	<0.01	9.8	<0.1	0.31	9	1.7	0.3
3270055	Rock	2	10	1.48	57	0.231	<20	2.05	0.065	0.07	0.4	<0.01	11.9	<0.1	0.46	9	1.6	0.2
3270056	Rock	4	6	0.64	146	0.103	<20	1.36	0.095	0.34	0.2	<0.01	2.6	0.2	0.07	7	0.6	<0.2
3270057	Rock	1	6	0.18	24	0.021	<20	0.37	0.032	0.05	0.3	<0.01	1.0	<0.1	<0.05	2	<0.5	<0.2
3270058	Rock	<1	5	0.11	7	0.002	<20	0.19	0.004	0.02	<0.1	<0.01	0.3	<0.1	<0.05	<1	<0.5	0.2
3270059	Rock	5	8	0.77	139	0.095	<20	1.27	0.085	0.22	0.2	<0.01	3.1	<0.1	0.31	7	1.2	<0.2
3270060	Rock	2	119	1.60	5	0.078	<20	2.27	0.009	0.03	<0.1	<0.01	3.6	<0.1	<0.05	5	<0.5	<0.2
3270061	Rock	2	16	0.72	64	0.113	<20	1.47	0.045	0.11	<0.1	<0.01	4.7	<0.1	<0.05	4	0.5	<0.2
3270062	Rock	22	22	1.01	88	0.005	<20	1.61	0.058	0.20	<0.1	<0.01	3.4	<0.1	<0.05	7	<0.5	<0.2
3270063	Rock	8	15	0.86	87	0.001	<20	2.49	0.072	0.19	<0.1	0.01	4.5	0.1	0.07	6	2.6	<0.2
3270064	Rock	<1	1495	18.95	4	0.002	29	0.39	<0.001	<0.01	0.4	<0.01	8.5	<0.1	<0.05	<1	<0.5	<0.2
3270065	Rock	5	10	0.72	64	0.002	<20	1.97	0.066	0.19	<0.1	<0.01	4.1	<0.1	0.72	5	1.6	<0.2
3270066	Rock	5	11	0.58	64	0.003	<20	1.36	0.041	0.11	<0.1	<0.01	8.0	<0.1	0.09	6	0.6	<0.2
3270067	Rock	4	138	3.40	18	0.012	<20	4.30	0.049	0.06	<0.1	<0.01	16.3	<0.1	0.06	11	<0.5	<0.2
3270068	Rock	4	20	1.46	73	0.101	<20	1.97	0.049	0.15	<0.1	<0.01	2.2	<0.1	0.25	8	<0.5	<0.2
3270069	Rock	4	35	1.58	76	0.111	<20	2.04	0.059	0.15	<0.1	<0.01	2.6	<0.1	0.36	8	<0.5	<0.2

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460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	1	0.01	0.001
3270070	Rock	1.35	0.2	25.6	4.8	56	<0.1	27.5	11.0	528	2.57	3.9	<0.5	0.8	148	0.2	0.1	<0.1	50	3.32	0.101
3270071	Rock	2.07	3.6	100.3	1.6	52	0.2	13.8	10.8	484	3.78	1.4	<0.5	0.3	38	<0.1	<0.1	<0.1	58	0.88	0.045
3270072	Rock	1.64	1.0	42.3	4.3	66	0.1	9.1	5.9	392	3.86	<0.5	<0.5	0.6	17	<0.1	0.1	1.0	42	0.38	0.030
3270101	Rock	1.63	49.4	32.4	1.5	31	<0.1	1.7	1.9	286	2.05	31.0	<0.5	1.0	47	0.1	0.1	0.3	40	0.56	0.080
3270102	Rock	1.41	72.0	17.7	2.5	21	0.6	1.0	1.1	143	1.04	1.3	5.4	0.5	13	<0.1	<0.1	10.8	13	0.14	0.024
3270103	Rock	1.70	118.5	31.0	3.0	9	0.2	0.5	0.4	75	1.73	2.3	<0.5	2.0	26	<0.1	0.2	0.4	11	0.19	0.012
3270104	Rock	0.96	168.6	36.7	1.9	15	0.1	1.4	4.1	103	1.49	6.4	3.1	1.0	12	0.2	<0.1	0.3	9	0.21	0.023
3270105	Rock	1.13	170.6	13.6	1.1	18	<0.1	0.5	0.6	157	1.52	9.6	0.5	0.9	46	<0.1	0.1	0.2	32	0.34	0.038
3270106	Rock	1.71	97.0	30.8	1.2	41	0.2	0.9	1.3	327	3.32	8.8	6.0	0.2	29	0.1	0.5	0.3	33	0.46	0.084
3270107	Rock	1.22	3.7	26.7	3.4	74	0.4	1.3	2.1	767	4.72	2.1	1.7	0.3	17	0.1	<0.1	0.6	146	0.24	0.085
3270108	Rock	1.36	4.8	76.8	3.8	126	0.2	2.2	2.1	343	6.38	<0.5	<0.5	0.7	41	0.4	<0.1	0.8	100	0.94	0.086
3270109	Rock	1.05	168.5	44.0	1.5	146	<0.1	5.3	5.1	568	1.78	1.9	<0.5	1.4	31	3.9	0.1	0.6	53	0.56	0.073
3270110	Rock	1.72	410.9	33.1	1.7	60	<0.1	4.3	2.9	434	1.84	1.0	<0.5	0.9	44	0.9	0.3	0.3	53	0.55	0.095
3270111	Rock	1.61	481.1	73.1	4.4	35	0.3	1.0	2.6	211	3.32	3.9	4.7	0.7	21	0.8	<0.1	1.3	40	0.14	0.066
3270112	Rock	1.20	50.0	52.6	2.4	57	<0.1	16.2	6.5	289	2.60	13.8	<0.5	1.4	41	0.3	0.1	0.6	43	0.44	0.076
3270113	Rock	2.12	10.5	26.4	1.5	15	0.2	1.6	3.8	78	1.87	219.4	111.4	<0.1	2	0.2	<0.1	4.0	3	0.04	0.003
3270114	Rock	3.05	6.6	11.1	1.4	5093	0.1	0.7	0.8	67	1.06	27.2	71.3	<0.1	2	150.5	<0.1	18.7	2	<0.01	0.003
3270115	Rock	1.58	72.3	78.0	5.2	108	0.2	2.5	7.7	600	3.27	9.0	1.8	1.0	75	1.3	<0.1	1.9	48	1.24	0.085
3270116	Rock	2.02	100.1	66.5	2.6	101	0.2	7.9	7.4	456	2.62	87.4	29.0	1.4	36	1.7	0.2	1.4	33	0.33	0.085
3270117	Rock	0.54	43.2	13.4	1.7	12	<0.1	3.2	1.4	64	0.83	<0.5	0.8	0.1	5	0.1	<0.1	<0.1	5	0.06	0.002
3270118	Rock	1.48	1.0	90.7	3.0	133	0.2	67.9	35.9	981	2.25	<0.5	0.5	0.5	101	0.4	<0.1	0.2	51	3.13	0.049
3270119	Rock	1.31	2.1	45.3	0.5	9	0.1	2.7	0.9	66	1.11	<0.5	0.6	<0.1	2	<0.1	<0.1	0.1	5	0.02	0.004
3270120	Rock	3.02	0.4	6.8	2.4	23	<0.1	191.7	13.4	1163	2.68	56.6	<0.5	0.1	637	0.2	0.2	<0.1	18	8.21	0.026
3270121	Rock	1.72	9.7	3.7	1.5	2	<0.1	2.1	0.9	103	0.59	<0.5	0.9	<0.1	10	<0.1	<0.1	0.1	2	0.21	0.002
3270122	Rock	1.87	0.6	88.0	0.7	31	0.4	6.9	5.6	274	1.36	4.2	4.7	<0.1	6	0.3	0.1	<0.1	11	0.07	0.014
3270123	Rock	1.39	0.3	7.0	1.2	11	<0.1	4.6	4.0	291	0.84	0.8	<0.5	0.1	20	0.2	<0.1	<0.1	13	0.12	0.014
3270124	Rock	1.88	1.0	59.7	20.3	101	0.2	92.7	13.6	950	4.55	19.1	<0.5	1.2	95	0.8	0.1	0.1	70	3.06	0.083
3270125	Rock	1.63	1.2	12.0	1.3	45	<0.1	2.8	1.7	180	1.10	2.0	<0.5	4.8	7	0.5	0.2	<0.1	23	0.09	0.022
3270126	Rock	1.45	1.2	12.7	2.9	96	<0.1	4.1	2.6	373	1.16	3.4	4.0	7.8	9	1.4	0.1	0.2	21	0.10	0.024
3270127	Rock	1.38	6.2	57.8	10.0	191	0.5	35.9	9.0	220	5.41	83.3	23.3	0.5	40	0.6	2.0	<0.1	31	0.07	0.061

