LONGFORD EXPLORATION

Prospecting, Geological and Geochemical 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

Grouping Number: HW07703

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 - 67
YE64924 - YE65080	BC 324 - 480
YF48001 - YF48112	AKK 1 - 112
YF48113 - YF48225	TOBI 1 - 113

Field Work Conducted: June 17 - 20, 2018

Report Prepared For:

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January 4, 2019

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1 Introduction

The Arch-Corky Property consists of 544 claims (11015 hectares) covering an area of the Kluane Mountains in the Tatamagouche, Wade, Maple, Quill and Arch Creek drainages just east 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 from June 17 – 20, 2018. The work program consisted of geological mapping, rock sampling, contour soil sampling and prospecting based on recommendations from the 2017 Assessment Report.

This report was prepared to summarize the 2018 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 2016-2017 reports and for much of the historical work on 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. Limited development work uncovered several large tabular masses of native copper. 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 and Corky properties 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 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).

Historic exploration in the vicinity of the Arch-Corky property is summarized in Table 3.1. 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 ultramafic sills, close to the favourable unit contact, 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 290-310º 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 1953-2017 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 can be summarized as follows:

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	Assessment Report	Longford Exploration Services Ltd.	Prospecting, Geological and Geochemical Survey Report on the Tobi Property

The 2018 program described in this report included a total of 167 soil samples, collected on contour soil lines targeting favourable geology and airborne geophysical anomalies above 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. Preliminary geological mapping, rock sampling (27 samples) and prospecting of the Arch, Upper Quill and Tatamagouche Creeks areas and uplands were undertaken on traverses from June 16-20, 2018. All samples were sent to Bureau Veritas in Whitehorse for analysis.

The 2017 & 2018 programs have generated areas for further exploration including the Ram copper showing on Upper Quill Creek, copper-nickel soil geochemical anomalies above Wade and Maple Creeks and rock sample targets on Tatamagouche and Maple Creeks. 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.

3.1 Location

The Arch and Corky Property covers rocky ridges and rounded upland areas of the Kluane Ranges and broad valleys of Upper Quill, Tatamagouche, Wade, Maple and Arch Creeks. Also, the steeply incised canyons of Arch, Wade and Maple Creeks 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 3.1). 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 (Figure 3.3). 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 lower Wade and upper Maple Creeks.

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 3.2 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

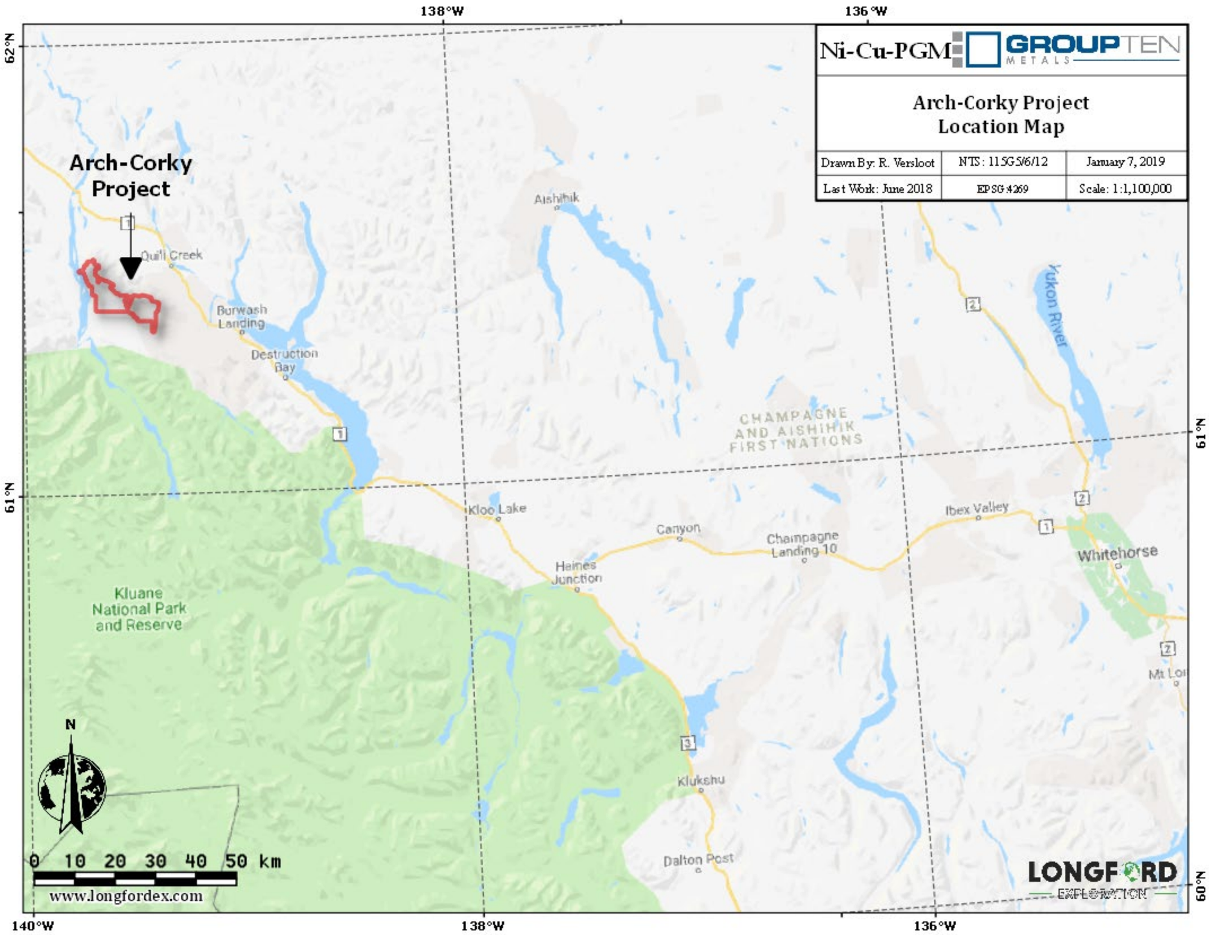


Figure 3.1 Arch-Corky Project location map.

3.2 Mineral Titles

The project area consists of 544 mineral claims (Figure 3.2 and Appendix C). Group Ten Metals Inc. owns 100% of the BC claims, while the AR and ARCH as well as the TOBI and AKK claims are under option from Tom Morgan and Bill Karman respectively (Table 3.3). 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) on July 25, 2018.

Table 3.3 Mineral tenure summary.

Claim Name	Grant Numbers	Owner	No of claims	Grouping Certificate	Expiry Date
ARCH 38, 39, 40	YD58910, 913, 914	Tom Morgan	3	HW07703	2020-07-25
AR 1 - 77	YE69001 - YE69077	Tom Morgan	77	HW07703	2020-08-18
ARCH 1 - 37	YE69501 - YE69537	Tom Morgan	37	HW07703	2020-08-18
BC 1 - 34	YE64601 - YE64034	Group Ten Metals Inc.	34	HW07703	2020-07-25
BC 57 - 68	YE64657 - YE64668	Group Ten Metals Inc.	12	HW07703	2020-07-25
BC 324 - 480	YE64924 - YE65080	Group Ten Metals Inc.	156	HW07703	2020-07-25
AKK 1-112	YF48001-YF48112	Bill Karman	112	HW07703	2020-11-17
TOBI 1-113	YF48113-YF48209	Bill Karman	97	HW07703	2021-11-17
TOBI 98-113	YF48210-YF48225	Bill Karman	16	HW07703	2020-11-17

3.3 Property Legal Status

The Yukon Mining Recorder website (http://www.yukonminingrecorder.ca/) confirms that all claims of the Property as shown in Table 3.3 and Figure 3.2 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.

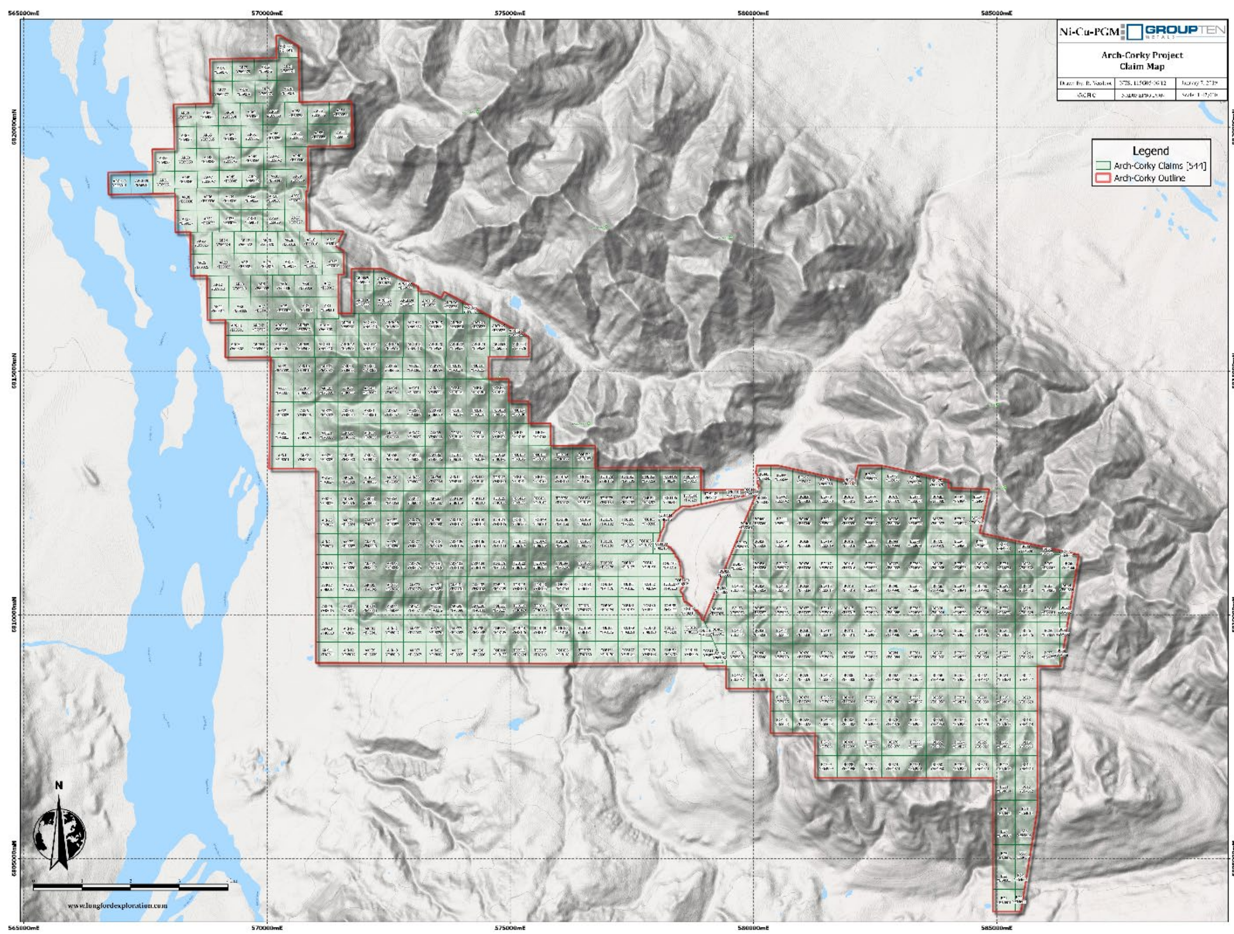


Figure 3.2 Arch-Corky Project mineral claim and land disposition map.

3.4 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.

3.5 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, Wade Creek, Maple Creek, Arch Creek and unnamed minor creeks. 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 3.3 Photo showing the general condition of roads used to access the Arch and Corky projects.

4 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 4.1 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).

Two Minfile ocurrences are documented in the Wade and Maple Creek area of the Catalyst Property; the Callinan, located above Upper Maple Creek (Minfile Number 115G 023), as documented by the Yukon Geological Survey (Deklerk, 2009). The occurrence lies in a narrow gully accessed by an overgrown cat trail, outcropping as a gabbro sill originally discovered in 1953, and delineated by SP geophysics in 1955, north of upper Maple Creek (Pautler, 2017). The Maple gypsum occurrence (Minfile Number 115G 085), is reported to occur along a thrust faulted contact between a Cretaceous diorite intrusion and Upper Triassic Nikolai greenstone above lower Maple Creek.

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

Table 4.1 Historical activity (D. James, 2016, G. Davidson, 2018)).

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

Year	Work	Results
		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.*)
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*).
1987-88	The northern portion (PC claims) and south-central portion (Don claims) of the Tobi Project were acquired by Avanti Mining Ltd. and transferred to Gold City Resources Inc., which completed minor prospecting and rock geochemical sampling *(Hart and Doherty, 1988, and Van Angeren, 1988)*.	Limited work uncovered an occurrence of gabbro float.
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*)
1987	Property examination and mapping by Dawson Eldorado Mines Inc.	Maple Creek gabbro and band of limestone mapped *(Hart and Doherty, 1987).*
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*).
2008	A DIGHEM airborne magnetic-electromagnetic geophysical survey was carried out for Coronation Minerals Inc. as part of a survey over their Wellgreen property *(Fugro, 2008)*.	Significant anomalies were obtained along the northwest fork of Maple Creek in areas of favourable geology (underlying Station/Hasen Creek contact).
2012	Short program of mapping, prospecting and sampling around the Conwest showing. 18 rock, 14 soil samples collected.	Anomalous Pb, Zn, Fe, Au and Cu (*Pautler, 2012*).

Year	Work	Results
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	A 200 line km airborne magnetic geophysical followed by prospecting, rock geochemical and auger bedrock interface sampling, total of 69 rock samples.	The Tobi occurrence was evaluated and partially delineated and two additional significant Cu-Ni-PGE showings were discovered, West Basin and Maple Peak (Pautler, J., 2017).
2016	Geophysical data compilation and interpretation by Walcott & Assoc. summarized in a Geophysical Interpretation Report (James, D., 2016).	
2017	Geological mapping, rock sampling, pan sampling, soil sampling and prospecting under a YMEP program on the Tobi claim block over Wade and Maple Creeks.	Two areas of anomalous soil geochemical values. 1) A copper geochemical anomaly on the slope north of the confluence of Wade and Maple Creeks at the 1200m elevation in an area underlain by Nikolai volcanic rocks in contact with Hasen Formation sediments. One rock sample (sample #143306) above the anomaly assayed 23990ppm Cu, 325ppb Au from a malachite stained gabbro. 2) A nickel geochemical anomaly on contour lines at 1150m elevation above upper Maple Creek, below an ultramafic sill mapped on the northern margin of the claims and close to the Callinan occurrence. One rock sample of peridotite from this area returned an elevated nickel value of 1597ppm (sample# 116924). Both soil anomalies are coincidental with aeromagnetic highs and proximal to mafic and ultramafic rocks. Pan sample results were effective at demonstrating elevated nickel values in the Upper Maple Creek drainage where small gullies cut across the ultramafic sill. Elevated Au values were associated with drainages coming off the quaternary cover (Davidson, G., 2018).

5 Geological Setting and Mineral Potential

5.1 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 5.1). 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.

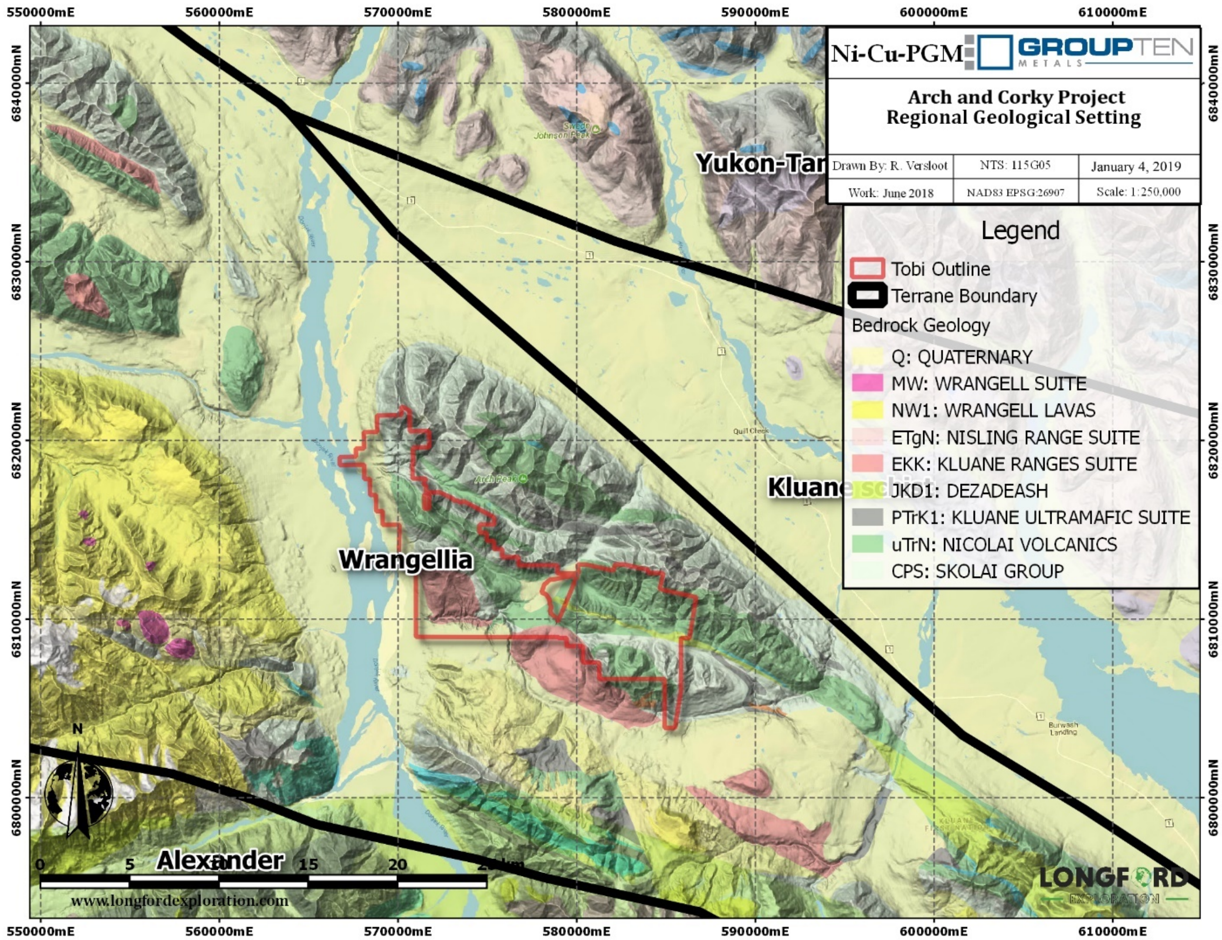


Figure 5.1 Regional geological setting of the Arch and Corky Project (after Gordy 2003 and Israel 2005)

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 ultramafic sills and feeders represented by the Maple Creek Gabbro.

Other units of less relevance to the Catalyst property are found in the ultramafic belt and are described in the table of formations (Table 5.1) below.

Table 5.1 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.

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 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, Late Triassic Kluane Ultramafic Suite.	Preferentially intrudes at or near the Hasen Creek-Station Creek contact. uTu - peridotite, dunite and clinopyroxenite, layered intrusions, locally with gabbroic chilled margins.(Kluane-type mafic-Ultramafics Gabbro-Diabase Sills) 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 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.
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.
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.

5.2 Regional Mineralization

There are four main types of Ni-Cu-PGE mineralization in the Kluane 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.

Three other types of mineralization have a limited range (Hulbert, 1997):

1. Skarn ores developed in Permian carbonates at Wellgreen.
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.

The most common sulphide minerals are pyrrhotite, pyrite, pentlandite and chalcopyrite; the common oxide minerals are magnetite and ilmenite. Figures 5.2 & 5.3 illustrate a typical, simplified 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).

