LONGFORD
EXPLORATION SERVICES LTD.

Prospecting, Geological, Geochemical and Geophysical Survey Report

On the

Arch and Corky Properties

Arch, Quill & Tatamagouche Creeks, Whitehorse Mining District, Yukon, Canada

Located Within:
NTS Sheet 115 G05/06/12

Centered at Approximately:
Latitude 61.26° North by Longitude 139.36° West
UTM NAD83 07V 574859E 6813115N

GRANT NUMBERS	CLAIM NAME
YD58910, 913, 914	ARCH 38, 39, 40
YE69001 - YE69077	AR 1 - 77
YE69501 - YE69537	ARCH 1 - 37
YE64601 - YE64034	BC 1 - 34
YE64657 - YE64067	BC 57 - 68
YE64924 - YE65080	BC 324 - 480

Field Work Conducted: Sept. 6, 17, 19, 2019

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traverse the earth

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1 Introduction

The Arch-Corky Property consists of 319 claims (6198 hectares) covering an area of the Kluane Mountains in the Tatamagouche, Quill and Arch Creek drainages southeast of the Donjek River. The terrain features broad valleys, rocky ridges and rounded upland areas incised by steep creek canyons approximately 40 km northwest of Burwash Landing, Yukon Territory.

The mineral exploration program was carried out on the Arch and Corky claims in the Whitehorse Mining District of the Yukon on Sept. 6, 17, 19, 2019. The work program consisted of geological mapping, rock sampling (17 samples), contour soil sampling (100 samples) and prospecting based on recommendations from the 2018 Assessment Report. Following the positive results of the 2019 field program, a UAV-Mag survey was carried out over the area of the Ram showing on the Corky property.

The properties cover potential Ni-Cu-PGE mineralization is associated with late Triassic mafic/ultramafic sills and volcanogenic massive sulphide mineralization occurring in Wrangell & Alexander Terranes mafic and felsic volcanic rocks and metasediments. Recent and historic exploration programs have outlined elevated PGE+Au and Ni, Cu values at the various claim blocks that comprise the Group Ten holdings.

The Kluane mafic/ultramafic Suite hosts many magmatic nickel (Ni) - copper (Cu) - platinum group element (PGE) ±gold (Au) occurrences from Northern British Columbia through Yukon and into Alaska. The Kluane Suite intrusions are sill-like bodies that preferentially intrude the country rock sequences at or near the contact between the Mississippian to Permian (Skolai Group) Hasen Creek Formation sediments and Station Creek Formation volcanics. Many of the ultramafic sills have marginal gabbro phases at their bases and upper contacts that appear to be preferentially mineralized. The Kluane Belt Ni-Cu-PGE occurrences are particularly enriched in the rarer platinum group elements osmium, iridium, ruthenium and rhodium.

This report was prepared to summarize the 2019 work program for claim assessment purposes. The work was carried out by Longford Exploration Services personnel under project management by James Rogers for Group Ten Metals Inc. of Vancouver, B.C.

2 Reliance on Other Experts

The author relied on information, maps, geochemical analysis results and interpretations produced by other experts in the fields of geology or geophysics during the preparation of this report. Methodology, sample collection techniques and original analysis certificates are available in 2016-2018 reports and for much of the historical work in the area.

3 Summary of Previous Investigations & Recommendations

The region was first explored in the early 1900's by prospectors looking for the source of placer copper on the upper White River. One native copper deposit (Canyon City) was discovered in 1905 and limited development work uncovered several large tabular masses of native copper. Miner's also found copper on Quill & Tatamagouche Creeks in 1908. In the 1930's placer miners were active on Quill, Arch, Burwash, Wade and Swede Johnson Creeks. Old camps, placer tailings and abandoned equipment mark the creeks that were mined.

The area of the Arch-Corky property has been explored periodically since the early 1950's after the completion of the Alaska Highway in 1942-1945 provided access to the general area. The discovery of the Wellgreen mineral deposit on upper Quill Creek (Minfile 115G024) initiated an exploration boom through the Kluane Ranges focussed on rocks of the Kluane Mafic/Ultramafic Belt a 600km long trend in the southwest corner of the Yukon characterized by mineralized mafic to ultramafic Triassic aged sills.

The Wellgreen deposit 3 km northeast of the Arch-Corky property, was mined between 1972 and 1973, producing 171,652 tonnes with an average grade of 2.23% Ni, 1.39% Cu, 0.073% Co and 2.15 grams/tonne Pt and Pd, then shut down due to weak metal prices, excessive dilution and erratic distribution. The deposit, now 100% owned by Nickel Creek Platinum Corp. has an Inferred Mineral Resource of 846 million tonnes at 1.57 g/t Pt Eq. or 0.41% Ni Eq, both at a 0.57 g/t Pt Eq or 0.15% Ni Eq cut off (Simpson, 2014).

Mineral occurrences are hosted by rocks of the Pennsylvanian to Lower Permian Skolai Group (Station Creek and Hasen Creek formations), Nikolai volcanics and Kluane Range intrusives. To the northwest the Skolai rocks are locally intruded by mafic/ultramafic sills, close to the favourable rock unit contacts, which host the target PGE-Ni-Cu mineralization. Overlying the Skolai rocks are basalts of the upper Triassic Nikolai formation. All rocks have been folded into a series of anticlines and synclines along fold axis parallel to the dominant 290-310^{o} trend and then folded again along NE axes (D. James, 2016). At lower elevations and on benches above the Arch, Quill and Maple Creek canyons, bedrock is overlain by Quaternary unconsolidated till, fluvial gravel and mud deposits. Recent slumps, mudslides and scarps occur where the overburden is eroding on hillsides and into the creek gullies.

Previous work in the Arch and Corky area from 1953-2018 included prospecting, geological mapping, rock & soil sampling, ground and airborne geophysical surveys, bulldozer trenching and diamond drilling. In 1965-1966 P. Versluce & Assoc. located and staked a copper occurrence in Nikolai basalts on Ram Creek at the head of Upper Quill Creek, now within the Corky claim block. The prospect was explored by bulldozer trenching and diamond drilling by Newmont Mining Corp. in 1967. Mineralization consisted of chalcocite, bornite and chalcopyrite disseminated and in veinlets associated with chlorite and serpentine in sheared or crumbled basalt (Campbell, W. 1981). Bulldozer trenching in 1967 exposed mineralization at "Showing 3" with copper values of 2.02% over 132 ft. and at "Showing 6" with copper values of 2.21% over 40 ft. (Assessment file 013065, Newmont Mining Corp. & Quill Creek Mines Ltd). Two diamond drill holes in 1967 intersected two mineralized zones, one averaging 0.3% Cu over 5.8m, and the other averaging 0.89% Cu over 2.4m (Campbell, W., 1981). Newmont returned the property to Quill Creek Mines Ltd. later in 1967. Assessment reports and geological files found in the Yukon Geological Survey database with information pertaining to the Arch-Corky property is summarized in Table 3.1.

Table 3.1: Assessment reports and documents concerning the Property.

Date	Report ID	Author	Title
1953	019524	Davis, 1953	Geological Investigation on the Saddle, Bit, Wade, Horse & Bridle claims for Callinan Flin Flon Mines.
1953		Ganvin, J., 1953	Sample taken across hanging wall of Arch Creek ultramafic sill assayed 2.03% Ni & 1.79% Cu for a length of 38 ft. and an average width of 3.5 ft.
1955	017461	Allan, 1955	SP survey on upper Maple Creek
1965-66			Prospecting and trenching around headwaters of Upper Quill Creek by P. Versluce & Assoc.
1967	013060-62 013065	Newmont Mining Corp.	Geological & geochemical surveys, bulldozer trenching, rock sampling and limited diamond drilling by Newmont Mining Corp at headwaters of Upper Quill Creek.
1967	019085	Hilker, R.G., 1967	Geological mapping, magnetometer and electromagnetic survey of Arch Creek area.
1970	013049	Sevensma, P.H., 1970	Preliminary evaluation of Arch Creek area for Kluane Nickel Mines Ltd.
1986		Deklerk, 2009	Area restaked and road building by Columbia Mining Ltd.
1987-88	092602	P. Van Angeren 1988	Minor prospecting, soil & rock geochemical sampling of pyritic greenstone by Gold City Resources Inc.
1988-89	092744	Davidson, G. 1989	Soil sampling and mag survey by Lodestar Exploration Inc. just west of Tobi on Donjek River flats.
1997	GSC Bulletin 506	Hulbert, L.J. 1997	Geology and metallogeny of the Kluane mafic-ultramafic belt, Yukon territory.
2003		Carne, R.	Metallogeny of the Kluane Ranges.
2004	Open File 2004-20	S. Israel & D.P. Van Zeyl	Preliminary geological map of the Quill Creek map area, (parts of NTS 115G/5, 6 and 12).
2008	095044	Furgo, 2008	DIGHEM airborne survey for Coronation Minerals Inc. located EM anomaly in the upper Maple Creek valley.
2016		Pautler, J. 2016	200km airborne magnetic survey, prospecting & rock geochemical and auger bedrock sampling, 69 samples.
2016		Walcott, P. 2016	Review of Catalyst Property geophysical data.
2016		James, D. 2016	Arch Project, Geophysical Interpretation Assessment Report
2017		Pautler, J. 2017	YMEP proposal for a target evaluation program on the Tobi project
2017	Open File 2017-36	Aurora Geosciences	Reprocessing of airborne magnetic data for NTS 115G.
2018	2017 Assessment Report	Longford Exploration Services Ltd.	Prospecting, Geological and Geochemical Survey Report on the Tobi Property.
2019	2018 Assessment Report	Longford Exploration Services Ltd.	Prospecting, Geological and Geochemical Survey Report on the Arch and Corky Properties.

The 2019 program described in this report included a total of 100 soil samples, collected on contour soil lines targeting favourable geology and airborne geophysical anomalies above Upper Quill and Arch creeks. Difficult soil sampling conditions were encountered on north facing slopes due to areas of permafrost, swamp and rocky overburden. South facing slopes generally had better quality soil. Geological evaluation, rock sampling (17 samples) and prospecting of the Arch and Upper Quill Creek areas and uplands were undertaken during traverses on Sept. 6, 17, 19, 2019. All samples were sent to Bureau Veritas in Whitehorse for analysis.

A UAV magnetic survey was subsequently carried out in March 2020 over the Ram showing and prospective lithology to the south of the Ram identified by the 2019 field program.

The 2017-2020 programs have generated areas for further exploration including the Ram copper showing on Upper Quill Creek, copper-nickel soil geochemical anomalies above Upper Quill Creek and rock sample targets on Upper Quill Creek. Airborne magnetic anomalies on Arch and Arch Island claim blocks remain viable areas for further exploration by soil and rock sampling, geological traverses and geophysical surveys. A budget of $100,000 is proposed for a follow up exploration program.

4 Location

The Arch and Corky Property covers rocky ridges and rounded upland areas of the Kluane Ranges and broad valleys of Upper Quill, Tatamagouche and Arch Creeks. Also, the steeply incised canyon of Arch Creek and Upper Quill Creek on NTS map sheets 115 G/5, G/6 & G/12 approximately 40 km by road northwest of Burwash Landing and 285km from Whitehorse, Yukon Territory, centered over 61 26' N latitude 139 36' W longitude (Figure 4.1). Access is via the Alaska Highway to KM 1699 turning onto the Quill Creek gravel road to km 11, then turn left onto the Upper Quill Creek access road which crosses the divide into the headwaters of Tatamagouche Creek. The northwestern portion of the property can be accessed by the Arch Creek road that branches of the Quill Creek road at kilometer 14. Placer trails provide ATV access to Upper Quill and Lower Arch Creeks. More remote and rugged portions of the claim blocks require helicopter access.

Whitehorse is well equipped to support the mining industry with general services, a skilled labour force, transportation (the Alaska Highway, Whitehorse airport) and abundant hydroelectric grid power. The property is located within the Kluane & White River First Nations territorial lands. Helicopter charter is available form Haines Junction, 125km south of the property. Locally Destruction Bay has a nursing station, fuel, lodging, restaurants, and repair services. Cellular service covers higher elevation portions of the project area.

Table 4.1: Driving distances to the Property.

Location	Description	Road Distance
Whitehorse (pop. 25,000)	Nearest city with services	295 km
Haines Junction	village	125
Burwash Landing	village	40
Destruction Bay	village	55

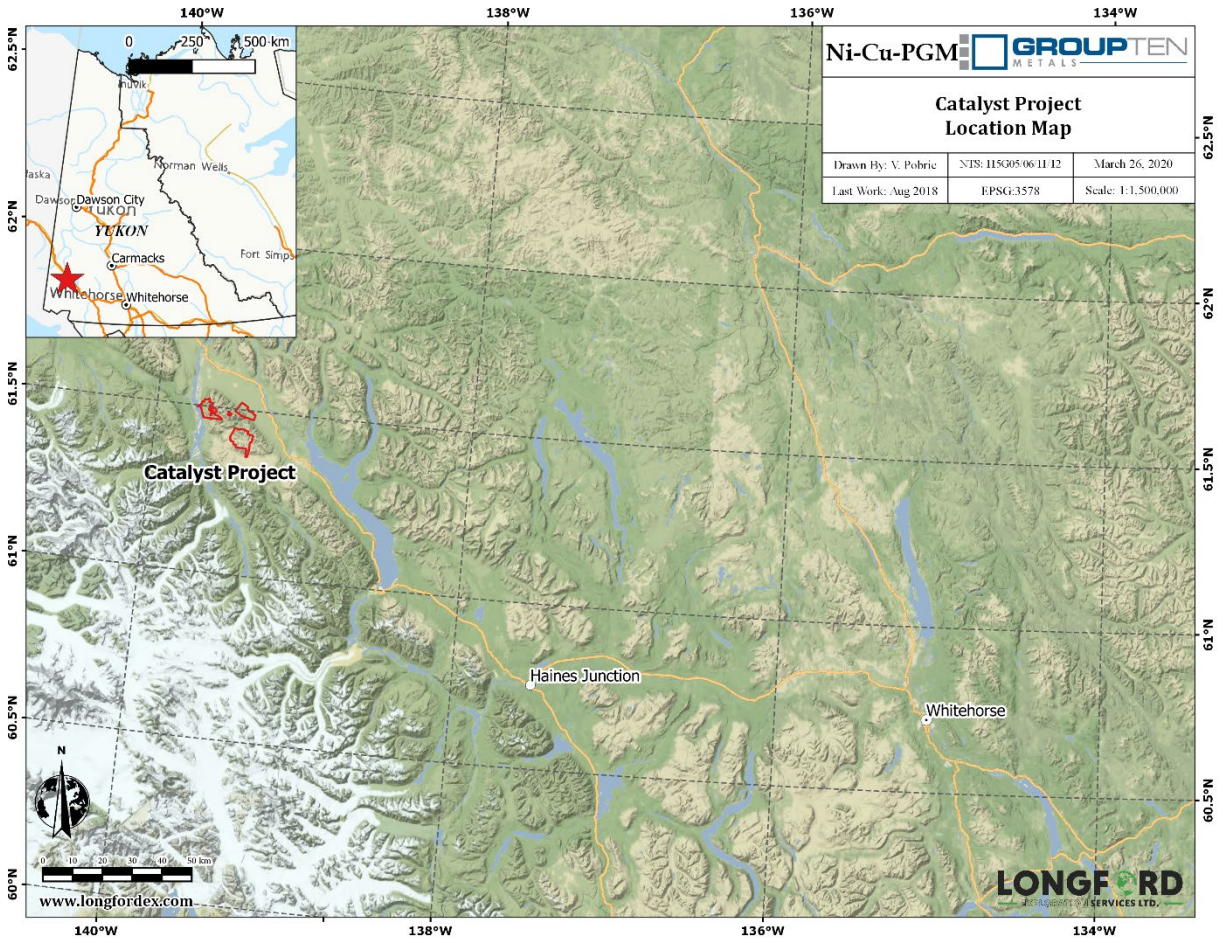

Figure 4.1: Arch-Corky Project location map.

4.1 Mineral Titles

The project area consists of 319 mineral claims (Figure 4.2). Group Ten Metals Inc. owns 100% of the BC claims, while the AR and ARCH claims are under option from Tom Morgan. Ryan Versloot of Longford Exploration filed an Application to Group Mineral Claims (YQMA Form 12) in respect of these claims and adjoining claims and submitted an Application for a Certificate of Work (YQMA Form 4) in November 2019.

Table 4.2: Mineral tenure summary.

Claim Name	Grant Numbers	Owner	No of claims	Grouping Certificate	Earliest Expiry Date
ARCH 38, 39, 40	YD58910, 913, 914	Tom Morgan	3	HW07740	2021-07-25
AR 1 - 77	YE69001 - YE69077	Tom Morgan	77	HW07740	2021-07-25
ARCH 1 - 37	YE69501 - YE69537	Tom Morgan	37	HW07740	2021-08-18
BC 1 - 34	YE64601 - YE64034	Group Ten Metals Inc.	34	HW07742	2021-07-25
BC 57 - 68	YE64657 - YE64668	Group Ten Metals Inc.	12	HW07742	2021-07-25
BC 324 - 480	YE64924 - YE65080	Group Ten Metals Inc.	156	HW07742	2021-07-25

4.2 Property Legal Status

The Yukon Mining Recorder website (http://www.yukonminingrecorder.ca/) confirms that all claims of the Property as shown in Table 4.1 and Figure 4.2 are in good standing at the date of this report and that no legal encumbrances were registered with the Yukon Mining Recorder against the titles at that date. The author makes no 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.