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Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
3270070	Rock	4	32	1.24	59	0.095	<20	1.61	0.036	0.11	<0.1	<0.01	2.9	<0.1	0.23	7	<0.5	<0.2
3270071	Rock	1	24	1.17	44	0.175	<20	2.00	0.056	0.44	0.1	<0.01	3.7	0.1	0.41	5	0.7	<0.2
3270072	Rock	1	13	0.96	63	0.153	<20	2.05	0.052	0.25	0.2	<0.01	5.0	<0.1	0.66	7	0.8	0.4
3270101	Rock	4	9	0.89	38	0.061	<20	1.52	0.105	0.19	0.1	<0.01	2.3	<0.1	0.14	7	<0.5	<0.2
3270102	Rock	1	6	0.20	23	0.021	<20	0.47	0.038	0.10	0.1	<0.01	0.9	<0.1	<0.05	2	<0.5	1.8
3270103	Rock	2	5	0.10	31	0.028	<20	0.50	0.056	0.07	<0.1	<0.01	0.7	<0.1	0.06	3	1.1	<0.2
3270104	Rock	3	5	0.16	27	0.003	<20	0.35	0.033	0.06	0.1	<0.01	0.7	<0.1	0.14	2	<0.5	<0.2
3270105	Rock	3	6	0.46	99	0.111	<20	0.84	0.082	0.28	0.2	<0.01	1.7	0.1	0.20	4	1.0	<0.2
3270106	Rock	2	5	0.76	60	0.220	<20	1.31	0.060	0.23	0.3	<0.01	4.5	0.2	0.13	4	1.3	0.3
3270107	Rock	2	10	1.52	36	0.184	<20	1.72	0.066	0.05	0.7	<0.01	12.6	<0.1	0.40	8	2.9	0.5
3270108	Rock	2	7	0.52	24	0.173	<20	1.38	0.114	0.07	0.5	<0.01	7.5	<0.1	0.97	8	10.4	<0.2
3270109	Rock	5	6	0.65	49	0.044	<20	0.96	0.087	0.13	<0.1	<0.01	3.4	<0.1	0.09	5	<0.5	<0.2
3270110	Rock	6	7	0.70	22	0.107	<20	1.02	0.081	0.07	0.7	0.01	3.0	<0.1	0.08	5	<0.5	<0.2
3270111	Rock	4	4	0.45	55	0.015	<20	0.88	0.058	0.14	1.2	<0.01	2.3	<0.1	0.06	5	0.9	0.3
3270112	Rock	5	20	0.78	44	0.103	<20	1.21	0.090	0.13	0.4	0.02	3.4	<0.1	0.07	5	<0.5	<0.2
3270113	Rock	<1	5	0.05	5	0.002	<20	0.08	0.002	0.01	0.1	0.01	0.2	<0.1	0.71	<1	1.2	0.9
3270114	Rock	<1	6	0.01	5	<0.001	<20	0.04	0.004	0.02	<0.1	0.04	0.1	<0.1	0.34	<1	1.0	3.0
3270115	Rock	7	5	0.73	62	0.028	<20	1.32	0.066	0.16	0.1	<0.01	3.1	<0.1	0.44	7	1.3	<0.2
3270116	Rock	8	5	0.69	126	0.054	<20	1.33	0.089	0.46	0.8	<0.01	2.9	0.2	0.09	6	0.7	<0.2
3270117	Rock	<1	6	0.06	9	0.002	<20	0.16	0.040	0.03	<0.1	<0.01	0.4	<0.1	0.06	<1	<0.5	<0.2
3270118	Rock	5	8	0.60	79	0.033	<20	1.02	0.041	0.16	<0.1	<0.01	4.9	<0.1	0.06	4	<0.5	<0.2
3270119	Rock	<1	6	0.04	12	0.006	<20	0.08	0.009	0.02	<0.1	<0.01	0.6	<0.1	<0.05	<1	<0.5	<0.2
3270120	Rock	1	177	4.90	27	0.001	<20	0.77	0.006	0.06	<0.1	<0.01	4.8	<0.1	0.06	2	<0.5	<0.2
3270121	Rock	<1	7	0.03	19	<0.001	<20	0.03	0.004	<0.01	<0.1	<0.01	0.2	<0.1	<0.05	<1	<0.5	<0.2
3270122	Rock	3	8	0.23	4	0.001	<20	0.40	0.007	<0.01	<0.1	<0.01	2.1	<0.1	<0.05	1	<0.5	<0.2
3270123	Rock	<1	7	0.10	20	0.001	<20	0.39	0.030	0.08	<0.1	<0.01	0.9	<0.1	<0.05	1	<0.5	<0.2
3270124	Rock	8	34	1.33	107	0.012	<20	2.65	0.056	0.26	<0.1	<0.01	7.4	<0.1	<0.05	7	<0.5	<0.2
3270125	Rock	7	6	0.20	30	0.027	<20	0.44	0.078	0.12	<0.1	<0.01	3.1	0.1	<0.05	2	<0.5	<0.2
3270126	Rock	13	4	0.24	43	0.014	<20	0.60	0.088	0.14	<0.1	<0.01	2.5	0.1	<0.05	2	<0.5	<0.2
3270127	Rock	9	10	0.57	79	0.001	<20	1.68	0.055	0.14	0.2	0.01	4.1	0.1	<0.05	5	1.9	<0.2