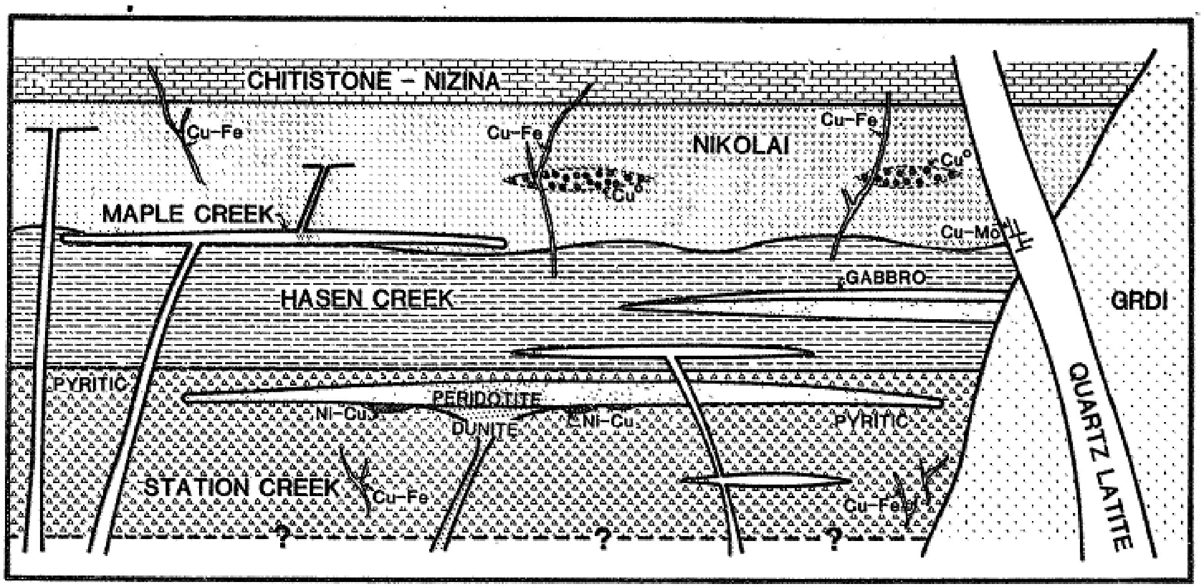


Figure 5.2 Mineralization and Stratigraphy in the Kluane Ranges (Campbell, w., 1981)

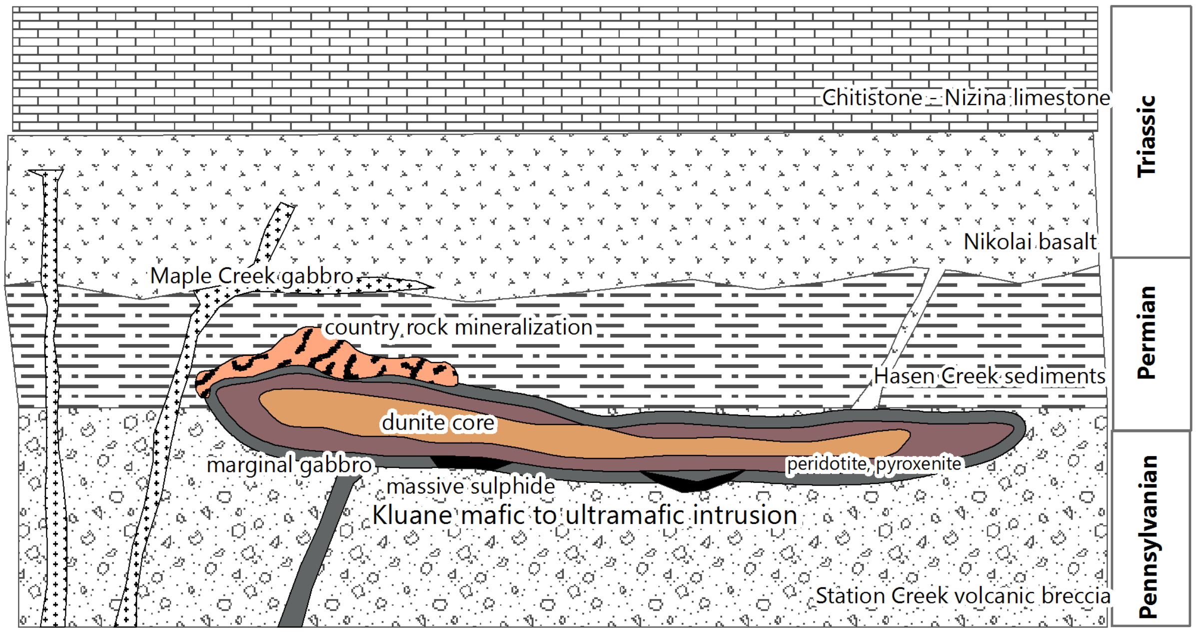


Figure 5.3 Deposit model for the Kluane Belt (modified from Hulbert, 1997)

5.3 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 complex 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 Wade, Maple 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 5.2) 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 5.2 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 Nikolai Assemblage 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 rock consists of the Kluane Ultramafic Suite primarily sills of peridotite, gabbro, dunite and serpentinite occur in outcrop along cliffs in the Arch Creek canyon and above Wade and Maple Creeks. Gabbroic and diorite dykes were mapped along Wade and Quill Creeks, part of the Upper Triassic Kluane Intrusive Suite. Younger Kluane Range Suite granitic intrusives consist of grey, medium to coarse grained, biotite hornblende granodiorite, quartz diorite, diorite and rarer quartz monzonite.

5.4 Property Mineralization

In the Arch Creek area sills of the Kluane 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.

In the Wade Creek area diorite and gabbro dykes and sills intrude limestones and siltstones with common "malachite stained siltstones, with carbonate ± quartz stringers, veinlets and veins with chalcopyrite and chalcocite and significant Cu-Ni values" (Pautler, 2017). Detailed sampling of the Tobi showing in 2017 returned Cu values up to 5161ppm however Ni & PGE + Au values were low from rock chip samples collected across the massive sulphide lenses and gossan zones. Pyrrhotite and pyrite are the main sulphide minerals outcropping in pods along the limestone diorite contact, indicating a "skarn" type mineral occurrence.

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 at the significant showings including the Ram Creek showing (Figure 5.3).

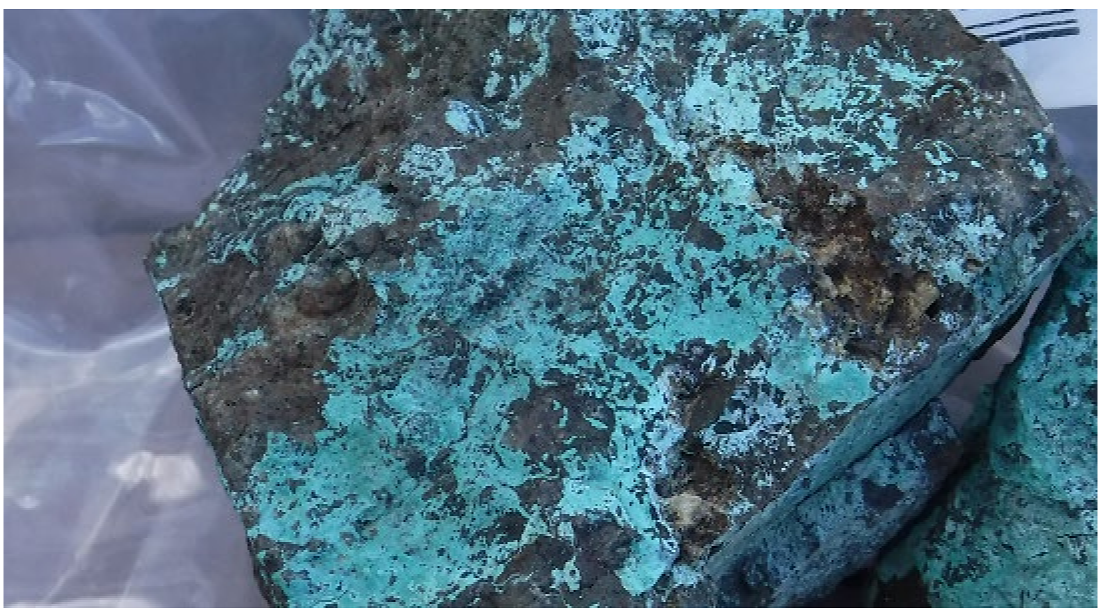


Figure 5.3 Sample K736064 from bulldozer trench above Ram Creek

6 Work Program: Geological and Geochemical Survey

6.1 Summary

A Longford Exploration Services Ltd. field crew based in Burwash Landing performed traverses on the Arch-Corky property from June 17-20, 2018 (16 mandays). Field personnel included: project manager James Rogers, geologists Graham Davidson, Sarah Ryan and Ryan Versloot with field assistant Matt Martinolich. Road access was utilized on June 16-18 and helicopter set outs and pick ups were provided by helicopter from Burwash airstrip on June 19-20.

Claims on which work was completed are summarized in Table 6.1:

Table 6.1 Claims on which 2018 work was conducted.

Claim Name	Grant Num
AR 16, 18	YE69016, 018
AR 27-30	YE69027-030
AR 61-64	YE69061-064
AR 70-77	YE69070-077
BC 337, 339	YE64937, 939
BC 452-453	YE65052-053
BC 455-457	YE65055-057
BC 362, 363, 364, 366, 367, 390	YE64962, 963, 964, 966, 967, 390
BC 475, 476	YE65075, 076
BC 359	YE64949

During the 2018 work program a total of 167 soil samples were collected on contour soil lines targeting airborne geophysical anomalies above Arch and Upper Quill 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. 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 0.46 m, 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 make up the majority of the bedrock. To the west a body of Kluane Ranges quartz diorite is outlined by the aeromagnetic surveys. The Skolai rocks are locally intruded by Kluane Ranges Suite diorite and quartz feldspar porphyry dykes and by gabbro to peridotite sills of the Upper Triassic Kluane Ultramafic Complex.

A total of 28 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. 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.

6.2 Geological Mapping and Prospecting

Preliminary geological mapping and prospecting of the Arch-Corky property was undertaken in the 2018 program, (Figure 6.1 and 6.2). The geologic mapping and prospecting program was conducted by G.S. Davidson and Sarah Ryan. Traverses were focused on tracing the contact between Hasen Creek sediments and Station Creek volcanics and examining aeromagnetic anomalies outlined by the reinterpreted airborne aeromagnetic map. Samples are summarized in Tables 6.1 and 6.2.

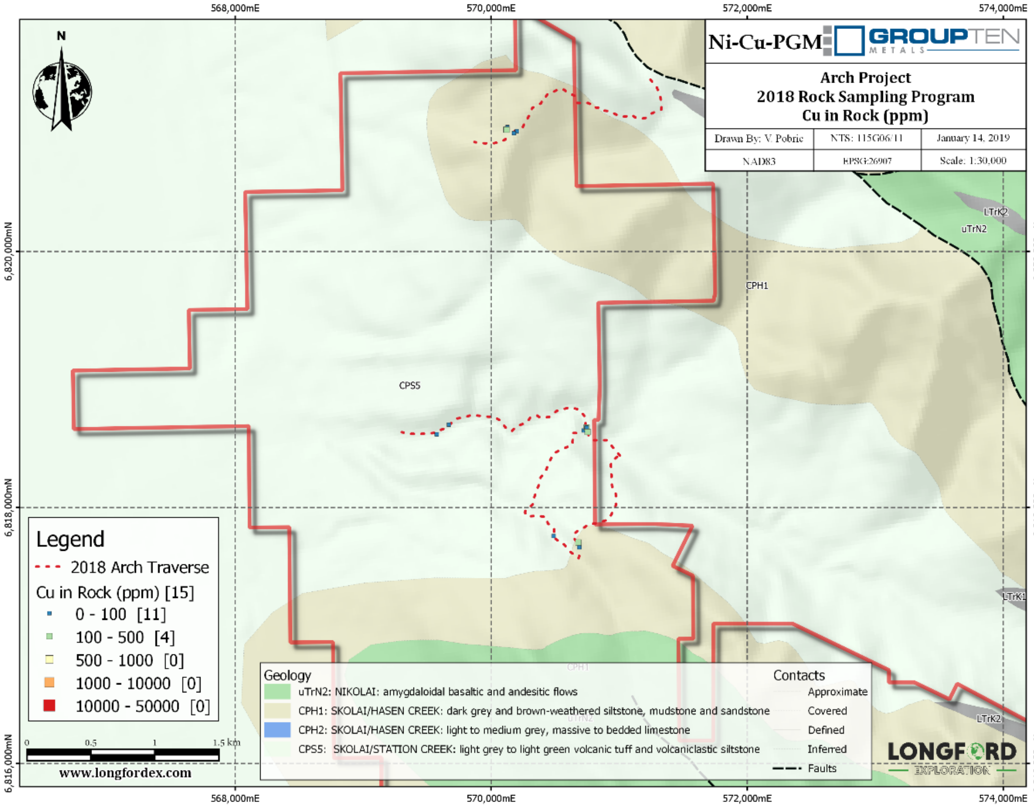


Figure 6.1 Arch area Cu in rock (ppm).

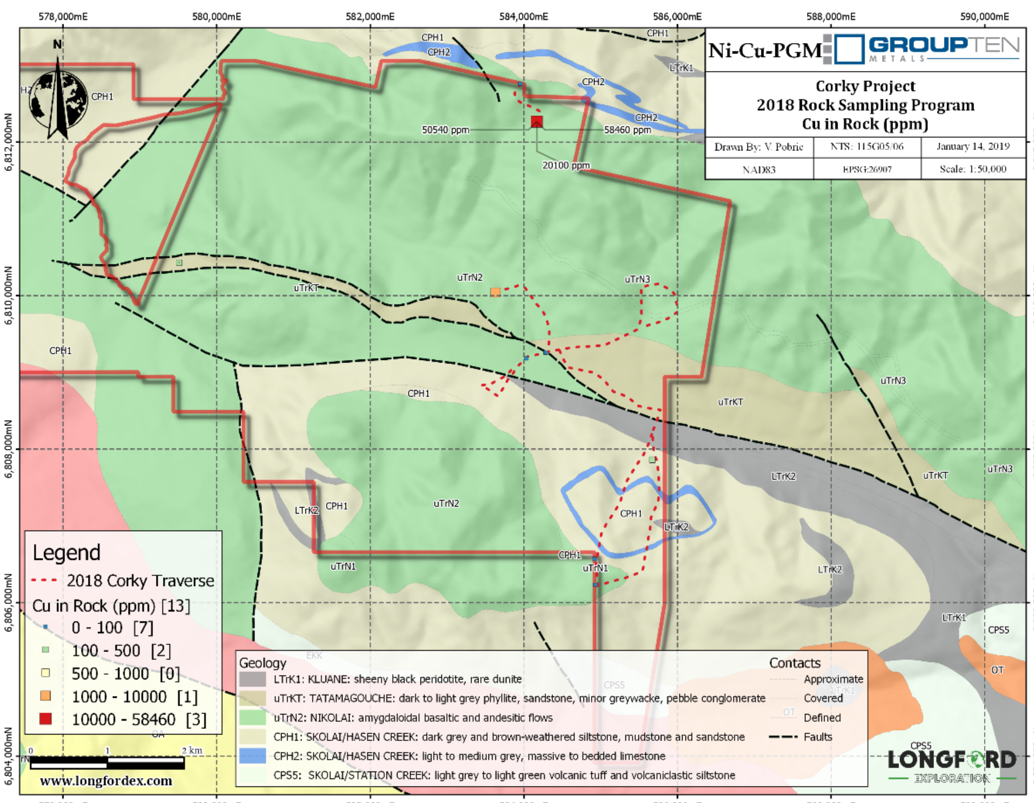


Figure 6.2 Corky area Cu in rock (ppm).

Table 6.2 Sample locations and descriptions from the Arch Creek area.

Sample Number	Easting	Northing	Zone Nad 83	Description	Cu (ppm)	Ni (ppm)	PGE + Au (ppb)
K736142	570753	6818591	7	Siltstone-Argillite	113	41	36
K736056	570748	6818612	7	Shale	76	51	41.5
K736057	570722	6818602	7	Peridotite (Dunite)	97	97	43
K736058	570745	6818625	7	Shale	242	48	79.5
K736059	570745	6818625	7	Shale	50	49	37.5
K736060	570745	6818625	7	Shale	70	46	37.5
K736069	570200	6820940	7	Gabbro	85	6	3.5
K736070	570177	6820925	7	Listwanite	27	13	67.5
K736071	570126	6820972	7	Meta-gabbro	60	26	40.5
k736072	570119	6820952	7	Meta-gabbro	238	113	38
K736073	569669	6818647	7	Peridotite	97	103	42
K736074	569574	6818572	7	Serpentinite	51	10	3.5
K896601	570688	6817690	7	Gabbro	13	6	5.5
K896602	570680	6817727	7	Gabbro	158	7	23.5
K896603	570487	6817778	7	Hornblendite	3	25	7.5

Table 6.3 Rock sample locations and descriptions from samples collected on traverses at Upper Quill and Tatamagouche Creek area of the Corky property.

Sample Number	Easting	Northing	Zone Nad 83	Description	Cu (ppm)	Ni (ppm)	PGE + Au (ppb)
K736051	585671	6807861	7	gabbro	223	11	14.5
K736052	584282	6809258	7	brecciated shale	28	21	13.5
K736053	584282	6809258	7	brecciated shale	6	27	13.5
K736054	584033	6809184	7	shale/siltstone	10	29	11.5
K736055	583630	6810041	7	Mafic Volcanic	4603	26	25
K736061	584836	6806246	7	Crystal Tuff	46	31	9.5
K736062	584920	6806571	7	Lithic Tuff	86	37	22
K736063	583955	6812777	7	Gabbro	12	1	4.5
K736064	584167	6812267	7	Basalt	50540	42	38
K736065	584167	6812267	7	Basalt	20100	72	54
K736066	579512	6810430	7	Gabbro	61	234	15
K736067	579512	6810429	7	Honrnblendite	318	10	8.5
K736068	584167	6812267	7	Basalt	58460	39	35

Primary rock units in the area are the Lower Permian Station Creek and Hasen Creek Formations, and upper Triassic Nikolai volcanics. Outcrop exposure is < 5% in the uplands and the Station Creek Formation seen above Burwash Creek (Figure 6.3), consisted of andesite flows, tuffs, and agglomerates with inclusions of shale 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, 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 property.

Intrusive rocks of the Kluane Range Ultramafic Suite mainly peridotite and gabbro were seen in the lower Arch Creek canyon (Figure 6.4). Contacts of the sills are sheared and pyrite bands are common at the contact with Hasen Creek Formation shale. Diortie and gabbroic dykes and sills of the Maple Creek Intrusions are seen along the banks of Wade Creek. Quartz-carbonate veining and rusty weathering intervals around these dykes have minor malachite and chalcopyrite mineralization. Rock samples collected on the Arch area claim block recorded low analytical values.

Figure 6.3 Uplands on the Corky area above Burwash Creek.

On the Corky claim block rock samples from traverses above Burwash Creek and near Tatamagouche Creek generally produced low analytical values. Sample K736055 from an outcrop of green black Station Creek mafic volcanic rock with quartz carbonate veining and minor malachite recorded a copper value of 4603ppm. This sample is in the vicinity of the Tatamagouche fault, a northwest oriented feature shown on Figure 6.17.

Figure 6.4 Looking toward Donjek River showing the lower Arch Creek canyon.

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 6.5 & 6.6). 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).

Sample locations were recorded with a handheld GPS, tagged, photographed and sealed in a poly bag for delivery to Bureau Veritas Laboratories in Whitehorse, Yukon. 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).

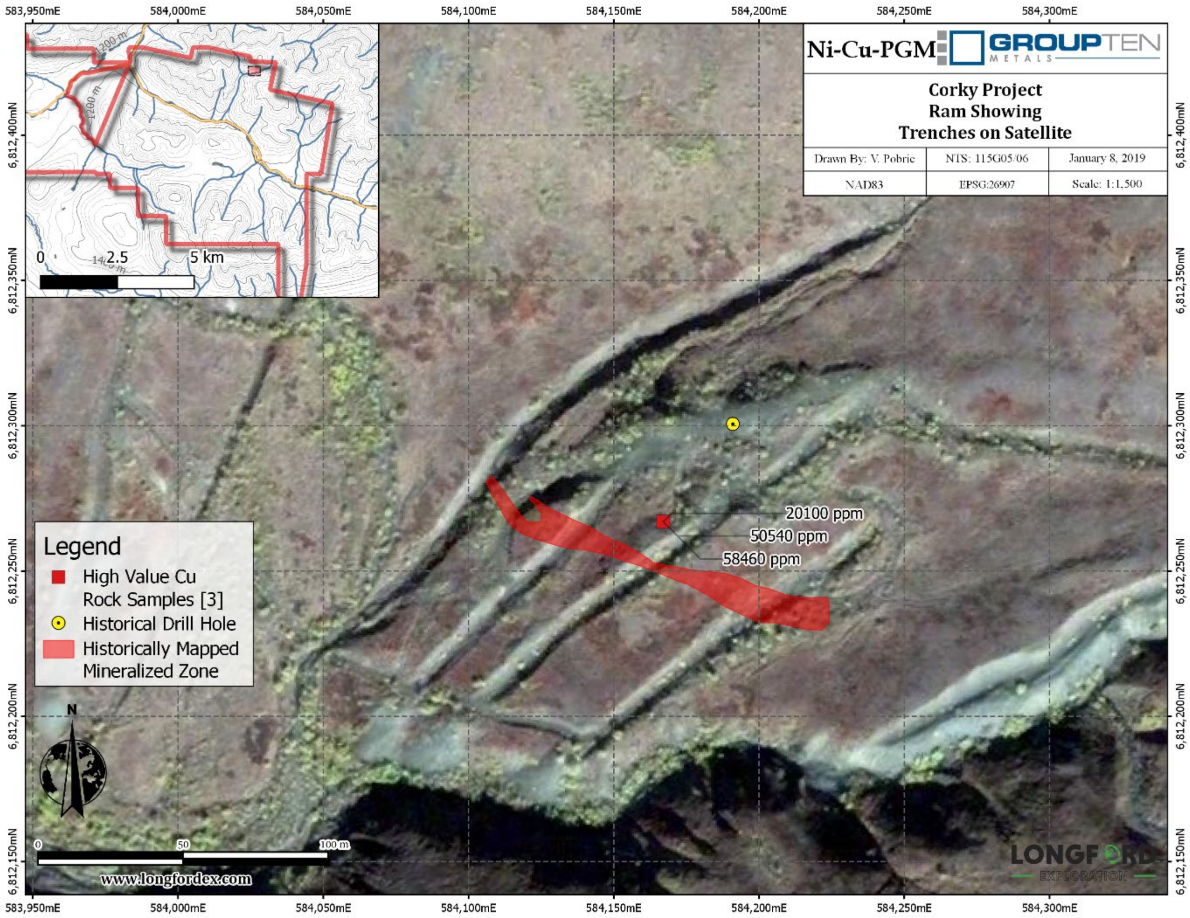


Figure 6.5 Ram showing trenches with historically mapped mineralized zone and drill hole.

Figure 6.6 Drill site on Upper Quill Creek from historic Ram showing.

6.3 Soil Geochemical Survey

Longford Field crews collected 167 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 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 copper, nickel, and gold, platinum and palladium in Figures 6.6 – 6.14. The Certificates of Analysis can be found in Appendix D.

Efforts were made to avoid north facing slopes, especially as June is early in the season, however permafrost was still an issue for retrieving good quality samples, especially in the Arch area and to a lesser extent in the Corky west area. 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.

On the Tobi claim block to the west of the Corky claim block soil sampling in the 2017 program identified two areas of anomalous soil geochemical values worth reviewing. 1) A copper geochemical anomaly on the slope north of the confluence of Wade and Maple Creeks at the 1200m elevation in an area underlain by Nikolai volcanic rocks in contact with Hasen Formation sediments. 2) A nickel geochemical anomaly on contour lines at 1150m elevation above upper Maple Creek, below an ultramafic sill mapped on the northern margin of the claims and close to the Callinan occurrence. Both soil anomalies are coincidental with aeromagnetic highs and proximal to mafic and ultramafic rocks.