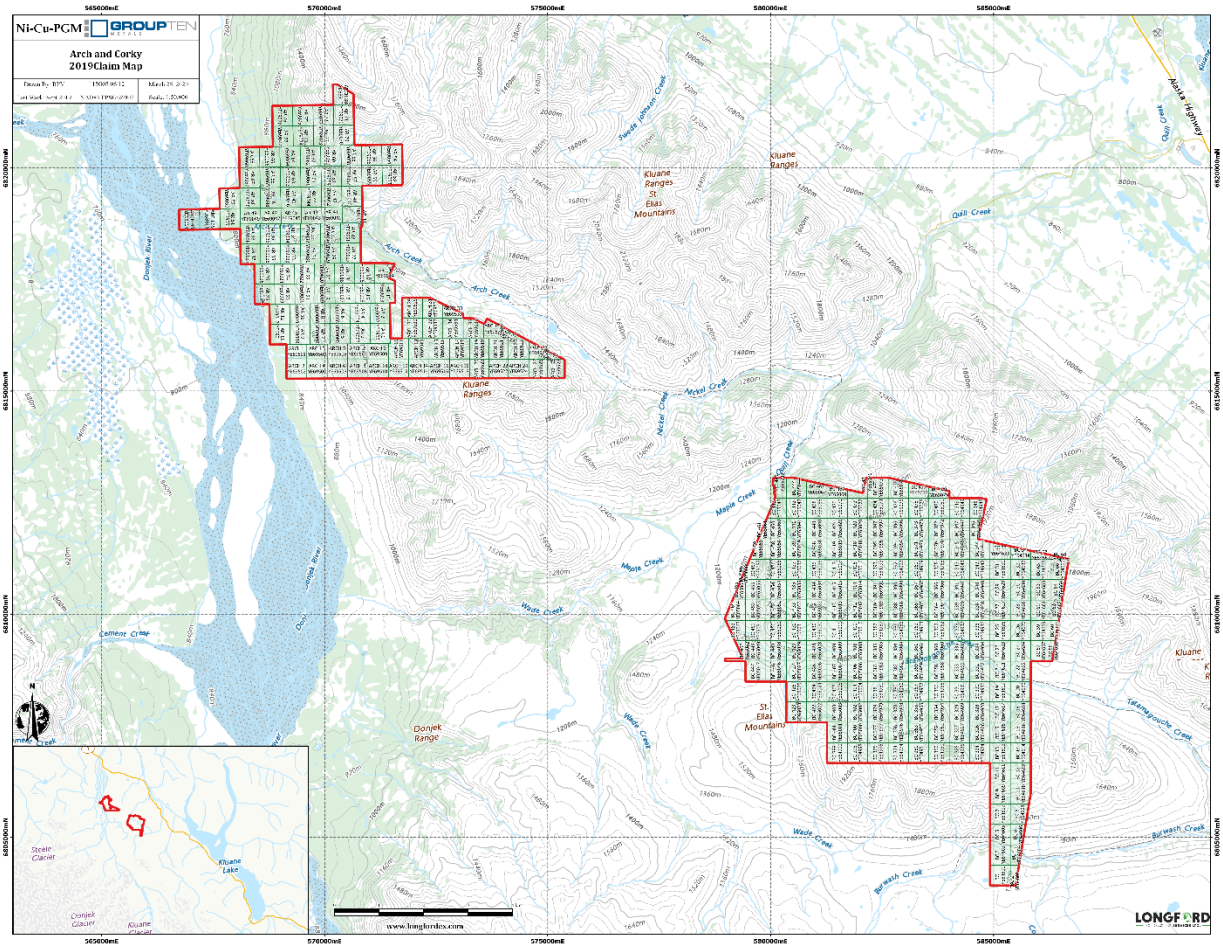

Figure 4.2: Arch-Corky Project mineral claim and land disposition map.

4.3 Climate

The Quill Creek area features a northern interior climate with long cold winters and low annual precipitation. The exploration season extends from early June until late September with occasional thunderstorms and a few intervals of warm dry conditions.

4.4 Topography and Vegetation

The claims lie on upland slopes and valleys east of the Donjek River, deeply incised by the drainages of Quill Creek, Tatamagouche Creek, Arch Creek and unnamed minor creeks (Figure 4.3). Upland areas feature grass and rock up to 2000m while the Donjek valley floor at 900m elevation is mainly spruce forest,

gravel flats and swamp. Precipitous canyons along the tributaries of the Donjek River expose extensive rock faces and steep talus slopes. Forest cover on the property is light, with treeline at approximately 1200m elevation. Black spruce, white spruce, balsam, poplar and white poplar dominate the forested slopes; alder willow and sub-alpine flora are found at and above the timberline.

Figure 4.3: Looking southwest from the north end of the Corky property.

5 Exploration History

The area around the Arch-Corky project has been explored periodically since the early 1950's with the discovery of the Wellgreen mineral deposit on upper Quill Creek (Minfile 115G024) that initiated an exploration boom through the Kluane Ranges focussed on rocks of the Kluane Ultramafic Belt.

Historic occurrences in the Arch-Corky claim area include the Ram showing (Minfile 115G021). In 1965-1966 P. Versluce & Assoc. located and staked a copper occurrence in Nikolai basalts on Ram Creek at the head of Upper Quill Creek. The prospect was explored by bulldozer trenching and diamond drilling by Newmont Mining Corp. in 1967 (Figure 4.1). Mineralization consisted of chalcocite, bornite and chalcopyrite disseminated and in veinlets associated with chlorite and serpentine in sheared or crumbled basalt (Campbell, W. 1981). Bulldozer trenching in 1967 exposed mineralization at "Showing 3" with copper values of 2.02% over 132 ft. and at "Showing 6" with copper values of 2.21% over 40 ft. (Assessment file 013065, Newmont Mining Corp. & Quill Creek Mines Ltd). Two diamond drill holes (1967) intersected two mineralized zones, one averaging 0.3% Cu over 5.8m, and the other averaging 0.89% Cu over 2.4m (Campbell, W., 1981). Newmont returned the property to Quill Creek Mines Ltd. later in 1967.

Figure 5.1: Photo showing 1967 bulldozer trenches on the Ram showing, Upper Quill Creek.

The Arch Creek area has been explored since 1952 when claims were staked at the head of the creek as a possible extension to the Wellgreen deposit. Exploration in 1953 discovered copper nickel mineralization in an ultramafic sill and a series of samples taken along the hanging wall of the peridotite sill assayed 2.03% Ni & 1.79% Cu for a length of 38 ft. and an average width of 3.5 ft (Hilker, B., 1967). This occurrence is 2 km southeast of the Catalyst Arch Island block and 1967 geophysical surveys by Kluane Nickel Mines Ltd. extended the grid over the northeast corner of the Catalyst property. A prominent magnetic anomaly was identified which is also seen on the more recent YGS aeromagnetic map.

The Musketeer minfile occurrence (115G026) located between the Arch Island and the main Arch claim block located on claims held by Nickel Creek Platinum Corp., includes both the Teck and Conwest showings. The Teck showing of Ni-Cu-PGE mineralization is located close to Serpentine Creek (local name), a tributary on the north side of Arch Creek. The ultramafic sill continues north for 100m before

disappearing under overburden. The actual contact between the volcaniclastics and ultramafic is obscured by strong calcite alteration and limonite staining that has destroyed original textures. Below the contact is a 2m wide pyritic fault zone within Station Creek formation that runs 0.543 ppm PGE + Au, 1005 ppm Cu and 389 ppm Ni over 0.8m (James, 2016). The ultramafic sill above the contact grades from strongly calcite and limonite altered to a dark greenish-black, serpentinized, magnetic peridotite with up 2% disseminated pyrrhotite. The best value in the ultramafic from limited sampling in 2013 was a strongly altered sample just above the contact that assayed 0.535 ppm PGE+Au, 1660 ppm Cu and 2130 ppm Ni (James, 2016).

The Conwest showing is located 1km north of the Teck showing on the western fork of Serpentine Creek. It consists of a 200m long pair of oxidized basal chilled olivine gabbro subparallel to a southeast trending fault and hosted in volcanics that have stockwork quartz and calcite stringer zones at the contact. Both the gabbro and the stockwork volcanics are mineralized with disseminated and interstitial pyrite, chalcopyrite and lesser pentlandite (up to 7% total). A chip sample taken in 2000 returned 2015 ppm Ni, 5448 ppm Cu and 154 ppb Au (James, 2016).

Historical data on the general Catalyst area prospects are summarized from previous reports in the following Table 4.1.

Table 5.1: Historical activity (D. James, 2016, G. Davidson, 2019)).

Year	Work	Results
1952-54	Staked by Conwest Exploration Company Ltd. and Teck Exploration Company. Geological mapping, prospecting.	Two copper-nickel showing identified. Musketeer (now Teck) and Conwest showings. (*Walker, 1955 and Frohberg, 1953).*
1953-1955	Geological mapping and an SP survey by Callinan Flin Flon Mining Ltd. uncovered a gabbro body *(Callinan – Figure 5)* northwest of Maple Creek *(Davis, 1953 and Allan, 1955)*.	
1955	Ground EM and Magnetic surveys over the Teck and east of Conwest Showings by Teck along Arch Creek.	Linear magnetic anomaly over buried ultramafic sill. (*Clarke, 1956*).
1965-66	P. Versluce & Assoc. located and staked a copper occurrence in Nikolai basalts on Ram Creek at the head of Upper Quill Creek. The prospect was explored by bulldozer trenching and diamond drilling by Newmont Mining Corp. in 1967.	Mineralization consisted of chalcocite, bornite and chalcopyrite disseminated and in veinlets associated with chlorite and serpentine in sheared or crumbled basalt (Campbell, W. 1981). Bulldozer trenching in 1967 exposed mineralization at "Showing 3" with copper values of 2.02% over 132 ft. and at "Showing 6" with copper values of 2.21% over 40 ft. (Assessment file 013065, Newmont Mining Corp. & Quill Creek Mines Ltd). Two diamond drill holes (1967) intersected two mineralized zones, one averaging 0.3% Cu over 5.8m, and the other averaging 0.89% Cu over 2.4m (Campbell, W., 1981).
1967	Geological mapping, magnetometer and EM-16 surveys on Arch Creek by J.B. O'Neil and C. Gibbons.	Linear magnetic anomaly (*Hilker, 1967.*)

Year	Work	Results
1972	Geological mapping, geochemical sampling, magnetometer and EM surveying by the Nickel Syndicate.	No results available. Strong magnetic high and several weak or broad conductors reported in Yukon Minfile (*Deklerk, 2009*).
1986	Area was restaked and road building was carried out by Columbia Mining Ltd. *(Deklerk, 2009)*.	
1986-88	Geochemical sampling in 1986 by Kluane Joint Venture on large grid extending along the north side of Arch Creek from the Wellgreen property to Serpentine Creek. Grid lines 100m apart with samples at 50m intervals. In 1987 magnetometer and VLE-EM surveys over same grid. One 85.6m drill hole in 1988 through Donjek sill.	Poor sampling conditions towards the west end of the grid (Serpentine Creek area) because of permafrost and deep overburden. Weak, spot anomalies in Pt, Pd, Cu, Ni and Au. EM conductors and linear magnetic features. Grid does not cover the Conwest or Teck Showing but does overlap part of the 2013 Arch grid. Weakly anomalous values from drillhole (*Eaton, 1987*).
1988	Ground magnetic survey and 30 soil samples close to mouth of Arch Creek by Lodestar.	Linear magnetic anomaly coincident with anomalous soils. Anomalous Pt, Pd and Au. 7 samples >20ppb Au, 7 samples >50 ppb Pt and 12 samples >20ppb Pd. (*Davidson, 1989*)
2000	Geochemical sampling and trenching around Teck showing by Auterra Ventures Inc.	Detailed trench mapping and consistent sampling over the sill. *(Vanwermeskerken, 2001).*
2001	Rock sampling and 11 km of magnetic and VLF EM surveys by around the Teck showing.	Anomalous magnetic linear 60m north of the Tech showing. VLF EM was less responsive and two weak axes appear to border the magnetic anomaly. (*Brickner, 2002*).
2013	Compilation of previous work, chip sampling at Teck showing. Testing of different biogeochemical and geophysical surveys over a 4 line km grid centered on the Teck showing. Work for Bill Harris and Tom Morgan. Claims were optioned to Ashburton Ventures (now Group Ten) late in the year.	Best chip samples were in altered ultramafic close to contact with Station Creek. Spruce bark samples performed the best of the 4 methods tested. Projected sill location was traced and new anomalies were detected. ELF geophysical survey was better than the HLEM but needs further processing (*James, 2014*).
2016	Geophysical data compilation and interpretation by Walcott & Assoc. summarized in a Geophysical Interpretation Report (James, D., 2016).	
2018	Longford Exploration Services collected a total of 167 soil samples on contour soil lines targeting favourable geology and airborne geophysical anomalies above Quill and Arch Creeks. Also initiated geological mapping, rock sampling (27 samples) and prospecting of the Arch, Upper Quill and Tatamagouche Creeks areas.	Uplands traverses located the Ram showing on upper Quill Creek and historic results along with new rock sample assays from 1967 bulldozer trenches indicate potential for substantial copper mineralization in the Nikolai basalts. On the Arch Creek block target areas “A & B” summarized by D. James (2016) remain valid, target area A is the intense magnetic anomaly evident on the airborne and surface magnetic maps outlining a peridotite sill covered in part by the Arch Island claims. Area B is the strong aeromagnetic anomaly along trend to the northwest of area A which was covered by contour soil lines in 2018 with weak geochemical results, possibly due to poor sample quality. Lower

Year	Work	Results
		elevations of Arch Creek canyon were accessed briefly in 2018 and several rock samples were collected with no significant results (Davidson, 2019).

6 Geological Setting and Mineral Potential

6.1 Regional Geology

The regional and property geology is summarized from the Arch Creek (Catalyst Property) assessment report by D. James, 2016 and from Metallogeny of the Kluane Ranges by R. Carne, 2003. The Arch-Corky property is located within the Kluane Ultramafic Belt, a 600km long belt of rocks in the southwest corner of the Yukon that are characterized by mineralized mafic to ultramafic Triassic aged sills known as the Kluane mafic-ultramafic Suite. The Kluane Ultramafic Belt extends from northern BC into Alaska and hosts magmatic Ni-Cu-PGE (+/- Au) deposits and occurrences. It is the second largest Ni-Cu-PGE mafic-ultramafic belt in North America after the Circum-Superior Belt in central Canada (Hulbert, 1997).

The Kluane Ultramafic Belt lies within a displaced slice of the Wrangell Terrane which is bounded on the south by the Duke River Fault and on the north by the Denali Fault (Figure 6.1). The Wrangell Terrane is underlain by Carboniferous to Permian and Triassic sedimentary and volcanic rocks, intruded by the Upper Triassic Kluane Ultramafic suite and Cretaceous granitic intrusions.

Topographically, the Kluane Ultramafic Belt is in the Kluane Ranges which are foothills to the St. Elias Mountains that range along the Yukon-Alaska border. The ultramafic rocks are distinctively coloured glassy black to dark brown or light green to pale grey when altered) and can be seen as distinctive linear features.

The dominant structural direction, controlled by the major Duke River and Denali faults, ranges in orientation from 270^{o} to 310^{o}. Movement of Wrangellia northwards along the Denali Fault began in the Tertiary and continues today. The fault is steeply dipping and the order of displacement may be 100s of kilometres. The Duke River Fault is also near vertical and joins the Denali Fault southwest of Haines Junction. Between the major faults small scale faulting is common and faults increase in number to the southeast. Major fold axes are oriented in the same dominant northwest direction. The folds are tight and inclined to the southwest. A later folding episode has refolded the strata at right angles to the dominant direction along northeast axes.

The Kluane mafic/ultramafic sills are elongated cumulate bodies than are postulated to be the crystallized magma chambers that fed the overlying Triassic Nikolai basalts. The sills are layered, with a thin rim of gabbro around the margins grading into an ultramafic core of peridotite and dunite (Hulbert, 1997). The width of the sills ranges from less than 10 to 600m and they can cover up to 20 km in strike length. The sills intrude the older Pennsylvanian to Permian Skolai Group near the contact between the lower Station Creek Formation and the overlying Hasen Creek formation. Most of the sills are poorly exposed and some are deformed and altered by faults. Nickel and Copper values increase from east to west along the belt. Compared to other Ni-Cu-PGE deposits worldwide, the belt is known for having high concentrations of PGEs such as Osmium, Iridium, Ruthenium and Rhodium and high Platinum to Palladium ratio.

The oldest formation in the Skolai Group is the Station Creek volcanic and volcaniclastic rocks with increasing sedimentary content in the upper half (Carne, 2003). The Station Creek Formation, includes shale siltstone, limestone and argillite interbedded with fine grained tuff layers that decrease in abundance upwards. The contact with the overlying Hasen Creek Formation is gradual and is placed at the top of the tuff layers.

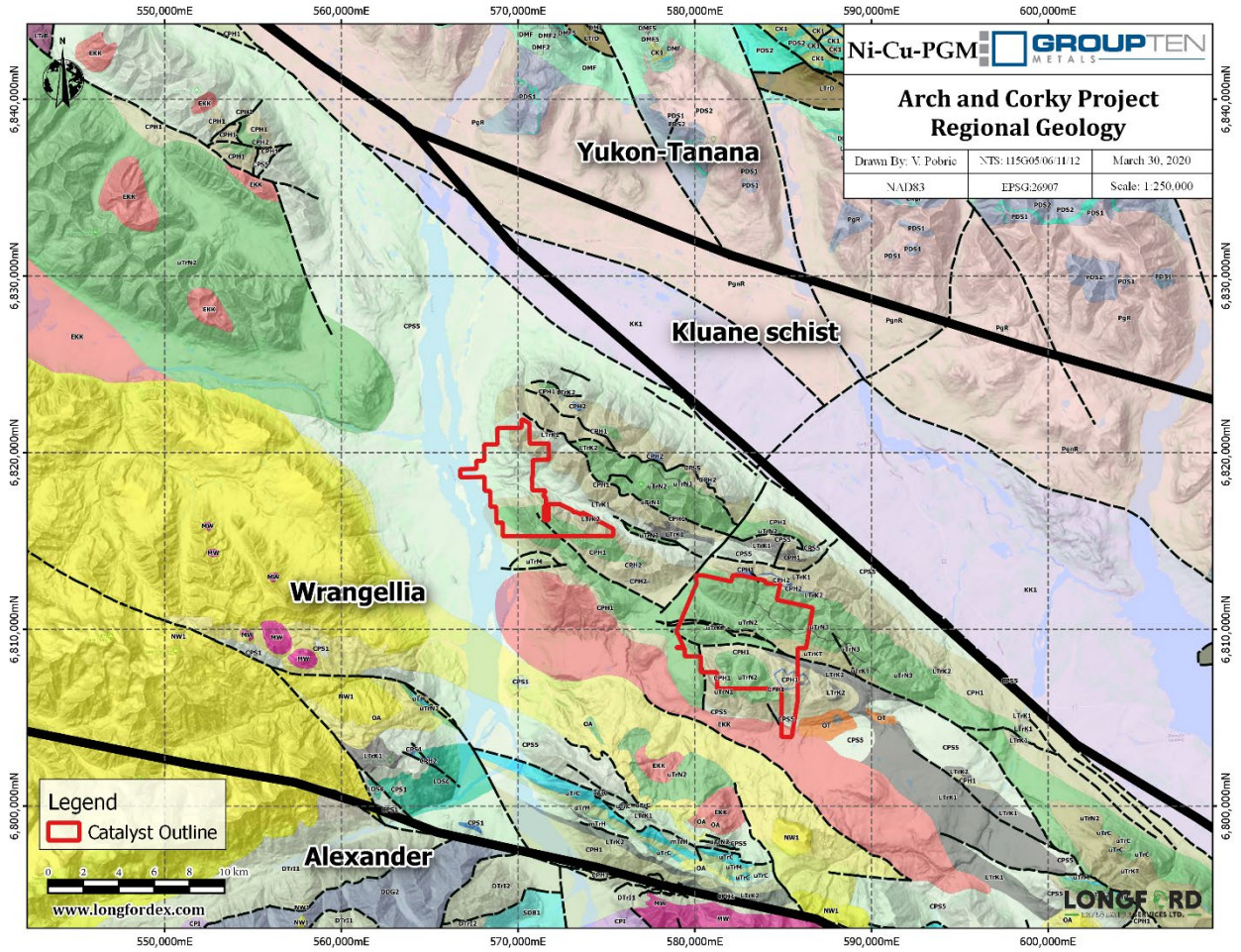

Figure 6.1: Regional geological setting of the Arch and Corky Project (after Gordy 2003 and Israel 2005).

The Hasen Creek Formation consists of shale, cherty argillite, chert and siltstone grading up into limestone, conglomerate, greywacke and sandstone.