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Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	1	0.01	0.001
3270128	Rock	1.33	<0.1	9.4	0.7	18	0.1	2125.5	98.7	661	4.73	50.2	0.8	<0.1	90	<0.1	1.0	<0.1	28	1.20	0.001
3270129	Rock	1.50	1.8	39.9	5.1	70	0.3	8.3	7.6	235	3.19	9.3	<0.5	0.6	21	0.2	0.2	0.2	24	0.04	0.026
3270130	Rock	1.44	1.8	34.7	7.5	50	0.3	13.1	9.1	270	4.08	0.9	<0.5	0.4	22	0.3	0.2	<0.1	28	0.06	0.021
3270131	Rock	1.22	0.5	17.6	4.5	73	<0.1	4.9	4.6	257	1.21	1.3	<0.5	<0.1	26	0.5	<0.1	<0.1	5	0.28	0.006
3270132	Rock	1.09	2.0	32.3	6.0	28	0.2	3.0	3.5	457	3.18	1.8	<0.5	0.5	14	<0.1	<0.1	<0.1	31	0.56	0.061
3270133	Rock	1.42	2.9	11.9	2.5	72	<0.1	6.4	3.5	488	1.18	2.0	<0.5	0.7	7	0.6	<0.1	<0.1	6	0.11	0.015
3270134	Rock	1.49	3.3	99.5	7.8	58	0.4	17.4	13.6	607	4.71	<0.5	<0.5	0.5	107	<0.1	0.1	0.4	45	3.76	0.123
3270135	Rock	1.78	2.9	58.6	6.6	56	0.2	10.6	4.8	375	2.55	1.1	<0.5	0.8	27	0.4	<0.1	0.1	36	0.71	0.070
3270136	Rock	1.35	3.0	35.6	6.3	65	0.1	7.8	3.4	450	2.62	<0.5	<0.5	1.2	20	0.2	<0.1	<0.1	25	0.53	0.043
3270137	Rock	1.69	12.1	62.8	6.1	138	0.3	70.0	10.8	1574	4.42	19.0	<0.5	1.0	37	2.0	0.3	0.1	51	2.54	0.032
3270138	Rock	1.72	0.4	22.0	6.0	26	0.1	3.9	2.7	250	1.47	<0.5	<0.5	0.3	69	0.1	<0.1	<0.1	8	1.78	0.009
3270139	Rock	2.45	0.9	7.6	6.5	75	<0.1	5.8	3.0	208	1.90	22.4	<0.5	0.3	34	0.6	0.1	0.2	15	0.64	0.024

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Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003068.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
3270128	Rock	<1	1363	19.17	6	0.003	46	0.40	<0.001	<0.01	0.4	<0.01	9.5	<0.1	<0.05	<1	<0.5	<0.2
3270129	Rock	3	8	0.37	87	0.002	<20	1.38	0.061	0.27	<0.1	<0.01	3.3	<0.1	0.49	4	1.7	<0.2
3270130	Rock	2	11	0.48	87	0.004	<20	1.44	0.079	0.17	<0.1	<0.01	3.7	<0.1	0.57	4	0.8	<0.2
3270131	Rock	<1	6	0.11	16	0.005	<20	0.33	0.011	0.04	<0.1	<0.01	0.9	<0.1	<0.05	<1	<0.5	<0.2
3270132	Rock	5	7	0.58	28	0.003	<20	0.99	0.086	0.03	<0.1	<0.01	9.2	<0.1	0.69	4	1.9	<0.2
3270133	Rock	6	4	0.09	116	0.002	<20	0.48	0.029	0.19	<0.1	<0.01	1.7	<0.1	<0.05	1	<0.5	<0.2
3270134	Rock	3	13	1.13	67	0.163	<20	2.05	0.049	0.23	0.3	<0.01	4.8	<0.1	1.45	5	1.4	<0.2
3270135	Rock	5	23	0.84	35	0.186	<20	1.51	0.048	0.10	0.2	<0.01	5.5	<0.1	0.24	5	0.7	<0.2
3270136	Rock	4	15	0.97	39	0.156	<20	1.62	0.046	0.17	0.1	<0.01	3.5	<0.1	0.08	5	<0.5	<0.2
3270137	Rock	5	31	0.66	88	0.133	<20	1.02	0.033	0.17	0.3	<0.01	2.9	<0.1	0.09	3	2.2	<0.2
3270138	Rock	<1	6	0.29	27	0.019	<20	0.43	0.007	0.05	<0.1	<0.01	0.6	<0.1	0.34	2	<0.5	<0.2
3270139	Rock	1	10	0.30	39	0.042	<20	0.46	0.016	0.12	0.3	<0.01	1.3	<0.1	0.20	2	<0.5	<0.2

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Project: Empirical
Report Date: October 28, 2019