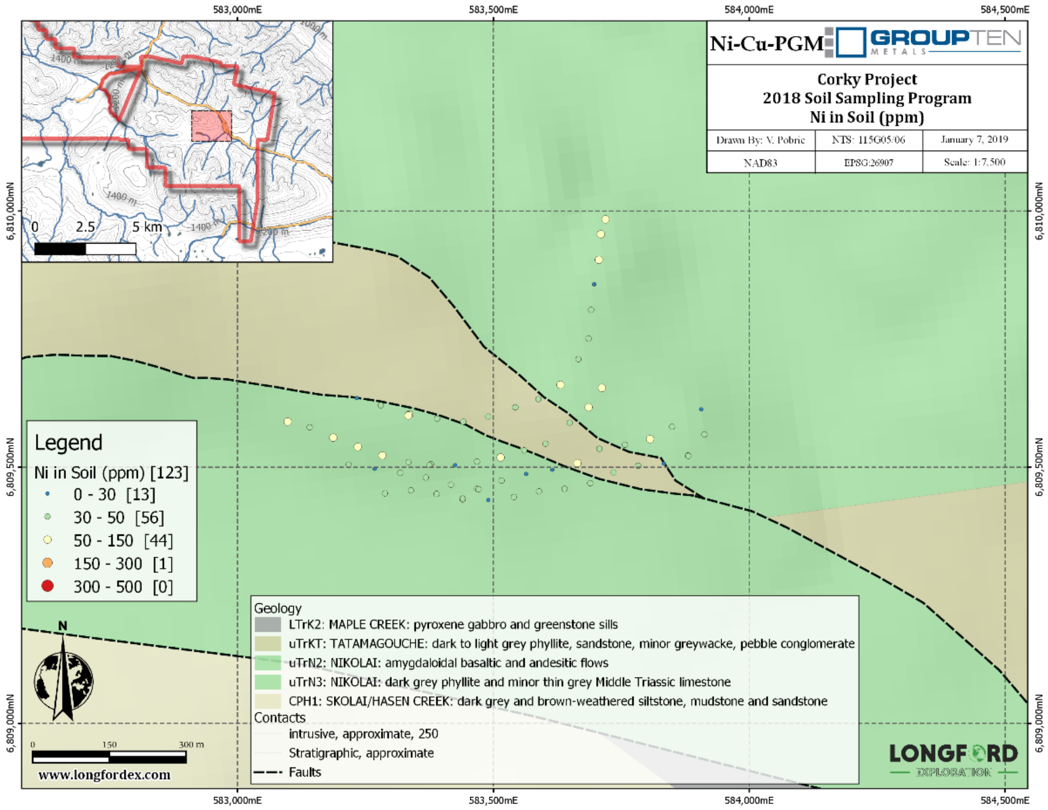


Figure 6.7 Corky East Ni in soil (ppm).

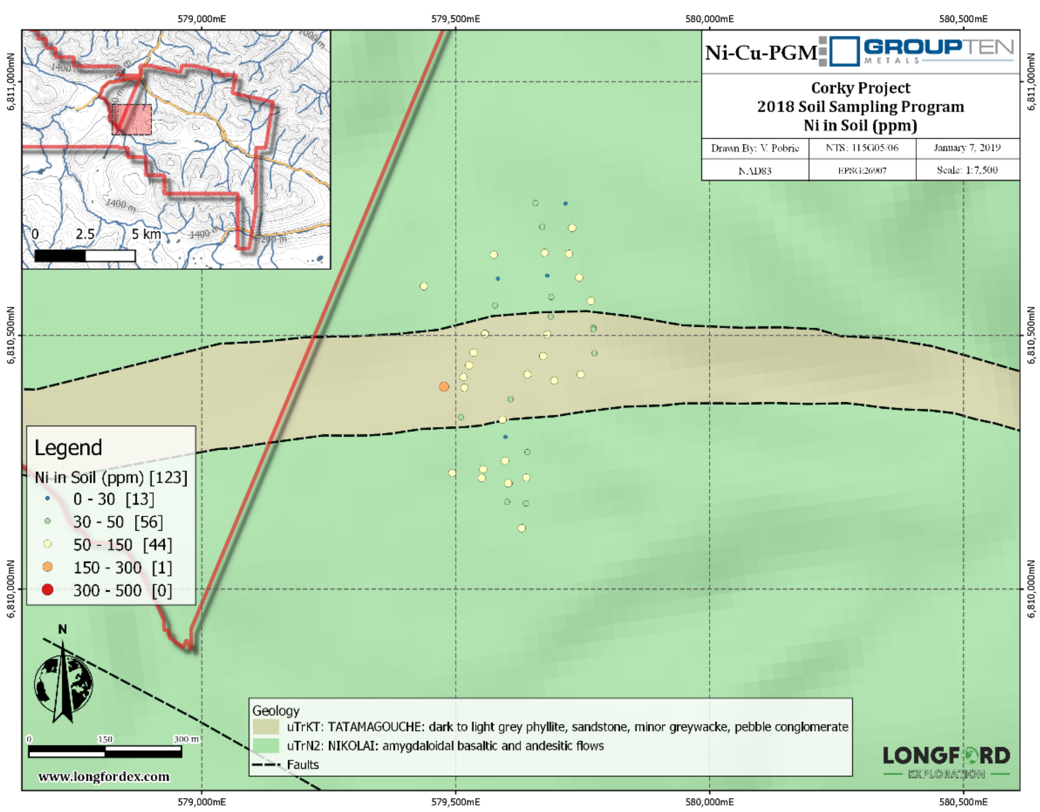


Figure 6.8 Corky West Ni in soil (ppm).

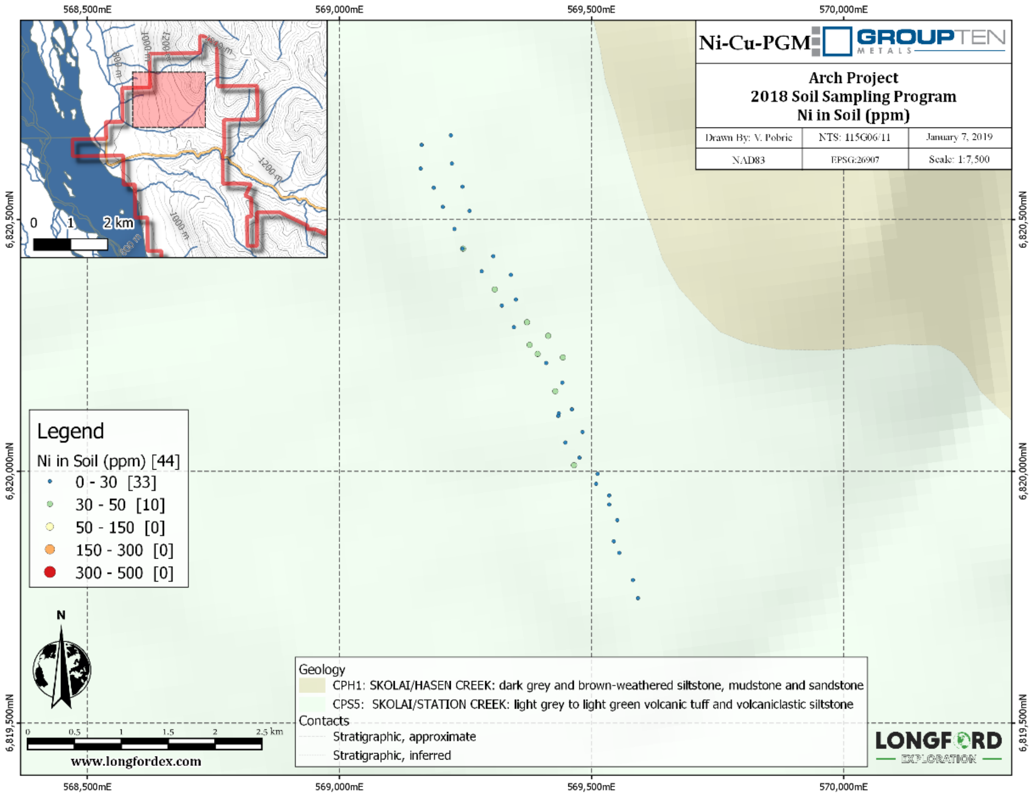


Figure 6.9 Arch Ni in soil (ppm).

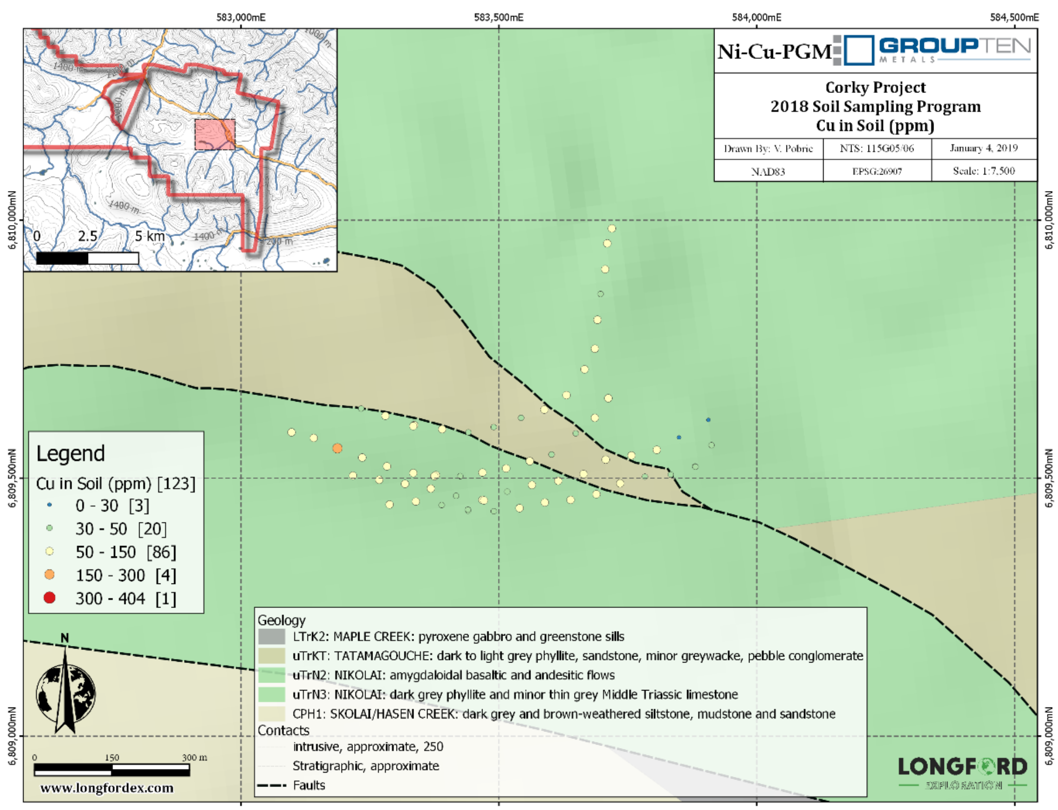


Figure 6.10 Corky East Cu in soil (ppm).

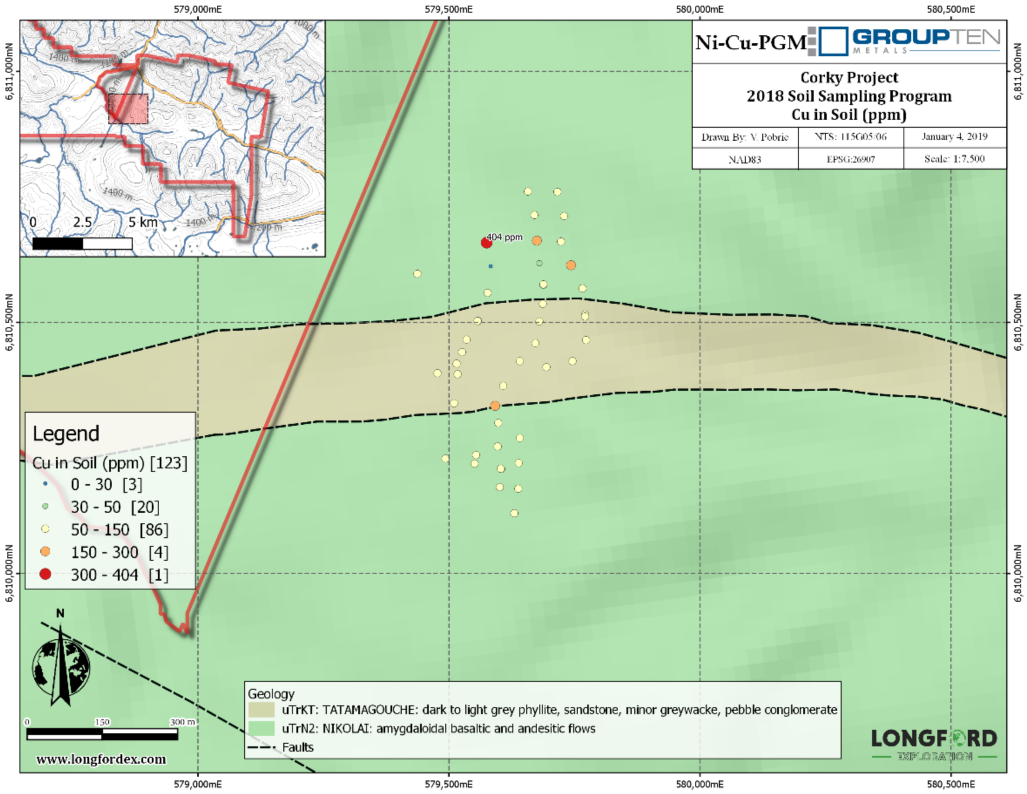


Figure 6.11 Corky West Cu in soil (ppm).

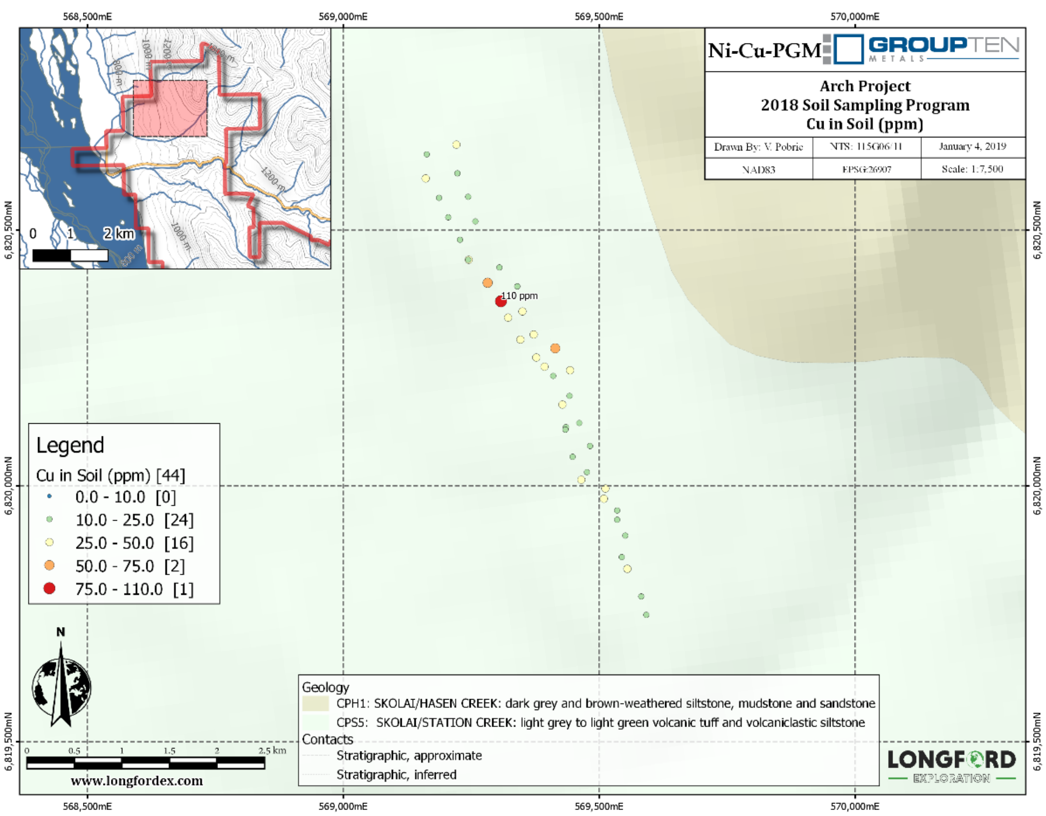


Figure 6.12 Arch Cu in soil (ppm).

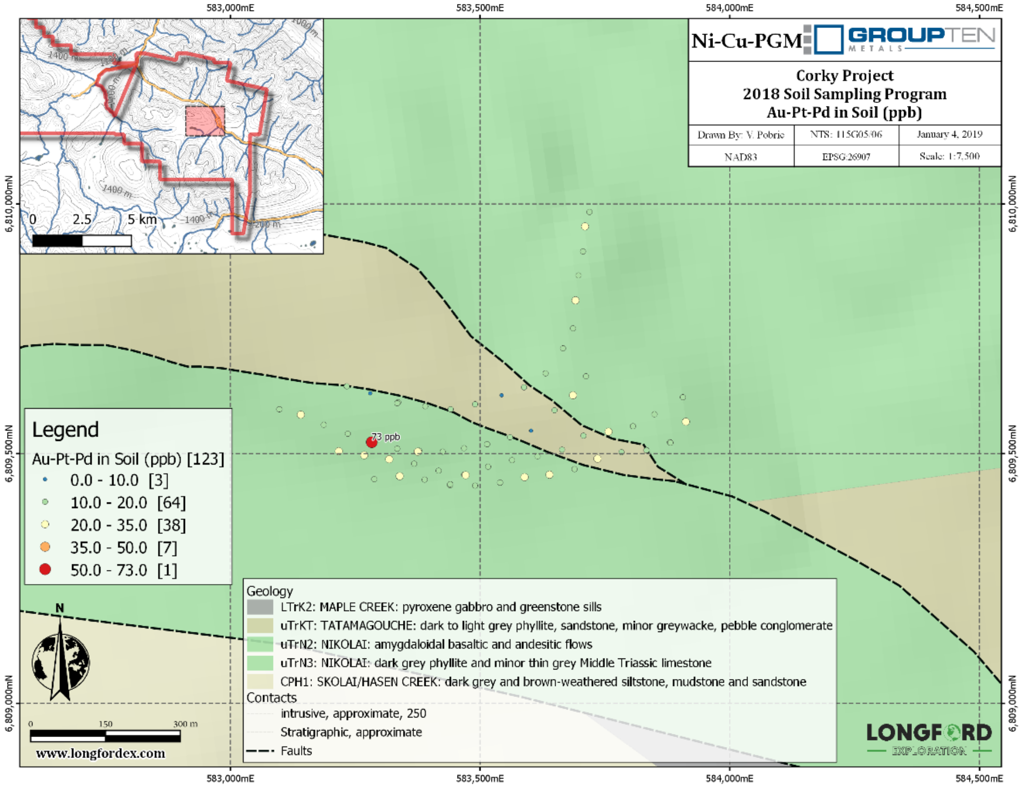


Figure 6.13 Corky East Au+Pt+Pd in soil (ppb).

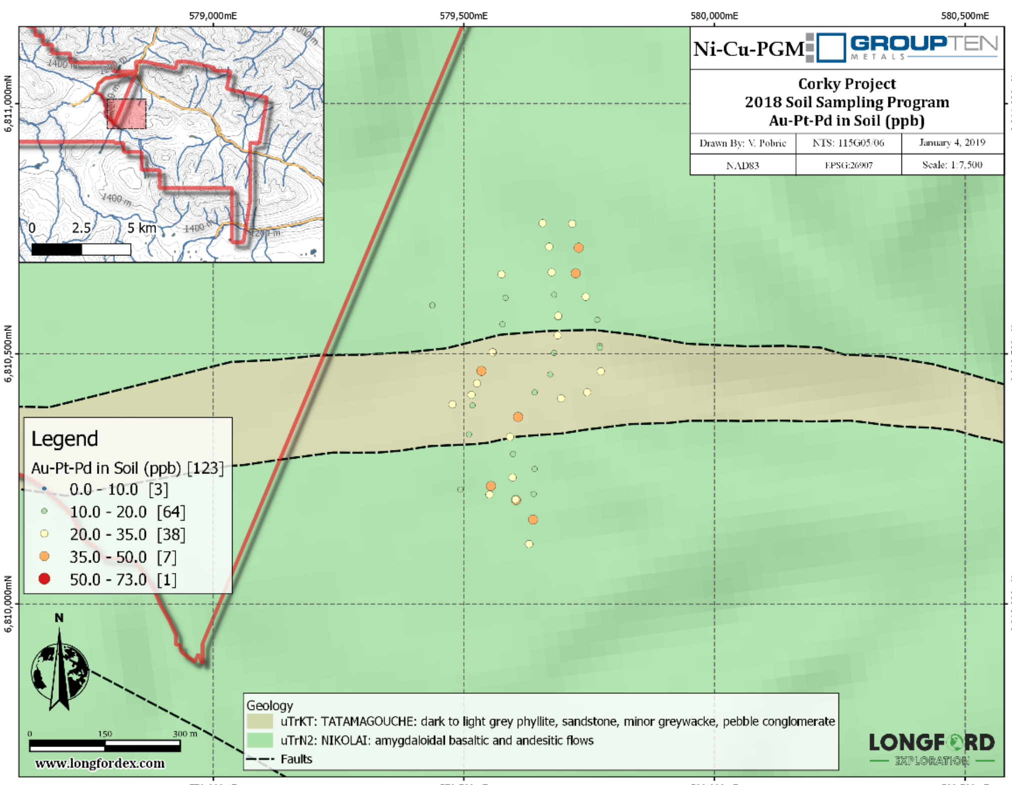


Figure 6.14 Corky West Au+Pt+Pd in soil (ppb).