Sill-like gabbroic bodies of the Maple Creek Gabbro intrude the Hasen Creek Formation. They are generally found higher in the sequence than the ultramafic sills and may be feeders to the Nikolai volcanics. Maple Creek gabbro can be distinguished from Kluane gabbro because they do not grade into peridotite or dunite, can be finer grained and may display columnar jointing. They also are not associated with Ni-Cu-PGE mineralization.

The Nikolai Group is one of the more extensive units in the region. It consists of a thick pile (up to 1 km thick) of basalt flows and pillow lavas with local interbedded limestone, unconformably overlying the Hasen Creek Formation. The likely sources of the Nikolai volcanics are magma chambers represented by the Kluane mafic/ultramafic sills and feeders represented by the Maple Creek Gabbro.

Rock units found in the region are described in the table of formations, (Table 6.1) below.

Table 6.1: Table of formations (after James, 2016). Units and descriptions from the Yukon Geological Survey digital geology map (Open File 2014-18 & 2016-1) with modifications from Hulbert, 1997.

Period	Units
Q – Quaternary	Unconsolidated alluvium, colluvium and glacial deposits.
NW, Miocene to Pliocene Wrangell Lavas	NW1 - Extensive volcanic unit, volumetrically significant but not associated with mineralization. Occur on the southwest side of Wrangellia overlapping onto the Alexander Terrane. Abundant west of the Donjek River and typically form piles 400-1000m thick. Mafic to felsic volcanic rock with NW2 – volcanic conglomerate.
MW, Mid to late Miocene Wrangell Suite	MW - Youngest intrusions in the area. Related to the Wrangell Lavas. Felsic to mafic composition.
OT, Oligocene Tkope Suite	OT-Homogeneous granite with lesser granodiorite, diorite and gabbro. Subvolcanic rhyolite, rhyodacite and dacite.
EKK, EKP, Early Cretaceous Kluane Ranges Intrusive Suite	EKK, EKP - medium to coarse-grained, biotite-hornblende granodiorite, quartz diorite, quartz monzonite and hornblende diorite. Minor diorite and gabbro. Pegmatite and porphyry dykes.
JKD, Early Cretaceous Dezadeash Formation	JKD - lithic greywacke, sandstone, siltstone, shale, argillite and conglomerate, rare tuff.
JKS, Jurassic, ST. Elias Suite	JKS - coarse grained hornblende-biotite granodiorite and quartz diorite.
uTM, Late Triassic McCarthy Fm.	uTM - Conformably overlies the Nikolai Group, varying in thickness from zero to several hundred metres. Argillaceous limestone and argillite; massive limestone, limestone breccia and well-bedded limestone, gypsum and anhydrite. (McCarthy, Chitistone and Nazina limestone).
uTu, uTmg, LTKp, LTKg, LTKd Late Triassic Kluane Mafic/Ultramafic Suite.	Preferentially intrudes at or near the Hasen Creek-Station Creek contact. uTu / LTKp - peridotite, dunite and clinopyroxenite, layered intrusions, locally with uTg / LTKg gabbroic chilled margins. LTKd – diabase. uTmg - Maple Creek gabbro. Fine to coarse grained diabase and gabbro sills and dykes. Intrudes the Skolai Group and locally the Kluane ultramafic suite.
uTN, Late Triassic Nikolai formation	uTN3 – thinly bedded grey limestone, gypsum and argillite. uTN – dark green to maroon amygdaloidal basalt and basaltic andesite flows, locally pyroxene and plagioclase phyric. (Nicolai Greenstone) uTN1 – light to dark green volcanic breccia, pillow lava and basal conglomerate.

Period	Units
uTB, Late Triassic Bear Creek Assemblage	uTBm - strongly foliated to massive intermediate to mafic metavolcanic rocks, lesser metaclastics, volcaniclastics and carbonate horizons uTBs – meta-siltstone, mudstone and sandstone; phyllitic to schistose, pyritic. uTBv – strongly foliated to intermediate to mafic metavolcanic rocks, greenschist.
PH, Mississippian to Permian Hasen Creek Fm.	PH – fine-grained clastic rocks. Lower part contains volcaniclastics, rare basalts, rare chert beds and chert-pebble conglomerate. PHc – limestone, locally fossiliferous, massive to bedded, gypsum.
CS, Mississippian to Permian Station Creek Fm.	CS - dark green basalt flows, pillows, pillow breccia, local magnetite-rich jasper. CSvt – bedded to massive chert, tuff. CSv – interbedded volcanic breccia, volcaniclastics; minor basalt flow. CSvt – laminated volcanic tuff and volcanoclastic siltstone.
DTI, Devonian to Upper Triassic Icefields Formation	DTIq – quartzite, light orange. DTIl – limestone, light orange, calcite stockwork. DTIe – gypsum, white, cream, massive beds. DTLa - argillite with quartzite, cream, massive beds, pyrite. DTLaf – Frohberg siliceous unit, pale green, disseminated sulphides. DTLS – silicified schist, buff, +/- chlorite. DTLp – phyllite, dark grey, foliated. DTLv – metavolcanics, green to purple, volcanoclastics and flows.
Dp, Dc, Dv Silurian to Devonian, Bullion Creek Assemblage	Dp – fine grained phyllite and calcareous phyllite. Dc – light grey to cream marble, strongly deformed. Dv – dark green meta-basalt, greenschist.

6.2 Regional Mineralization

There are four main types of Ni-Cu-PGE mineralization in the Kluane Mafic/Ultramafic Belt found in all the mineralized sills from southeast Alaska to northern B.C. (Hulbert, 1997):

1. Basal accumulations of massive sulphides
2. Disseminated sulphides at the gabbro-ultramafic contact in each intrusion
3. PGE and Au rich zones associated with hydrothermal quartz-carbonate alteration at the edges of the sills and extending into the country rock
4. Disseminated and lesser net textured or massive sulphides in the ultramafic core of each sill

The most common sulphide minerals are pyrrhotite, pyrite, pentlandite and chalcopyrite; the common oxide minerals are magnetite and ilmenite. Figures 6.2 & 6.3 illustrate a typical, simplified mafic/ ultramafic sill with associated mineralization. The best-known deposit and the sole producer in the belt is Nickel Creek Platinum's Wellgreen Deposit (Minfile 115G024). At Wellgreen the platinum group metals combine with As, Sb, Te, Bi, Ni, S, Co and Fe to form minerals and alloys. Sperrylite (PtAs2) and Sudburyite (PdSb) are two of the more abundant minerals (Hulbert, 1997).

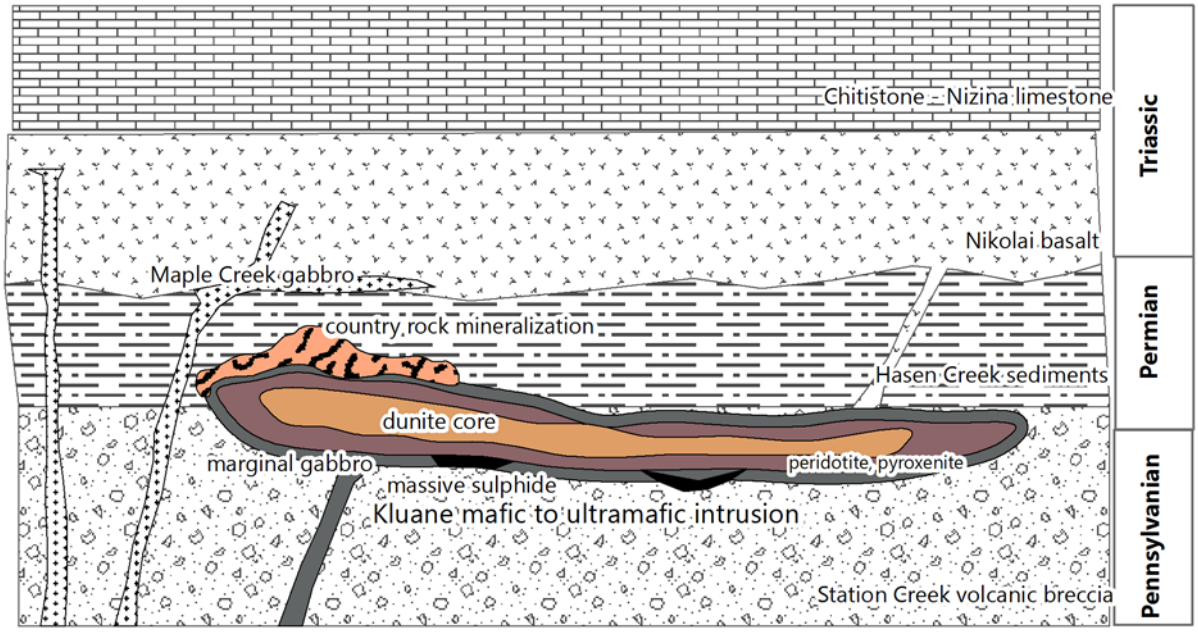

Figure 6.2: Deposit model for the Kluane Belt (modified from Hulbert, 1997).

Other types of mineralization present in the Kluane Ranges include (Hulbert, 1997):

1. Skarn ores developed in Permian carbonates.
2. Ni-rich ores within the footwall in the White River sill.
3. Cu-rich mineralization in shear zones and deformed intervals of Nikolai basalt, including the Ram showing.
4. Cyprus type volcanogenic massive sulphide (VMS) mineralization in mafic volcanic rocks.

Copper occurrences in the district occur in Nikolai basalt including four types of mineralization documented by Newmont on the Catalyst properties: 1) dispersed chalcocite in amygdules; 2) native copper as disseminated flecks and fibres in massive basalt; 3) native copper, chalcocite and malachite with minor bornite, cuprite, chalcopyrite, azurite associated with quartz, calcite and epidote veining and alteration in shear zones and amygdaloidal basalt; 4) chalcocite in either fine grained sooty form or as veinlets with minor bornite and chalcopyrite associated with chlorite and serpentine in sheared or crumbled basalt (Campbell, W., 1981). Type 4 mineralization is exposed in bulldozer trenches at the Ram Creek showing.

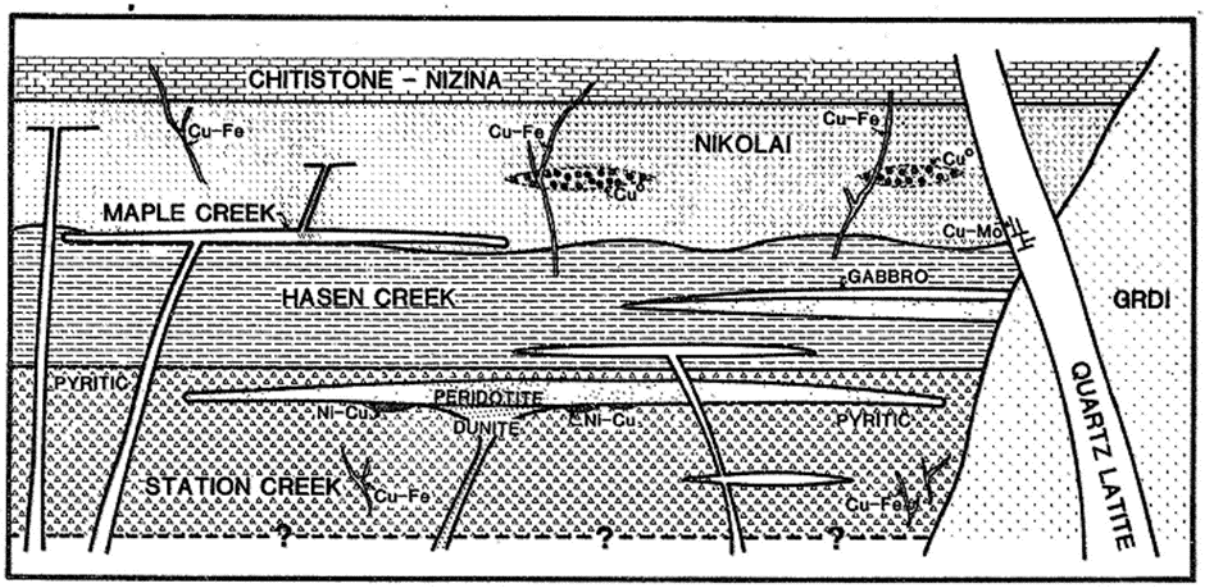

Figure 6.3: Mineralization and Stratigraphy in the Kluane Ranges (Campbell, W., 1981).

6.3 Property Geology

On the Arch-Corky Property, the oldest units are the Permian Skolai Group consisting of Station Creek volcanics overlain by Hasen Creek sediments and Triassic Nikolai mafic volcanics. Intrusions of upper Triassic age include ultramafic-mafic sills and dykes of the Kluane mafic-ultramafic Suite mainly peridotite or gabbro and Triassic Maple Creek gabbro. The younger Kluane Range Intrusive Suite consists of grano-diorite, diorite and quartz diorite sills, dykes and plugs. The older units are folded in a series of anticlines and synclines along fold axis at the dominant 270-310 deg. trend parallel to the Shakwak Valley. At lower elevations in the Tatamagouche and Quill Creek valleys the bedrock is locally overlain by Quaternary unconsolidated glacial, glacio-fluvial and glacio-lacustrine deposits.

The oldest unit, the Station Creek Formation consists of augite basaltic and andesitic volcanic flows that are succeeded upwards by fine to medium grained tuff (Carne, 2003). Volcanic agglomerate and breccia are locally present (Figure 6.4) and discontinuous beds of argillite and limestone occur throughout. The upper portion of the formation is transitional with overlying Hasen Creek Formation with the contact informally put at the cessation of pyroclastic deposition (Campbell, 1981). Sedimentary and volcanic textures suggest a restricted marine basin as the environment of deposition for the Station Creek Formation.

Figure 6.4: Station Creek volcanic breccia on ridge above Burwash Creek.

The Hasen Creek Formation consists of a fine grained clastic lower member composed of grey to black shale, cherty argillite, chert and siltstone overlain by argillaceous limestone and massive buff-coloured bioclastic limestone containing narrow beds of reddish-brown conglomerate, greywacke and sandstone. Thin basaltic flows, breccia and tuff are locally present.

The overlying Nikolai basalt flows can be divided into: fine diabasic-textured flows, porphyritic flows with or without amygdules, and very fine-grained amygdaloidal lava flows (Carne, 2003). Phenocrysts include plagioclase, augite, olivine and hornblende in a groundmass of plagioclase, augite, magnetite, ilmenite and volcanic glass. In the upper Quill Creek area Nikolai basalt flows are dark green to reddish-purple, aphanitic to very fine grained and occasionally porphyritic with vesicules and veinlets of chlorite, calcite and epidote (Campbell, W., 1981). Minor beds of chert, shale, argillite and limestone of the Hasen Creek Formation are interbedded in the basalts.

Intrusive rocks consists of the Kluane Mafic/Ultramafic Suite, primarily sills of peridotite, gabbro, dunite and serpentinite exposed in outcrop along cliffs of the Arch Creek and Upper Quill Creek canyons. Gabbroic and diorite dykes were also seen in the placer cut and canyon walls along Arch and Quill Creeks, part of the Cretaceous Kluane Ranges Intrusive Suite that includes grey, medium to coarse grained, biotite hornblende granodiorite, quartz diorite, diorite and quartz monzonite.

6.4 Property Mineralization

In the Arch Creek area sills of the Kluane Mafic/Ultramafic Suite have the potential to host Cu-Ni-PGE mineralization. The Airways sill 1.4km southeast of the Catalyst Arch Island claim block, was sampled with

significant Cu-Ni mineralization reported in the history section. The aeromagnetic anomaly outlining the Airways sill continues northwest across the Arch claim block.

On upper Quill Creek Newmont described four types of copper occurrences in the Nikolai basalt: 1) dispersed chalcocite in amygdules; 2) native copper as disseminated flecks and fibres in massive basalt; 3) native copper, chalcocite and malachite with minor bornite, cuprite, chalcopyrite, azurite associated with quartz, calcite and epidote veining and alteration in shear zones and amygdaloidal basalt; 4) chalcocite in either fine grained sooty form or as veinlets with minor bornite and chalcopyrite associated with chlorite and serpentine in sheared or crumbled basalt (Campbell, W., 1981). Type 4 mineralization is exposed in bulldozer trenches at the Ram Creek showing (Figure 6.5).

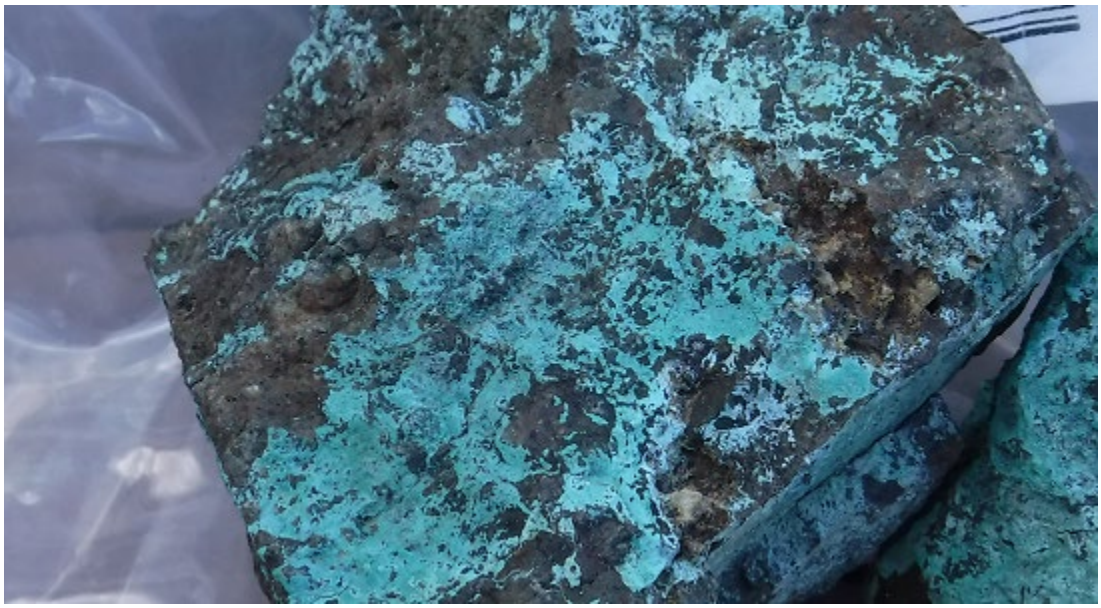

Figure 6.5: 2018 Sample K736064 from bulldozer trench above Ram Creek.

7 Work Program: Geological and Geochemical Survey

7.1 Summary

A Longford Exploration Services Ltd. field crew based in Haines Junction performed traverses on the Arch-Corky property on Sept. 6, 17, 19, 2019 (12 mandays). Field personnel included: geologists Lauren Blackburn, Colm Long, Graham Davidson and Ryan Versloot. Road access was utilized on Sept. 6 and helicopter set outs and pickups were provided by helicopter from Haines Junction airstrip on Sept. 17 & 19, 2019.

During the 2019 work program a total of 100 soil samples were collected on contour soil lines targeting airborne geophysical anomalies above Arch and Upper Quill Creeks. The field crew recorded GPS readings at all sample sites and data on the sample site characteristics; including soil type, depth, slope, vegetation and moisture content. After the fieldwork was completed information from the sample form was entered into an MS Excel spreadsheet.