QUALITY CONTROL REPORT VAN19003068.1

	Method	WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	1	0.01	0.001
Pulp Duplicates																					
3270004	Rock	1.82	58.4	59.7	2.0	53	0.1	4.5	9.4	527	1.61	1.5	0.9	2.4	80	0.7	0.1	0.6	13	2.05	0.023
REP 3270004	QC		57.1	61.1	1.9	50	0.1	4.6	8.9	492	1.54	1.5	3.4	2.2	76	0.6	0.1	0.5	13	1.91	0.022
3270038	Rock	1.35	0.2	28.5	4.5	75	0.1	27.5	13.8	612	3.01	1.1	<0.5	0.6	87	0.1	<0.1	<0.1	47	3.28	0.105
REP 3270038	QC		0.2	26.9	4.3	69	<0.1	25.3	12.9	582	3.00	1.3	<0.5	0.6	88	0.2	<0.1	<0.1	47	3.23	0.100
3270110	Rock	1.72	410.9	33.1	1.7	60	<0.1	4.3	2.9	434	1.84	1.0	<0.5	0.9	44	0.9	0.3	0.3	53	0.55	0.095
REP 3270110	QC		410.9	32.2	1.8	60	<0.1	4.4	2.9	426	1.83	1.3	<0.5	0.9	44	0.8	0.2	0.3	53	0.54	0.093
Core Reject Duplicates																					
3270028	Rock	1.84	1.1	19.5	2.2	71	0.1	5.2	3.5	378	1.47	128.1	3.3	6.5	14	1.3	0.5	0.1	41	0.46	0.027
DUP 3270028	QC		1.1	19.3	2.2	73	0.1	5.0	3.5	377	1.50	143.3	3.7	6.6	15	1.2	0.6	0.1	41	0.47	0.028
3270071	Rock	2.07	3.6	100.3	1.6	52	0.2	13.8	10.8	484	3.78	1.4	<0.5	0.3	38	<0.1	<0.1	<0.1	58	0.88	0.045
DUP 3270071	QC		3.6	101.8	1.6	52	0.2	14.4	11.3	494	3.84	1.5	<0.5	0.2	38	<0.1	<0.1	<0.1	58	0.91	0.041
3270133	Rock	1.42	2.9	11.9	2.5	72	<0.1	6.4	3.5	488	1.18	2.0	<0.5	0.7	7	0.6	<0.1	<0.1	6	0.11	0.015
DUP 3270133	QC		2.9	12.0	2.5	73	<0.1	6.5	3.4	478	1.19	1.9	<0.5	0.7	8	0.6	<0.1	<0.1	6	0.11	0.015
Reference Materials																					
STD BVGEO01	Standard		11.2	4545.9	202.5	1820	2.6	164.5	27.0	732	3.80	119.1	208.0	16.5	53	6.8	2.3	24.9	74	1.39	0.070
STD DS11	Standard		13.7	142.5	134.2	340	1.7	79.5	13.6	992	3.07	44.4	72.4	7.6	61	2.2	6.8	11.3	49	0.94	0.068
STD DS11	Standard		13.6	149.1	132.0	343	1.9	75.5	13.5	1020	3.11	42.7	57.1	7.8	75	2.3	8.3	13.7	49	1.06	0.073
STD OREAS262	Standard		0.7	124.0	61.7	162	0.5	69.7	30.6	570	3.47	37.9	61.3	10.2	37	0.7	3.0	1.1	23	3.22	0.040
STD OREAS262	Standard		0.7	113.3	56.2	141	0.5	62.8	26.7	539	3.22	35.9	59.1	9.4	34	0.7	2.7	1.0	21	3.05	0.038
STD OREAS262	Standard		0.8	119.1	57.9	156	0.5	65.0	27.6	569	3.28	36.7	69.0	10.1	40	0.6	3.5	1.1	22	3.03	0.038
STD BVGEO01 Expected			10.8	4415	187	1741	2.53	163	25	733	3.7	121	219	14.4	55	6.5	2.2	25.6	73	1.3219	0.0727
STD DS11 Expected			13.9	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	7.2	12.2	50	1.063	0.0701
STD OREAS262 Expected			0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	65	9.33	36	0.61	3.39	1.03	22.5	2.98	0.04
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001
Prep Wash																					
ROCK-VAN	Prep Blank		0.7	12.0	2.8	107	<0.1	1.1	3.7	542	1.95	0.9	2.1	2.0	21	0.2	<0.1	<0.1	26	0.74	0.037

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Client: **Longford Exploration Services Ltd.**
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Project: Empirical
Report Date: October 28, 2019

QUALITY CONTROL REPORT   VAN19003068.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																		
3270004	Rock	4	5	0.23	49	0.024	<20	0.60	0.059	0.13	0.2	<0.01	1.0	<0.1	0.17	2	0.6	<0.2
REP 3270004	QC	4	5	0.22	45	0.022	<20	0.58	0.055	0.13	0.1	<0.01	1.1	<0.1	0.15	2	0.7	<0.2
3270038	Rock	4	29	1.50	75	0.120	<20	2.04	0.057	0.13	0.1	<0.01	2.5	<0.1	0.19	9	<0.5	<0.2
REP 3270038	QC	4	26	1.45	71	0.117	<20	2.01	0.057	0.14	0.1	<0.01	2.5	<0.1	0.19	8	<0.5	<0.2
3270110	Rock	6	7	0.70	22	0.107	<20	1.02	0.081	0.07	0.7	0.01	3.0	<0.1	0.08	5	<0.5	<0.2
REP 3270110	QC	5	7	0.70	21	0.103	<20	1.02	0.080	0.07	0.6	<0.01	2.9	<0.1	0.08	5	<0.5	<0.2
Core Reject Duplicates																		
3270028	Rock	13	6	0.31	53	0.028	<20	0.67	0.104	0.16	0.2	<0.01	4.4	0.1	0.13	2	0.7	<0.2
DUP 3270028	QC	13	7	0.31	53	0.028	<20	0.69	0.110	0.16	0.2	<0.01	4.5	0.1	0.14	3	0.7	<0.2
3270071	Rock	1	24	1.17	44	0.175	<20	2.00	0.056	0.44	0.1	<0.01	3.7	0.1	0.41	5	0.7	<0.2
DUP 3270071	QC	1	24	1.17	43	0.175	<20	2.01	0.053	0.44	0.1	<0.01	3.7	0.2	0.43	5	0.8	<0.2
3270133	Rock	6	4	0.09	116	0.002	<20	0.48	0.029	0.19	<0.1	<0.01	1.7	<0.1	<0.05	1	<0.5	<0.2
DUP 3270133	QC	6	5	0.10	131	0.002	<20	0.52	0.035	0.21	<0.1	<0.01	1.8	<0.1	<0.05	1	<0.5	<0.2
Reference Materials																		
STD BVGEO01	Standard	27	191	1.28	342	0.242	<20	2.31	0.198	0.91	3.5	0.09	5.8	0.6	0.69	8	4.8	1.0
STD DS11	Standard	17	61	0.83	416	0.085	<20	1.13	0.070	0.40	3.0	0.24	3.2	4.7	0.26	5	1.8	4.6
STD DS11	Standard	19	59	0.85	431	0.097	<20	1.17	0.075	0.40	3.0	0.26	3.4	4.8	0.28	5	2.0	4.5
STD OREAS262	Standard	19	48	1.24	268	0.004	<20	1.35	0.071	0.34	0.1	0.17	3.3	0.5	0.27	4	<0.5	0.2
STD OREAS262	Standard	15	42	1.13	245	0.003	<20	1.21	0.067	0.30	0.1	0.16	3.0	0.5	0.27	4	<0.5	0.3
STD OREAS262	Standard	18	43	1.22	254	0.003	<20	1.32	0.073	0.31	0.1	0.16	3.5	0.5	0.27	4	<0.5	0.3
STD BVGEO01 Expected		25.9	171	1.2963	340	0.233		2.347	0.1924	0.89	3.5	0.1	5.97	0.62	0.6655	7.37	4.84	1.02
STD DS11 Expected		18.6	61.5	0.85	417	0.0976		1.129	0.0694	0.4	2.9	0.26	3.1	4.9	0.2835	4.7	2.2	4.56
STD OREAS262 Expected		15.9	41.7	1.17	248	0.003		1.204	0.071	0.312	0.13	0.17	3.24	0.47	0.253	3.73	0.4	0.23
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
Prep Wash																		
ROCK-VAN	Prep Blank	6	6	0.48	59	0.080	<20	0.93	0.106	0.12	<0.1	0.02	2.9	<0.1	<0.05	4	<0.5	<0.2