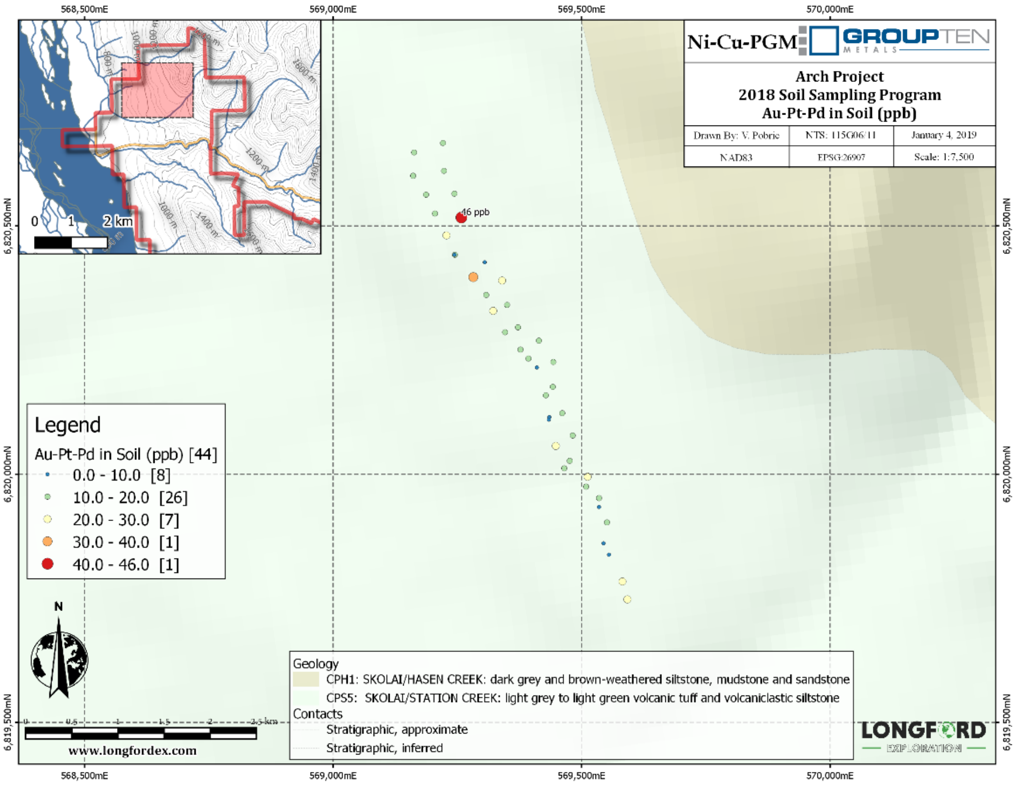


Figure 6.15 Arch Au+Pt+Pd in soil (ppb).

6.4 Geophysical Interpretation

The re-processing of the airborne magnetic data for the 115 G Map Sheet revealed anomalies which were the subject of the 2018 program. 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. 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.

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).

On the Corky 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 dioritic inclusions. No ultramafic rocks were found in this area and the copper mineralization exposed at the historic Ram showing occurs in foliated basalts which don't show a correlation with magnetic anomalies on the geophysical maps.

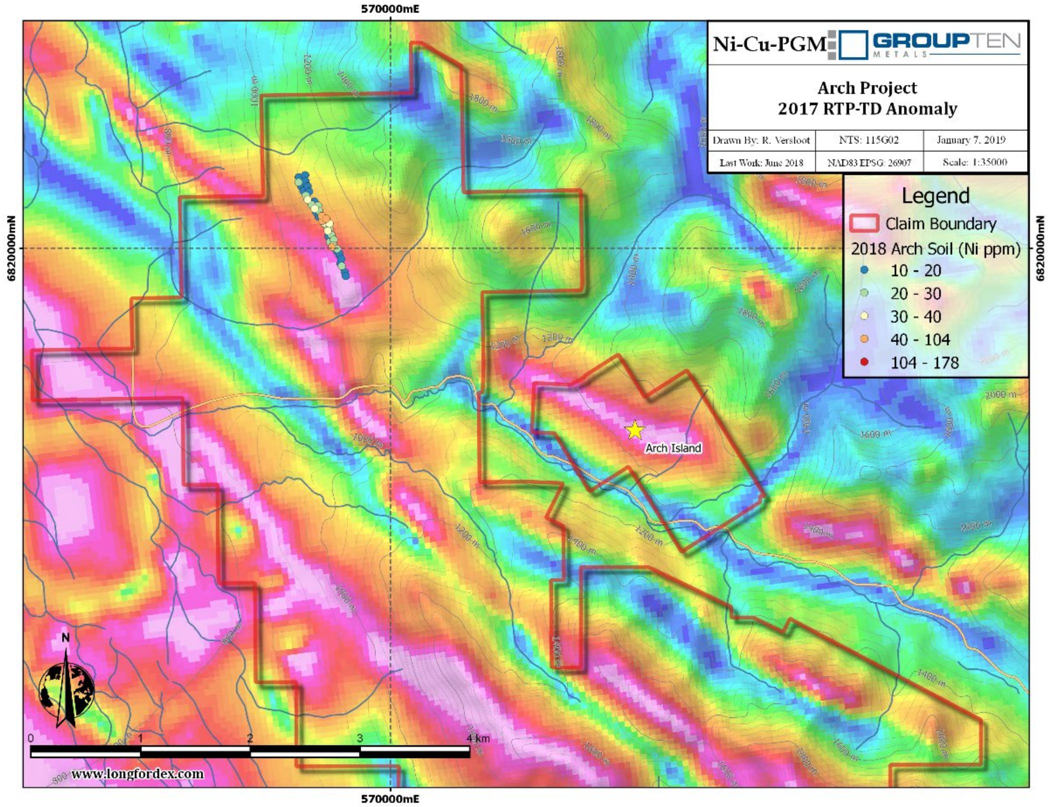


Figure 6.16 Arch aeromagnetic anomaly with soil survey extent.

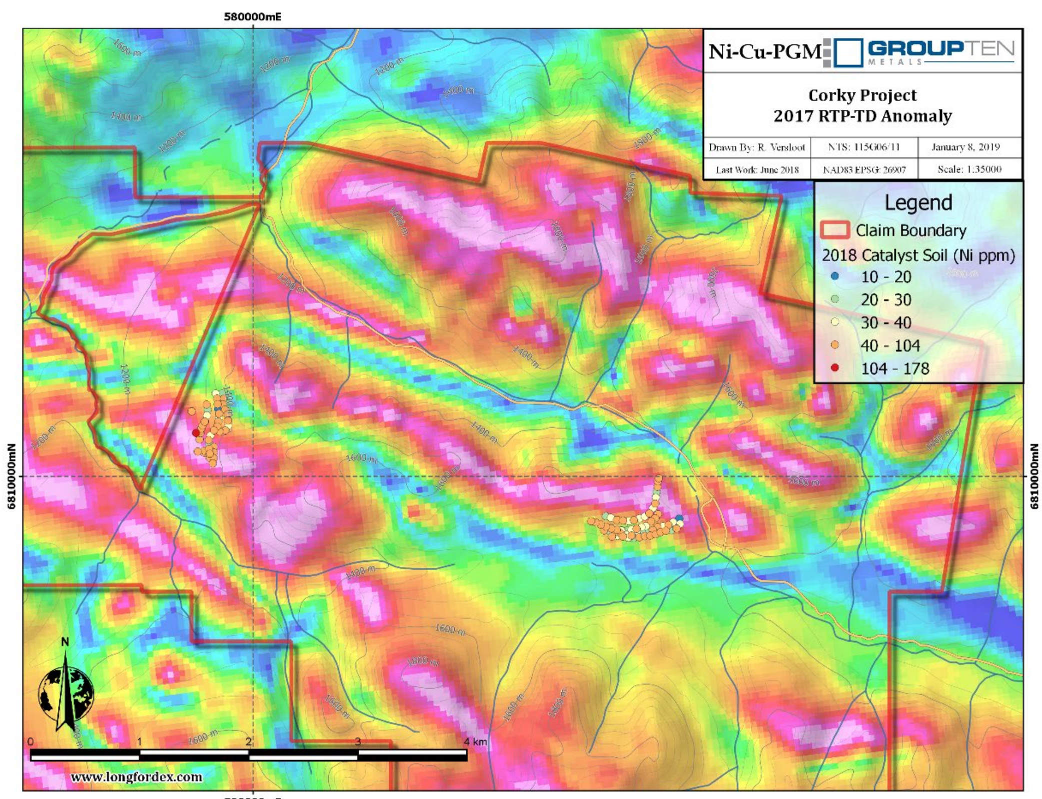


Figure 6.17 Corky aeromagnetic anomaly with soil survey extents.

Historic ground and airborne geophysical surveys on the Tobi claim block to the west of the Corky block from 1955 to 2016 show linear EM conductors and aeromagnetic anomalies trending northwest across the area. The conductors are not continuous across the map; they are interrupted and displaced with respect to each other. Aeromagnetic surveys also show distinctive linear magnetic feature trending across the area that are coincident with outcrops of Nikolai volcanics, Kluane Range quartz diorite and potential ultramafic sills. The Wade showing along the lower canyon of Wade Creek lies proximal to the western extent of a curvilinear magnetic high anomaly, suggestive of potential nickel-copper-PGE occurrence along this horizon (Pautler, J. 2017).

Northwest trending linear EM conductors are prospective for mineralization in possible ultramafic sills, along the Station Creek volcanic and Hasen sediment contact and along faults or folds. They parallel the dominant structural trend and are somewhat coincident with linear magnetic highs.

7 Conclusions

The 2018 exploration program targeted aeromagnetic anomalies defined by the reinterpreted aeromagnetic maps. Traverses located the Ram showing on upper Quill Creek and historic results along with new rock sample assays indicate potential for substantial copper mineralization in the Nikolai basalts. Further exploration consisting of geophysical survey, geological mapping and sampling is warranted on the Ram showing.

Elsewhere contour soil sampling across aeromagnetic and geological targets in 2018 resulted in a few elevated copper and precious metal values. Combined with 2017 results there are several anomalies that require follow up: 1) A copper geochemical anomaly on the slope north of the confluence of Wade and Maple Creeks at the 1200m elevation in an area underlain by Nikolai volcanic rocks in contact with Hasen Formation sediments. One rock sample (2017 sample #143306) above the anomaly assayed 23990ppm Cu, 325ppb Au from a malachite stained gabbro. 2) A nickel geochemical anomaly on contour lines at 1150m elevation above upper Maple Creek, below an ultramafic sill mapped on the northern margin of the claims and close to the Callinan occurrence. One rock sample of peridotite from this area returned an elevated nickel value of 1597ppm (2017 sample# 116924). Both soil anomalies are coincidental with aeromagnetic highs and proximal to mafic and ultramafic rocks. 3) Prominent gossan zones on the west side of the Tobi block above the Donjek River. 4) Geochemical anomalies on west Maple Peak and in the upper Maple Creek area. 5) Traverses on upper Tatamagouche Creek to check copper value obtained in 2018 rock sample.

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 with weak geochemical results. The soil samples were considered low quality and did not adequately test this anomaly.

Lower elevations of the Arch Creek canyon were accessed briefly in 2018 and several rock samples were collected with no significant results. Potential ultramafic rocks exposed along the canyon walls were not accessed and have not been sampled. 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.

8 General Recommendations

8.1 Logistical

- Compile and evaluate previous work on the property area.
- Prepare summary maps to determine optimal areas for future work programs.

8.2 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.
- All geophysical targets from the airborne surveys should be considered, even if they are of lesser strength.
- Consider drones or unmanned aerial vehicles (UAVs) for magnetic surveys over inaccessible terrain. UAVs fly closer to the ground and have a tighter line spacing than a helicopter or fixed wing survey and can cover steeper terrain than a ground magnetic survey. At the present time, UAVs cannot carry the additional weight of a VLF-EM.

8.3 Soil and Silt Sampling

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

8.4 Prospecting, Mapping, Rock Sampling

- Continue mapping and sampling of the uplands, Maple Peak and the slopes above the Donjek River focussing on gossan zones, aeromagnetic anomalies and areas of previous results.

8.5 Budget

Costs and assumptions used in budget: Phase I $100,000:

- Compilation, digitization, map making and interpretation of all available historic data $15,000
- Soil and silt geochemistry $20,000
- Geological mapping, prospecting and sampling, detailed mapping and sampling to investigate structural features and ultramafic and gabbroic rocks. $30,000
- Geophysics, HLEM or IP, Mag & EM surveys $35,000

9 References

Aurora Geosciences, (2017): Open File 2017-36, Re-processing of airborne magnetic data for NTS 115G.

Campbell, S.W. (1981): Geology and Genesis of Copper Deposits and associated Host Rocks in and near the Quill Creek Area, UBC Thesis.

Carne, R.C., (2003): Metallogeny of the Kluane Ranges Southwest Yukon Territory. Archer, Cathro & Associates (1981) Limited for Yukon Regional Mineral.

Cukor, V., (1970): Preliminary evaluation report on the Arch Creek area for Kluane Nickel Mines Ltd. by H. Sevensma Consultants Ltd.

Davidson, G.S. (1988): Assessment Report on the SF 1-32 mineral claims; submitted by Harjay Exploration Ltd., Yukon Ministry of Energy Mines and Resources, assessment report 092578.

Davidson, G.S. (2018): Prospecting, Geological and Geochemical Survey Report On the Tobi Property for Group Ten Metals Inc., 2017 field program.

Duncan R.A. and Tucker, T.L.(2002a): 2001 Assessment report on the Wolv 2,4,6,8,10,12,14,16,27 and 28; submitted by Expatriate Resources Ltd., Yukon Ministry of Energy Mines and Resources, assessment report 094253.

Duncan R.A. and Tucker, T.L. (2002b): 2001 Assessment report on the Don 1-6, 11-19, 29-34; submitted by Expatriate Resources Ltd., Yukon Ministry of Energy Mines and Resources, assessment report 094250.

Eaton, W.D. (1988): Summary report on 1988 exploration Arch Property (Barny, Mus, Amp and Eugene claims); submitted by Pak-Man Resources Inc, Rockridge Mining Corporation and Kluane Joint Venture, Yukon Ministry of energy Mines and Resources, assessment report 092645 and YMIP report 88-014.

Hilker, R.G. (1967): Geological mapping, magnetometer and electromagnetic survey, Arch Creek area, Kluane Mountains.

Hulbert, L.J. (1997): Geology and metallogeny of the Kluane mafic-ultramafic belt, Yukon territory, Canada: Eastern Wrangellia – a new Ni-Cu-PGE metallogenic terrane; Natural Resources Canada, Geological Survey of Canada, bulletin 506, 265 pages.

Israel, S. (2004): Geology of southwestern Yukon; Yukon Ministry of Energy Mines and Resources, Open file 2004-16, 1:250,000 scale.

Israel, S. and Van Zeyl, D.P.(2004): Preliminary geological map of the Quill Creek map area, (parts of NTS 115G/5, 6 and 12), southwest Yukon; Yukon Ministry of Energy Mines and Resources, Open File 2004-20, 1:50,000 scale.

James, D. (2014): Donjek-Arch Project Geochemical, Geophysical and Geological Assessment Report; submitted by Bill Harris, Yukon Ministry of Energy Mines and Resources, Yukon assessment report.

James, D. (2016): Donjek-Arch Project Geophysical Interpretation Assessment Report; for Group Ten Metals Inc., Yukon Ministry of Energy Mines and Resources, Yukon assessment report.

McCraken, T. (2011): Technical report on the Wellgreen Ni-Cu-Pt-Pd Project, Yukon Canada; submitted by Prophecy Resource Corp. and Pacific Coast Nickel Corp., Wellgreen Platinum Ltd.

Newmont Mining Corp. (1967): Assessment file 013065, map titled Outcrop Geology Ram Creek Area Quill Creek Copper Mines Ltd.

Pautler, J.M. (2012): Geological and geochemical assessment report on the AR Project. Report for Tom Morgan. Yukon assessment report.

Pautler, J.M. 2013: Geological and geochemical assessment report on the Donjek Project, Yukon Territory. Report for Bill Harris. Yukon assessment report.

Pautler, J.M. (2013): Geological and geochemical assessment report on the Arch Project, Yukon Territory. Report for Bill Harris and Tom Morgan. Yukon assessment report.

Pautler, J.M. (2017): Geophysical and Geochemical Report on the Tobi Project. Report for 41376 Yukon Inc.

Pautler, J.M. (2017): YMEP proposal for a target evaluation program on the Tobi Project. Report for 41376 Yukon Inc.

Power, M. (2000): An interpretation of geophysical data from the Donjek Properties, Kluane area, Yukon Territory; unpublished company report, Expatriate Resources Ltd.

Simpson, R.G., (2014): 2014 Mineral Resource Estimate on the Wellgreen PGM-Ni-Cu Project. Prepared by GeoSim Services Inc. for Wellgreen Platinum Ltd. Effective date September 8, 2014. Available at www.sedar.com.

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.

10 Statement of Qualifications

I, Graham Davidson, with business address at 53 Grandin Woods, St. Albert, Alberta T8N 2Y4 hereby certify that:

- I am a practising Geologist, resident in St. Albert, Alberta;
- I am a member in good standing with Association of Professional Engineers, Geologists and Geophysicists of Alberta (# 42308);
- I hold a Bachelor of Science (Honours) degree in Geology (1982) from the University of Western Ontario;
- I have practiced my profession as a geologist since graduation;
- I have no direct or indirect interest in the Arch-Corky Project, which is the subject of this report.
- I have based this report on:
    - Field work conducted by exploration contractors under my direct supervision
    - Historical research into past operations on and adjacent to the subject claims
- I consent to the use of this report for any Filing Statement, Statement of Material Facts, or support document.

G. S. Davidson P.Geol.

APPENDIX A: Statement of Expenditures

DATE: July 25, 2018

LONGFORD EXPLORATION

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 2018

Personnel			Days	Rate	Line Total
	Pgeo - Davidson	June 18 & 20	2	$ 600.00	$ 1,200.00
	Geologist - Versloot		2	$ 500.00	$ 1,000.00
	Junior Geologist - Ryan		2	$ 450.00	$ 900.00
	Student Geologist - Martinolich		2	$ 300.00	$ 600.00
		total man days	8	Cat. Total	$ 3,700.00
Food and Lodging			Units	Rate	Line Total
	Food and Groceries		8	$ 55.00	$ 440.00
	Lodging	Copper Joe Cabin	2	$ 250.00	$ 500.00
				Cat. Total	$ 440.00
Transportation			Units/Days	Unit Price	Line Total
	Mob/Demob		1	$ 1,000.00	$ 1,000.00
	Truck	1 ton with safety and recovery gear	6	$ 140.00	$ 840.00
	Trailer	18' 7000lb covered trailer	4	$ 50.00	$ 200.00
	Fuel	per km for truck, km	500	$ 0.55	$ 275.00
	Heli		2.3	$ 975.00	$ 2,242.50
	Jet Fuel		253	$ 1.80	$ 455.40
				Cat. Total	$ 5,012.90
Equipment Rentals			Units	Unit Price	Line Total
	Electronics Kit	Radios, Sat phones, GPS, per man day	8	$ 20.00	$ 160.00
	portable XRF with Stand	Per Day	0	$ 177.42	$ -
				Cat. Total	$ 160.00
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	$ 3.00	$ 24.00
				Cat. Total	$ 144.00
Analytical			Units	Unit Price	Line Total
	Analysis-soil	SS80, AQ300 FA330	44	$ 30.25	$ 1,331.00
	Analysis-rock	PRP70-250, FA330, AQ300	16	$ 34.25	$ 548.00
				Cat. Total	$ 1,879.00
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	$ 13,835.90
				Management 15%	$ 2,075.39
				SUB TOTAL	$ 15,911.29
				GST 5 %	$ 795.56
				Total	**$ 16,706.85**

DATE: July 25, 2018

LONGFORD EXPLORATION

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 2018

Personnel			Days	Rate	Line Total
	Pgeo - Davidson		2.5	$ 600.00	$ 1,500.00
	Geologist - Versloot		2.5	$ 500.00	$ 1,250.00
	Junior Geologist - Ryan		2.5	$ 450.00	$ 1,125.00
	Student Geologist - Martinolich		2.5	$ 300.00	$ 750.00
		total man days	10	Cat. Total	$ 4,625.00
Food and Lodging			Units	Rate	Line Total
	Food and Groceries		10	$ 55.00	$ 550.00
	Lodging	Copper Joe Cabin	3	$ 250.00	$ 750.00
				Cat. Total	$ 550.00
Transportation			Units/Days	Unit Price	Line Total
	Mob/Demob		1	$ 1,000.00	$ 1,000.00
	Truck	1 ton with safety and recovery gear	7.5	$ 140.00	$ 1,050.00
	Trailer	18' 7000lb covered trailer	5	$ 50.00	$ 250.00
	Fuel	per km for truck, km	230	$ 0.55	$ 126.50
	Heli		2.8	$ 975.00	$ 2,730.00
	Jet Fuel		253	$ 1.55	$ 392.15
				Cat. Total	$ 4,548.65
Equipment Rentals			Units	Unit Price	Line Total
	Electronics Kit	Radios, Sat phones, GPS, per man day	10	$ 20.00	$ 200.00
	portable XRF with Stand	Per Day	0	$ 177.42	$ -
	Fly Camp	4 person setup, per man day	0	$ 40.00	$ -
				Cat. Total	$ 200.00
Consumable			Units	Unit Price	Line Total
	Sample Bags	per man day	10	$ 10.00	$ 100.00
	Flagging Tape	per man day	10	$ 5.00	$ 50.00
	Office Consumables	per man day	10	$ 3.00	$ 30.00
				Cat. Total	$ 180.00
Analytical			Units	Unit Price	Line Total
	Analysis-soil	SS80, AQ300 FA330	123	$ 30.25	$ 3,720.75
	Analysis-rock	PRP70-250, FA330, AQ300	13	$ 34.25	$ 445.25
				Cat. Total	$ 4,166.00
Pre / Post Field			Units	Unit Price	Line Total
	GIS and Planning		10	$ 150.00	$ 1,500.00
	Assessment Report prep and work filing		1	$ 2,500.00	$ 2,500.00
				Cat. Total	$ 4,000.00

Estimated Sub Total	$ 18,269.65
Management 15%	$ 2,740.45
SUB TOTAL	$ 21,010.10
GST 5 %	$ 1,050.50
Total	$ 22,060.60