Samples were collected using soil augers in an attempt to sample below organic, ash and permafrost layers. The target soil horizon was the B horizon, but immature soil development in many areas and shallow permafrost meant that sample quality was not ideal. In many cases the soils were developing on glacial material and were too young to have formed B horizons. Average sample depth was 0.3m, with a wide range from 0.15 to 1.0 m. Soil descriptions show that while some samples were from the B horizon, many were mixtures of A, B and C horizons. At other locations mainly on south facing slopes, good quality samples were collected below volcanic ash and narrow permafrost layers. Complete results, method descriptions and analysis certificates are in Appendix D.

Outcrop on the claims was extensive in creek canyons incising the upland area. Elsewhere outcrop was limited to ridge tops and steep gullies descending from the ridges. Rocks of the Pennsylvanian to Lower Permian Skolai Group (Station Creek and Hasen Creek Formations) and mafic volcanics of the Nikolai Group with gabbroic intervals make up the majority of the bedrock.

A total of 17 rock samples were collected from outcrop on traverses around the property. Rock descriptions and GPS coordinates were recorded for each sample and entered into an MS Excel spreadsheet. Rock samples were packaged in numbered plastic bags, secured with plastic zap straps and packed into a rice bag for delivery to Acme Labs in Whitehorse. Rock samples were crushed to less than 2mm after which a 250g split was pulverized to below 75µm (PRP70-250) and a 0.5g split was analyzed for 33 elements by Aqua Regia ICP-ES (AQ300) as well as a 30g split analyzed for Au, Pt, Pd by Fire Assay ICP-ES (FA330). Complete results, method descriptions and analysis certificates are in Appendix E. Rock samples were checked with an infield XRF device before samples were sent to Acme Labs in Whitehorse for analysis.

7.2 Geological Mapping and Prospecting

Rock sample locations from the 2019 program on the Arch-Corky property are shown in Figure 7.1 and 7.2. Traverses were focused on tracing copper mineralization in Nikolai volcanics in the Upper Quill Creek area and examining aeromagnetic anomalies outlined by the reinterpreted airborne aeromagnetic maps in the Arch Creek area. Samples are summarized in Tables 7.1 and 7.2.

Primary rock units in the area are the Lower Permian Station Creek and Hasen Creek Formations, and upper Triassic Nikolai volcanics. Outcrop exposure of older rocks consisted of andesitic flows, tuffs, and agglomerates with inclusions of shale, limestone and argillite. Overlying the volcanics are Hasen Creek Formation sediments consisting of argillite, shale and limestone with minor conglomerate observed in outcrop in creek gullies and on upland slopes, particularly the less recessive units of limestone and siliceous argillite. The Nikolai volcanics outcrop on ridges and in gullies around Upper Quill Creek; also on many of the ridges throughout the claim blocks.

Intrusive rocks of the Kluane Mafic/Ultramafic Suite mainly peridotite and gabbro were seen in the Arch Creek canyon and on an unnamed creek to the north (Figure 6.4). Contacts of the sills are sheared with occasional massive pyrite bands occurring in carbonaceous shale and siltstone. Quartz-carbonate veining and rusty weathering intervals around these sills host minor malachite and chalcopyrite mineralization.

7.2.1 Upper Quill Area

The Ram showing located on Upper Quill Creek in the northern area of the Corky claim block features copper mineralization in chloritized sheared amygdaloidal basalt (Figures 6.1 & 6.2). Newmont Mining Corp. identified the primary copper occurrence as “chalcocite in fine grained sooty form or as veinlets, with minor bornite, chalcopyrite and malachite associated with chlorite and serpentine in sheared or crumbled Nikolai basalt” (Campbell W., 1981). Old bulldozer trenching is widespread at the Ram showing, lenses of malachite coated basalts occur in the floor and wall of several trenches. Three grab samples in 2018 returned copper values from 2.0-5.8%. Results from 1967, of exposed mineralization in trenches at “Showing 3” reported copper values of 2.02% over 132 ft. and at “Showing 6” reported copper values of 2.21% over 40 ft. (Assessment file 013065, Newmont Mining Corp. & Quill Creek Mines Ltd). Two diamond drill holes (1967) intersected two mineralized zones, one averaging 0.3% Cu over 5.8m, and the other averaging 0.89% Cu over 2.4m (Campbell, W., 1981).

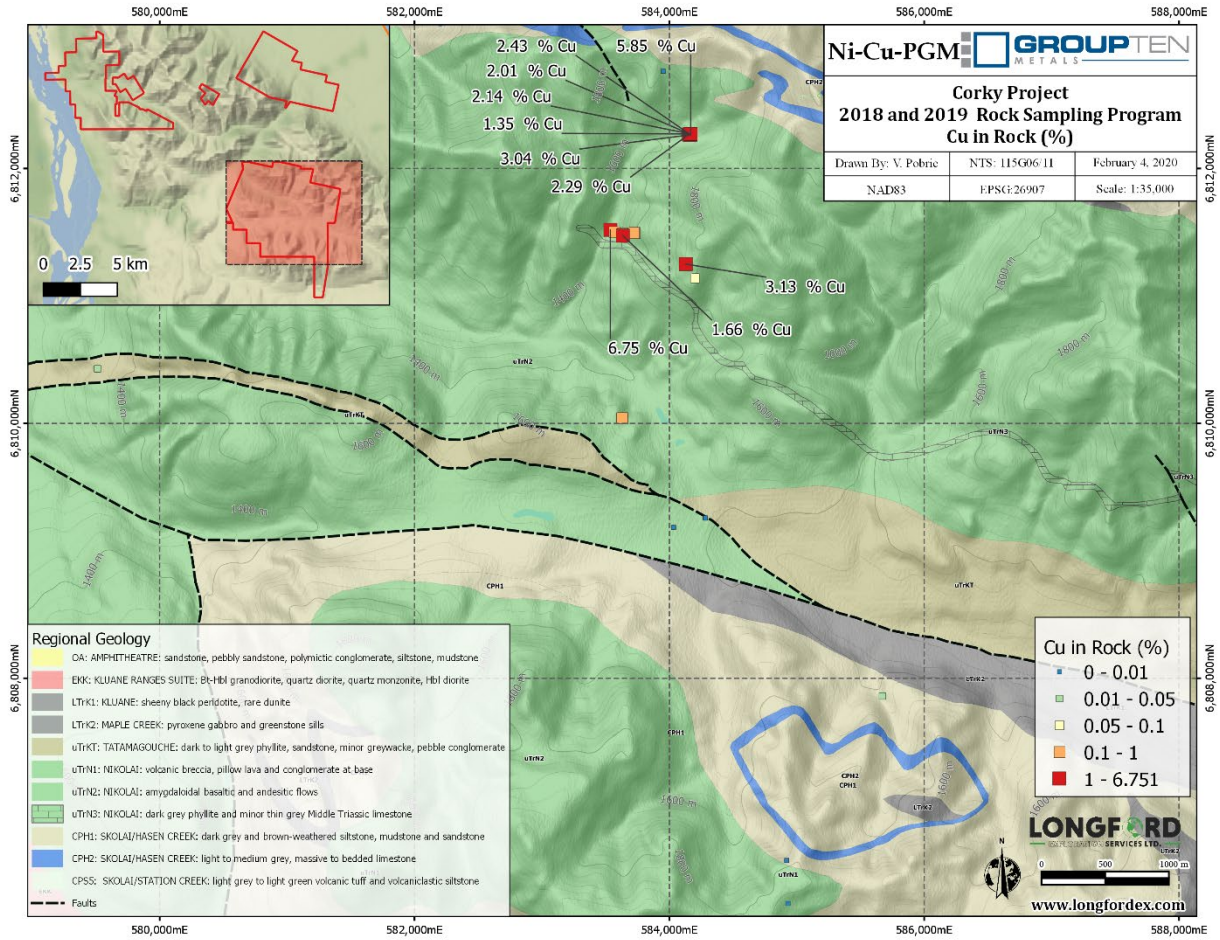

Figure 7.1: Upper Quill area sample locations and values, Cu in rock (%).

Table 7.1: Sample locations and descriptions from the Upper Quill Creek area.

Sample Number	Easting	Northing	Width (m)	Description	Cu (ppm)	Ni (ppm)	PGE + Au (ppb)
3249001	584167	6812271	5	Ram trenches, brecciated basalt, fractures contain limonite + calcite, hematite + manganese stain, patchy malachite, chalcopyrite (2%).	13530	88	31
3249002	584162	6812267	5	Ram trenches, brecciated basalt, fractures contain limonite + calcite, hematite + manganese stain, patchy malachite, chalcopyrite (2%).	24260	78	42
3249003	584159	6812264	5	Ram trenches, brecciated basalt, fractures contain limonite + calcite, hematite + manganese stain, patchy malachite, chalcopyrite (2%).	30450	42	37
3249004	584153	6812268	5	Ram trenches, brecciated basalt, fractures contain limonite + calcite, hematite + manganese stain, patchy malachite, chalcopyrite (2%).	22890	40	34
3249005	584167	6812271	15	Ram trenches, brecciated basalt, fractures contain limonite + calcite, hematite + manganese stain, patchy malachite, chalcopyrite (2%).	21430	43	35

3249101	583537	6811518		Shear zone, purple amygdule basalts with calcite veins, minor spotty malachite.	67510	34	57
3249078	584128	6811250		Ram trenches, mineralization is fault associated. Slickensides of hematite and malachite around 1-2cm thick.	31310	68	52
3249079	583727	6811495		Landslide exposed outcrop. Some malachite in amygdule with carbonate.	3724	54	87
3249080	583721	6811494	1	Shear zone, some malachite in amygdule and associated with carbonate veins.	1789	59	44
3249105	584205	6811149		Meta-volcanic with quartz veins, trace malachite, fine disseminated pyrite (2%).	120	0.5	29
3249106	584201	6811138		Meta-volcanic with quartz veins, trace malachite, fine disseminated pyrite (2%).	536	33	59
1895762	583570	6811500		Shear zone, CC-clay +/- amygdule. Basalt + aprx 8% mal + 3% azurite + 2% bornite?	6900	73	39
1895763	583632	6811489		Shear zone, *NEW* Trace malachite in o/c with cc veining slickensides in vesicular basalt (230/18)	4644	44	59
1895764	583635	6811473		Shear zone, *NEW* Very abundant amygdule, cc basalts + cc veining + epidote + <10% mal + 2% Bor? + 2% cg, clot / concretions	16610	24	41

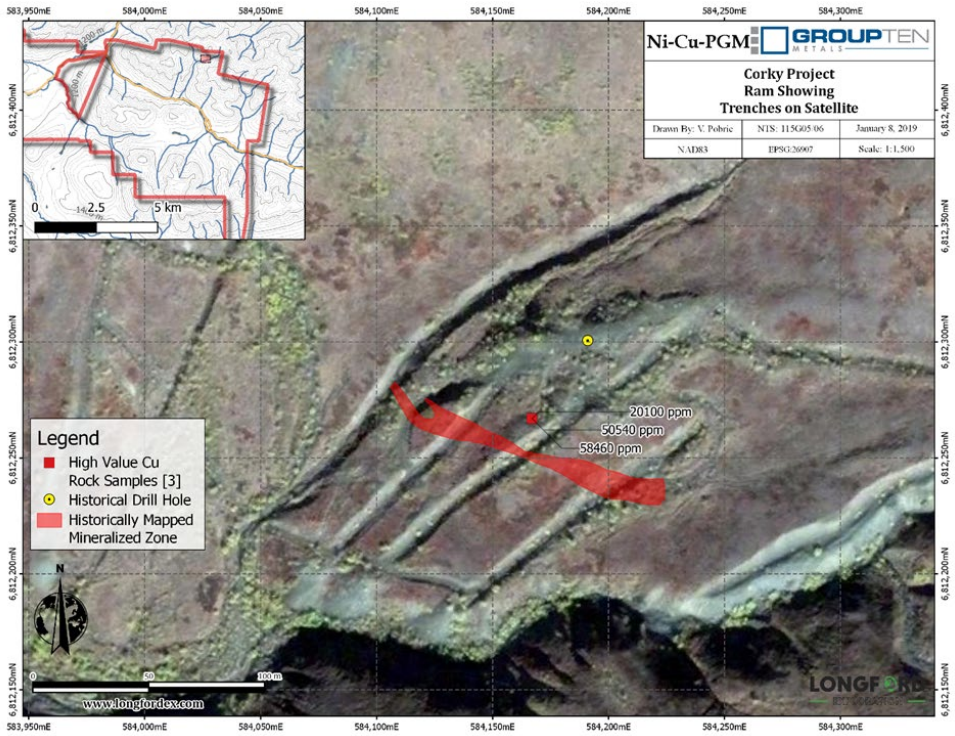

Figure 7.2: Ram showing trenches with historically mapped mineralized zone and drill hole.

2019 sample results from the Ram showing include a 15m chip grab sample (3249005) from an old trench at 2.14% Cu and a 5m chip grab (3249004) from the next trench to the northwest at 2.29% Cu.

In 2019, an area of copper mineralization was located south and downstream of the Ram showing at a sheared contact between a gabbroic sill and Nikolai basalt exposed by a recent land slide along the northwest facing slope above Upper Quill Creek. Grab sample values included sample 3249101 at 6.75% Cu and 1895764 at 1.66% Cu. This new zone lead to the initiation of a UAV-Mag survey to refine the feature that is visible on the regional magnetic data.

7.2.2 Arch Creek Area

A traverse from a ridge top northeast of Arch Creek crossed outcrops of Hasen Creek Formation argillite, conglomerate and siltstone with a few limestone beds overlying Station Creek Formation tuffs, andesite and basalt. Black graphitic conglomerate outcrops were seen in the next creek gully northeast of Arch Creek in contact with Station Creek volcanic rock. Quartz carbonate veining in a weakly magnetic volcanic rock checked with a XRF produced slightly elevated Cu-Ni readings. The cause of the aeromagnetic anomaly in this locale was not resolved due to limited bedrock exposure.

The traverse continued to the northeast rim of the Arch Creek canyon where an ultramafic sill outcrops across a small gully. The sill occurs at the contact between grey-green volcanic rock and white weathering siltstone of the Station Creek Formation. Rock samples collected from this sill recorded elevated nickel values consistent with other ultramafic sills in the area. Sample 3249046 recorded the highest nickel value of the program at 2365 ppm. Sample 3249074 from nearby on the cliff face ran 1928 ppm nickel.

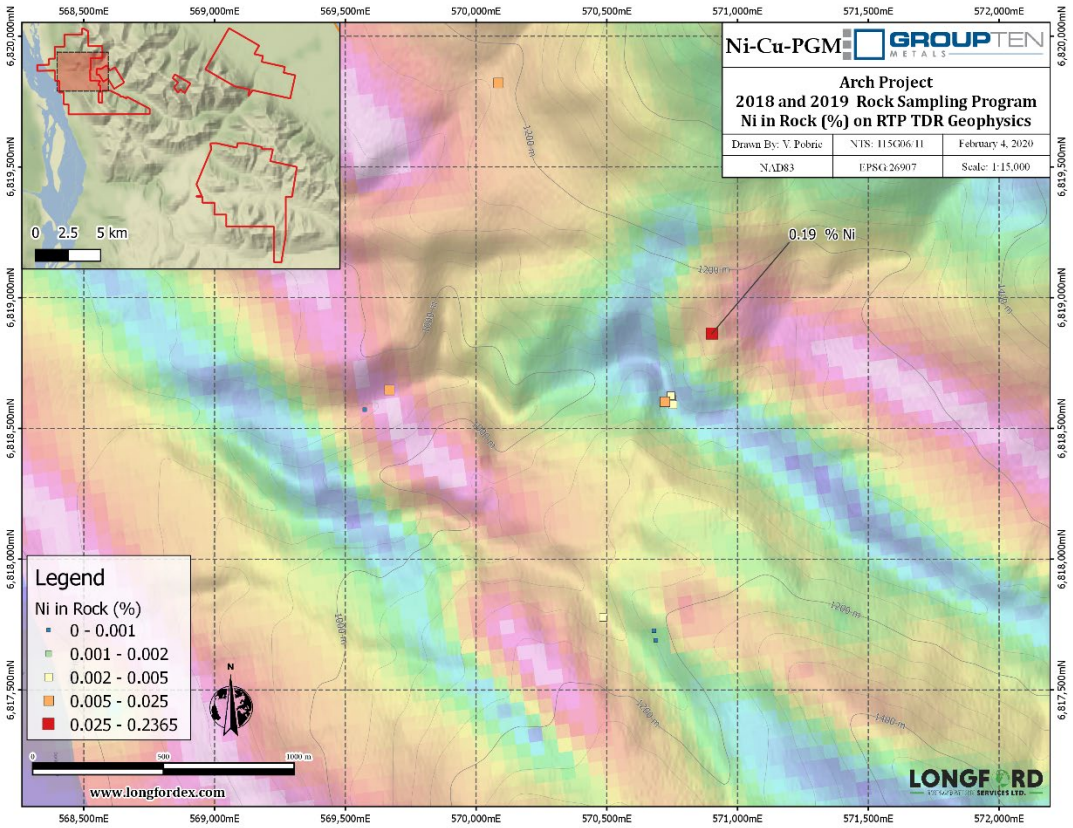

Figure 7.3: Arch Creek area sample locations and values, Ni in rock (%).

Table 7.2: Rock sample locations and descriptions from Arch Creek area.

Sample Number	Easting	Northing	Width (m)	Description	Cu (ppm)	Ni (ppm)	PGE + Au (ppb)
3249074	570902	6818863		Arch Creek canyon, possible 10m wide ultramafic sill, aphanitic black and waxy.	55	1928	66
3249076	570085	6819821		Serpentised metavolcanic, no visible sulphide, quartz carbonate veining.	97	70	14
3249046	570885	6818875		Arch Creek canyon, glassy black peridotite outcrop, trace rusty blebs, minor pyrrhotite.	286	2365	113

Figure 7.4: Traverse Arch claim block

Figure 7.5: Upper rim of Arch Creek canyon near sample sites 3249046 & 3249074.

7.3 Soil Geochemical Survey

Longford Field crews collected 100 soil samples on contour soil lines with sample intervals at 50m along lines approximately 100m apart over slopes above Arch and Quill Creeks targeting geophysical anomalies outlined in the 2017-2018 reprocessed aeromagnetic data. The samples were submitted for analysis to the Bureau Veritas lab in Whitehorse, Yukon.

The soil sample results and locations are shown for in Figures 7.6 and 7.7. The Certificates of Analysis can be found in Appendix D.

Samples were collected with a Dutch auger from the B horizon when possible and also the C horizon or fine talus where soil was not developed. Duplicate samples were taken on every tenth sample to verify analytical precision. Soil sample locations were recorded with a handheld GPS and depth, colour, and grain size were noted. The sample was sealed in a kraft bag for delivery directly to Bureau Veritas Laboratories in Whitehorse, Yukon. Samples were dried and sieved to 80 mesh (SS80) and a 0.5g split was analyzed for 33 elements by Aqua Regia ICP-ES (AQ300) as well as a 30g split analyzed for Au, Pt, Pd by Fire Assay ICP-ES (FA330).