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Client: **Longford Exploration Services Ltd.**
460-666 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

QUALITY CONTROL REPORT VAN19003068.1

		WGHT	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	1	0.01	0.001
ROCK-VAN	Prep Blank		0.6	12.2	3.6	112	<0.1	1.1	3.9	519	1.90	0.8	1.6	2.2	21	0.2	<0.1	<0.1	27	0.72	0.037

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

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Project: Empirical
Report Date: October 28, 2019

QUALITY CONTROL REPORT VAN19003068.1

		AQ200 La ppm 1	AQ200 Cr ppm 1	AQ200 Mg % 0.01	AQ200 Ba ppm 1	AQ200 Ti % 0.001	AQ200 B ppm 20	AQ200 Al % 0.01	AQ200 Na % 0.001	AQ200 K % 0.01	AQ200 W ppm 0.1	AQ200 Hg ppm 0.01	AQ200 Sc ppm 0.1	AQ200 Tl ppm 0.1	AQ200 S % 0.05	AQ200 Ga ppm 1	AQ200 Se ppm 0.5	AQ200 Te ppm 0.2
ROCK-VAN	Prep Blank	6	5	0.47	58	0.080	<20	0.90	0.099	0.11	<0.1	0.01	2.8	<0.1	<0.05	4	<0.5	<0.2

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APPENDIX G: 2019 Soil Sample Analytical Certificates

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Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Submitted By: James Rogers
Receiving Lab: Canada-Vancouver
Received: October 15, 2019
Report Date: October 28, 2019
Page: 1 of 3

CERTIFICATE OF ANALYSIS VAN19003069.1

CLIENT JOB INFORMATION

Project: Empirical
Shipment ID:
P.O. Number
Number of Samples: 50

SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps
PICKUP-RJT Client to Pickup Rejects

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	50	Dry at 60C			VAN
SS80	50	Dry at 60C sieve 100g to -80 mesh			VAN
SVRJT	50	Save all or part of Soil Reject			VAN
AQ200	50	1:1:1 Aqua Regia digestion ICP-MS analysis	0.5	Completed	VAN

ADDITIONAL COMMENTS

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Longford Exploration Services Ltd.
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1
Canada

CC: Vedran Pobric
Matt Krukowski

KERRY JAY

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All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"**" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

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Client: **Longford Exploration Services Ltd.**
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003069.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
3293551	Soil	358.7	102.4	6.1	137	0.2	14.2	8.5	401	7.22	449.6	27.6	1.6	204	1.2	0.8	1.1	51	0.58	0.173	8
3293552	Soil	95.1	136.4	10.5	375	0.2	16.9	18.4	754	4.56	13.7	1.6	2.4	64	5.3	0.2	2.4	27	0.35	0.089	8
3293553	Soil	126.3	165.1	14.5	399	0.3	21.6	23.1	864	6.03	39.5	6.3	2.1	57	6.6	0.4	3.9	39	0.30	0.120	9
3293554	Soil	255.4	196.5	117.9	420	4.5	15.7	21.1	832	8.35	81.7	8.8	2.1	80	5.8	0.4	22.2	55	0.27	0.133	9
3293555	Soil	557.9	329.6	28.4	568	0.9	19.3	49.5	1217	13.63	122.3	8.8	1.5	99	4.3	1.0	9.5	123	0.37	0.159	7
3293556	Soil	748.0	357.6	25.0	395	0.8	21.0	42.2	1019	11.08	718.3	88.8	1.9	153	4.7	1.6	8.9	76	0.55	0.141	10
3293557	Soil	533.9	356.2	35.4	347	0.9	21.3	57.5	1868	10.30	593.0	40.3	1.6	91	5.6	1.2	11.2	64	0.39	0.139	8
3293558	Soil	149.6	138.5	12.5	351	0.4	29.7	30.0	1833	7.08	227.1	16.4	1.6	84	2.3	0.8	2.4	99	0.38	0.118	10
3293559	Soil	57.3	149.8	13.7	696	0.3	31.3	23.5	1225	13.36	58.1	5.1	1.6	141	5.3	0.3	2.3	230	0.58	0.222	9
3293560	Soil	62.3	137.8	14.0	886	0.5	41.6	38.9	1768	11.52	74.6	9.5	1.7	115	8.8	0.3	3.3	180	0.62	0.192	8
3293561	Soil	60.3	140.1	14.1	922	0.5	39.9	40.0	1741	11.37	74.6	8.0	1.7	113	9.5	0.3	3.3	160	0.60	0.191	8
3293562	Soil	27.5	149.8	13.2	1200	0.4	38.1	34.8	1863	15.86	58.9	7.3	1.0	99	11.2	0.2	3.3	225	0.36	0.309	6
3293563	Soil	13.7	181.8	9.7	1095	0.6	23.4	21.7	1480	17.00	12.7	12.0	0.6	64	6.8	0.2	1.7	363	0.21	0.243	4
3293564	Soil	28.9	221.2	15.8	2223	0.8	50.3	40.8	4296	13.21	28.3	9.2	1.5	96	23.3	0.3	2.3	91	0.31	0.238	6
3293565	Soil	10.7	54.4	6.4	383	0.3	35.2	18.1	1609	5.26	5.2	4.9	0.9	31	1.3	<0.1	0.6	87	0.18	0.060	3
3293566	Soil	18.8	154.1	21.8	494	0.3	25.7	22.4	1085	13.79	13.8	7.9	1.8	101	2.3	0.2	1.8	152	0.50	0.255	14
3293567	Soil	12.4	201.9	16.9	560	0.8	15.0	14.9	924	18.72	8.4	5.4	0.7	117	1.8	0.1	2.1	176	0.23	0.255	4
3293568	Soil	20.3	192.1	23.0	1427	0.3	42.6	68.2	3178	15.15	18.9	3.2	1.1	98	9.2	0.2	9.5	167	0.38	0.223	6
3293569	Soil	9.8	121.6	5.1	146	0.2	13.2	5.7	885	14.21	10.3	2.7	0.4	12	0.2	0.1	1.0	167	0.11	0.126	<1
3293570	Soil	7.9	168.2	10.9	669	0.2	43.3	84.7	3322	10.51	8.4	2.8	0.6	114	3.0	0.1	1.0	247	1.14	0.120	3
3293571	Soil	8.7	181.6	11.1	708	0.2	46.3	89.3	3348	11.18	9.6	3.1	0.6	124	3.4	0.2	1.0	261	1.13	0.122	3
3293572	Soil	6.7	130.6	6.9	1180	0.2	47.9	61.8	2428	7.76	6.5	2.1	0.6	161	8.1	<0.1	0.9	123	1.42	0.101	2
3293573	Soil	13.1	208.8	11.5	935	0.2	73.0	133.2	6270	10.53	10.7	1.5	0.7	43	5.7	<0.1	1.0	133	0.45	0.134	3
3293574	Soil	13.7	135.9	9.5	1010	0.3	38.2	41.5	2641	9.60	20.6	1.8	1.1	79	21.0	0.6	1.2	134	0.70	0.109	5
3293575	Soil	30.8	105.0	6.7	265	0.1	12.2	8.0	519	13.80	11.1	1.3	1.2	51	0.9	0.1	0.7	133	0.48	0.184	4
3293576	Soil	225.8	152.4	14.1	256	0.1	11.3	11.1	422	7.03	279.3	13.6	2.1	137	2.1	0.6	4.0	37	0.31	0.152	9
3293577	Soil	149.1	187.4	14.7	332	0.3	17.1	16.5	624	7.71	73.1	6.7	2.1	123	2.8	0.4	3.0	53	0.46	0.180	11
3293578	Soil	229.2	286.9	94.0	596	1.3	33.6	62.3	1743	9.59	113.7	18.1	1.9	145	8.5	0.5	9.2	65	0.50	0.169	11
3293579	Soil	398.9	351.1	49.2	846	1.7	29.5	60.2	1581	10.33	467.6	87.1	1.8	117	17.7	1.8	8.5	78	0.44	0.150	10
3293580	Soil	559.2	426.1	27.0	681	1.1	31.4	67.6	1768	10.86	111.2	11.6	1.8	88	14.6	0.7	8.0	85	0.35	0.128	9