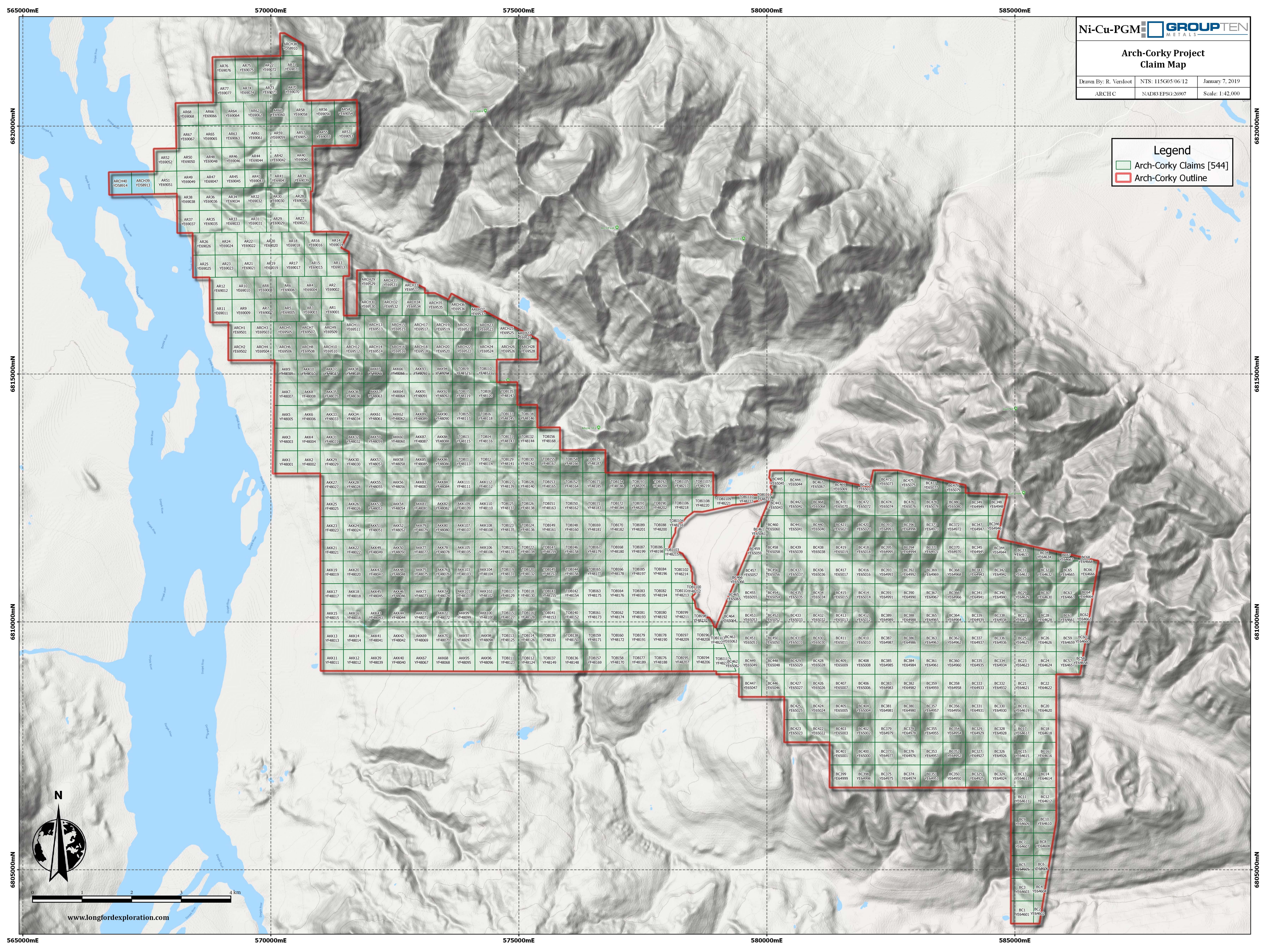
APPENDIX B: Detailed Descriptions of Rock Samples

Site_ID	Sample_ID	mE_NAD83	mN_NAD83	Elevation	Date	Lithology	Colour	Alteration	Description
COR-01	K736051	585671	6807861	1408	June 17th, 2018	gabbro	dark grey-green	limonite, chloritic	dark grey-green, fine -med grained matrix with some visible coarse grained phenocrysts of feldspar, hornblende and olivine; chloritic alteration; trace veins of calcite and trace pyrhotite.
COR-05	K736052	584282	6809258	1399	June 17th, 2018	brecciated shale	black-grey	limonite	Quartz carbonate matrix around black shale, fine grained pyrite and pyrhotite visible within the matrix (disseminated to massive). Euhedral pyrite crystals were observed.
COR-05	K736053	584282	6809258	1399	June 17th, 2018	brecciated shale	black-grey	limonite	Quartz carbonate matrix around black shale, fine grained pyrite and pyrhotite visible within the matrix (disseminated to massive). Euhedral pyrite crystals were observed.
COR-07	K736054	584033	6809184	1412	June 17th, 2018	shale/siltstone	light-med grey	limonite	layered interbeds of shale and siltstone and tuff material. Possible argillite brecciated by swarms of calcite veins and veinlets. Small localized lenses of massive pyrite.
COR-11	K736055	583630	6810041	1516	June 17th, 2018	Mafic Volcanic	green-black		green-black mafic volcanic with carbonate veining, trace amounts of malachite was observed along the wall interface of the carbonate vein.
ARC-12	K736056	570748	6818612	1026	June 18th, 2018	Shale	Black	Limonite	Black shale with massive sukphide lenses and bands (ASPY); also contains massive sulphide cobbles occurring slong contact of the ultramafic sill.
ARC-15	K736057	570722	6818602	1047	June 18th, 2018	Peridotite (Dunite)	green-black	serpentine	Black, med grained olivine phenocrysts, waxy appearance, trace PO. Visible carbonate veining in the general vicinity. Serpentine alteration on fracture faces.
ARC-17	K736058	570745	6818625	1026	June 18th, 2018	Shale	Black	limonite	Black shale with graphitic partings, 2cm bands of massive, fine grained pyrite.
ARC-18	K736059	570745	6818625	1011	June 18th, 2018	Shale	Black	Limonite	Black shale with bands and lenses of PY, ASPY and trace CPY/Azurite.
ARC-18	K736060	570745	6818625	1011	June 18th, 2018	Shale	Black	Limonite	Black shale with bands and lenses of PY, ASPY and trace CPY/Azurite.
COR-19	K736061	584930	6806233	1830	June 19th, 2018	Crystal Tuff	light-greyL		light grey ash matrix, med grained, angular crystal fragments of plag, quartz, and trace amounts of very fine blue-grey metallic sulphide (Bornite?)
COR-21	K736062	584920	6806571	1790	June 19th, 2018	Lithic Tuff	med-dark-grey	Limonite	med-dark grey, sub-angular, lithic fragments, med-coarse grained. Some areas appear to be more tuffaceous and some areas appear to be more siliceous.
COR-23	K736063	583952	6812763	1825	June 19th, 2018	Gabbro	green	Limonite	green, fine-med grained phenocrysts (olivine, plag), visible calcite veining, and is partially silicified.
COR-27	K736064	584167	6812267	1652	June 19th, 2018	Ultm/Mafic	Black	talc	Appears to be a contact between 2 rock units, possibly an Ultm and mafic. The Ultm unit has talc alteration, fresh surfaces are a fine grained black (peridotite) and has some magnesite veining. The basaltic unit is black with visible phenocrysts of olivine and hornblende, possibly a basaltic flow? Along the contact boundary between these two units malachite was observed.

COR-27	K736065	584167	6812267	1652	June 19th, 2019	Ultm/Mafic	Black	talc	Appears to be a contact between 2 rock units, possibly an Ultm and mafic. The Ultm unit has talc alteration, fresh surfaces are a fine grained black (peridotite) and has some magnesite veining. The basaltic unit is black with visible phenocrysts of olivine and hornblende, possibly a basaltic flow? Along the contact boundary between these two units malachite was observed.
COR-28	K736066	579512	6810430		June 19th, 2018	Gabbro	green		Fine grained phenocrysts of olivine, hornblend and plag.
COR-29	K736067	579512	6810429		June 19th, 2018	Honrnblendite	black		coarse grained hornblend phenocrysts
COR-30	K736068	584167	6812267		June 19th, 2018	Ultramafic	BLack	talc/limonite	Appears to be a contact between 2 rock units, possibly an Ultm and mafic. The Ultm unit has talc alteration, fresh surfaces are a fine grained black (peridotite) and has some magnesite veining. The basaltic unit is black with visible phenocrysts of olivine and hornblende, possibly a basaltic flow? Along the contact boundary between these two units malachite was observed.
ARC-33	K736069	570200	6820940	1490	June 20th, 2018	Gabbro	green	Limonite	green, fine-med grained gabbro. Visible phenocrysts of olivine, plag, and honrblenbe, trace sulphides (dissemninated), some epidote alteration and carbonate veining.
ARC-34	K736070	570177	6820925	1477	June 20th, 2018	Listwanite	green	Limonite	greenish-white, med grained phenocrysts of magnesite, some trace sulphides (disseminated). Viewed at the top of the hill just above this site (altered ultramafic), PY + PO 2%
ARC-35	K736071	570126	6820972	1448	June 20th, 2018	Meta-gabbro	green	Chlorite	Heavily chloritized and shows foliation within the fabric of the rock, trace sulphides observed (PY 2-5%), shows some schistocity . Possibly a meta-gabbro
ARC-36	k736072	570119	6820952	1431	June 20th, 2018	Meta-gabbro	Green	chlorite	green, fine to med grained phenocrysts of olivine, honrnblende, and trace sulphides (PO + PY 2%), some visible pyrite occurrences along fractures, some foliation but less altered and deformed than rocks at site #34
ARC-37	K736073	569669	6818647	899	June 20th, 2018	Peridotite	green-black	limonite	in the lower canyon, arch creek; green-black, med-coarse grained, subhedral-euhedral, trace PY, some quartz filled veins.
ARC-38	K736074	569574	6818572	873	June 20th, 2018	Serpentinite	green	serpentine	Serpentinized ultramafic, trace PO, source possibly 40 m upslope, no fresh surfaces were observed.
ARC-39	K896601	570688	6817690		June 18th, 2018	Gabbro	green		green, fine grained, gabbro with trace sulphide. Near Station/Hasen contact.
ARC-40	K896603	570487	6817778		June 18th, 2018	Hornblende	green		green, coarse grained, massive hornblende. Contact between Hasen and Station creek
ARC-55	K896602	570680	6817727	1162	June 18th, 2018	Gabbro	Black		Black, medium grained gabbro, hornblend and plag phenocrysts, some quartz-carbonate veins present
ARC-56	K736142	570753	6818591		June 18th, 2018	Siltstone-Argillite	Blue-grey		Blue-grey, fine grained, siltstone to argillite, bands and lenses of massive sulphides observed in float found in the heart of the Arch creek canyon bed. ASPY+PY, CPY and Bornite (trace) about 5 to 10 %

ARC-57	K736143	571187	6818715		June 18th, 2018	Peridotite	Black	Serpentine	Black, fine to medium grained, visible phenocrysts of olivine and pyroxene, serpentine alteration of fractured surfaces, trace sulphides PY+PO (disseminated)

APPENDIX C: 2018 Claim Map


Ni-Cu-PGM
Arch-Corky Project
Claim Map
Drawn By: R. Versloot
NTS: 115G05/06/12
January 7, 2019
ARCH C
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Scale: 1:42,000
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Arch-Corky Claims [544]
Arch-Corky Outline
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www.longfordexploration.com

APPENDIX D: 2018 Assay Certificates

See attached. Note: this includes soils from Catalyst North Property

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.**
6970 Napier Street
Burnaby British Columbia V5B 2C4 Canada

Submitted By:	James Rogers
Receiving Lab:	Canada-Whitehorse
Received:	July 04, 2018
Report Date:	August 16, 2018
Page:	1 of 3

CERTIFICATE OF ANALYSIS WHI18000267.1

CLIENT JOB INFORMATION

Project:	2018-Catalyst
Shipment ID:	
P.O. Number	
Number of Samples:	37

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	37	Crush, split and pulverize 250 g rock to 200 mesh			WHI
FA330	37	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	37	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	37	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	37	Per sample shipping charges for branch shipments			VAN
MA370	4	4-Acid Digestion ICP-ES Finish	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Longford Exploration Services Ltd.
6970 Napier Street
Burnaby British Columbia V5B 2C4
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Production Manager

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.**
6970 Napier Street
Burnaby British Columbia V5B 2C4 Canada

Project: 2018-Catalyst
Report Date: August 16, 2018

CERTIFICATE OF ANALYSIS WHI18000267.1

	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
K736051	Rock	1.25	7	<3	6	<1	223	<3	66	0.3	11	24	501	6.48	<2	<2	33	<0.5	<3	<3	219
K736052	Rock	4.81	6	<3	6	12	28	<3	9	<0.3	21	18	1431	11.27	5	<2	41	1.9	<3	<3	43
K736053	Rock	5.68	5	<3	7	9	6	7	13	<0.3	27	22	897	16.99	7	<2	29	1.7	<3	<3	19
K736054	Rock	0.94	5	<3	5	2	10	5	18	<0.3	29	16	400	9.93	132	<2	113	2.0	4	<3	19
K736055	Rock	1.00	6	6	13	<1	4603	<3	22	0.4	26	18	199	4.74	<2	<2	16	0.8	<3	<3	183
K736056	Rock	1.49	33	<3	7	2	76	162	25	1.8	51	40	663	20.37	138	<2	51	5.3	8	<3	37
K736057	Rock	0.94	7	16	20	<1	97	<3	34	<0.3	97	29	396	4.01	2	<2	72	0.5	<3	<3	108
K736058	Rock	2.51	74	<3	4	3	242	181	91	2.6	48	55	612	30.96	355	<2	52	<0.5	10	<3	68
K736059	Rock	2.26	29	<3	7	2	50	159	14	2.0	49	33	911	24.78	36	<2	38	3.8	5	<3	49
K736060	Rock	2.00	28	<3	8	1	70	216	13	1.9	46	29	919	21.84	49	<2	47	2.0	9	<3	46
K736061	Rock	1.09	3	<3	5	1	46	3	53	<0.3	31	13	382	3.08	3	2	16	<0.5	<3	<3	76
K736062	Rock	1.26	11	5	6	<1	86	<3	44	<0.3	37	20	432	3.57	<2	<2	21	<0.5	<3	<3	115
K736063	Rock	1.19	2	<3	<2	<1	12	<3	101	<0.3	1	17	1097	6.32	<2	<2	39	<0.5	<3	<3	48
K736064	Rock	1.97	7	9	22	<1	>10000	3	55	6.3	42	35	570	7.96	<2	<2	9	<0.5	<3	<3	295
K736065	Rock	2.59	13	12	29	<1	>10000	<3	43	2.8	72	27	558	5.32	<2	<2	18	<0.5	<3	<3	203
K736066	Rock	0.69	4	7	4	<1	61	<3	15	<0.3	234	27	370	2.48	<2	<2	76	<0.5	<3	<3	51
K736067	Rock	0.83	3	<3	4	<1	318	<3	38	<0.3	10	30	446	5.43	<2	<2	286	<0.5	<3	<3	234
K736068	Rock	0.59	6	9	20	2	>10000	5	42	8.2	39	39	564	4.76	<2	<2	13	1.1	<3	<3	197
K736069	Rock	1.77	<2	<3	<2	<1	85	<3	124	<0.3	6	17	1530	4.43	3	<2	64	0.5	<3	<3	83
K736070	Rock	2.22	64	<3	2	2	27	11	219	<0.3	13	8	965	4.03	2	<2	29	0.6	<3	<3	89
K736071	Rock	2.50	33	<3	6	4	60	11	201	0.4	26	10	1259	5.70	3	<2	47	<0.5	<3	<3	161
K736072	Rock	1.91	9	10	19	<1	238	<3	116	<0.3	113	42	1278	4.02	2	<2	62	0.6	<3	<3	96
K736073	Rock	1.81	3	18	21	<1	97	<3	50	<0.3	103	32	912	5.07	<2	<2	21	0.6	<3	<3	97
K736074	Rock	2.30	<2	<3	<2	<1	51	<3	59	<0.3	10	57	606	11.36	5	<2	22	1.4	<3	<3	906
K736075	Rock	1.17	8	15	25	<1	78	<3	54	<0.3	266	51	725	5.49	<2	<2	70	<0.5	<3	<3	44
K736076	Rock	1.49	4	6	16	<1	96	<3	44	<0.3	59	21	539	4.22	<2	<2	63	0.6	<3	<3	104
K736077	Rock	0.98	3	<3	4	<1	8	<3	23	<0.3	13	6	1141	2.08	10	<2	448	0.5	<3	<3	25
K736078	Rock	1.53	7	8	6	<1	122	<3	75	<0.3	30	24	733	4.44	<2	<2	57	1.1	<3	<3	164
K736079	Rock	1.88	5	4	8	<1	102	<3	47	<0.3	23	18	568	3.04	4	<2	64	<0.5	<3	<3	94
K736080	Rock	1.02	10	8	30	2	>10000	<3	32	1.5	58	31	706	5.08	3	<2	78	1.1	<3	<3	267

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CERTIFICATE OF ANALYSIS WHI18000267.1

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	MA370
	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
K736051	Rock	1.86	0.119	9	<1	1.00	9	0.263	<20	1.41	0.06	0.03	<2	<0.05	<1	<5	<5	<5	
K736052	Rock	13.52	0.014	4	10	4.21	10	0.036	<20	0.21	<0.01	<0.01	<2	7.67	<1	<5	<5	<5	
K736053	Rock	8.73	0.006	2	9	2.03	10	<0.001	<20	0.10	<0.01	<0.01	<2	>10	<1	<5	10	<5	
K736054	Rock	22.77	0.072	8	10	0.27	48	<0.001	<20	0.07	<0.01	0.02	<2	7.34	<1	<5	<5	5	
K736055	Rock	6.46	0.033	3	17	1.02	3	0.374	55	2.74	0.02	0.02	<2	0.23	<1	<5	<5	7	
K736056	Rock	5.81	0.778	25	10	0.94	12	0.002	<20	1.95	<0.01	0.08	<2	>10	<1	<5	19	6	
K736057	Rock	3.39	0.030	2	32	1.80	33	0.073	<20	5.47	0.51	0.09	<2	<0.05	<1	<5	6	<5	
K736058	Rock	1.58	0.889	16	18	2.17	18	0.005	<20	4.82	<0.01	0.04	<2	>10	<1	<5	11	9	
K736059	Rock	5.37	0.473	18	12	1.37	11	0.002	<20	2.78	<0.01	0.08	<2	>10	<1	<5	16	8	
K736060	Rock	6.67	0.627	21	13	1.23	11	0.002	<20	2.49	<0.01	0.06	3	>10	<1	<5	20	7	
K736061	Rock	0.79	0.060	12	53	0.89	141	0.155	<20	1.29	0.04	0.14	<2	0.05	<1	<5	<5	7	
K736062	Rock	4.33	0.028	2	85	1.34	5	0.254	<20	2.09	0.05	0.02	<2	<0.05	<1	<5	<5	10	
K736063	Rock	3.30	0.225	13	<1	1.01	40	0.005	<20	2.24	0.06	0.09	<2	0.07	<1	<5	10	13	
K736064	Rock	2.49	0.079	4	77	3.31	14	0.423	<20	4.25	0.02	<0.01	16	0.28	<1	<5	<5	32	5.054
K736065	Rock	2.42	0.046	3	100	2.46	<1	0.255	<20	3.30	0.04	0.01	6	0.09	<1	<5	6	11	2.010
K736066	Rock	1.77	0.031	2	329	3.80	18	0.080	<20	2.34	0.06	0.06	<2	<0.05	<1	<5	<5	<5	
K736067	Rock	4.06	0.709	8	<1	1.60	101	0.171	<20	3.12	0.32	0.20	<2	0.23	<1	<5	<5	9	
K736068	Rock	4.29	0.072	3	52	1.73	2	0.380	<20	3.71	0.04	<0.01	19	0.94	<1	<5	<5	12	5.846
K736069	Rock	0.85	0.075	3	6	1.92	20	0.158	<20	2.78	0.04	0.06	<2	0.08	<1	<5	<5	<5	
K736070	Rock	0.72	0.107	2	52	1.80	33	0.235	<20	1.66	0.03	0.14	<2	2.21	<1	<5	<5	5	
K736071	Rock	1.82	0.113	2	134	3.04	15	0.264	<20	2.63	0.02	0.04	<2	2.23	<1	<5	<5	10	
K736072	Rock	1.81	0.073	3	111	3.18	1320	0.150	<20	3.20	0.02	0.15	<2	0.09	<1	<5	<5	6	
K736073	Rock	3.40	0.076	11	55	3.10	15	0.246	36	3.75	0.02	0.05	<2	<0.05	<1	<5	<5	8	
K736074	Rock	2.07	0.010	<1	6	1.66	17	0.467	<20	3.54	0.04	0.06	<2	0.34	<1	<5	<5	9	
K736075	Rock	2.89	0.023	1	130	3.30	51	0.104	<20	3.50	0.01	0.13	<2	<0.05	<1	<5	6	<5	
K736076	Rock	2.75	0.036	3	74	2.15	86	0.245	<20	2.96	0.04	0.02	<2	<0.05	<1	<5	<5	<5	
K736077	Rock	25.26	0.022	6	23	0.87	23	<0.001	<20	0.93	<0.01	0.04	<2	0.74	<1	<5	<5	<5	
K736078	Rock	5.45	0.058	3	36	1.52	14	0.346	<20	3.10	0.03	0.03	<2	<0.05	<1	<5	<5	10	
K736079	Rock	4.56	0.052	3	22	1.05	9	0.263	<20	1.77	0.05	0.01	<2	<0.05	<1	<5	<5	<5	
K736080	Rock	7.20	0.042	1	142	1.32	8	0.219	<20	3.10	<0.01	<0.01	6	0.07	<1	<5	5	18	1.959

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	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
K736081	Rock	0.89	27	6	16	1	116	<3	32	<0.3	36	19	471	2.96	4	<2	66	<0.5	<3	<3	67
K736082	Rock	2.90	5	5	27	<1	253	<3	80	<0.3	56	35	866	5.67	3	<2	21	0.8	<3	<3	156
K736142	Rock	0.99	18	5	13	<1	113	43	68	0.5	41	37	780	10.91	108	<2	38	0.8	<3	<3	184
K736143	Rock	0.95	12	50	58	<1	257	5	50	<0.3	1248	116	1058	7.59	<2	<2	32	0.6	<3	<3	25
K896601	Rock	0.80	3	<3	<2	2	13	12	52	<0.3	6	12	249	2.40	3	4	23	<0.5	<3	<3	67
K896602	Rock	1.45	5	<3	17	<1	158	<3	37	<0.3	7	28	646	5.71	<2	<2	191	<0.5	<3	<3	269
K896603	Rock	0.90	<2	<3	5	<1	3	<3	24	<0.3	25	20	420	2.98	<2	<2	194	<0.5	<3	<3	138