The soil geochemical surveys were inconclusive with fairly low values in copper, nickel and precious metals. A few spot copper anomalies were present in areas underlain by basalts and mafic volcanics typical of soil results in areas underlain by Nikolai and Station Creek volcanic rocks. A subtle correlation of Cu in soil with the regional aeromagnetic low south of the Ram showing may be worthy of follow up though sample quality was poor.

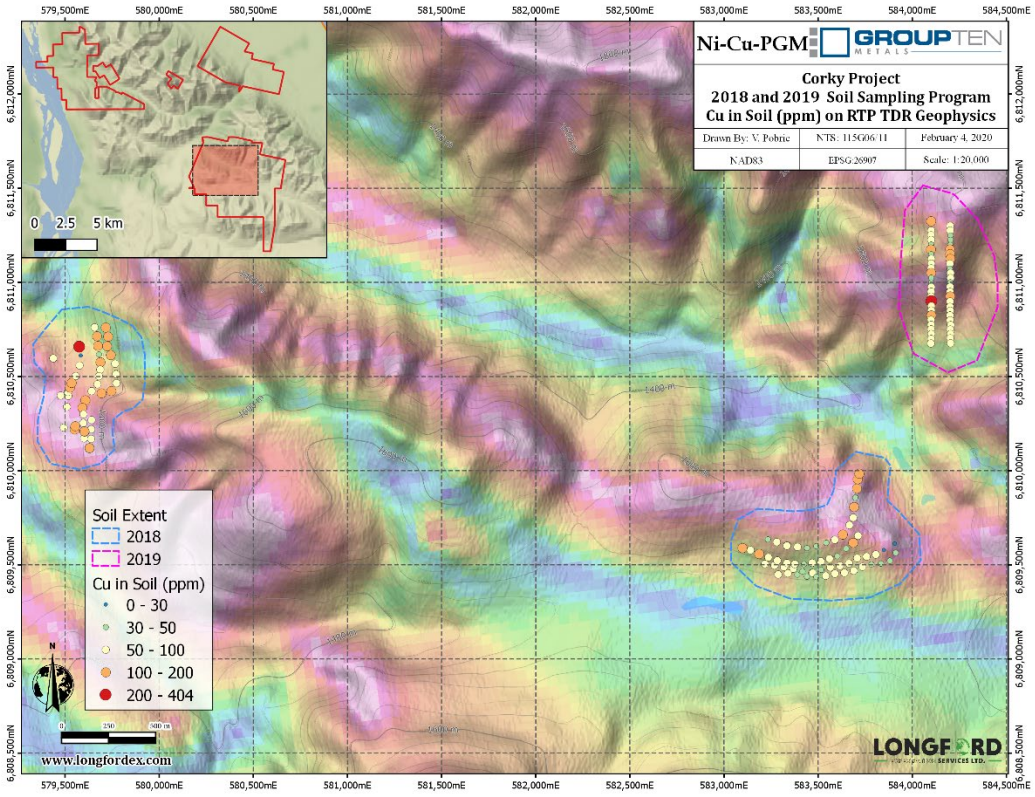

Figure 7.6: Cu in soil results on the Corky Property.

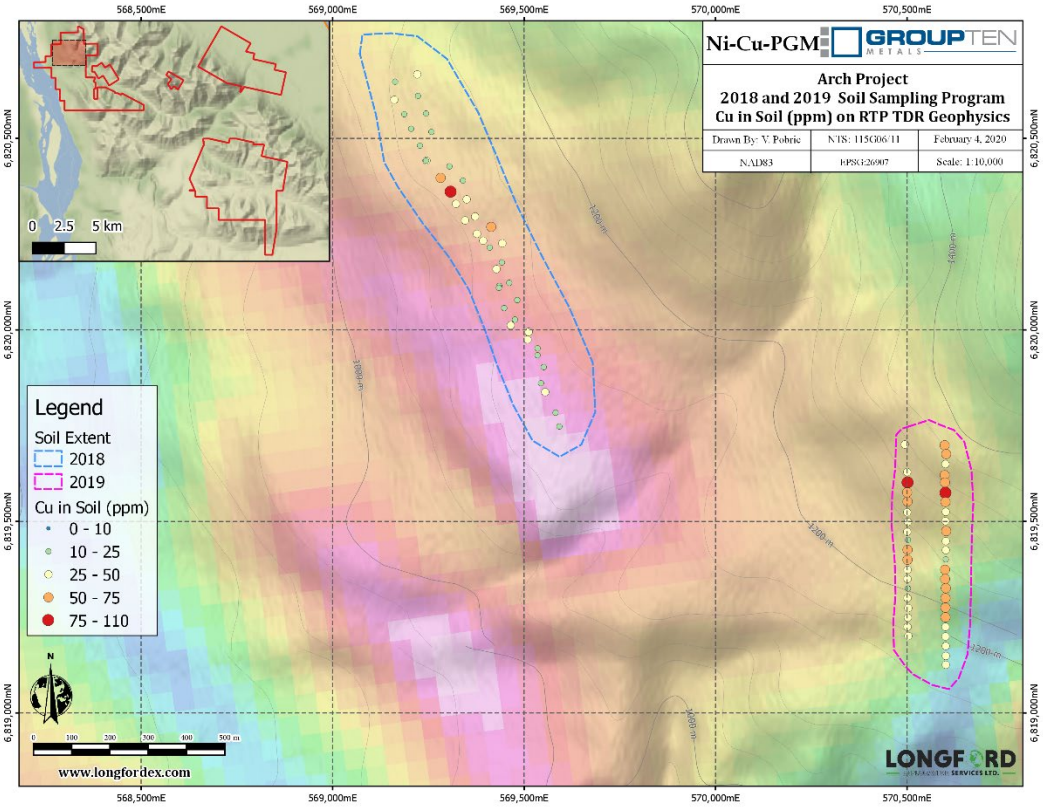

Figure 7.7: Cu in soil results on the Arch Property.

7.4 Geophysics

The re-processing of the airborne magnetic data for the 115 G Map Sheet revealed anomalies which were the subject of the 2018-2019 programs. Distinctive linear magnetic feature trending across the area are coincident with outcrops of Nikolai volcanics, Kluane Ranges Suite quartz diorite and potential Upper Triassic mafic/ultramafic sills. In the Arch Creek area the aeromagnetic anomaly over the Arch Island claim block is known to be an ultramafic sill and lies along strike of the drilled anomaly on the Wellgreen property. To the southeast (1.4km) of the Arch Island claim block, the Airways ultramafic sill was outlined by a ground magnetometer survey in 1967 by Kluane Mines Ltd. Described as a 100m wide peridotite sill with a border phase of olivine gabbro, the serpentinized peridotite contains disseminated, interstitial chalcopyrite and pyrrhotite and the olivine gabbro contains discontinuous pods of massive sulphide about 1m wide (Campbell W., 1981). Further to the northwest a continuation of this aeromagnetic anomaly trends onto the Arch project area where contour soil sampling attempted to delineate a geochemical response. Poor quality soil samples due to the presence of permafrost likely muted the response, but slightly elevated values of copper and nickel can be found along the north edge of the anomaly.

On the Upper Quill Creek claim block several west to northwest trending aeromagnetic highs were found to outline mafic Nikolai Formation volcanic rocks and Station Creek Formation volcanic rocks with gabbroic and diorite dykes and sills. No ultramafic rocks were found in this area and the copper mineralization exposed at the historic Ram showing occurs in foliated basalts which show a weak correlation with magnetic anomalies on the geophysical maps.

Following the discovery of a zone south of the Ram showing with multiple samples grading for Cu on what appears to be a subtle trend in the regional aeromagnetic data, a UAV-Mag survey was planned to further refine this trend along strike. The survey took place over the course of 2 days in March 2020 and demonstrates a correlation between high grade Cu samples collected in 2019 and the southside of a magnetic low that may extend for up to 1.8km (Figure 7.8). A regionally mapped limestone unit may correlate better with this trend after more detailed mapping.

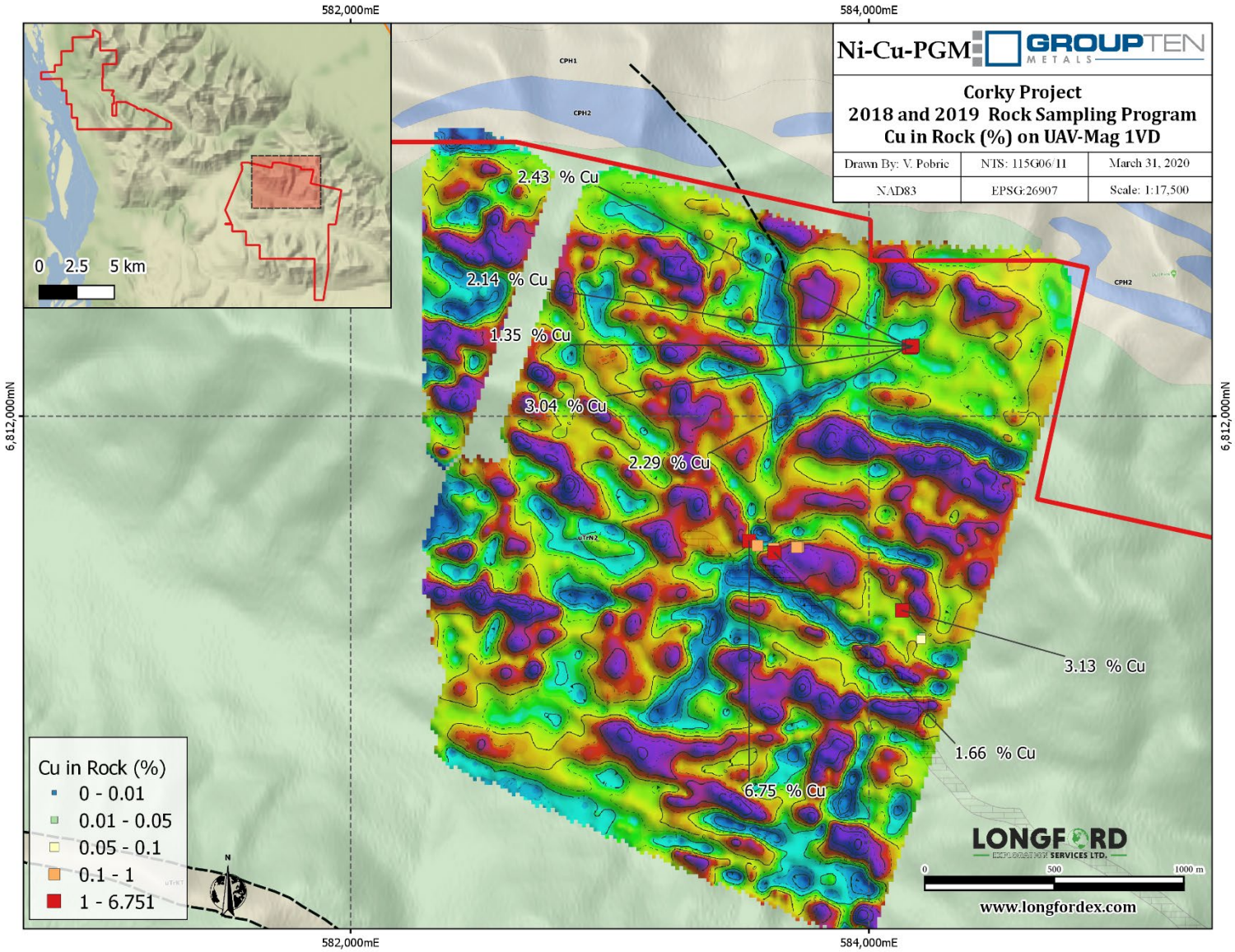

Figure 7.8: 2020 UAV-Mag 1VD with Cu in rock around the Ram showing.

8 Conclusions

The 2019 exploration program targeted aeromagnetic anomalies defined by the reinterpreted aeromagnetic maps in the Arch Creek valley and copper occurrences in the Nikolai volcanic rocks on upper Quill Creek. At the Ram showing historic results along with new rock sample assays indicate potential for substantial copper mineralization in sheared Nikolai basalts. A second zone of copper mineralization was located downstream of the Ram showing associated with calcite veining along a sheared contact between basalt and gabbro. A follow-up UAV-Mag survey outlined linear magnetic lows corresponding to higher grade copper samples. Further exploration consisting of geophysical surveys, geological mapping and sampling is warranted on the Ram showing.

Elsewhere contour soil sampling across aeromagnetic and geological targets in 2018-2019 resulted in a few elevated copper and precious metal values. On the Arch Creek block target areas “A & B” summarized by D. James (2016) remain valid, target area A is the intense magnetic anomaly evident on the airborne and surface magnetic maps outlining a peridotite sill covered in part by the Arch Island claims. Area B is the strong aeromagnetic anomaly along trend to the northwest of area A which was covered by two contour soil lines in 2018 and 2019 with weak geochemical results. The soil samples were considered poor quality and did not adequately test this anomaly.

The upper portion of the Arch Creek canyon was accessed briefly in 2019 locating an ultramafic sill in outcrop on the north rim of the canyon and a grab sample assayed 2365ppm nickel. Gossans and ultramafic rocks along the westerly facing Donjek valley wall and along Arch Creek canyon covered by the Catalyst claims are a target for prospecting, mapping and sampling.

9 General Recommendations

9.1 Logistical

- Compile and evaluate previous work on the property area which should include a comprehensive summary of each regional aeromagnetic anomaly.
- Prepare summary maps to determine optimal areas for future work programs.

9.2 Geophysics

- Proceed with ground geophysics over the Ram showing, airborne geophysics anomalies and favourable geological targets. Geophysics is the best non-intrusive tool to see through ground cover on the upland areas. Ground magnetic and VLF-EM surveys are fast, relatively cheap and effective. Areas of complexity around magnetic anomalies are targets at the Wellgreen property. VLF-EM surveys can be easily done at the same time as magnetic surveys.
- Conductors from VLF-EM surveys should be further refined with HLEM or similar surveys before used as drill targets.
- Extend the UAV-Mag survey over the rest of the northern portion of the Corky Property to delineate the limits of the feature identified during the March 2020 survey.

9.3 Soil and Silt Sampling

- Contour soil sampling and grid soil sampling on soil anomalies located on the claims above the Donjek River and Arch Creek.
- Grid soil sampling in the vicinity of the Ram showing.

9.4 Prospecting, Mapping, Rock Sampling

- Continue mapping and sampling of the uplands focussing on gossan zones, aeromagnetic anomalies and areas of previous results.
- Particular attention should be paid to the limestone unit south of the Ram showing.

Table 9.1: Proposed budget for followup work.

Logistical	$10,000
Geophysics	$50,000
Soil and Silt Sampling	$20,000
Prospecting, Mapping, Rock Sampling	$20,000
Total	**$100,000**

10 References

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Vanwermeskerken, M.T. (2001): Geological and geochemical report on the AR 1-61 mineral claims; submitted by Auterra Ventures Inc., Yukon Ministry of Energy Mines and Resources, assessment report 094217.

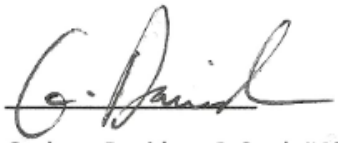
Walker, A.J. (1955): Report of work on Donjek and Musketeer claims, Arch Creek, Yukon; submitted by Teck Exploration Company Ltd., Yukon Ministry of Energy Mines and Resources, assessment report 017459.

Walcott, P.E. (2016): Review of geophysical data on the Catalyst property for Group Ten Metals Inc.

11 Statement of Qualifications

I, Graham Davidson of 53 Grandin Woods, St. Albert, Alberta T8N 2Y4, do hereby certify the following:

- I am a member in good standing with Association of Professional Engineers, Geologists and Geophysicists of Alberta (# 42308);
- For the purposes of the Assessment Report entitled: "Prospecting, Geological and Geochemical Survey Report On the Arch and Corky Properties", dated Mar. 31, 2020 of which I am the author and responsible person;
- I hold a Bachelor of Science (Honours) degree in Geology (1981) from the University of Western Ontario;
- I have practiced my profession as a geologist since graduation;
- I have worked in the Yukon since 1981 and been involved in mineral exploration programs on prospects at and around the Arch-Corky Property including numerous Ni-Cu-PGE occurrences in the Kluane Ranges from the British Columbia border to Beaver Creek in southwest Yukon from 1982 to 2019 including the Ellen Property, the Spy, Tobi, Arch Creek, Donjek, Burwash Uplands and White River area prospects;
- I supervised and participated in the 2019 work program on the Arch-Corky Properties performed from Sept. 6, 17, 19, 2019 for Longford Exploration Services Ltd. on behalf of Group Ten Metals Inc.;
- This report includes mapping and sampling by geologists L. Blackburn, R. Versloot, and C. Long who have prepared maps and charts with personnel from Longford Exploration Services Ltd.



Date: March 31, 2020

Graham Davidson P.Geol. #42308

APPENDIX A: Statement of Expenditures

DATE: September 30, 2019

LONGFORD EXPLORATION SERVICES LTD.

SEND TO:
Group Ten Metals Inc.
#904-409 Graville Street
Vancouver, BC
Canada V6B 1N2
604-357-4790

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

Catalyst Corky

Personnel			Days	Rate		Line Total
	Pgeo - Davidson	September 6 & 19, 2019	2	$ 800.00	$	1,600.00
	Geologist / Project Manager - Versloot		2	$ 700.00	$	1,400.00
	Sr. Geologist - Blackburn		1	$ 700.00	$	700.00
	Junior Geologist - Long		2	$ 500.00	$	1,000.00
	Senior Field Tech / Medic - Mckenzie		1	$ 450.00	$	450.00
		total man days	8	Cat. Total	$	5,150.00
Food and Lodging			Units	Rate		Line Total
	Food and Groceries		8	$ 55.00	$	440.00
	Lodging	Haines Junction	8	$ 75.00	$	600.00
				Cat. Total	$	1,040.00
Transportation			Units/Days	Unit Price		Line Total
	Truck	1 ton with safety and recovery gear	5	$ 140.00	$	700.00
	Trailer	18' 7000lb covered trailer	2	$ 50.00	$	100.00
	Fuel	per km for truck, km	630	$ 0.55	$	346.50
	Heli	A-Star, Capital Helicopters	2.2	$ 1,850.00	$	4,070.00
	Jet Fuel	190L / hour	418	$ 1.65	$	689.70
				Cat. Total	$	5,906.20
Equipment Rentals			Units	Unit Price		Line Total
	Electronics Kit	Radios, Sat phones, GPS, per man day	8	$ 25.00	$	200.00
	Portable XRF with Stand	Per Day	2	$ 175.00	$	350.00
				Cat. Total	$	550.00
Consumable			Units	Unit Price		Line Total
	Sample Bags	per man day	8	$ 10.00	$	80.00
	Flagging Tape	per man day	8	$ 5.00	$	40.00
	Office Consumables	per man day	8	$ 5.00	$	40.00
				Cat. Total	$	160.00
Analytical			Units	Unit Price		Line Total
	Analysis - Soil	SS80, AQ300 FA330	55	$ 32.40	$	1,782.00
	Analysis - Rock	PRP70-250, FA330, AQ300	16	$ 36.80	$	588.80
				Cat. Total	$	2,370.80
Post Field			Units	Unit Price		Line Total
	Assessment Report prep and work filing		1	$ 2,500.00	$	2,500.00
				Cat. Total	$	2,500.00
				Estimated Sub Total	$	17,677.00
				Management 15%	$	2,651.55
				SUB TOTAL	$	20,328.55
				GST 5 %	$	1,016.43
				Total	$	21,344.98

DATE: September 30, 2019

LONGFORD EXPLORATION SERVICES LTD.