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Project: Empirical
Report Date: October 28, 2019

CERTIFICATE OF ANALYSIS VAN19003069.1

		Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
		Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		MDL	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
3293551	Soil		27	0.86	77	0.084	<20	2.55	0.070	0.31	1.0	0.02	3.1	0.2	0.36	9	3.1	0.2
3293552	Soil		19	0.66	30	0.036	<20	1.68	0.022	0.10	0.2	<0.01	1.7	<0.1	<0.05	6	1.7	<0.2
3293553	Soil		20	0.72	54	0.039	<20	1.89	0.021	0.11	0.1	0.02	3.0	0.1	<0.05	6	2.0	0.8
3293554	Soil		20	1.01	54	0.068	<20	1.98	0.036	0.13	0.2	0.04	4.8	0.1	0.11	8	4.0	2.5
3293555	Soil		19	0.85	60	0.178	<20	3.17	0.035	0.14	0.6	0.04	9.9	0.3	0.20	10	5.9	2.0
3293556	Soil		18	0.77	76	0.122	<20	3.27	0.045	0.18	1.4	0.02	8.1	0.5	0.22	9	4.3	1.1
3293557	Soil		13	0.85	57	0.101	<20	2.31	0.030	0.13	1.0	0.02	6.0	0.3	0.14	8	4.2	1.7
3293558	Soil		18	0.99	68	0.139	<20	2.38	0.020	0.15	0.4	0.01	7.6	0.7	0.12	9	2.0	0.3
3293559	Soil		28	0.92	100	0.197	<20	3.28	0.055	0.17	0.3	0.03	12.0	0.3	0.28	11	5.1	0.9
3293560	Soil		36	0.98	107	0.148	<20	3.53	0.049	0.23	0.4	0.03	13.0	0.3	0.30	11	5.9	1.0
3293561	Soil		31	1.04	107	0.149	<20	3.50	0.053	0.22	0.5	0.04	12.7	0.3	0.31	11	7.0	1.0
3293562	Soil		31	0.86	106	0.157	<20	3.25	0.073	0.21	0.6	0.04	15.8	0.3	0.44	10	8.1	1.7
3293563	Soil		28	1.00	208	0.264	<20	2.78	0.062	0.22	0.2	0.05	15.0	0.3	0.55	10	7.0	1.4
3293564	Soil		12	0.68	62	0.102	<20	4.37	0.033	0.15	0.5	0.07	12.2	0.3	0.33	7	9.0	1.5
3293565	Soil		34	0.93	87	0.105	<20	1.63	0.016	0.24	0.3	0.01	9.0	0.2	0.13	8	1.4	0.7
3293566	Soil		26	0.77	129	0.156	<20	3.12	0.056	0.22	0.2	0.03	12.8	0.3	0.35	10	11.1	1.0
3293567	Soil		19	0.77	150	0.131	<20	3.25	0.165	0.30	0.4	0.02	12.0	0.3	1.14	10	11.2	1.3
3293568	Soil		23	0.95	122	0.146	<20	3.22	0.048	0.21	0.3	0.02	12.0	0.4	0.30	9	6.3	3.5
3293569	Soil		24	1.43	71	0.130	<20	1.82	0.020	0.06	0.3	<0.01	8.3	<0.1	0.48	9	6.0	0.6
3293570	Soil		21	1.72	43	0.076	<20	4.12	0.013	0.15	0.1	0.02	24.4	0.3	<0.05	14	2.5	0.4
3293571	Soil		22	1.65	45	0.085	<20	4.13	0.015	0.17	0.1	0.02	23.1	0.3	<0.05	14	2.9	0.5
3293572	Soil		22	1.16	63	0.082	<20	3.78	0.031	0.24	0.1	0.02	11.1	0.4	0.07	12	2.4	0.6
3293573	Soil		28	0.99	64	0.071	<20	2.59	0.020	0.15	0.3	0.01	16.5	0.3	0.12	9	2.7	0.4
3293574	Soil		43	1.12	83	0.084	<20	3.23	0.023	0.21	0.1	0.02	11.3	0.4	0.12	10	3.5	0.5
3293575	Soil		23	0.78	60	0.104	<20	2.84	0.053	0.13	0.4	<0.01	6.9	0.1	0.38	9	8.8	0.2
3293576	Soil		9	0.64	53	0.093	<20	2.09	0.039	0.16	0.6	0.02	2.6	0.2	0.18	6	1.9	0.8
3293577	Soil		18	0.74	68	0.080	<20	2.49	0.049	0.17	0.5	0.03	3.5	0.2	0.20	8	2.2	0.5
3293578	Soil		26	0.76	74	0.069	<20	2.56	0.037	0.17	0.2	0.05	5.3	0.2	0.16	8	2.9	2.2
3293579	Soil		24	0.86	74	0.066	<20	2.77	0.038	0.19	1.0	0.06	6.9	0.3	0.16	8	3.5	1.2
3293580	Soil		21	0.76	63	0.125	<20	2.51	0.032	0.13	1.0	0.03	7.2	0.4	0.15	7	4.3	1.0