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	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	MA370
	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
K736081	Rock	5.86	0.033	1	44	1.19	40	0.283	<20	1.88	0.03	0.02	<2	0.25	<1	<5	<5	<5	
K736082	Rock	1.26	0.065	3	142	2.88	<1	0.463	<20	3.21	0.03	0.03	<2	0.23	<1	<5	<5	5	
K736142	Rock	5.18	0.102	9	41	1.93	23	0.221	<20	2.74	0.05	0.06	<2	5.73	<1	<5	<5	22	
K736143	Rock	0.51	0.015	3	336	17.91	53	0.044	81	1.40	0.02	0.06	<2	0.09	<1	<5	<5	7	
K896601	Rock	1.23	0.149	14	5	0.63	69	0.244	<20	1.09	0.10	0.31	<2	0.12	<1	<5	<5	<5	
K896602	Rock	3.37	0.326	6	3	1.84	94	0.256	<20	2.36	0.40	0.29	<2	0.10	<1	<5	<5	17	
K896603	Rock	3.13	0.019	1	25	2.92	126	0.303	<20	2.78	0.42	0.45	<2	<0.05	<1	<5	<5	36	

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QUALITY CONTROL REPORT WHI18000267.1

	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																					
K736057	Rock	0.94	7	16	20	<1	97	<3	34	<0.3	97	29	396	4.01	2	<2	72	0.5	<3	<3	108
REP K736057	QC		5	13	17																
K736070	Rock	2.22	64	<3	2	2	27	11	219	<0.3	13	8	965	4.03	2	<2	29	0.6	<3	<3	89
REP K736070	QC		61	<3	<2																
K736075	Rock	1.17	8	15	25	<1	78	<3	54	<0.3	266	51	725	5.49	<2	<2	70	<0.5	<3	<3	44
REP K736075	QC					<1	78	<3	55	<0.3	270	52	742	5.57	<2	<2	72	<0.5	<3	<3	46
K896603	Rock	0.90	<2	<3	5	<1	3	<3	24	<0.3	25	20	420	2.98	<2	<2	194	<0.5	<3	<3	138
REP K896603	QC		3	<3	3																
Core Reject Duplicates																					
K736071	Rock	2.50	33	<3	6	4	60	11	201	0.4	26	10	1259	5.70	3	<2	47	<0.5	<3	<3	161
DUP K736071	QC		31	<3	4	4	52	11	202	0.5	26	10	1254	5.81	3	<2	48	0.7	<3	<3	162
Reference Materials																					
STD CDN-ME-14	Standard																				
STD CDN-ME-9	Standard																				
STD DS11	Standard					13	142	132	330	1.7	75	13	997	3.07	42	8	62	2.1	7	11	47
STD DS11	Standard					13	152	136	343	2.2	78	13	1038	3.19	43	8	66	2.2	7	13	49
STD OREAS45EA	Standard					2	671	15	30	0.6	370	50	404	21.67	12	10	4	1.8	<3	<3	297
STD OREAS45EA	Standard					2	682	15	30	0.4	364	49	407	21.35	12	10	4	0.6	<3	4	292
STD PD05	Standard		523	453	616																
STD PD05	Standard		513	441	608																
STD PG04	Standard		1028	954	1273																
STD PG04	Standard		981	927	1244																
STD PD05 Expected			519	430	596																
STD PG04 Expected			1004	903	1196																
STD OREAS45EA Expected						1.6	709	14.3	31.4	0.26	381	52	400	22.65	11	10.7	4.05				303
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 CDN-ME-14 Expected																					
STD CDN-ME-9 Expected																					

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QUALITY CONTROL REPORT WHI18000267.1

Method		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	MA370
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																			
K736057	Rock	3.39	0.030	2	32	1.80	33	0.073	<20	5.47	0.51	0.09	<2	<0.05	<1	<5	6	<5	
REP K736057	QC																		
K736070	Rock	0.72	0.107	2	52	1.80	33	0.235	<20	1.66	0.03	0.14	<2	2.21	<1	<5	<5	5	
REP K736070	QC																		
K736075	Rock	2.89	0.023	1	130	3.30	51	0.104	<20	3.50	0.01	0.13	<2	<0.05	<1	<5	6	<5	
REP K736075	QC	2.92	0.024	1	131	3.40	49	0.108	<20	3.60	0.01	0.14	<2	<0.05	<1	<5	5	<5	
K896603	Rock	3.13	0.019	1	25	2.92	126	0.303	<20	2.78	0.42	0.45	<2	<0.05	<1	<5	<5	36	
REP K896603	QC																		
Core Reject Duplicates																			
K736071	Rock	1.82	0.113	2	134	3.04	15	0.264	<20	2.63	0.02	0.04	<2	2.23	<1	<5	<5	10	
DUP K736071	QC	1.86	0.113	2	136	3.04	17	0.262	<20	2.63	0.02	0.04	<2	2.34	<1	<5	<5	10	
Reference Materials																			
STD CDN-ME-14	Standard																		1.236
STD CDN-ME-9	Standard																		0.685
STD DS11	Standard	1.03	0.069	16	57	0.80	388	0.085	<20	1.08	0.07	0.39	2	0.26	<1	<5	<5	<5	
STD DS11	Standard	1.07	0.071	17	60	0.85	420	0.091	<20	1.16	0.07	0.40	2	0.27	<1	<5	<5	<5	
STD OREAS45EA	Standard	0.03	0.029	7	893	0.09	143	0.096	<20	3.23	0.02	0.05	<2	<0.05	<1	<5	15	84	
STD OREAS45EA	Standard	0.03	0.029	7	901	0.09	142	0.097	<20	3.25	0.02	0.05	<2	<0.05	<1	<5	14	84	
STD PD05	Standard																		
STD PD05	Standard																		
STD PG04	Standard																		
STD PG04	Standard																		
STD PD05 Expected																			
STD PG04 Expected																			
STD OREAS45EA Expected		0.036	0.029	7.06	849	0.095	148	0.0984		3.32	0.02	0.053		0.036			12.4	78	
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 CDN-ME-14 Expected																			1.221
STD CDN-ME-9 Expected																			0.654

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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.**
6970 Napier Street
Burnaby British Columbia V5B 2C4 Canada

Project: 2018-Catalyst
Report Date: August 16, 2018

QUALITY CONTROL REPORT WHI18000267.1

		WGHT	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V
		kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1
BLK	Blank		2	<3	<2																
BLK	Blank		2	<3	<2																
BLK	Blank		3	<3	2																
BLK	Blank		3	<3	<2																
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank																				
Prep Wash																					
ROCK-WHI	Prep Blank		3	<3	<2	<1	6	<3	29	<0.3	<1	3	526	1.81	<2	2	27	<0.5	<3	<3	21
ROCK-WHI	Prep Blank		<2	<3	<2	1	4	<3	32	<0.3	<1	3	549	1.72	<2	<2	23	<0.5	<3	<3	20

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QUALITY CONTROL REPORT WHI18000267.1

		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	MA370
		Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc	Cu
		%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%
		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
BLK	Blank																		
BLK	Blank																		
BLK	Blank																		
BLK	Blank																		
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	<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																		0.001
Prep Wash																			
ROCK-WHI	Prep Blank	0.67	0.037	5	2	0.48	55	0.078	<20	0.98	0.07	0.09	<2	<0.05	<1	<5	<5	<5	
ROCK-WHI	Prep Blank	0.74	0.037	5	2	0.48	78	0.077	<20	0.90	0.07	0.09	<2	0.07	<1	<5	<5	<5	

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

Submitted By: James Rogers
Receiving Lab: Canada-Whitehorse
Received: August 24, 2018
Report Date: January 03, 2019

CERTIFICATE OF ANALYSIS WHI18000734.1

CLIENT JOB INFORMATION

Project: 2018-Catalyst
Shipment ID:
P.O. Number
Number of Samples: 207

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	195	Dry at 60C			WHI
SS80	195	Dry at 60C sieve 100g to -80 mesh			WHI
SVRJT	195	Save all or part of Soil Reject			WHI
FA330	194	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	195	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	195	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	195	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:

JEFFREY CANNON
Geochemistry Department Supervisor

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Vancouver British Columbia V6B 1P1 Canada

Project: 2018-Catalyst
Report Date: January 03, 2019

CERTIFICATE OF ANALYSIS   WHI18000734.1

	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
896001	Soil	I.S.	I.S.	I.S.	1	99	4	76	<0.3	49	17	659	2.81	4	<2	54	<0.5	<3	<3	62	2.30
896002	Soil	6	<3	16	<1	126	4	73	<0.3	78	28	856	4.65	3	<2	52	<0.5	<3	<3	113	1.21
896003	Soil	13	6	17	<1	136	<3	69	<0.3	66	26	760	4.50	3	<2	63	<0.5	<3	<3	113	1.16
896004	Soil	6	<3	4	1	98	3	60	<0.3	45	26	786	4.72	2	<2	55	<0.5	<3	<3	115	0.85
896005	Soil	5	4	10	<1	75	<3	67	<0.3	73	27	740	4.14	2	<2	37	<0.5	<3	<3	96	0.97
896006	Soil	8	7	10	<1	92	4	59	<0.3	56	19	585	3.16	5	<2	52	<0.5	<3	<3	71	1.38
896007	Soil	5	5	13	<1	103	3	54	<0.3	73	27	729	3.92	<2	<2	60	<0.5	<3	<3	99	1.21
896008	Soil	11	6	19	2	101	8	79	<0.3	59	19	919	3.35	4	<2	68	<0.5	<3	<3	95	1.37
896009	Soil	6	7	9	<1	86	4	98	<0.3	73	26	776	3.98	3	<2	59	<0.5	<3	<3	99	1.32
896010	Soil	8	3	13	1	94	<3	100	<0.3	72	26	791	3.91	4	<2	60	<0.5	<3	<3	99	1.42
896011	Soil	7	<3	7	1	61	6	75	<0.3	37	17	610	2.91	9	<2	44	<0.5	<3	<3	64	1.22
896012	Soil	6	<3	4	1	29	4	52	<0.3	21	8	303	1.73	6	<2	32	<0.5	<3	<3	34	1.05
896013	Soil	7	7	15	2	404	7	85	<0.3	53	14	799	2.88	8	<2	50	0.5	<3	<3	67	2.01
896014	Soil	7	<3	4	<1	22	5	33	<0.3	19	8	265	1.55	7	<2	59	<0.5	<3	<3	30	1.94
896015	Soil	7	<3	6	1	26	5	57	<0.3	28	8	331	2.00	10	<2	41	<0.5	<3	<3	34	1.42
896016	Soil	7	<3	6	1	20	4	33	<0.3	18	6	207	1.56	7	<2	56	<0.5	<3	<3	25	1.89
896017	Soil	8	<3	6	1	19	4	39	<0.3	20	8	289	1.69	8	<2	55	<0.5	<3	<3	30	1.91
896018	Soil	15	<3	4	<1	22	4	49	<0.3	25	9	360	1.98	8	<2	51	<0.5	<3	<3	35	1.78
896019	Soil	7	<3	3	<1	30	5	122	<0.3	32	9	489	2.22	9	2	51	<0.5	<3	<3	37	1.55
896020	Soil	5	<3	2	<1	24	4	104	<0.3	29	9	395	2.26	8	<2	47	<0.5	<3	<3	42	1.41
896021	Soil	14	<3	15	2	58	49	193	0.4	26	18	1573	4.53	12	<2	86	1.2	<3	<3	45	1.19
896022	Soil	6	<3	7	<1	110	10	76	<0.3	35	12	510	2.91	9	<2	65	<0.5	<3	<3	65	1.73
896023	Soil	10	<3	12	<1	40	<3	43	<0.3	19	6	220	1.91	5	<2	44	<0.5	<3	<3	43	1.61
896024	Soil	8	4	6	<1	27	4	44	<0.3	19	8	311	1.55	6	<2	64	<0.5	<3	<3	30	2.32
896025	Soil	8	5	4	<1	47	5	57	<0.3	41	13	454	2.91	13	2	42	<0.5	<3	<3	55	1.36
896026	Soil	6	<3	3	<1	36	6	68	<0.3	32	11	446	2.49	8	<2	40	<0.5	<3	<3	51	1.27
896027	Soil	6	<3	<2	<1	25	4	40	<0.3	23	7	256	1.60	7	<2	51	<0.5	<3	<3	29	1.72
896028	Soil	8	<3	2	<1	32	<3	47	<0.3	33	6	241	1.74	7	<2	45	<0.5	<3	<3	30	1.73
896029	Soil	5	<3	<2	<1	12	<3	33	<0.3	10	5	165	1.68	3	2	35	<0.5	<3	<3	45	1.20
896030	Soil	6	<3	<2	<1	13	4	41	<0.3	14	4	140	1.62	4	<2	43	<0.5	<3	<3	34	1.46

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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: 2018-Catalyst
Report Date: January 03, 2019

CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896001	Soil	0.073	6	53	1.43	75	0.073	<20	1.78	0.03	0.06	<2	0.11	<1	<5	<5	6
896002	Soil	0.049	6	88	2.60	51	0.149	<20	2.91	0.02	0.05	<2	<0.05	<1	<5	7	13
896003	Soil	0.061	6	80	2.10	74	0.166	<20	2.84	0.03	0.09	<2	<0.05	<1	<5	8	12
896004	Soil	0.034	5	70	2.35	62	0.183	<20	2.57	0.01	0.04	<2	<0.05	<1	<5	8	9
896005	Soil	0.033	4	77	2.74	58	0.164	<20	2.59	0.01	0.12	<2	<0.05	<1	<5	<5	8
896006	Soil	0.059	8	54	1.56	85	0.096	<20	1.96	0.02	0.08	<2	0.07	<1	<5	<5	6
896007	Soil	0.038	3	89	2.27	55	0.151	<20	2.60	0.02	0.05	<2	<0.05	<1	<5	<5	9
896008	Soil	0.052	13	62	1.58	448	0.115	<20	2.15	0.02	0.07	<2	0.05	<1	<5	5	8
896009	Soil	0.043	5	88	2.20	105	0.129	<20	2.61	0.02	0.05	<2	<0.05	<1	<5	6	9
896010	Soil	0.048	5	87	2.11	113	0.119	<20	2.55	0.02	0.05	<2	<0.05	<1	<5	8	9
896011	Soil	0.060	8	43	0.97	165	0.074	<20	1.88	0.03	0.06	<2	0.06	<1	<5	<5	6
896012	Soil	0.054	6	22	0.41	183	0.043	<20	0.99	0.03	0.04	<2	0.06	<1	<5	<5	<5
896013	Soil	0.072	10	50	0.99	158	0.073	22	1.63	0.03	0.07	<2	0.09	<1	<5	<5	6
896014	Soil	0.058	8	20	0.43	110	0.034	<20	0.79	0.02	0.04	<2	0.09	<1	<5	<5	<5
896015	Soil	0.043	9	28	0.54	111	0.047	<20	0.91	0.03	0.05	<2	0.08	<1	<5	<5	<5
896016	Soil	0.053	7	21	0.41	91	0.038	<20	0.76	0.03	0.04	<2	0.10	<1	<5	<5	<5
896017	Soil	0.053	10	16	0.46	99	0.040	<20	0.81	0.03	0.04	<2	0.10	<1	<5	<5	<5
896018	Soil	0.078	10	29	0.59	96	0.046	<20	0.96	0.03	0.05	<2	0.08	<1	<5	<5	<5
896019	Soil	0.076	10	32	0.65	124	0.055	<20	1.10	0.04	0.08	<2	0.06	<1	<5	<5	<5
896020	Soil	0.074	9	31	0.61	108	0.062	<20	1.05	0.04	0.08	<2	0.06	<1	<5	<5	<5
896021	Soil	0.096	16	34	0.89	112	0.038	<20	1.56	0.03	0.09	<2	0.22	<1	<5	<5	<5
896022	Soil	0.070	10	44	0.95	91	0.086	<20	1.42	0.03	0.06	<2	0.08	<1	<5	<5	6
896023	Soil	0.067	9	19	0.47	59	0.063	<20	0.80	0.04	0.05	<2	0.08	<1	<5	<5	<5
896024	Soil	0.068	9	22	0.54	101	0.044	<20	0.81	0.03	0.05	<2	0.09	<1	<5	<5	<5
896025	Soil	0.061	12	40	0.84	126	0.074	<20	1.48	0.04	0.06	<2	<0.05	<1	<5	<5	<5
896026	Soil	0.068	9	38	0.83	86	0.073	<20	1.29	0.03	0.06	<2	0.06	<1	<5	<5	<5
896027	Soil	0.054	8	25	0.49	91	0.042	<20	0.83	0.03	0.04	<2	0.08	<1	<5	<5	<5
896028	Soil	0.057	8	24	0.48	102	0.044	<20	0.81	0.03	0.05	<2	0.09	<1	<5	<5	<5
896029	Soil	0.059	5	13	0.30	59	0.072	<20	0.52	0.04	0.04	<2	0.05	<1	<5	<5	<5
896030	Soil	0.064	7	19	0.43	79	0.057	<20	0.76	0.04	0.05	<2	0.06	<1	<5	<5	<5

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Project: 2018-Catalyst
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CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896031	Soil	13	11	<2	<1	20	5	46	<0.3	21	7	260	1.71	6	<2	43	<0.5	<3	<3	33	1.28
896032	Soil	9	<3	<2	1	40	7	58	<0.3	46	14	438	3.18	17	<2	53	<0.5	<3	<3	59	1.84
896033	Soil	4	<3	5	<1	40	<3	44	<0.3	17	7	237	1.85	6	<2	33	<0.5	<3	<3	41	1.13
896034	Soil	5	<3	<2	<1	15	<3	40	<0.3	12	5	154	1.69	3	<2	38	<0.5	<3	<3	44	1.20
896035	Soil	4	<3	<2	1	21	7	28	<0.3	18	6	183	1.67	8	<2	54	<0.5	<3	<3	32	1.70
896036	Soil	7	<3	<2	<1	29	<3	69	<0.3	30	9	410	2.33	7	<2	42	<0.5	<3	<3	45	1.27
896037	Soil	9	7	7	<1	22	5	39	<0.3	15	6	170	1.82	8	<2	42	<0.5	<3	<3	42	1.54
896038	Soil	7	6	9	<1	15	4	29	<0.3	13	5	147	1.62	4	<2	41	<0.5	<3	<3	40	1.50
896039	Soil	29	<3	27	<1	158	6	75	0.7	49	25	916	4.10	66	<2	27	<0.5	<3	<3	87	0.93
896040	Soil	27	7	24	<1	161	7	74	0.7	49	24	900	4.13	61	<2	27	<0.5	<3	<3	86	0.98
896041	Soil	26	<3	31	<1	228	5	70	0.7	52	24	862	3.75	17	<2	33	<0.5	<3	<3	91	1.39
896042	Soil	19	<3	33	<1	233	5	71	0.7	53	25	886	3.87	17	<2	33	<0.5	<3	<3	93	1.43
896043	Soil	14	<3	23	<1	191	5	73	0.6	56	27	880	4.28	16	<2	29	<0.5	<3	<3	114	1.09
896044	Soil	9	6	19	<1	190	<3	64	0.7	50	26	858	4.16	15	<2	25	<0.5	<3	<3	116	1.21
896045	Soil	11	12	28	<1	150	4	56	0.4	40	22	852	3.42	11	<2	31	<0.5	<3	<3	86	1.54
896046	Soil	11	10	17	<1	131	6	56	0.7	56	28	995	4.09	11	<2	29	<0.5	<3	<3	95	1.24
896047	Soil	10	3	17	<1	126	5	52	0.6	50	27	788	3.94	11	<2	30	<0.5	<3	<3	99	1.40
896048	Soil	16	5	22	<1	107	7	55	0.4	46	22	856	3.59	9	<2	27	<0.5	<3	<3	85	1.31
896049	Soil	14	<3	11	1	95	12	99	0.5	40	20	841	3.37	20	<2	40	<0.5	<3	<3	67	1.34
896050	Soil	11	6	12	1	95	12	104	0.4	41	20	848	3.33	20	<2	42	<0.5	<3	<3	65	1.38
896401	Soil	5	6	9	<1	77	5	48	0.4	57	22	581	3.48	4	<2	42	<0.5	<3	<3	87	0.84
896402	Soil																				
896403	Soil																				
896404	Soil																				
896405	Soil	6	11	15	<1	75	4	51	0.7	178	33	687	3.89	2	<2	37	<0.5	<3	<3	63	1.31
896406	Soil																				
896407	Soil																				
896408	Soil																				
896409	Soil	6	<3	11	2	78	7	66	0.7	54	20	611	3.68	10	<2	55	<0.5	<3	<3	87	1.06
896410	Soil	6	<3	8	2	78	8	66	0.6	54	20	629	3.62	9	<2	54	<0.5	<3	<3	87	1.05

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CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896031	Soil	0.046	8	24	0.51	84	0.051	<20	0.85	0.03	0.06	<2	0.08	<1	<5	<5	<5
896032	Soil	0.059	15	39	0.80	166	0.064	<20	1.57	0.03	0.08	<2	<0.05	<1	<5	<5	<5
896033	Soil	0.069	8	19	0.45	70	0.062	<20	0.81	0.04	0.04	<2	0.06	<1	<5	<5	<5
896034	Soil	0.065	6	16	0.36	81	0.065	<20	0.63	0.04	0.05	<2	0.06	<1	<5	<5	<5
896035	Soil	0.058	7	20	0.44	86	0.044	<20	0.78	0.03	0.04	<2	0.09	<1	<5	<5	<5
896036	Soil	0.077	10	30	0.63	99	0.068	<20	1.04	0.04	0.10	<2	0.05	<1	<5	<5	<5
896037	Soil	0.055	8	20	0.41	71	0.055	<20	0.77	0.03	0.04	<2	0.07	<1	<5	<5	<5
896038	Soil	0.043	5	16	0.32	72	0.060	<20	0.54	0.03	0.04	<2	0.06	<1	<5	<5	<5
896039	Soil	0.060	7	80	1.57	104	0.102	<20	2.11	0.01	0.06	<2	0.06	<1	<5	<5	7
896040	Soil	0.061	7	83	1.60	105	0.102	<20	2.15	0.01	0.06	<2	0.05	<1	<5	<5	7
896041	Soil	0.061	6	124	2.11	138	0.128	<20	2.30	0.01	0.07	<2	0.07	<1	<5	<5	5
896042	Soil	0.061	6	126	2.15	141	0.130	<20	2.32	0.01	0.07	<2	0.08	<1	<5	<5	5
896043	Soil	0.053	5	122	2.41	74	0.176	<20	2.67	<0.01	0.07	<2	<0.05	<1	<5	<5	7
896044	Soil	0.045	6	120	2.65	66	0.166	<20	2.70	<0.01	0.08	<2	0.06	<1	<5	<5	8
896045	Soil	0.069	7	61	1.46	86	0.060	<20	1.89	0.01	0.06	<2	0.10	<1	<5	<5	<5
896046	Soil	0.053	5	107	2.01	66	0.085	<20	2.33	0.01	0.06	<2	0.07	<1	<5	<5	6
896047	Soil	0.060	5	83	1.94	81	0.080	<20	2.18	0.01	0.07	<2	0.08	<1	<5	<5	6
896048	Soil	0.070	6	73	1.63	82	0.063	<20	2.01	0.01	0.07	<2	0.09	<1	<5	<5	<5
896049	Soil	0.076	9	57	1.13	101	0.054	<20	1.71	0.01	0.07	<2	0.09	<1	<5	<5	<5
896050	Soil	0.077	9	57	1.11	104	0.052	<20	1.68	0.01	0.08	<2	0.09	<1	<5	<5	<5
896401	Soil	0.028	4	51	1.80	50	0.157	<20	2.31	0.02	0.07	<2	<0.05	<1	<5	<5	6
896402	Soil																
896403	Soil																
896404	Soil																
896405	Soil	0.032	4	136	3.85	33	0.098	<20	3.24	0.02	0.14	<2	<0.05	<1	<5	<5	5
896406	Soil																
896407	Soil																
896408	Soil																
896409	Soil	0.049	6	77	1.40	90	0.087	<20	2.17	0.02	0.07	<2	0.06	<1	<5	<5	6
896410	Soil	0.050	6	75	1.40	90	0.087	<20	2.19	0.02	0.07	<2	0.05	<1	<5	<5	6