SEND TO:
Group Ten Metals Inc.
#904-409 Graville Street
Vancouver, BC
Canada V6B 1N2
604-357-4790

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

Catalyst Arch

Personnel			Days	Rate		Line Total	
	Pgeo - Davidson	September 17, 2019	1	$	800.00	$	800.00
	Geologist / Project Manager - Versloot		1	$	700.00	$	700.00
	Junior Geologist - Long		1	$	500.00	$	500.00
	Senior Field Tech / Medic - Mckenzie		1	$	450.00	$	450.00
		total man days	4		**Cat. Total**	$	**2,450.00**
Food and Lodging			Units		Rate		Line Total
	Food and Groceries		4	$	55.00	$	220.00
	Lodging	Haines Junction	4	$	75.00	$	300.00
					Cat. Total	$	**520.00**
Transportation			Units/Days		Unit Price		Line Total
	Truck	1 ton with safety and recovery gear	2	$	140.00	$	280.00
	Trailer	18' 7000lb covered trailer	1	$	50.00	$	50.00
	Fuel	per km for truck, km	30	$	0.55	$	16.50
	Heli	A-Star, Capital Helicopters	2.4	$	1,850.00	$	4,440.00
	Jet Fuel	190L / hour	456	$	1.65	$	752.40
					Cat. Total	$	**5,538.90**
Equipment Rentals			Units		Unit Price		Line Total
	Electronics Kit	Radios, Sat phones, GPS, per man day	4	$	20.00	$	80.00
	portable XRF with Stand	Per Day	1	$	175.00	$	175.00
					Cat. Total	$	**255.00**
Consumable			Units		Unit Price		Line Total
	Sample Bags	per man day	4	$	10.00	$	40.00
	Flagging Tape	per man day	4	$	5.00	$	20.00
	Office Consumables	per man day	4	$	5.00	$	20.00
					Cat. Total	$	**80.00**
Analytical			Units		Unit Price		Line Total
	Analysis-soil	SS80, AQ300 FA330	45	$	32.40	$	1,458.00
	Analysis-rock	PRP70-250, FA330, AQ300	3	$	36.80	$	110.40
					Cat. Total	$	**1,568.40**
Post Field			Units		Unit Price		Line Total
	Assessment Report prep and work filing		1	$	2,500.00	$	2,500.00
					Cat. Total	$	**2,500.00**

Estimated Sub Total	$	**12,912.30**
Management 15%	$	**1,936.85**
SUB TOTAL	$	**14,849.15**
GST 5 %	$	**742.46**
Total	$	15,591.60

CAPITAL HELICOPTERS (1995) INC.
Suite 3 - 25 Pilgrim Place, Whitehorse, Y.T. Y1A 0M7
Phone: (867) 668-6200 Fax: (867) 668-6201
capitalheli@northwestel.net
www.capitalhelicopters.com

Charter and Contract Service

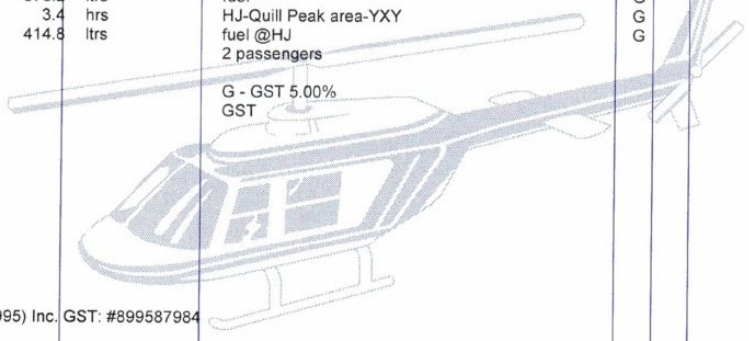
INVOICE

NO. 84977
DATE 24/03/2020
PAGE 1 of 1

SOLD TO
True Point Exploration Inc.
#904 - 409 Granville Street
Vancouver, BC V6C 1T2

SHIP TO
True Point Exploration Inc.
#904 - 409 Granville Street
Vancouver, BC V6C 1T2

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	GST	PST	UNIT PRICE	AMOUNT
March 23	3.1	hrs	YXY-HJ-Quill Peak area-YXY	G		1,350.00	4,185.00
	378.2	ltrs	fuel	G		1.45	548.39
March 24	3.4	hrs	HJ-Quill Peak area-YXY	G		1,350.00	4,590.00
	414.8	ltrs	fuel @HJ	G		1.65	684.42
			2 passengers				
			G - GST 5.00%				
			GST				500.39



Capital Helicopters (1995) Inc. GST: #899587984

Confidential Contract - Your Business Is Appreciated! Fuel Price includes Federal and Yukon Tax

COMMENTS

TOTAL 10,508.20

PIONEER AERIAL SURVEYS LTD

INVOICE: 20200402-A2
DATE: April 2, 2020
TERMS: Due upon receipt

Pioneer Aerial surveys Ltd.
488-1090 West Georgia St.
Vancouver, BC V6E 4V2

Bill to: **Ryan Versloot**
Longford Exploration
460-688 Hastings St. West
Vancouver, BC, V6B 1P1
Tel: 1 778 877 513
email: rvan@longfordex.com

Description / Project		GROSS TOTAL
Project Name: UAV-MAG aerial survey Catalyst project, YK		
Mobilization/Demobilization:		$ 4,250.00
50% deposit amount		$ (11,667.00)
Line KM's flown - 108.32 km at $132 per km		$ 14,298.24
Crew Meal and Accommodation Per Diem - 2 days at $450/day		$ 900.00
Logistics Report and Deliverables		$ 3,500.00
High Resolution DSM		$ 800.00
Standby Days - 3 days at $2500/day		$ 7,500.00
GST/HST No. 743097891	**Subtotal**	$ 19,581.24
	GST @ 5.0%	979.062
Payment due upon receipt	Total Tax	$ 979.06
EFT Information:		
Benificiary Bank BMO Bank of Montreal	**Balance owing (in CAD)**	**$ 20,560.30**
BMO Swift Code BOFMCAM2		
BMO Bank Number 001		
Transit Number 00040		
Account Number 00041752188		

If paying by EFT, please include the Invoice Number in the Memo section when paying
Unpaid balances after 30 days are subject to a 2% monthly penalty.

APPENDIX B: 2019 Rock 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-Whitehorse
Received: September 25, 2019
Analysis Start: October 02, 2019
Report Date: January 22, 2020
Page: 1 of 2

CERTIFICATE OF ANALYSIS WHI19000602.2

CLIENT JOB INFORMATION

Project: 2019-Catalyst
Shipment ID:
P.O. Number
Number of Samples: 17

SAMPLE DISPOSAL

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

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	17	Crush, split and pulverize 250 g rock to 200 mesh			WHI
FA330	17	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	17	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	17	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	17	Per sample shipping charges for branch shipments			VAN
AQ370-X	8	1:1:1 Aqua Regia digestion ICP-ES analysis	1	Completed	VAN

ADDITIONAL COMMENTS

Version 2: AQ370-Cu included.

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

CC:

MAY LAI
Data Validation Specialist

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: 2019-Catalyst
Report Date: January 22, 2020

Page: 2 of 2 Part: 1 of 2

CERTIFICATE OF ANALYSIS WHI19000602.2

	Method	WGHT	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
3249101	Rock	1.34	14	11	32	3	>10000	<3	21	11.0	34	15	593	3.36	3	<2	107	0.6	<3	<3	172
3249105	Rock	3.32	3	<3	24	<1	120	<3	<1	<0.3	<1	<1	742	0.41	<2	<2	19	<0.5	<3	<3	57
3249106	Rock	0.60	46	4	9	<1	536	<3	40	1.1	33	17	512	2.72	<2	<2	218	<0.5	<3	<3	145
3249001	Rock	2.73	6	9	16	<1	>10000	3	53	2.8	88	33	663	5.74	<2	<2	38	<0.5	<3	<3	190
3249002	Rock	5.74	13	10	19	<1	>10000	4	56	5.0	78	32	656	6.21	<2	<2	36	<0.5	<3	<3	221
3249003	Rock	4.53	9	9	19	<1	>10000	3	57	5.6	42	37	874	6.95	<2	<2	22	<0.5	<3	<3	249
3249004	Rock	3.34	7	9	18	<1	>10000	<3	74	5.4	40	34	922	7.54	<2	<2	14	<0.5	<3	4	273
3249005	Rock	3.96	6	11	18	<1	>10000	<3	53	4.2	43	31	683	6.77	2	<2	21	<0.5	<3	3	275
3249046	Rock	3.52	6	50	57	<1	286	4	47	<0.3	2365	128	1021	7.68	<2	<2	20	<0.5	<3	<3	33
3249074	Rock	1.58	3	30	33	<1	55	3	46	<0.3	1928	111	929	7.29	<2	<2	36	<0.5	<3	<3	26
3249076	Rock	1.07	4	4	6	<1	97	<3	46	<0.3	70	22	689	4.29	8	<2	48	<0.5	<3	<3	97
3249078	Rock	1.58	10	12	30	2	>10000	<3	66	12.3	68	38	1337	6.12	3	<2	22	<0.5	<3	<3	368
3249079	Rock	1.03	31	12	44	<1	3724	<3	34	2.7	54	25	828	4.90	5	<2	81	<0.5	<3	<3	222
3249080	Rock	1.31	8	11	25	<1	1789	<3	45	1.5	59	31	1443	6.31	5	<2	77	<0.5	<3	<3	200
1895762	Rock	0.95	4	13	22	1	6900	<3	62	0.4	73	45	961	6.07	3	<2	78	0.6	<3	<3	420
1895763	Rock	1.33	7	11	41	<1	4644	<3	43	1.8	44	22	839	5.06	5	<2	44	<0.5	<3	<3	310
1895764	Rock	1.18	11	6	34	5	>10000	<3	13	10.2	24	14	2659	2.91	6	<2	130	0.9	<3	<3	144

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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: 2019-Catalyst
Report Date: January 22, 2020

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CERTIFICATE OF ANALYSIS WHI19000602.2

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ370
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc	Cu
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5	0.001
3249101	Rock	12.50	0.036	3	51	0.91	6	0.462	<20	2.81	0.01	<0.01	23	1.34	<1	<5	7	16	6.751
3249105	Rock	6.60	<0.001	<1	1	0.04	3	0.002	<20	0.07	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5	
3249106	Rock	6.85	0.026	2	57	0.98	13	0.394	147	4.79	<0.01	<0.01	<2	<0.05	<1	<5	12	11	
3249001	Rock	1.72	0.063	4	70	2.94	13	0.324	<20	3.28	0.11	0.07	3	0.09	<1	<5	9	10	1.353
3249002	Rock	2.47	0.069	4	87	3.10	7	0.358	<20	3.52	0.07	0.02	7	0.14	<1	<5	11	13	2.426
3249003	Rock	2.20	0.087	5	79	3.30	24	0.459	<20	3.48	0.05	0.01	9	0.23	<1	<5	11	18	3.045
3249004	Rock	2.70	0.089	5	69	3.60	29	0.387	<20	3.94	0.04	0.02	6	0.18	<1	<5	9	18	2.289
3249005	Rock	4.66	0.079	5	51	2.63	33	0.389	<20	4.71	0.04	0.03	7	0.25	<1	<5	15	18	2.143
3249046	Rock	0.47	0.016	3	467	18.92	70	0.068	85	1.86	0.02	0.11	<2	0.11	<1	<5	<5	8	
3249074	Rock	0.85	0.026	3	435	16.46	88	0.060	88	2.01	0.04	0.10	<2	0.05	<1	<5	<5	7	
3249076	Rock	3.54	0.103	9	125	2.33	28	0.086	<20	1.88	0.04	0.23	<2	<0.05	<1	<5	7	12	
3249078	Rock	4.86	0.059	5	117	3.12	20	0.818	25	4.96	0.03	0.03	10	0.38	<1	<5	12	30	3.131
3249079	Rock	10.94	0.040	4	89	1.15	13	0.601	51	6.64	0.05	0.01	<2	0.09	<1	<5	31	23	
3249080	Rock	8.98	0.041	4	99	3.16	18	0.523	34	4.72	0.06	0.06	<2	<0.05	<1	<5	14	25	
1895762	Rock	9.04	0.056	4	112	0.69	9	0.729	<20	6.82	0.04	0.08	<2	0.64	<1	<5	20	29	
1895763	Rock	10.80	0.051	4	88	1.11	7	0.705	24	4.78	0.02	<0.01	<2	0.10	<1	<5	14	26	
1895764	Rock	19.97	0.021	2	33	0.49	9	0.303	<20	2.39	0.01	0.04	5	0.91	<1	<5	11	11	1.661

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PHONE (604) 253-3158

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

Project: 2019-Catalyst
Report Date: January 22, 2020

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QUALITY CONTROL REPORT WHI19000602.2

	Method	WGHT	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
Pulp Duplicates																					
3249078	Rock	1.58	10	12	30	2	>10000	<3	66	12.3	68	38	1337	6.12	3	<2	22	<0.5	<3	<3	368
REP 3249078	QC					2	>10000	<3	66	12.4	67	38	1338	6.14	3	<2	22	<0.5	<3	<3	367
1895763	Rock	1.33	7	11	41	<1	4644	<3	43	1.8	44	22	839	5.06	5	<2	44	<0.5	<3	<3	310
REP 1895763	QC		7	7	40																
Reference Materials																					
STD CDN-ME-9A	Standard																				
STD CDN-ME-14A	Standard																				
STD DS11	Standard					15	149	140	355	1.9	81	13	1058	3.27	48	5	74	2.3	7	13	51
STD OREAS262	Standard					<1	121	55	153	0.5	67	28	538	3.42	38	7	37	<0.5	<3	<3	22
STD OREAS683	Standard		197	1665	828																
STD PD05	Standard		525	434	621																
STD DS11 Expected						13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50
STD OREAS262 Expected							118	56	154	0.45	62	26.9	530	3.284	35.8	9.33	36	0.61	3.39		22.5
STD PD05 Expected			519	430	596																
STD OREAS683 Expected			207	1760	853																
STD CDN-ME-9A Expected																					
STD CDN-ME-14A Expected																					
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank		3	<3	4																
BLK	Blank																				
Prep Wash																					
ROCK-WHI	Prep Blank		3	<3	<2	<1	2	<3	29	<0.3	1	3	558	2.00	<2	<2	24	<0.5	<3	<3	26
ROCK-WHI	Prep Blank		3	<3	<2	<1	5	<3	32	<0.3	2	4	573	2.09	<2	<2	28	<0.5	<3	<3	31

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Project: 2019-Catalyst
Report Date: January 22, 2020

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QUALITY CONTROL REPORT WHI19000602.2

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ370
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc	Cu
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%
	MDL	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5	0.001
Pulp Duplicates																			
3249078	Rock	4.86	0.059	5	117	3.12	20	0.818	25	4.96	0.03	0.03	10	0.38	<1	<5	12	30	3.131
REP 3249078	QC	4.82	0.059	5	118	3.13	20	0.805	22	4.85	0.02	0.03	9	0.38	<1	<5	15	29	
1895763	Rock	10.80	0.051	4	88	1.11	7	0.705	24	4.78	0.02	<0.01	<2	0.10	<1	<5	14	26	
REP 1895763	QC																		
Reference Materials																			
STD CDN-ME-9A	Standard																		0.649
STD CDN-ME-14A	Standard																		1.218
STD DS11	Standard	1.11	0.076	19	58	0.88	453	0.102	<20	1.23	0.08	0.42	3	0.30	<1	<5	5	<5	
STD OREAS262	Standard	3.09	0.041	17	42	1.21	270	0.003	<20	1.30	0.07	0.32	<2	0.28	<1	<5	<5	<5	
STD OREAS683	Standard																		
STD PD05	Standard																		
STD DS11 Expected		1.063	0.0701	18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7	3.1	
STD OREAS262 Expected		2.98	0.04	15.9	41.7	1.17	248	0.003		1.204	0.071	0.312		0.253			3.73	3.24	
STD PD05 Expected																			
STD OREAS683 Expected																			
STD CDN-ME-9A Expected																			0.654
STD CDN-ME-14A Expected																			1.24
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5	
BLK	Blank																		
BLK	Blank																		<0.001
Prep Wash																			
ROCK-WHI	Prep Blank	0.67	0.044	7	4	0.53	68	0.095	<20	0.92	0.09	0.11	<2	<0.05	<1	<5	<5	<5	
ROCK-WHI	Prep Blank	0.76	0.046	6	4	0.59	65	0.095	<20	1.05	0.10	0.10	<2	<0.05	<1	<5	<5	<5	

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APPENDIX C: 2019 Soil Analytical Certificates

BUREAU VERITAS MINERAL LABORATORIES Canada

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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-Whitehorse
Received: September 25, 2019
Analysis Start: October 01, 2019
Report Date: January 14, 2020
Page: 1 of 5

CERTIFICATE OF ANALYSIS WHI19000599.1

CLIENT JOB INFORMATION

Project: 2019-Catalyst
Shipment ID:
P.O. Number
Number of Samples: 100

SAMPLE DISPOSAL

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

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	100	Dry at 60C			WHI
SS80	100	Dry at 60C sieve 100g to -80 mesh			WHI
FA330	100	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	100	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	100	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SVRJT	100	Save all or part of Soil Reject			WHI
SHP01	100	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

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

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Production Manager

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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.