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	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
3293581	Soil	571.0	415.9	27.2	633	1.1	30.5	63.7	1650	11.09	116.9	10.8	1.7	97	13.3	0.7	8.3	85	0.33	0.123	9
3293582	Soil	493.5	283.3	23.0	375	1.1	23.4	35.3	1039	10.93	719.8	78.8	1.3	99	3.9	1.8	9.3	87	0.31	0.133	8
3293583	Soil	176.3	167.2	20.3	566	0.7	40.6	37.5	1634	8.74	151.1	11.0	2.1	174	5.3	1.1	4.3	102	0.37	0.130	13
3293584	Soil	38.1	111.5	20.2	441	0.2	26.9	19.8	997	4.76	86.9	5.3	4.3	110	2.9	0.5	1.6	64	0.34	0.091	12
3293585	Soil	127.3	185.7	21.9	694	0.5	46.2	54.4	1561	10.13	183.1	13.8	1.8	72	4.6	0.5	3.9	158	0.32	0.183	10
3293586	Soil	113.0	147.3	20.2	831	0.4	62.7	52.4	1716	8.16	116.1	15.7	2.2	104	7.2	0.4	2.9	116	0.61	0.150	9
3293587	Soil	53.0	168.6	14.1	855	0.5	42.5	33.6	1852	14.25	59.1	7.0	1.1	89	6.0	0.5	2.1	215	0.45	0.234	8
3293588	Soil	34.9	149.1	34.9	913	0.9	25.4	18.6	1171	14.20	224.5	3.9	1.4	101	9.7	0.3	6.5	220	0.61	0.239	10
3293589	Soil	27.4	205.6	12.5	2452	0.7	104.4	115.8	8818	14.01	271.9	7.5	0.8	95	38.0	0.2	2.3	205	0.57	0.246	5
3293590	Soil	10.6	248.3	10.9	6845	0.6	83.1	98.5	8224	14.36	12.6	7.5	0.6	86	63.0	0.3	2.0	256	0.41	0.215	4
3293591	Soil	10.8	239.3	10.4	6077	0.6	79.8	103.5	7657	13.33	12.1	5.1	0.5	81	59.0	0.2	2.0	249	0.38	0.214	4
3293592	Soil	22.8	177.5	88.3	1130	2.8	27.7	20.6	2089	14.12	55.0	26.1	1.1	97	8.3	0.4	14.6	161	0.23	0.210	5
3293593	Soil	10.7	234.1	26.3	862	0.5	41.9	86.0	2855	17.92	18.0	9.9	1.0	79	7.0	0.3	2.1	210	0.42	0.316	6
3293594	Soil	36.0	173.4	17.7	684	0.9	17.2	26.5	1124	13.38	6.9	14.7	1.1	68	8.1	0.2	1.9	208	0.21	0.160	6
3293595	Soil	13.3	181.9	22.1	1293	0.4	25.9	42.5	2344	15.97	17.2	1.6	0.8	66	14.7	0.2	3.0	156	0.20	0.238	5
3293596	Soil	19.1	163.5	20.5	649	0.6	15.4	14.5	928	17.40	24.9	9.2	0.9	78	2.4	0.4	6.3	231	0.25	0.291	7
3293597	Soil	15.3	164.8	14.2	661	0.4	38.7	41.7	1651	10.91	23.0	4.6	1.2	55	3.1	0.4	2.4	154	0.40	0.161	6
3293598	Soil	7.3	106.8	10.5	621	0.2	30.7	31.0	1932	7.43	8.7	1.1	0.9	74	5.8	0.1	0.7	108	0.78	0.107	4
3293599	Soil	9.7	119.6	7.4	892	0.2	39.8	35.8	1762	6.87	11.6	1.2	0.8	99	12.8	0.2	0.8	114	1.02	0.111	4
3293600	Soil	9.3	95.7	6.8	867	0.2	35.7	26.3	1719	6.35	11.9	1.0	0.7	89	16.7	0.1	0.7	127	0.98	0.091	3