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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
896411	Soil	11	<3	<2	1	27	35	158	0.3	16	10	827	3.09	10	<2	57	0.8	<3	<3	27	1.33
896412	Soil	9	<3	<2	1	16	5	42	<0.3	18	5	173	1.60	6	<2	43	<0.5	<3	<3	32	1.41
896413	Soil	6	<3	6	1	15	6	50	0.3	18	8	302	1.96	7	<2	39	<0.5	<3	<3	42	1.22
896414	Soil	19	22	5	1	16	6	34	<0.3	18	7	256	1.72	8	<2	49	<0.5	<3	<3	33	1.68
896415	Soil																				
896416	Soil	6	<3	<2	1	15	5	35	<0.3	16	4	104	1.79	6	<2	41	<0.5	<3	<3	34	1.26
896417	Soil	6	5	13	<1	20	5	39	<0.3	24	7	255	1.87	6	<2	37	<0.5	<3	<3	39	1.20
896418	Soil	8	<3	6	<1	31	5	49	<0.3	23	7	269	1.87	8	<2	51	<0.5	<3	<3	35	1.76
896419	Soil	8	<3	7	<1	32	7	82	0.5	38	12	447	2.61	12	<2	39	<0.5	<3	<3	49	1.16
896420	Soil	6	<3	3	1	36	6	73	<0.3	41	12	487	2.67	10	2	37	0.7	<3	<3	46	1.08
896421	Soil	14	<3	4	<1	69	5	55	0.5	48	16	551	3.19	10	<2	41	<0.5	<3	<3	78	1.45
896422	Soil	6	<3	8	<1	36	6	50	<0.3	32	10	412	2.19	11	<2	49	<0.5	<3	<3	43	1.54
896423	Soil	5	<3	4	1	22	6	43	<0.3	25	9	323	2.08	10	<2	46	<0.5	<3	<3	40	1.46
896424	Soil	7	<3	4	<1	21	5	43	<0.3	21	8	230	1.82	9	<2	55	<0.5	<3	<3	34	1.96
896425	Soil	6	<3	4	1	19	5	49	<0.3	22	9	312	1.97	9	<2	48	<0.5	<3	<3	38	1.45
896426	Soil	6	<3	5	1	19	6	48	0.3	26	8	224	2.26	11	<2	40	<0.5	<3	<3	42	1.41
896427	Soil	11	<3	13	1	28	5	46	<0.3	30	9	374	2.05	10	<2	46	<0.5	<3	<3	36	1.67
896428	Soil	8	5	3	<1	21	6	40	<0.3	20	7	202	1.85	8	<2	49	<0.5	<3	<3	35	1.55
896429	Soil	6	5	4	<1	20	5	30	<0.3	16	6	160	1.55	6	<2	48	<0.5	<3	<3	30	1.62
896430	Soil	17	22	12	3	80	36	66	0.6	55	18	657	3.11	12	<2	33	<0.5	<3	<3	76	1.15
896431	Soil	506	26	34	2	222	10	68	0.5	63	45	1707	8.11	412	<2	48	<0.5	4	<3	104	1.30
896432	Soil	77	11	33	2	196	9	71	0.7	61	42	1492	6.01	35	<2	41	<0.5	<3	<3	121	1.06
896433	Soil	13	7	22	2	220	8	67	0.7	74	38	1119	4.64	16	<2	25	1.0	<3	<3	116	0.99
896434	Soil	9	14	9	3	66	9	80	0.7	43	20	791	3.74	16	<2	34	<0.5	<3	<3	75	0.79
896435	Soil	28	19	44	2	212	10	77	0.7	57	31	1267	5.01	10	<2	26	0.7	<3	<3	129	1.03
896436	Soil	25	11	34	1	194	<3	89	0.6	62	35	1415	5.21	16	<2	23	<0.5	<3	<3	134	0.83
896437	Soil	81	6	40	1	292	4	75	0.6	60	37	1659	5.88	20	<2	25	<0.5	<3	<3	137	1.20
896438	Soil	45	8	12	2	128	4	72	0.7	43	24	1040	4.65	13	<2	28	<0.5	<3	<3	97	0.81
896439	Soil	23	14	29	1	199	5	73	0.8	51	27	1045	4.36	12	<2	28	<0.5	<3	<3	114	0.99
896440	Soil	37	11	25	1	226	3	76	0.7	56	31	1258	5.20	11	<2	27	<0.5	<3	<3	133	1.01

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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
896411	Soil	0.086	12	19	0.63	65	0.021	<20	0.98	0.02	0.06	<2	0.17	<1	<5	<5	<5
896412	Soil	0.046	7	22	0.44	74	0.046	<20	0.73	0.03	0.05	<2	0.07	<1	<5	<5	<5
896413	Soil	0.060	8	25	0.50	83	0.063	<20	0.79	0.03	0.05	<2	0.06	<1	<5	<5	<5
896414	Soil	0.062	8	23	0.45	84	0.040	<20	0.78	0.03	0.04	<2	0.09	<1	<5	<5	<5
896415	Soil																
896416	Soil	0.044	8	21	0.34	41	0.040	<20	0.80	0.02	0.04	<2	0.07	<1	<5	<5	<5
896417	Soil	0.064	7	22	0.46	66	0.053	<20	0.76	0.03	0.05	<2	0.07	<1	<5	<5	<5
896418	Soil	0.074	10	25	0.56	103	0.049	<20	0.98	0.04	0.04	<2	0.08	<1	<5	<5	<5
896419	Soil	0.069	12	38	0.75	125	0.064	<20	1.28	0.04	0.10	<2	<0.05	<1	<5	<5	<5
896420	Soil	0.074	14	37	0.76	113	0.062	<20	1.24	0.04	0.10	<2	<0.05	<1	<5	<5	<5
896421	Soil	0.063	11	50	1.14	98	0.122	<20	1.72	0.04	0.08	<2	<0.05	<1	<5	<5	6
896422	Soil	0.065	10	35	0.66	124	0.050	<20	1.11	0.03	0.05	<2	0.06	<1	<5	<5	<5
896423	Soil	0.056	10	31	0.59	109	0.049	<20	1.13	0.03	0.04	<2	0.07	<1	<5	<5	<5
896424	Soil	0.062	9	28	0.60	105	0.044	<20	0.96	0.03	0.05	<2	0.08	<1	<5	<5	<5
896425	Soil	0.075	10	29	0.59	99	0.047	<20	0.99	0.03	0.05	<2	0.07	<1	<5	<5	<5
896426	Soil	0.054	10	31	0.62	72	0.053	<20	1.03	0.03	0.05	<2	0.06	<1	<5	<5	<5
896427	Soil	0.062	9	29	0.62	82	0.048	<20	1.04	0.03	0.06	<2	0.08	<1	<5	<5	<5
896428	Soil	0.064	10	28	0.56	101	0.047	<20	0.96	0.03	0.05	<2	0.09	<1	<5	<5	<5
896429	Soil	0.057	8	20	0.40	102	0.041	<20	0.75	0.03	0.04	<2	0.08	<1	<5	<5	<5
896430	Soil	0.070	8	80	1.07	122	0.076	<20	1.58	0.02	0.05	<2	0.10	<1	<5	<5	<5
896431	Soil	0.073	5	74	1.71	102	0.033	<20	1.88	0.03	0.07	<2	0.15	<1	<5	<5	25
896432	Soil	0.064	6	89	1.73	81	0.125	<20	1.99	0.01	0.08	<2	<0.05	<1	<5	<5	18
896433	Soil	0.061	8	147	1.91	66	0.140	<20	2.42	0.01	0.06	<2	0.08	<1	<5	<5	8
896434	Soil	0.069	10	57	0.97	131	0.070	<20	1.74	0.02	0.07	<2	0.08	<1	<5	<5	<5
896435	Soil	0.059	9	113	2.10	89	0.171	<20	2.51	0.01	0.08	<2	0.07	<1	<5	<5	11
896436	Soil	0.052	6	108	2.41	83	0.254	<20	2.58	<0.01	0.06	<2	<0.05	<1	<5	<5	10
896437	Soil	0.047	6	113	2.60	73	0.206	<20	2.94	<0.01	0.06	<2	<0.05	<1	<5	<5	11
896438	Soil	0.080	10	70	1.31	110	0.084	<20	2.10	0.01	0.06	<2	0.08	<1	<5	<5	6
896439	Soil	0.055	8	108	1.78	112	0.158	<20	2.34	0.01	0.06	<2	0.05	<1	<5	<5	8
896440	Soil	0.052	7	125	2.22	103	0.213	<20	2.78	0.01	0.06	<2	<0.05	<1	<5	<5	10

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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
896441	Soil	15	12	21	1	117	5	70	0.7	50	28	1145	3.65	15	<2	27	0.7	<3	<3	99	0.93
896442	Soil	64	9	24	<1	264	4	69	0.7	64	33	1607	5.79	21	<2	30	<0.5	<3	<3	149	1.03
896443	Soil	12	7	16	2	182	3	109	0.6	47	30	1325	5.38	14	<2	32	<0.5	<3	<3	143	1.04
896444	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
896445	Soil	36	7	9	1	79	5	67	0.6	46	23	932	4.74	14	<2	32	<0.5	<3	<3	99	0.63
896446	Soil	16	6	11	1	66	5	65	0.6	59	23	788	4.22	20	<2	31	<0.5	<3	<3	107	0.95
896447	Soil	11	<3	9	2	73	7	74	0.8	59	21	725	4.08	30	<2	32	<0.5	<3	<3	84	0.83
896448	Soil	17	7	7	1	74	8	122	0.6	74	20	532	3.99	48	<2	18	<0.5	<3	<3	76	0.52
896449	Soil	9	4	9	1	62	6	77	0.6	58	18	836	3.49	21	<2	27	<0.5	<3	<3	76	1.29
896450	Soil	8	4	8	<1	60	5	75	0.5	57	18	837	3.34	19	<2	25	<0.5	<3	<3	74	1.25
896751	Soil	5	<3	4	3	28	10	71	0.6	32	13	436	4.31	18	<2	29	<0.5	<3	<3	83	0.28
896752	Soil	7	3	9	<1	66	4	67	0.5	56	24	862	4.21	6	<2	35	<0.5	<3	<3	123	1.28
896753	Soil	9	9	7	2	72	8	71	0.6	39	16	625	3.43	13	<2	39	<0.5	<3	<3	77	0.67
896754	Soil	6	<3	8	2	61	6	84	0.7	46	21	768	4.20	11	<2	46	<0.5	<3	<3	117	1.11
896755	Soil	6	5	7	1	67	4	72	0.8	59	23	723	4.56	6	<2	42	<0.5	<3	<3	138	1.22
896756	Soil	12	<3	4	2	58	5	53	<0.3	26	11	343	2.49	8	<2	48	<0.5	<3	<3	52	1.21
896757	Soil	6	<3	8	2	72	8	61	0.4	28	15	534	3.19	17	<2	33	<0.5	<3	<3	71	0.53
896758	Soil	6	6	6	2	48	7	78	0.6	40	16	536	3.48	12	3	38	<0.5	<3	<3	84	0.87
896759	Soil	6	<3	8	1	54	4	71	0.6	41	18	573	3.53	7	<2	39	<0.5	<3	<3	93	1.07
896760	Soil	7	7	18	1	59	5	70	0.5	40	17	609	3.43	8	<2	41	<0.5	<3	<3	88	1.11
896761	Soil	5	4	7	2	36	6	87	0.4	34	15	546	3.44	12	<2	35	<0.5	<3	<3	77	0.77
896762	Soil	8	<3	10	1	56	5	95	0.5	42	17	639	3.50	10	<2	42	<0.5	<3	<3	87	1.14
896763	Soil	10	7	9	2	74	7	86	0.6	48	21	782	4.24	11	<2	40	<0.5	<3	<3	108	1.08
896764	Soil	7	<3	16	1	77	6	65	0.3	29	13	656	2.57	7	<2	43	<0.5	<3	<3	51	1.10
896765	Soil	7	<3	13	2	91	8	87	0.7	47	20	774	4.10	11	2	38	<0.5	<3	<3	91	0.84
896766	Soil	8	<3	10	2	67	7	89	0.7	46	20	729	4.06	12	<2	38	<0.5	<3	<3	99	0.91
896767	Soil	7	<3	15	1	62	5	79	0.5	33	13	519	2.84	9	<2	45	<0.5	<3	<3	59	1.34
896768	Soil	7	<3	8	2	49	5	81	0.4	46	19	670	3.93	8	<2	39	<0.5	<3	<3	104	1.04
896769	Soil	13	<3	4	3	31	8	78	0.5	35	14	552	4.47	20	<2	31	<0.5	<3	<3	91	0.46
896770	Soil	4	<3	7	3	38	9	81	0.4	38	21	864	4.40	19	2	35	<0.5	<3	<3	99	0.52

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CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896441	Soil	0.055	8	69	1.43	94	0.166	<20	2.08	0.01	0.06	<2	0.06	<1	<5	<5	6
896442	Soil	0.043	9	166	2.08	85	0.186	<20	2.94	<0.01	0.06	<2	<0.05	<1	<5	<5	18
896443	Soil	0.062	10	96	1.73	111	0.249	<20	2.75	0.01	0.07	<2	0.06	<1	<5	<5	8
896444	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
896445	Soil	0.054	9	63	1.29	139	0.092	<20	2.26	0.01	0.07	<2	<0.05	<1	<5	<5	10
896446	Soil	0.064	9	101	1.69	156	0.112	<20	2.46	0.01	0.08	<2	<0.05	<1	<5	<5	9
896447	Soil	0.076	11	85	1.19	224	0.069	<20	2.20	0.01	0.06	<2	0.08	<1	<5	<5	7
896448	Soil	0.035	13	85	1.24	103	0.061	<20	1.91	<0.01	0.05	<2	<0.05	<1	<5	<5	7
896449	Soil	0.061	12	75	1.22	138	0.081	<20	1.90	0.02	0.06	<2	0.06	<1	<5	<5	6
896450	Soil	0.059	12	75	1.18	135	0.077	<20	1.84	0.02	0.06	<2	0.06	<1	<5	<5	6
896751	Soil	0.041	11	48	0.75	128	0.078	<20	2.05	<0.01	0.06	<2	<0.05	<1	<5	<5	<5
896752	Soil	0.034	8	72	1.62	121	0.256	<20	2.76	0.01	0.07	<2	<0.05	<1	<5	<5	9
896753	Soil	0.063	11	50	0.91	165	0.068	<20	2.15	0.02	0.07	<2	0.06	<1	<5	5	7
896754	Soil	0.059	9	63	1.36	147	0.179	<20	2.57	0.02	0.06	<2	0.06	<1	<5	<5	8
896755	Soil	0.034	6	68	1.70	126	0.287	<20	3.07	0.01	0.07	<2	<0.05	<1	<5	<5	10
896756	Soil	0.102	14	30	0.60	120	0.044	<20	1.36	0.02	0.05	<2	0.13	<1	<5	<5	<5
896757	Soil	0.068	12	43	0.72	139	0.057	<20	1.85	0.01	0.06	<2	0.05	<1	<5	<5	6
896758	Soil	0.065	10	48	1.00	123	0.104	<20	2.07	0.02	0.10	<2	0.06	<1	<5	<5	6
896759	Soil	0.046	10	47	1.15	116	0.171	<20	2.11	0.02	0.07	<2	0.06	<1	<5	<5	7
896760	Soil	0.056	12	46	1.10	122	0.152	<20	2.15	0.02	0.07	<2	0.07	<1	<5	<5	7
896761	Soil	0.060	8	43	0.86	112	0.094	<20	1.80	0.02	0.08	<2	0.06	<1	<5	<5	<5
896762	Soil	0.066	9	52	1.15	147	0.129	<20	2.28	0.02	0.09	<2	0.06	<1	<5	<5	8
896763	Soil	0.056	12	64	1.37	134	0.172	<20	2.70	0.01	0.08	<2	<0.05	<1	<5	<5	11
896764	Soil	0.094	13	31	0.76	130	0.052	<20	1.63	0.03	0.06	<2	0.12	<1	<5	<5	<5
896765	Soil	0.064	12	61	1.30	158	0.107	<20	2.79	0.01	0.09	<2	0.06	<1	<5	6	11
896766	Soil	0.058	11	65	1.23	135	0.119	<20	2.50	0.01	0.08	<2	<0.05	<1	<5	<5	10
896767	Soil	0.082	11	38	0.85	127	0.068	<20	1.76	0.02	0.07	<2	0.10	<1	<5	<5	5
896768	Soil	0.057	8	56	1.25	117	0.179	<20	2.32	0.02	0.08	<2	<0.05	<1	<5	<5	8
896769	Soil	0.037	9	53	0.96	99	0.104	<20	2.30	<0.01	0.09	<2	<0.05	<1	<5	7	<5
896770	Soil	0.046	10	58	1.01	104	0.116	<20	2.19	0.01	0.10	<2	<0.05	<1	<5	9	6

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CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896771	Soil	7	<3	8	1	48	6	58	0.5	30	14	562	2.89	11	<2	33	<0.5	<3	<3	62	0.63
896772	Soil	6	<3	8	2	93	7	87	0.5	41	18	686	3.48	12	<2	35	<0.5	<3	<3	75	0.96
896773	Soil	8	3	15	2	86	6	79	0.7	48	20	743	3.98	10	<2	43	<0.5	<3	<3	99	1.15
896774	Soil	6	10	8	2	59	8	81	0.6	49	21	759	4.10	14	<2	36	<0.5	<3	<3	96	0.73
896775	Soil	6	<3	9	2	65	7	81	0.5	50	22	835	4.36	12	2	47	0.6	<3	<3	107	0.89
896776	Soil	10	9	10	1	66	7	83	0.6	47	20	743	3.86	10	<2	43	<0.5	<3	<3	94	1.02
896777	Soil	7	<3	8	1	48	6	67	0.6	49	22	748	4.31	8	<2	36	0.6	<3	<3	113	1.20
896778	Soil	6	<3	4	2	36	7	53	0.5	27	11	394	2.84	13	<2	24	<0.5	<3	<3	61	0.46
896779	Soil	6	<3	7	3	43	7	72	0.5	49	18	568	4.09	14	2	33	<0.5	<3	<3	88	0.48
896780	Soil	6	<3	6	3	42	9	73	0.4	50	19	572	4.00	15	<2	31	<0.5	<3	<3	91	0.45
896781	Soil	10	5	8	2	43	7	75	0.5	34	16	556	3.21	11	<2	41	<0.5	<3	<3	69	0.75
896782	Soil	6	<3	3	1	21	5	39	<0.3	14	8	328	1.79	10	<2	23	<0.5	<3	<3	36	0.37
896783	Soil																				
896784	Soil	9	<3	11	<1	108	<3	43	0.6	30	12	298	2.42	4	<2	41	<0.5	<3	<3	61	1.87
896785	Soil	11	6	22	<1	126	<3	69	0.4	63	22	567	3.77	5	<2	54	<0.5	<3	<3	103	2.02
896786	Soil	9	4	23	<1	131	<3	65	0.4	67	21	524	3.47	5	<2	59	<0.5	<3	<3	104	2.18
896787	Soil	8	5	21	<1	191	<3	66	0.6	65	25	633	3.69	3	<2	52	<0.5	<3	<3	120	2.35
896788	Soil	8	<3	7	6	78	6	187	1.4	69	14	555	3.00	10	<2	66	1.5	<3	<3	90	1.83
896789	Soil	5	<3	8	<1	77	3	55	0.6	41	17	519	2.91	3	<2	52	<0.5	<3	<3	77	1.42
896790	Soil	5	<3	9	<1	77	4	61	0.5	42	17	475	2.94	4	<2	54	<0.5	<3	<3	78	1.58
896791	Soil	11	<3	12	1	55	4	98	<0.3	35	12	458	2.33	6	<2	63	<0.5	<3	<3	52	1.89
896792	Soil	9	9	12	1	118	6	55	0.5	104	27	709	3.82	5	<2	40	<0.5	<3	<3	72	1.45
896793	Soil	5	<3	14	<1	106	<3	54	0.6	76	26	581	3.95	<2	<2	73	<0.5	<3	<3	107	1.50
896794	Soil																				
896795	Soil																				
896796	Soil	5	7	6	<1	84	<3	69	0.5	46	30	992	4.54	<2	<2	35	<0.5	<3	<3	136	1.19
896797	Soil	5	<3	11	<1	95	<3	52	0.5	65	28	750	4.23	3	<2	49	<0.5	<3	<3	108	1.14
896798	Soil	6	15	15	<1	80	<3	56	0.6	44	21	537	3.79	5	<2	52	<0.5	<3	<3	104	1.57
896799	Soil	8	<3	14	<1	126	3	56	0.6	53	18	650	3.03	5	<2	48	<0.5	<3	<3	73	1.66
896800	Soil	9	7	11	<1	109	<3	56	0.6	53	19	581	3.11	3	<2	48	<0.5	<3	<3	74	1.58