BUREAU VERITAS MINERAL LABORATORIES Canada

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

Project: 2019-Catalyst
Report Date: January 14, 2020

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CERTIFICATE OF ANALYSIS WHI19000599.1

		Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
		Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
3248251	Soil		10	8	5	3	72	9	103	<0.3	46	18	769	4.26	15	<2	47	<0.5	<3	<3	94	0.80
3248252	Soil		6	<3	6	2	51	7	93	<0.3	41	18	768	3.80	13	<2	41	<0.5	<3	<3	87	0.82
3248253	Soil		7	<3	<2	2	46	7	86	<0.3	39	16	641	3.47	12	<2	46	<0.5	<3	<3	73	0.95
3248254	Soil		6	4	6	2	47	7	97	<0.3	51	21	859	4.21	14	<2	46	<0.5	<3	<3	96	0.86
3248255	Soil		6	<3	6	3	47	8	101	<0.3	38	17	686	4.06	18	<2	43	<0.5	<3	<3	85	0.58
3248256	Soil		9	6	13	2	139	6	80	<0.3	57	24	913	4.55	11	<2	148	<0.5	<3	<3	138	1.71
3248257	Soil		8	8	7	1	140	7	82	<0.3	63	23	974	4.47	10	<2	52	<0.5	<3	<3	120	1.08
3248258	Soil		7	5	8	1	108	5	80	<0.3	61	23	909	4.55	10	<2	53	<0.5	<3	<3	124	1.05
3248259	Soil		7	<3	7	1	76	3	69	<0.3	64	21	875	3.86	12	<2	61	<0.5	<3	<3	97	1.35
3248260	Soil		6	4	10	1	75	6	70	<0.3	65	22	893	3.96	12	<2	61	<0.5	<3	<3	101	1.39
3248261	Soil		5	4	2	<1	48	<3	61	<0.3	33	17	663	3.52	10	<2	99	<0.5	<3	<3	89	2.07
3248262	Soil		7	<3	3	3	64	9	117	<0.3	51	24	913	4.67	23	<2	44	<0.5	<3	<3	101	0.69
3248263	Soil		5	5	4	2	51	5	97	<0.3	65	27	965	4.44	14	<2	82	<0.5	<3	<3	106	1.32
3248264	Soil		5	<3	2	2	46	6	82	<0.3	48	20	757	3.62	13	<2	61	<0.5	<3	<3	75	0.94
3248265	Soil		7	<3	<2	3	55	8	116	<0.3	53	23	893	4.68	20	<2	60	<0.5	<3	<3	103	0.66
3248266	Soil		11	<3	5	2	63	8	111	<0.3	55	27	1037	4.93	17	<2	61	<0.5	<3	<3	115	0.82
3248267	Soil		6	<3	12	1	188	4	97	<0.3	80	37	1417	7.01	9	<2	61	<0.5	<3	<3	175	1.36
3248268	Soil		7	6	3	2	79	7	115	<0.3	90	35	1252	5.55	16	<2	46	<0.5	<3	<3	127	1.13
3248269	Soil		8	<3	4	3	59	10	111	<0.3	49	23	955	4.68	18	<2	52	<0.5	<3	<3	105	0.75
3248270	Soil		5	<3	4	2	61	7	89	<0.3	46	20	878	4.06	18	<2	60	<0.5	<3	<3	88	0.88
3248271	Soil		7	4	<2	1	76	4	78	<0.3	65	25	883	4.79	11	<2	83	<0.5	<3	<3	126	1.05
3248272	Soil		12	4	3	2	66	7	81	<0.3	59	24	846	4.65	13	<2	82	<0.5	<3	<3	118	1.11
3248273	Soil		4	<3	<2	1	57	4	70	<0.3	40	17	645	3.67	11	<2	51	<0.5	<3	<3	89	0.76
3248274	Soil		4	<3	5	1	65	6	73	<0.3	43	17	572	3.63	12	<2	43	<0.5	<3	<3	88	1.00
3248275	Soil		6	<3	7	1	61	5	78	<0.3	39	17	594	3.73	10	<2	45	<0.5	<3	<3	99	1.01
3248276	Soil		6	<3	4	2	69	6	66	<0.3	35	17	631	3.44	14	<2	43	<0.5	<3	<3	77	0.79
3248277	Soil		10	<3	8	1	77	7	77	<0.3	37	16	659	3.53	11	<2	38	<0.5	<3	<3	80	0.85
3248351	Soil		13	<3	21	2	192	9	100	<0.3	55	24	1202	4.61	19	<2	55	<0.5	<3	<3	100	1.34
3248352	Soil		10	7	15	2	406	6	81	<0.3	58	25	867	4.60	13	<2	156	<0.5	<3	<3	140	1.79
3248353	Soil		9	<3	12	2	83	8	91	<0.3	57	24	1074	4.60	15	<2	55	<0.5	<3	<3	109	1.28

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CERTIFICATE OF ANALYSIS WHI19000599.1

		Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
3248251	Soil		0.075	11	51	1.17	151	0.100	<20	2.60	0.02	0.06	<2	0.09	<1	<5	6	7
3248252	Soil		0.068	11	42	1.06	117	0.104	<20	2.30	0.03	0.06	<2	0.08	<1	<5	<5	8
3248253	Soil		0.078	11	42	1.00	129	0.088	<20	2.08	0.03	0.07	<2	0.10	<1	<5	<5	7
3248254	Soil		0.067	11	48	1.18	187	0.118	<20	2.64	0.02	0.08	<2	0.08	<1	<5	6	7
3248255	Soil		0.083	10	39	0.88	154	0.068	<20	1.99	0.02	0.07	<2	0.09	<1	<5	5	<5
3248256	Soil		0.055	9	67	1.63	121	0.259	<20	3.53	0.01	0.07	<2	0.06	<1	<5	8	11
3248257	Soil		0.051	11	65	1.65	158	0.218	<20	3.47	0.02	0.07	<2	0.06	<1	<5	6	12
3248258	Soil		0.046	11	67	1.68	137	0.225	<20	3.29	0.02	0.08	<2	<0.05	<1	<5	7	12
3248259	Soil		0.081	13	56	1.52	126	0.161	<20	3.52	0.04	0.10	<2	0.09	<1	<5	5	9
3248260	Soil		0.077	12	57	1.53	122	0.170	<20	3.57	0.04	0.10	<2	0.08	<1	<5	6	9
3248261	Soil		0.140	12	28	1.18	89	0.141	<20	3.06	0.08	0.11	<2	<0.05	<1	<5	7	5
3248262	Soil		0.081	15	49	1.32	124	0.075	<20	2.92	0.02	0.09	<2	0.08	<1	<5	7	9
3248263	Soil		0.091	11	64	2.19	135	0.093	<20	3.39	0.02	0.14	<2	0.09	<1	<5	6	11
3248264	Soil		0.081	10	43	1.38	134	0.069	<20	2.40	0.03	0.12	<2	0.10	<1	<5	<5	6
3248265	Soil		0.083	13	51	1.51	152	0.070	<20	3.10	0.02	0.08	<2	0.09	<1	<5	7	7
3248266	Soil		0.088	12	58	1.77	149	0.081	<20	3.04	0.02	0.09	<2	0.09	<1	<5	8	9
3248267	Soil		0.059	9	80	3.21	79	0.151	<20	4.26	0.02	0.07	<2	<0.05	<1	<5	7	19
3248268	Soil		0.069	10	79	2.30	136	0.096	<20	3.48	0.02	0.09	<2	0.07	<1	<5	8	12
3248269	Soil		0.084	12	54	1.33	168	0.074	<20	2.76	0.02	0.09	<2	0.07	<1	<5	7	7
3248270	Soil		0.092	13	49	1.25	158	0.064	<20	2.64	0.02	0.09	<2	0.10	<1	<5	6	8
3248271	Soil		0.057	10	59	1.97	135	0.143	<20	3.83	0.02	0.09	<2	<0.05	<1	<5	7	10
3248272	Soil		0.064	11	57	1.89	138	0.114	<20	3.36	0.02	0.09	<2	<0.05	<1	<5	7	10
3248273	Soil		0.065	9	40	1.28	149	0.098	<20	2.48	0.03	0.06	<2	0.06	<1	<5	5	6
3248274	Soil		0.074	7	43	1.35	139	0.092	<20	2.55	0.03	0.07	<2	0.06	<1	<5	6	7
3248275	Soil		0.063	8	42	1.26	111	0.117	<20	2.17	0.03	0.07	<2	0.06	<1	<5	<5	7
3248276	Soil		0.077	11	41	1.01	127	0.073	<20	2.17	0.03	0.06	<2	0.07	<1	<5	<5	8
3248277	Soil		0.077	10	39	1.01	156	0.083	<20	2.39	0.02	0.06	<2	0.05	<1	<5	<5	8
3248351	Soil		0.123	17	64	1.38	152	0.085	<20	4.12	0.02	0.09	<2	0.11	<1	<5	8	14
3248352	Soil		0.072	11	79	1.74	77	0.179	<20	3.63	<0.01	0.05	<2	0.08	<1	<5	8	12
3248353	Soil		0.073	11	63	1.50	133	0.149	<20	3.57	0.01	0.10	<2	0.07	<1	<5	7	11

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Project: 2019-Catalyst
Report Date: January 14, 2020

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	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
3248354	Soil	9	<3	<2	2	70	7	99	<0.3	49	21	914	4.36	17	<2	47	<0.5	<3	<3	96	0.77
3248355	Soil	11	<3	12	<1	99	<3	61	<0.3	39	21	1301	3.73	8	<2	101	<0.5	<3	<3	118	3.13
3248356	Soil	9	<3	7	2	43	8	85	<0.3	36	18	740	3.68	13	<2	43	<0.5	<3	<3	80	0.83
3248357	Soil	12	5	17	1	114	5	69	<0.3	70	28	1162	5.35	7	<2	61	<0.5	<3	<3	176	2.44
3248358	Soil	9	4	4	4	50	13	97	<0.3	45	23	978	4.53	19	<2	43	<0.5	<3	<3	90	0.58
3248359	Soil	12	<3	11	2	82	6	80	<0.3	57	23	1037	4.21	14	<2	52	<0.5	<3	<3	102	1.23
3248360	Soil	10	<3	12	2	87	7	81	<0.3	58	23	1072	4.28	14	<2	55	<0.5	<3	<3	105	1.31
3248361	Soil	13	<3	3	2	64	8	99	<0.3	56	23	1013	4.77	18	<2	46	<0.5	<3	<3	108	0.72
3248362	Soil	10	<3	11	2	75	8	93	<0.3	50	20	1155	4.27	15	<2	47	<0.5	<3	<3	99	1.35
3248363	Soil	11	5	15	<1	126	4	66	<0.3	109	34	1328	5.29	7	<2	68	<0.5	<3	<3	151	1.96
3248364	Soil	13	3	<2	3	43	9	100	<0.3	47	20	706	4.58	18	<2	47	<0.5	<3	<3	96	0.57
3248365	Soil	8	<3	5	2	45	10	89	<0.3	39	20	842	4.11	14	<2	50	<0.5	<3	<3	88	0.62
3248366	Soil	11	<3	8	1	78	4	84	<0.3	63	28	1001	5.46	10	<2	119	<0.5	<3	<3	143	1.19
3248367	Soil	9	<3	7	2	86	7	90	<0.3	55	25	1090	4.94	14	<2	54	<0.5	<3	<3	116	1.09
3248368	Soil	7	<3	4	2	85	8	101	<0.3	57	27	1251	5.43	15	<2	50	<0.5	<3	<3	124	1.01
3248369	Soil	12	3	8	<1	205	<3	80	<0.3	101	41	1475	6.64	6	<2	58	<0.5	<3	<3	170	1.30
3248370	Soil	8	<3	5	2	74	6	91	<0.3	49	22	919	4.40	15	<2	49	<0.5	<3	<3	97	0.84
3248371	Soil	8	<3	10	2	96	6	89	<0.3	59	26	1022	4.86	12	<2	53	<0.5	<3	<3	116	1.01
3248372	Soil	10	<3	7	2	101	4	87	<0.3	66	29	1055	5.20	10	<2	81	<0.5	<3	<3	139	1.26
3248373	Soil	9	<3	10	2	90	6	84	<0.3	54	22	827	4.41	11	<2	54	<0.5	<3	<3	109	1.09
3248374	Soil	8	<3	4	2	79	7	94	<0.3	50	23	909	4.59	15	<2	55	<0.5	<3	<3	104	0.85
3248375	Soil	13	3	5	2	88	6	80	<0.3	50	23	852	4.68	13	<2	61	<0.5	<3	<3	117	1.19
3248376	Soil	8	<3	4	2	64	6	74	<0.3	42	19	720	3.94	14	<2	51	<0.5	<3	<3	91	0.92
3248377	Soil	8	<3	7	1	85	<3	93	<0.3	77	30	1033	5.61	8	<2	103	<0.5	<3	<3	174	2.10
3248378	Soil	9	7	10	1	95	5	83	<0.3	59	27	955	5.24	9	<2	68	<0.5	<3	<3	152	1.64
3249317	Soil	8	<3	2	2	55	7	69	<0.3	44	15	593	3.51	15	<2	42	<0.5	<3	<3	69	1.02
3249318	Soil	9	<3	3	<1	61	7	64	<0.3	35	13	532	2.71	13	<2	55	<0.5	<3	<3	53	1.65
3249319	Soil	8	<3	3	1	44	7	67	<0.3	44	15	563	3.19	14	<2	54	<0.5	<3	<3	60	1.69
3249320	Soil	8	<3	3	2	62	10	73	<0.3	43	16	608	3.50	17	<2	47	<0.5	<3	<3	67	0.99
3249321	Soil	8	<3	<2	1	60	7	72	<0.3	41	14	506	3.25	16	<2	53	<0.5	<3	<3	58	1.37

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Project: 2019-Catalyst
Report Date: January 14, 2020

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	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
3248354	Soil	0.071	12	55	1.23	154	0.099	<20	2.92	0.02	0.07	<2	0.08	<1	<5	6	8
3248355	Soil	0.066	9	47	1.32	77	0.152	<20	5.50	0.03	0.20	<2	0.06	<1	<5	9	14
3248356	Soil	0.075	8	40	0.92	137	0.086	<20	2.17	0.02	0.07	<2	0.09	<1	<5	<5	6
3248357	Soil	0.053	10	86	1.85	68	0.322	<20	4.26	0.01	0.10	<2	0.06	<1	<5	8	19
3248358	Soil	0.093	13	51	1.01	160	0.078	<20	2.35	0.01	0.09	<2	0.09	<1	<5	6	6
3248359	Soil	0.082	11	60	1.48	127	0.137	<20	3.24	0.02	0.11	<2	0.09	<1	<5	5	11
3248360	Soil	0.086	12	64	1.53	133	0.142	<20	3.42	0.02	0.12	<2	0.09	<1	<5	6	12
3248361	Soil	0.069	13	59	1.34	157	0.122	<20	3.31	0.02	0.08	<2	0.07	<1	<5	7	9
3248362	Soil	0.073	13	62	1.09	136	0.098	<20	2.84	0.02	0.08	<2	0.08	<1	<5	6	13
3248363	Soil	0.038	7	115	2.88	100	0.216	<20	4.31	0.04	0.08	<2	<0.05	<1	<5	9	16
3248364	Soil	0.069	11	50	1.19	137	0.076	<20	2.56	0.01	0.08	<2	0.07	<1	<5	7	6
3248365	Soil	0.082	10	44	1.15	140	0.074	<20	2.31	0.02	0.07	<2	0.09	<1	<5	5	<5
3248366	Soil	0.055	8	62	2.55	103	0.153	<20	3.92	0.02	0.09	<2	0.05	<1	<5	8	11
3248367	Soil	0.076	12	61	1.71	137	0.101	<20	3.16	0.02	0.10	<2	0.08	<1	<5	7	11
3248368	Soil	0.080	13	65	1.81	148	0.091	<20	3.14	0.02	0.07	<2	0.08	<1	<5	7	13
3248369	Soil	0.034	9	85	3.97	88	0.169	<20	4.42	0.03	0.08	<2	<0.05	<1	<5	10	19
3248370	Soil	0.088	12	55	1.37	149	0.069	<20	2.50	0.02	0.09	<2	0.08	<1	<5	6	9
3248371	Soil	0.081	11	60	1.82	136	0.095	<20	3.07	0.02	0.10	<2	0.08	<1	<5	7	11
3248372	Soil	0.076	9	71	2.54	87	0.131	<20	3.69	0.02	0.13	<2	0.07	<1	<5	7	14
3248373	Soil	0.081	10	56	1.70	121	0.095	<20	2.89	0.02	0.08	<2	0.09	<1	<5	7	11
3248374	Soil	0.081	12	54	1.45	134	0.086	<20	2.72	0.02	0.10	<2	0.08	<1	<5	6	10
3248375	Soil	0.082	10	55	1.79	131	0.120	<20	3.16	0.02	0.08	<2	0.07	<1	<5	7	11
3248376	Soil	0.064	10	46	1.29	119	0.100	<20	2.45	0.03	0.08	<2	0.06	<1	<5	5	8
3248377	Soil	0.055	7	100	2.54	112	0.281	<20	4.18	0.02	0.07	<2	<0.05	<1	<5	10	16
3248378	Soil	0.061	10	80	2.00	118	0.244	<20	3.61	0.02	0.07	<2	0.05	<1	<5	9	16
3249317	Soil	0.062	12	51	0.98	143	0.070	<20	1.94	0.03	0.09	<2	0.06	<1	<5	<5	5
3249318	Soil	0.076	13	39	0.78	233	0.055	<20	1.60	0.04	0.07	<2	0.07	<1	<5	<5	<5
3249319	Soil	0.074	15	54	1.08	110	0.068	<20	1.86	0.03	0.17	<2	0.09	<1	<5	<5	<5
3249320	Soil	0.089	18	45	1.02	185	0.070	<20	1.94	0.04	0.11	<2	0.07	<1	<5	<5	5
3249321	Soil	0.070	16	43	0.88	232	0.066	<20	1.73	0.04	0.12	<2	0.06	<1	<5	<5	<5

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	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
3249322	Soil	9	<3	4	1	77	7	67	<0.3	44	15	618	3.20	13	<2	59	<0.5	<3	<3	66	1.58
3249323	Soil	8	<3	<2	<1	54	5	57	<0.3	32	12	413	2.44	11	<2	59	<0.5	<3	<3	48	1.78
3249324	Soil	8	13	4	<1	43	6	52	<0.3	31	11	414	2.14	9	<2	64	<0.5	<3	<3	46	1.88
3249325	Soil	7	<3	<2	<1	36	8	34	<0.3	21	7	194	1.52	6	<2	79	<0.5	<3	<3	31	1.91
3249326	Soil	8	<3	6	<1	67	8	64	<0.3	38	13	531	2.62	10	<2	67	<0.5	<3	<3	56	1.82
3249327	Soil	8	<3	4	1	50	7	74	<0.3	36	14	628	2.61	11	<2	54	<0.5	<3	<3	56	1.52
3249328	Soil	12	<3	9	2	45	7	65	<0.3	32	14	1646	2.19	10	<2	63	<0.5	<3	<3	42	1.98
3249329	Soil	13	<3	3	1	24	7	44	<0.3	24	7	196	1.91	9	<2	49	<0.5	<3	<3	37	1.35
3249330	Soil	7	<3	7	1	25	6	43	<0.3	24	6	175	1.94	8	<2	51	<0.5	<3	<3	36	1.39
3249331	Soil	8	<3	6	1	53	7	63	<0.3	33	14	716	2.83	12	<2	49	<0.5	<3	<3	52	1.57
3249332	Soil	9	<3	3	1	61	8	65	<0.3	38	16	640	3.24	12	<2	44	<0.5	<3	<3	61	1.38
3249333	Soil	9	<3	2	<1	57	7	65	<0.3	35	15	722	2.98	12	<2	48	<0.5	<3	<3	54	1.57
3249334	Soil	8	<3	7	1	58	10	66	<0.3	36	16	626	3.21	15	<2	50	<0.5	<3	<3	56	1.62
3249335	Soil	10	<3	6	<1	68	8	82	<0.3	38	13	498	3.27	16	<2	51	<0.5	<3	<3	60	1.60
3249336	Soil	8	<3	6	1	63	8	78	<0.3	37	13	681	2.87	22	<2	49	<0.5	<3	<3	66	1.39
3249337	Soil	9	<3	8	1	47	7	89	<0.3	40	16	786	3.03	12	<2	46	<0.5	<3	<3	58	1.20
3249338	Soil	9	<3	6	3	43	8	53	<0.3	24	11	532	3.05	33	<2	35	<0.5	<3	<3	52	0.73
3249339	Soil	9	<3	7	2	42	9	58	<0.3	27	9	771	2.01	9	<2	43	<0.5	<3	<3	40	1.00
3249340	Soil	10	3	4	2	39	8	69	<0.3	33	14	565	2.54	13	<2	55	<0.5	<3	<3	46	1.35
3249341	Soil	8	<3	<2	<1	37	7	61	<0.3	23	6	231	1.51	7	<2	44	<0.5	<3	<3	34	1.11
3249368	Soil	9	<3	3	1	43	12	68	<0.3	52	17	578	3.51	18	2	33	<0.5	<3	<3	72	0.96
3249369	Soil	8	<3	6	<1	48	8	55	<0.3	38	13	385	2.31	6	<2	50	<0.5	<3	<3	55	1.50
3249370	Soil	9	6	11	<1	80	8	57	<0.3	42	12	393	2.40	10	<2	55	<0.5	<3	<3	50	1.72
3249371	Soil	10	<3	12	<1	71	8	59	<0.3	38	14	562	2.66	12	<2	47	<0.5	<3	<3	56	1.32
3249372	Soil	10	<3	5	1	55	9	80	<0.3	49	13	678	2.68	15	<2	40	0.6	<3	<3	54	1.20
3249373	Soil	17	4	7	<1	37	7	43	<0.3	21	6	190	1.51	7	<2	72	<0.5	<3	<3	29	2.35
3249374	Soil	8	<3	5	1	34	8	91	<0.3	31	12	502	2.19	11	<2	54	<0.5	<3	<3	47	1.54
3249375	Soil	10	<3	6	<1	36	7	50	<0.3	26	6	127	1.88	5	<2	60	<0.5	<3	<3	38	1.66
3249376	Soil	13	4	3	2	23	8	57	<0.3	25	9	322	1.87	9	<2	44	<0.5	<3	<3	36	1.39
3249377	Soil	9	4	10	<1	57	7	70	<0.3	43	13	438	2.70	9	<2	64	<0.5	<3	<3	60	1.68