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	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
3293581	Soil	22	0.77	61	0.123	<20	2.45	0.034	0.12	0.9	0.04	6.8	0.4	0.15	7	3.4	1.2
3293582	Soil	22	0.79	72	0.126	<20	2.34	0.034	0.14	1.5	0.03	7.6	0.3	0.18	8	4.5	1.1
3293583	Soil	25	0.92	122	0.163	<20	2.43	0.044	0.16	0.5	<0.01	7.7	0.5	0.25	8	3.1	0.6
3293584	Soil	19	0.77	58	0.090	<20	1.85	0.012	0.12	0.2	<0.01	4.9	0.2	<0.05	7	1.2	0.3
3293585	Soil	28	0.87	93	0.146	<20	3.08	0.035	0.13	0.8	0.02	9.3	0.2	0.19	9	4.6	1.0
3293586	Soil	24	0.88	77	0.113	<20	3.50	0.026	0.15	0.4	0.02	7.5	0.2	0.11	9	2.8	0.7
3293587	Soil	25	0.85	82	0.258	<20	3.36	0.031	0.13	0.4	0.03	12.4	0.2	0.25	9	7.6	1.0
3293588	Soil	24	0.75	111	0.182	<20	3.34	0.051	0.19	0.5	0.03	13.2	0.2	0.35	10	7.6	2.0
3293589	Soil	23	1.19	199	0.210	<20	4.46	0.053	0.34	1.0	0.03	15.2	0.5	0.48	11	6.8	1.5
3293590	Soil	21	1.33	344	0.230	<20	3.98	0.052	0.31	0.5	0.04	18.0	0.5	0.41	11	5.4	1.2
3293591	Soil	20	1.23	349	0.221	<20	3.63	0.047	0.29	0.4	0.03	16.7	0.5	0.41	10	5.9	1.2
3293592	Soil	13	1.08	149	0.177	<20	3.42	0.062	0.25	0.7	0.05	14.1	0.3	0.59	10	7.4	2.5
3293593	Soil	17	0.81	107	0.160	<20	2.93	0.041	0.19	0.3	0.04	11.7	0.6	0.36	9	9.0	1.2
3293594	Soil	15	0.95	340	0.233	<20	2.51	0.056	0.59	0.4	0.02	13.7	0.6	0.57	11	10.3	1.6
3293595	Soil	18	1.02	88	0.172	<20	2.50	0.053	0.14	0.3	0.02	10.0	0.2	0.34	8	8.5	1.4
3293596	Soil	24	0.83	185	0.201	<20	2.83	0.075	0.25	0.3	0.13	14.5	0.3	0.75	10	8.9	1.2
3293597	Soil	37	1.12	98	0.147	<20	3.13	0.024	0.17	0.4	0.03	14.4	0.3	0.18	9	4.4	0.8
3293598	Soil	16	1.06	53	0.061	<20	2.83	0.014	0.15	0.3	0.01	9.3	0.2	<0.05	9	2.2	0.2
3293599	Soil	23	0.82	65	0.077	<20	3.06	0.019	0.21	0.1	0.02	9.8	0.3	0.06	9	2.1	0.3
3293600	Soil	20	0.94	52	0.054	<20	2.89	0.015	0.18	0.1	0.03	10.5	0.3	<0.05	9	1.6	0.2

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Project: Empirical
Report Date: October 28, 2019

QUALITY CONTROL REPORT VAN19003069.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
3293580	Soil	559.2	426.1	27.0	681	1.1	31.4	67.6	1768	10.86	111.2	11.6	1.8	88	14.6	0.7	8.0	85	0.35	0.128	9
REP 3293580	QC	569.8	431.9	29.5	673	1.1	32.7	66.6	1943	11.15	111.4	11.1	1.7	94	15.8	0.7	8.2	85	0.33	0.134	9
3293598	Soil	7.3	106.8	10.5	621	0.2	30.7	31.0	1932	7.43	8.7	1.1	0.9	74	5.8	0.1	0.7	108	0.78	0.107	4
REP 3293598	QC	7.7	110.7	11.1	630	0.2	31.3	32.3	1912	7.25	8.8	1.2	0.9	77	6.1	0.1	0.8	113	0.79	0.111	4
Reference Materials																					
STD BVGEO01	Standard	11.3	4512.2	189.1	1653	2.7	170.3	25.5	731	3.88	123.1	222.9	14.6	59	6.0	3.6	26.2	76	1.38	0.076	26
STD DS11	Standard	14.8	140.8	134.9	316	1.7	81.0	13.5	1031	3.16	43.4	115.1	7.8	63	2.3	7.1	11.1	52	1.01	0.070	17
STD OREAS262	Standard	0.7	124.5	58.4	156	0.5	62.3	28.2	519	3.54	36.7	82.5	9.6	38	0.7	4.8	1.1	23	2.95	0.041	20
STD OREAS262	Standard	0.7	111.2	54.6	141	0.4	62.5	26.5	542	3.37	34.9	67.2	9.3	34	0.7	3.5	0.9	21	3.00	0.039	16
STD BVGEO01 Expected		10.8	4415	187	1741	2.53	163	25	733	3.7	121	219	14.4	55	6.5	2.2	25.6	73	1.3219	0.0727	25.9
STD DS11 Expected		13.9	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	7.2	12.2	50	1.063	0.0701	18.6
STD OREAS262 Expected		0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	65	9.33	36	0.61	3.39	1.03	22.5	2.98	0.04	15.9
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	0.6	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1

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Project: Empirical
Report Date: October 29, 2019

QUALITY CONTROL REPORT VAN19003069.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
3293580	Soil	21	0.76	63	0.125	<20	2.51	0.032	0.13	1.0	0.03	7.2	0.4	0.15	7	4.3	1.0
REP 3293580	QC	21	0.76	62	0.125	<20	2.48	0.031	0.13	1.0	0.04	7.3	0.4	0.15	7	3.8	1.0
3293598	Soil	16	1.06	53	0.061	<20	2.83	0.014	0.15	0.3	0.01	9.3	0.2	<0.05	9	2.2	0.2
REP 3293598	QC	17	1.12	57	0.064	<20	3.16	0.015	0.15	0.3	0.02	9.8	0.3	<0.05	9	2.4	0.3
Reference Materials																	
STD BVGEO01	Standard	175	1.29	346	0.247	<20	2.28	0.193	0.88	3.9	0.10	6.3	0.6	0.71	8	4.7	1.0
STD DS11	Standard	59	0.83	412	0.087	<20	1.13	0.066	0.37	2.9	0.25	2.9	5.0	0.25	5	2.0	4.5
STD OREAS262	Standard	42	1.18	254	0.004	<20	1.18	0.068	0.31	0.2	0.16	3.1	0.5	0.22	4	<0.5	0.2
STD OREAS262	Standard	42	1.16	246	0.003	<20	1.21	0.065	0.29	0.1	0.16	3.1	0.5	0.24	4	0.6	<0.2
STD BVGEO01 Expected		171	1.2963	340	0.233		2.347	0.1924	0.89	3.5	0.1	5.97	0.62	0.6655	7.37	4.84	1.02
STD DS11 Expected		61.5	0.85	417	0.0976		1.129	0.0694	0.4	2.9	0.26	3.1	4.9	0.2835	4.7	2.2	4.56
STD OREAS262 Expected		41.7	1.17	248	0.003		1.204	0.071	0.312	0.13	0.17	3.24	0.47	0.253	3.73	0.4	0.23
BLK	Blank	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

APPENDIX H: 2019 Rock Sample IDs, Locations and Significant Results

LONGFORD EXPLORATION SERVICES LTD.

Empirical Project

2019 Rock Sampling

Drawn By: V. Pobuta	NTS 50K: 092J05 J12	October 31, 2019
NAD83	EPSG:26910	Scale: 1:12,500

Empirical Outline

2019 Empirical Rocks [102]

0 0.5 1 km

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