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Project: 2019-Catalyst
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	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
3249322	Soil	0.092	17	50	0.98	237	0.065	<20	1.78	0.04	0.11	<2	0.08	<1	<5	<5	5
3249323	Soil	0.074	11	34	0.69	203	0.056	<20	1.34	0.04	0.08	<2	0.07	<1	<5	<5	<5
3249324	Soil	0.070	10	34	0.66	215	0.054	<20	1.23	0.03	0.07	<2	0.09	<1	<5	<5	<5
3249325	Soil	0.060	9	24	0.47	198	0.038	<20	0.91	0.03	0.05	<2	0.12	<1	<5	<5	<5
3249326	Soil	0.083	13	46	0.91	245	0.054	<20	1.51	0.03	0.07	<2	0.10	<1	<5	<5	5
3249327	Soil	0.081	12	40	0.79	194	0.058	<20	1.53	0.04	0.09	<2	0.08	<1	<5	<5	<5
3249328	Soil	0.096	13	29	0.61	237	0.042	<20	1.19	0.03	0.07	<2	0.12	<1	<5	<5	<5
3249329	Soil	0.069	10	25	0.46	110	0.048	<20	0.95	0.03	0.05	<2	0.11	<1	<5	<5	<5
3249330	Soil	0.075	10	26	0.48	114	0.048	<20	1.03	0.03	0.06	<2	0.11	<1	<5	<5	<5
3249331	Soil	0.077	12	38	0.84	140	0.036	<20	1.58	0.03	0.06	<2	0.09	<1	<5	<5	5
3249332	Soil	0.077	13	48	0.99	115	0.038	<20	1.69	0.02	0.06	<2	0.08	<1	<5	<5	7
3249333	Soil	0.083	13	43	0.90	134	0.036	<20	1.65	0.03	0.06	<2	0.09	<1	<5	<5	6
3249334	Soil	0.079	14	42	0.91	131	0.029	<20	1.74	0.03	0.06	<2	0.09	<1	<5	<5	7
3249335	Soil	0.094	13	49	0.98	147	0.024	<20	1.92	0.03	0.08	<2	0.12	<1	<5	<5	7
3249336	Soil	0.089	15	43	0.92	144	0.035	<20	1.80	0.03	0.08	<2	0.15	<1	<5	<5	7
3249337	Soil	0.083	13	43	0.91	139	0.050	<20	1.78	0.03	0.07	<2	0.08	<1	<5	<5	5
3249338	Soil	0.070	12	28	0.48	125	0.049	<20	1.26	0.03	0.05	<2	0.08	<1	<5	<5	<5
3249339	Soil	0.100	10	30	0.56	120	0.052	<20	1.08	0.04	0.05	<2	0.09	<1	<5	<5	<5
3249340	Soil	0.081	13	34	0.66	144	0.058	<20	1.38	0.03	0.06	<2	0.09	<1	<5	<5	<5
3249341	Soil	0.068	9	26	0.51	100	0.050	<20	1.03	0.04	0.06	<2	0.08	<1	<5	<5	<5
3249368	Soil	0.053	19	51	0.93	155	0.084	<20	2.04	0.04	0.08	<2	<0.05	<1	<5	5	6
3249369	Soil	0.070	12	49	0.89	138	0.066	<20	1.54	0.04	0.08	<2	0.07	<1	<5	<5	<5
3249370	Soil	0.072	12	39	0.71	182	0.061	<20	1.54	0.04	0.06	<2	0.07	<1	<5	<5	<5
3249371	Soil	0.079	15	44	0.82	197	0.056	<20	1.67	0.03	0.06	<2	0.08	<1	<5	<5	<5
3249372	Soil	0.067	18	39	0.67	199	0.060	<20	1.68	0.03	0.04	<2	0.06	<1	<5	<5	<5
3249373	Soil	0.066	9	22	0.44	128	0.036	<20	0.86	0.02	0.05	<2	0.13	<1	<5	<5	<5
3249374	Soil	0.080	9	37	0.74	150	0.057	<20	1.24	0.03	0.07	<2	0.09	<1	<5	<5	<5
3249375	Soil	0.069	10	29	0.55	170	0.055	<20	1.15	0.03	0.06	<2	0.10	<1	<5	<5	<5
3249376	Soil	0.085	10	28	0.55	98	0.042	<20	0.97	0.03	0.04	<2	0.12	<1	<5	<5	<5
3249377	Soil	0.083	10	61	1.16	231	0.057	<20	1.45	0.03	0.06	<2	0.10	<1	<5	<5	6

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

Project: 2019-Catalyst
Report Date: January 14, 2020

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	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
3249378	Soil	8	<3	4	2	52	10	71	<0.3	40	17	942	3.04	16	<2	41	<0.5	<3	<3	54	1.05
3249379	Soil	8	<3	3	<1	38	8	53	<0.3	26	11	396	1.96	11	<2	39	<0.5	<3	<3	38	1.01
3249380	Soil	9	<3	7	1	53	9	71	<0.3	42	18	727	3.23	13	<2	45	<0.5	<3	<3	61	1.20
3249381	Soil	11	5	3	<1	33	8	48	<0.3	23	9	330	1.71	8	<2	45	<0.5	<3	<3	33	1.30
3249382	Soil	7	<3	<2	<1	21	7	42	<0.3	17	8	477	1.45	6	<2	40	<0.5	<3	<3	25	1.22
3249383	Soil	7	4	5	1	48	7	74	<0.3	39	14	471	2.94	12	<2	42	<0.5	<3	<3	56	1.18
3249384	Soil	6	4	3	<1	45	7	74	<0.3	34	13	387	2.99	7	<2	37	<0.5	<3	<3	57	1.07
3249385	Soil	8	<3	<2	2	35	9	72	<0.3	42	16	542	3.18	15	<2	41	<0.5	<3	<3	63	0.99
3249386	Soil	8	<3	<2	<1	29	4	62	<0.3	23	10	272	1.93	12	<2	46	<0.5	<3	<3	35	1.50
3249387	Soil	6	<3	<2	<1	39	6	57	<0.3	25	9	347	1.85	9	<2	58	<0.5	<3	<3	32	2.06

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

Project: 2019-Catalyst
Report Date: January 14, 2020

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	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
3249378	Soil	0.075	14	39	0.70	237	0.054	<20	1.52	0.03	0.06	<2	0.09	<1	<5	<5	5
3249379	Soil	0.071	10	27	0.54	118	0.045	<20	1.16	0.04	0.05	<2	0.07	<1	<5	<5	<5
3249380	Soil	0.092	14	48	0.97	164	0.046	<20	1.82	0.03	0.07	<2	0.08	<1	<5	<5	7
3249381	Soil	0.048	8	23	0.45	132	0.048	<20	0.93	0.04	0.05	<2	0.08	<1	<5	<5	<5
3249382	Soil	0.049	7	15	0.31	141	0.040	<20	0.68	0.04	0.05	<2	0.06	<1	<5	<5	<5
3249383	Soil	0.076	12	42	0.84	162	0.052	<20	1.60	0.03	0.07	<2	0.07	<1	<5	<5	5
3249384	Soil	0.075	11	46	1.05	91	0.040	<20	1.76	0.02	0.06	<2	0.07	<1	<5	<5	6
3249385	Soil	0.070	19	44	0.73	281	0.058	<20	1.79	0.02	0.05	<2	0.05	<1	<5	<5	<5
3249386	Soil	0.083	9	25	0.53	123	0.039	<20	0.93	0.03	0.04	<2	0.10	<1	<5	<5	<5
3249387	Soil	0.052	8	25	0.52	122	0.040	<20	0.96	0.03	0.04	<2	0.09	<1	<5	<5	<5

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QUALITY CONTROL REPORT WHI19000599.1

	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
Pulp Duplicates																					
3248251	Soil	10	8	5	3	72	9	103	<0.3	46	18	769	4.26	15	<2	47	<0.5	<3	<3	94	0.80
REP 3248251	QC				3	69	9	101	<0.3	45	18	750	4.14	15	<2	46	<0.5	<3	<3	90	0.78
3248260	Soil	6	4	10	1	75	6	70	<0.3	65	22	893	3.96	12	<2	61	<0.5	<3	<3	101	1.39
REP 3248260	QC	6	4	7																	
3248360	Soil	10	<3	12	2	87	7	81	<0.3	58	23	1072	4.28	14	<2	55	<0.5	<3	<3	105	1.31
REP 3248360	QC				2	86	7	81	<0.3	59	23	1065	4.32	14	<2	55	<0.5	<3	<3	106	1.31
3248369	Soil	12	3	8	<1	205	<3	80	<0.3	101	41	1475	6.64	6	<2	58	<0.5	<3	<3	170	1.30
REP 3248369	QC	10	8	11																	
3249334	Soil	8	<3	7	1	58	10	66	<0.3	36	16	626	3.21	15	<2	50	<0.5	<3	<3	56	1.62
REP 3249334	QC				1	59	8	64	<0.3	35	15	634	3.20	15	<2	51	<0.5	<3	<3	54	1.69
3249368	Soil	9	<3	3	1	43	12	68	<0.3	52	17	578	3.51	18	2	33	<0.5	<3	<3	72	0.96
REP 3249368	QC	9	<3	<2																	
3249386	Soil	8	<3	<2	<1	29	4	62	<0.3	23	10	272	1.93	12	<2	46	<0.5	<3	<3	35	1.50
REP 3249386	QC				<1	29	6	61	<0.3	23	9	272	1.91	12	<2	47	<0.5	<3	<3	35	1.50
3249387	Soil	6	<3	<2	<1	39	6	57	<0.3	25	9	347	1.85	9	<2	58	<0.5	<3	<3	32	2.06
REP 3249387	QC	11	4	3																	
Reference Materials																					
STD BVGEO01	Standard				10	4423	181	1689	2.8	158	23	695	3.71	114	12	50	6.0	<3	24	70	1.26
STD BVGEO01	Standard				10	4521	188	1733	2.5	167	23	729	3.89	118	14	56	5.8	<3	24	74	1.34
STD DS11	Standard				15	150	140	349	2.0	79	13	1042	3.21	43	8	70	2.0	7	11	51	1.10
STD DS11	Standard				15	152	147	350	1.8	81	14	1035	3.07	44	7	68	2.2	7	11	51	1.07
STD KO74421	Standard	526	469	497																	
STD KO74421	Standard	546	477	485																	
STD OREAS262	Standard				<1	115	51	140	0.5	62	26	525	3.32	35	7	35	0.7	5	<3	20	2.99
STD OREAS262	Standard				<1	124	57	158	0.5	65	27	564	3.51	37	9	38	<0.5	<3	<3	23	3.12
STD OREAS262	Standard				<1	118	55	149	0.5	62	26	529	3.31	35	8	36	<0.5	3	<3	22	3.00
STD OREAS262	Standard				<1	116	60	148	0.5	63	27	516	3.13	36	8	34	0.6	3	<3	22	2.84
STD OREAS47	Standard	48	29	48																	

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Report Date: January 14, 2020

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QUALITY CONTROL REPORT WHI19000599.1

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
Pulp Duplicates																	
3248251	Soil	0.075	11	51	1.17	151	0.100	<20	2.60	0.02	0.06	<2	0.09	<1	<5	6	7
REP 3248251	QC	0.073	11	49	1.14	149	0.095	<20	2.51	0.02	0.06	<2	0.09	<1	<5	5	7
3248260	Soil	0.077	12	57	1.53	122	0.170	<20	3.57	0.04	0.10	<2	0.08	<1	<5	6	9
REP 3248260	QC																
3248360	Soil	0.086	12	64	1.53	133	0.142	<20	3.42	0.02	0.12	<2	0.09	<1	<5	6	12
REP 3248360	QC	0.085	12	64	1.54	132	0.147	<20	3.40	0.02	0.12	<2	0.09	<1	<5	6	12
3248369	Soil	0.034	9	85	3.97	88	0.169	<20	4.42	0.03	0.08	<2	<0.05	<1	<5	10	19
REP 3248369	QC																
3249334	Soil	0.079	14	42	0.91	131	0.029	<20	1.74	0.03	0.06	<2	0.09	<1	<5	<5	7
REP 3249334	QC	0.081	14	42	0.90	135	0.029	<20	1.76	0.03	0.06	<2	0.09	<1	<5	<5	7
3249368	Soil	0.053	19	51	0.93	155	0.084	<20	2.04	0.04	0.08	<2	<0.05	<1	<5	5	6
REP 3249368	QC																
3249386	Soil	0.083	9	25	0.53	123	0.039	<20	0.93	0.03	0.04	<2	0.10	<1	<5	<5	<5
REP 3249386	QC	0.081	9	25	0.52	122	0.040	<20	0.95	0.03	0.04	<2	0.10	<1	<5	<5	<5
3249387	Soil	0.052	8	25	0.52	122	0.040	<20	0.96	0.03	0.04	<2	0.09	<1	<5	<5	<5
REP 3249387	QC																
Reference Materials																	
STD BVGEO01	Standard	0.071	22	145	1.26	332	0.223	<20	2.18	0.17	0.88	6	0.66	<1	<5	<5	5
STD BVGEO01	Standard	0.073	26	174	1.35	344	0.233	<20	2.38	0.20	0.94	3	0.70	<1	<5	<5	6
STD DS11	Standard	0.072	18	58	0.87	448	0.094	<20	1.22	0.08	0.42	3	0.29	<1	<5	<5	<5
STD DS11	Standard	0.070	18	60	0.85	437	0.093	<20	1.20	0.08	0.40	<2	0.29	<1	6	<5	<5
STD KO74421	Standard																
STD KO74421	Standard																
STD OREAS262	Standard	0.037	12	38	1.15	250	0.002	<20	1.10	0.07	0.28	<2	0.25	<1	<5	5	<5
STD OREAS262	Standard	0.041	18	44	1.25	271	0.003	<20	1.45	0.07	0.36	<2	0.27	<1	<5	<5	<5
STD OREAS262	Standard	0.039	16	41	1.20	253	0.003	<20	1.32	0.07	0.33	<2	0.26	<1	<5	<5	<5
STD OREAS262	Standard	0.039	16	42	1.17	244	0.003	<20	1.28	0.07	0.32	<2	0.27	<1	<5	<5	<5
STD OREAS47	Standard																

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QUALITY CONTROL REPORT WHI19000599.1

		FA330 Au ppb 2	FA330 Pt ppb 3	FA330 Pd ppb 2	AQ300 Mo ppm 1	AQ300 Cu ppm 1	AQ300 Pb ppm 3	AQ300 Zn ppm 1	AQ300 Ag ppm 0.3	AQ300 Ni ppm 1	AQ300 Co ppm 1	AQ300 Mn ppm 2	AQ300 Fe % 0.01	AQ300 As ppm 2	AQ300 Th ppm 2	AQ300 Sr ppm 1	AQ300 Cd ppm 0.5	AQ300 Sb ppm 3	AQ300 Bi ppm 3	AQ300 V ppm 1	AQ300 Ca % 0.01
STD OREAS47	Standard	51	31	47																	
STD PD05	Standard	508	420	619																	
STD PD05	Standard	548	459	614																	
STD PG04	Standard	995	916	1206																	
STD PG04	Standard	1050	958	1283																	
STD BVGEO01 Expected					10.8	4415	187	1741	2.53	163	25	733	3.7	121	14.4	55	6.5	2.2	25.6	73	1.3219
STD DS11 Expected					13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50	1.063
STD OREAS262 Expected						118	56	154	0.45	62	26.9	530	3.284	35.8	9.33	36	0.61	3.39		22.5	2.98
STD OREAS47 Expected		46.7	30.4	47																	
STD PG04 Expected		996	910	1210																	
STD PD05 Expected		519	430	596																	
STD KO74421 Expected		518	459	466																	
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank	<2	<3	<2																	
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank	3	<3	<2																	
BLK	Blank	5	<3	<2																	
BLK	Blank	3	<3	3																	

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

Project: 2019-Catalyst
Report Date: January 14, 2020

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QUALITY CONTROL REPORT WHI19000599.1

		AQ300 P % 0.001	AQ300 La ppm 1	AQ300 Cr ppm 1	AQ300 Mg % 0.01	AQ300 Ba ppm 1	AQ300 Ti % 0.001	AQ300 B ppm 20	AQ300 Al % 0.01	AQ300 Na % 0.01	AQ300 K % 0.01	AQ300 W ppm 2	AQ300 S % 0.05	AQ300 Hg ppm 1	AQ300 Tl ppm 5	AQ300 Ga ppm 5	AQ300 Sc ppm 5
STD OREAS47	Standard																
STD PD05	Standard																
STD PD05	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD BVGEO01 Expected		0.0727	25.9	171	1.2963	340	0.233		2.347	0.1924	0.89	3.5	0.6655			7.37	5.97
STD DS11 Expected		0.0701	18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7	3.1
STD OREAS262 Expected		0.04	15.9	41.7	1.17	248	0.003		1.204	0.071	0.312		0.253			3.73	3.24
STD OREAS47 Expected																	
STD PG04 Expected																	
STD PD05 Expected																	
STD KO74421 Expected																	
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank																
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank																
BLK	Blank																
BLK	Blank																

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