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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
896771	Soil	0.065	10	36	0.75	133	0.071	<20	1.81	0.02	0.06	<2	0.06	<1	<5	<5	5
896772	Soil	0.063	10	52	1.02	166	0.079	<20	2.31	0.02	0.08	<2	0.07	<1	<5	6	7
896773	Soil	0.065	10	63	1.28	154	0.130	<20	2.61	0.02	0.08	<2	0.06	<1	<5	<5	9
896774	Soil	0.054	10	62	1.18	156	0.103	<20	2.65	<0.01	0.09	<2	<0.05	<1	<5	8	8
896775	Soil	0.053	11	65	1.32	165	0.132	<20	2.76	0.02	0.08	<2	<0.05	<1	<5	7	10
896776	Soil	0.065	12	62	1.29	158	0.128	<20	2.62	0.02	0.08	<2	0.06	<1	<5	<5	9
896777	Soil	0.049	7	60	1.45	144	0.194	<20	2.55	0.01	0.08	<2	<0.05	<1	<5	<5	8
896778	Soil	0.037	7	34	0.64	82	0.069	<20	1.49	0.02	0.06	<2	<0.05	<1	<5	5	<5
896779	Soil	0.046	10	61	1.05	184	0.098	<20	2.35	0.01	0.07	<2	<0.05	<1	<5	7	6
896780	Soil	0.045	10	62	1.02	167	0.096	<20	2.20	0.01	0.07	<2	<0.05	<1	<5	9	6
896781	Soil	0.067	12	45	0.84	129	0.072	<20	1.63	0.02	0.09	<2	0.08	<1	<5	<5	<5
896782	Soil	0.042	5	19	0.35	71	0.041	<20	0.82	0.02	0.05	<2	0.05	<1	<5	<5	<5
896783	Soil																
896784	Soil	0.046	7	27	0.85	50	0.132	<20	1.55	0.02	0.06	<2	0.06	<1	<5	<5	<5
896785	Soil	0.041	6	59	1.70	70	0.247	<20	2.88	0.02	0.07	<2	<0.05	<1	<5	<5	9
896786	Soil	0.047	7	67	1.72	62	0.248	23	2.51	0.03	0.07	<2	0.07	<1	<5	<5	7
896787	Soil	0.048	7	69	1.85	35	0.309	25	2.86	0.02	0.06	<2	<0.05	<1	<5	<5	11
896788	Soil	0.076	16	63	1.34	606	0.087	<20	1.93	0.03	0.09	<2	0.15	<1	<5	<5	7
896789	Soil	0.053	9	52	1.14	109	0.108	<20	1.82	0.03	0.05	<2	<0.05	<1	<5	<5	8
896790	Soil	0.057	9	54	1.14	119	0.106	<20	1.85	0.02	0.06	<2	0.05	<1	<5	<5	7
896791	Soil	0.072	7	38	0.89	147	0.067	<20	1.31	0.02	0.07	<2	0.11	<1	<5	<5	<5
896792	Soil	0.043	5	119	2.53	58	0.094	<20	2.59	0.02	0.07	<2	0.07	<1	<5	<5	8
896793	Soil	0.034	4	116	2.43	30	0.117	<20	3.14	0.03	0.06	<2	<0.05	<1	<5	<5	10
896794	Soil																
896795	Soil																
896796	Soil	0.056	3	45	2.74	21	0.235	<20	2.73	<0.01	0.17	<2	<0.05	<1	<5	<5	9
896797	Soil	0.040	5	62	2.39	28	0.185	<20	2.58	0.01	0.04	<2	<0.05	<1	<5	<5	10
896798	Soil	0.038	5	63	1.66	57	0.138	<20	2.29	0.02	0.07	<2	0.05	<1	<5	<5	9
896799	Soil	0.061	7	60	1.51	70	0.087	<20	2.06	0.02	0.07	<2	0.08	<1	<5	<5	7
896800	Soil	0.056	7	60	1.57	64	0.099	<20	2.02	0.02	0.06	<2	0.07	<1	<5	<5	7

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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
896951	Soil	6	5	3	2	56	7	70	0.6	51	20	676	3.90	10	<2	37	<0.5	<3	<3	93	0.65
896952	Soil	9	4	8	<1	132	3	76	1.2	69	31	1119	5.86	5	<2	60	<0.5	<3	<3	194	1.42
896953	Soil	9	4	<2	2	48	8	73	0.5	47	18	568	4.19	15	<2	35	<0.5	<3	<3	93	0.59
896954	Soil	7	<3	<2	3	33	10	89	0.7	33	15	488	3.86	16	<2	35	<0.5	<3	<3	79	0.55
896955	Soil	10	<3	3	2	57	8	72	0.6	35	16	611	3.65	15	<2	34	<0.5	<3	<3	77	0.46
896956	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
896957	Soil	6	3	4	2	52	7	85	<0.3	38	18	743	3.85	13	<2	39	<0.5	<3	<3	83	0.75
896958	Soil	7	<3	2	2	32	7	84	<0.3	30	15	606	3.81	16	<2	45	<0.5	<3	<3	85	0.76
896959	Soil	7	<3	2	2	52	7	87	<0.3	38	17	629	3.72	12	3	37	<0.5	<3	<3	85	0.85
896960	Soil	17	<3	4	2	52	7	90	<0.3	36	16	593	3.52	11	3	39	<0.5	<3	<3	79	0.93
896961	Soil	7	<3	3	1	83	6	73	<0.3	42	18	684	3.77	7	3	42	<0.5	<3	<3	85	0.94
896962	Soil	40	20	13	1	84	7	122	<0.3	56	23	853	4.82	10	<2	46	<0.5	<3	<3	124	1.09
896963	Soil	16	<3	2	1	94	5	116	<0.3	56	25	836	5.22	9	3	53	<0.5	<3	<3	139	1.15
896964	Soil	9	<3	8	1	159	7	103	<0.3	67	24	853	4.82	11	<2	51	<0.5	<3	<3	111	1.18
896965	Soil	7	<3	13	1	94	6	87	<0.3	45	20	719	4.03	8	<2	43	<0.5	<3	<3	104	1.46
896966	Soil	9	<3	5	1	112	5	90	<0.3	51	22	706	4.67	7	3	44	<0.5	<3	<3	130	1.23
896967	Soil	8	<3	3	1	42	5	61	<0.3	23	13	457	2.79	8	<2	37	<0.5	<3	<3	65	0.68
896968	Soil	6	<3	<2	3	62	9	87	<0.3	38	21	844	4.36	15	<2	45	<0.5	<3	<3	88	0.65
896969	Soil	6	<3	10	2	52	8	102	<0.3	51	23	952	4.52	14	<2	50	<0.5	<3	<3	104	0.89
896970	Soil	7	<3	9	2	52	7	95	<0.3	51	22	859	4.53	12	<2	51	<0.5	<3	<3	110	0.95
896971	Soil	7	<3	5	3	70	11	94	<0.3	45	26	1277	4.58	15	<2	47	<0.5	<3	<3	94	0.80
896972	Soil	6	<3	4	3	47	10	98	<0.3	40	17	693	4.18	15	<2	40	<0.5	<3	<3	88	0.60
896973	Soil	7	<3	4	2	49	8	97	<0.3	43	20	906	4.14	14	<2	43	<0.5	<3	<3	80	0.75
896974	Soil	6	<3	<2	3	39	9	69	<0.3	35	14	440	3.81	14	3	36	<0.5	<3	<3	82	0.46
896975	Soil	7	<3	3	2	64	9	83	<0.3	39	22	903	4.00	13	<2	44	<0.5	<3	<3	81	0.62
896976	Soil	11	<3	<2	<1	104	<3	66	<0.3	58	27	1031	4.95	<2	<2	89	<0.5	<3	<3	190	2.11
896977	Soil	6	3	8	2	60	6	98	<0.3	38	17	558	3.66	12	<2	43	<0.5	<3	<3	86	1.02
896978	Soil	6	<3	5	2	54	8	91	<0.3	48	22	886	3.94	11	2	44	<0.5	<3	<3	91	0.78
896979	Soil	10	<3	8	2	96	5	83	<0.3	35	17	743	3.07	9	<2	52	<0.5	<3	<3	63	1.54
896980	Soil	7	<3	12	2	112	7	83	<0.3	35	18	870	3.03	10	<2	56	<0.5	<3	<3	61	1.81

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Project: 2018-Catalyst
Report Date: January 03, 2019

CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896951	Soil	0.053	9	55	1.14	168	0.128	<20	2.37	0.01	0.07	<2	0.05	<1	<5	<5	6
896952	Soil	0.033	7	100	2.86	68	0.401	<20	3.95	0.02	0.07	<2	<0.05	<1	<5	<5	17
896953	Soil	0.048	9	58	1.10	135	0.129	<20	2.75	0.01	0.06	<2	<0.05	<1	<5	<5	6
896954	Soil	0.048	9	45	0.80	126	0.083	<20	1.71	0.01	0.07	<2	0.05	<1	<5	<5	<5
896955	Soil	0.059	11	47	0.85	155	0.075	<20	2.09	0.01	0.07	<2	<0.05	<1	<5	<5	<5
896956	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
896957	Soil	0.067	11	45	1.01	142	0.098	<20	2.27	0.02	0.08	<2	0.06	<1	<5	10	7
896958	Soil	0.085	9	46	0.92	152	0.080	<20	1.85	0.02	0.08	<2	0.06	<1	<5	12	<5
896959	Soil	0.061	9	48	1.03	140	0.111	<20	2.21	0.03	0.08	<2	0.06	<1	<5	10	7
896960	Soil	0.072	9	45	1.00	139	0.098	<20	2.07	0.03	0.08	<2	0.07	<1	<5	8	6
896961	Soil	0.083	14	47	1.12	145	0.102	<20	2.46	0.03	0.08	<2	0.09	<1	<5	9	9
896962	Soil	0.069	10	67	1.52	159	0.174	<20	3.01	0.02	0.12	<2	0.06	<1	<5	11	12
896963	Soil	0.059	9	63	1.77	181	0.229	<20	3.25	0.03	0.10	<2	<0.05	<1	<5	18	12
896964	Soil	0.072	11	73	1.65	170	0.136	<20	3.31	0.03	0.08	<2	0.09	<1	<5	9	13
896965	Soil	0.081	12	54	1.42	98	0.144	<20	2.37	0.02	0.07	<2	0.11	<1	<5	10	13
896966	Soil	0.064	10	64	1.67	121	0.214	<20	2.92	0.02	0.07	<2	0.06	<1	<5	12	15
896967	Soil	0.061	7	28	0.70	98	0.086	<20	1.49	0.03	0.06	<2	0.06	<1	<5	6	<5
896968	Soil	0.078	12	49	1.04	158	0.087	<20	2.46	0.02	0.07	<2	0.07	<1	<5	9	6
896969	Soil	0.074	10	63	1.40	185	0.112	<20	2.64	0.02	0.08	<2	0.06	<1	<5	11	7
896970	Soil	0.066	9	61	1.47	167	0.147	<20	2.62	0.02	0.08	<2	0.06	<1	<5	11	7
896971	Soil	0.121	12	59	1.05	181	0.075	<20	2.63	0.02	0.10	<2	0.09	<1	<5	10	8
896972	Soil	0.080	11	47	0.93	155	0.079	<20	2.26	0.01	0.09	<2	0.07	<1	<5	11	5
896973	Soil	0.091	12	51	1.00	172	0.068	<20	2.27	0.02	0.10	<2	0.09	<1	<5	10	6
896974	Soil	0.070	10	43	0.74	152	0.077	<20	1.93	0.01	0.07	<2	0.06	<1	<5	9	<5
896975	Soil	0.072	12	47	0.99	142	0.090	<20	2.51	0.02	0.07	<2	0.06	<1	<5	8	7
896976	Soil	0.035	7	64	2.25	45	0.442	<20	3.82	0.04	0.09	<2	<0.05	<1	<5	19	14
896977	Soil	0.084	12	45	1.07	101	0.116	<20	1.87	0.03	0.07	<2	0.07	<1	<5	7	7
896978	Soil	0.076	11	55	1.23	168	0.119	<20	2.40	0.02	0.09	<2	0.09	<1	<5	12	7
896979	Soil	0.105	17	34	1.01	83	0.062	<20	2.06	0.03	0.07	<2	0.15	<1	<5	7	5
896980	Soil	0.108	20	39	1.05	72	0.060	26	2.22	0.03	0.07	<2	0.16	<1	<5	6	6

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Project: 2018-Catalyst
Report Date: January 03, 2019

CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896981	Soil	5	<3	4	2	34	7	71	<0.3	30	13	537	3.25	13	<2	37	<0.5	<3	<3	73	0.52
896982	Soil	7	<3	9	<1	111	<3	76	<0.3	60	25	844	4.82	2	<2	64	<0.5	<3	<3	186	1.69
896983	Soil	9	5	9	2	120	6	88	<0.3	55	23	779	4.73	9	3	52	<0.5	<3	<3	143	1.20
896984	Soil	8	<3	10	1	106	5	85	<0.3	51	23	951	4.24	6	<2	56	<0.5	<3	<3	124	1.49
896985	Soil	10	<3	9	1	86	4	74	<0.3	37	14	446	2.73	5	<2	41	<0.5	<3	<3	70	2.03
896986	Soil	11	<3	16	2	109	5	80	<0.3	43	17	539	3.25	8	<2	46	<0.5	<3	<3	85	1.79
896987	Soil	5	<3	17	1	153	5	92	<0.3	61	21	860	3.18	7	<2	56	<0.5	<3	<3	84	2.09
896988	Soil	7	<3	5	1	31	5	38	<0.3	16	8	232	1.94	9	<2	26	<0.5	<3	<3	42	0.42
896989	Soil	14	<3	17	1	97	4	97	<0.3	50	16	524	3.20	5	<2	61	<0.5	<3	<3	92	1.76
896990	Soil	12	<3	17	1	121	5	93	<0.3	49	17	702	3.00	5	<2	55	<0.5	<3	<3	81	2.20
896991	Soil	15	<3	16	2	69	5	127	<0.3	39	14	485	2.60	6	<2	54	1.0	<3	<3	62	2.41
896992	Soil	8	<3	8	4	73	5	123	<0.3	87	19	614	3.30	7	<2	77	0.7	<3	<3	88	1.72
896993	Soil	5	4	11	1	99	6	66	0.4	71	28	820	4.23	5	<2	65	<0.5	<3	<3	105	1.34
896994	Soil	6	6	8	2	95	6	76	<0.3	96	27	808	4.07	7	<2	56	<0.5	<3	<3	86	1.19
896995	Soil	18	<3	16	2	101	5	54	<0.3	32	10	354	2.01	6	<2	46	<0.5	<3	<3	43	1.66
896996	Soil	13	3	6	<1	182	4	60	0.7	62	23	620	3.65	3	<2	53	<0.5	<3	<3	77	1.59
896997	Soil	7	<3	9	<1	72	4	54	<0.3	21	8	344	1.75	7	<2	30	<0.5	<3	<3	39	1.07
896998	Soil	6	4	12	<1	98	5	63	0.8	58	25	769	3.86	5	<2	43	<0.5	<3	<3	94	1.39
896999	Soil	8	13	22	<1	111	5	66	0.7	68	25	641	3.60	4	<2	42	<0.5	<3	<3	78	1.53
897000	Soil	7	11	15	<1	110	4	67	0.3	79	29	738	4.23	4	<2	45	<0.5	<3	<3	88	1.45
1467501	Soil	89	<3	14	2	140	22	128	0.4	52	31	1499	4.80	28	<2	44	<0.5	<3	<3	81	1.31
1467502	Soil	47	5	13	2	109	13	98	<0.3	44	24	904	3.94	21	<2	39	<0.5	<3	<3	72	1.32
1467503	Soil	21	8	12	1	110	13	107	0.4	46	23	1097	3.95	19	<2	38	<0.5	<3	<3	78	1.27
1467504	Soil	20	8	5	2	112	18	108	0.5	55	29	925	4.25	17	<2	35	<0.5	<3	<3	82	1.02
1467505	Soil	16	3	15	1	110	12	84	0.3	53	26	982	4.26	18	<2	35	<0.5	<3	<3	85	1.18
580906	Soil	57	9	45	<1	445	6	80	0.3	69	44	1548	8.95	27	<2	24	<0.5	<3	<3	218	0.92
896596	Soil	10	<3	8	2	87	12	95	<0.3	56	23	889	4.72	18	<2	43	<0.5	<3	<3	91	0.97

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Project: 2018-Catalyst
Report Date: January 03, 2019

CERTIFICATE OF ANALYSIS WHI18000734.1

	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
896981	Soil	0.051	8	35	0.74	114	0.085	<20	1.59	0.03	0.07	<2	0.07	<1	<5	7	<5
896982	Soil	0.053	7	65	2.08	86	0.407	<20	3.40	0.04	0.09	<2	<0.05	<1	<5	16	12
896983	Soil	0.054	9	64	1.73	100	0.258	<20	3.12	0.02	0.08	<2	<0.05	<1	<5	15	11
896984	Soil	0.066	10	58	1.73	103	0.234	<20	2.84	0.03	0.08	<2	0.09	<1	<5	11	10
896985	Soil	0.059	7	36	1.00	84	0.149	<20	1.60	0.03	0.06	<2	0.10	<1	<5	7	5
896986	Soil	0.063	9	45	1.14	90	0.157	<20	1.93	0.03	0.06	<2	0.11	<1	<5	8	7
896987	Soil	0.075	10	59	1.43	96	0.133	<20	2.32	0.04	0.07	<2	0.09	<1	<5	9	8
896988	Soil	0.035	5	22	0.37	88	0.053	<20	0.99	0.03	0.04	<2	<0.05	<1	<5	<5	<5
896989	Soil	0.065	9	46	1.32	463	0.185	<20	2.10	0.03	0.08	<2	0.09	<1	<5	9	7
896990	Soil	0.072	11	48	1.26	270	0.153	<20	2.06	0.03	0.07	<2	0.13	<1	<5	6	7
896991	Soil	0.069	8	38	0.88	226	0.083	<20	1.38	0.04	0.07	<2	0.14	<1	<5	6	<5
896992	Soil	0.045	14	79	1.75	852	0.118	<20	2.07	0.03	0.09	<2	0.12	<1	<5	6	7
896993	Soil	0.051	4	82	2.24	119	0.166	<20	2.59	0.02	0.07	<2	<0.05	<1	<5	10	9
896994	Soil	0.060	7	127	2.27	114	0.099	<20	2.90	0.03	0.07	<2	<0.05	<1	<5	8	9
896995	Soil	0.084	9	34	0.70	72	0.055	<20	1.20	0.03	0.06	<2	0.14	<1	<5	<5	<5
896996	Soil	0.054	4	48	2.04	37	0.136	<20	2.38	0.02	0.04	<2	0.06	<1	<5	<5	10
896997	Soil	0.057	5	22	0.56	54	0.051	<20	0.85	0.03	0.05	<2	0.05	<1	<5	<5	<5
896998	Soil	0.042	5	52	2.14	50	0.150	<20	2.35	0.02	0.09	<2	<0.05	<1	<5	6	9
896999	Soil	0.047	4	58	2.31	41	0.131	<20	2.28	0.02	0.07	<2	0.05	<1	<5	5	7
897000	Soil	0.048	4	67	2.86	38	0.157	<20	2.70	0.02	0.08	<2	<0.05	<1	<5	7	8
1467501	Soil	0.082	10	70	1.73	119	0.058	<20	2.35	0.01	0.08	<2	0.09	<1	<5	<5	9
1467502	Soil	0.087	9	65	1.49	114	0.065	<20	1.99	0.02	0.09	<2	0.11	<1	<5	<5	6
1467503	Soil	0.074	9	65	1.55	98	0.084	<20	2.03	0.01	0.09	<2	0.08	<1	<5	<5	7
1467504	Soil	0.068	9	65	1.69	102	0.110	<20	2.08	0.01	0.10	<2	0.05	<1	<5	<5	7
1467505	Soil	0.066	8	73	1.80	103	0.089	<20	2.14	0.01	0.09	<2	0.07	<1	<5	6	7
580906	Soil	0.052	7	130	2.77	186	0.089	<20	3.79	<0.01	0.09	<2	<0.05	<1	<5	10	30
896596	Soil	0.099	12	62	1.31	212	0.081	<20	3.13	0.02	0.09	<2	0.08	<1	<5	6	10

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QUALITY CONTROL REPORT WHI18000734.1

	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																					
896009	Soil	6	7	9	<1	86	4	98	<0.3	73	26	776	3.98	3	<2	59	<0.5	<3	<3	99	1.32
REP 896009	QC	10	3	11																	
896035	Soil	4	<3	<2	1	21	7	28	<0.3	18	6	183	1.67	8	<2	54	<0.5	<3	<3	32	1.70
REP 896035	QC				1	21	5	28	<0.3	18	6	179	1.64	8	<2	52	<0.5	<3	<3	32	1.65
896416	Soil	6	<3	<2	1	15	5	35	<0.3	16	4	104	1.79	6	<2	41	<0.5	<3	<3	34	1.26
REP 896416	QC	8	<3	13																	
896428	Soil	8	5	3	<1	21	6	40	<0.3	20	7	202	1.85	8	<2	49	<0.5	<3	<3	35	1.55
REP 896428	QC				<1	20	5	41	<0.3	20	7	192	1.78	7	<2	47	<0.5	<3	<3	36	1.45
896752	Soil	7	3	9	<1	66	4	67	0.5	56	24	862	4.21	6	<2	35	<0.5	<3	<3	123	1.28
REP 896752	QC	9	5	6																	
896765	Soil	7	<3	13	2	91	8	87	0.7	47	20	774	4.10	11	2	38	<0.5	<3	<3	91	0.84
REP 896765	QC				2	93	8	91	0.7	49	21	817	4.38	11	<2	40	<0.5	<3	<3	95	0.88
896788	Soil	8	<3	7	6	78	6	187	1.4	69	14	555	3.00	10	<2	66	1.5	<3	<3	90	1.83
REP 896788	QC	9	5	9																	
896954	Soil	7	<3	<2	3	33	10	89	0.7	33	15	488	3.86	16	<2	35	<0.5	<3	<3	79	0.55
REP 896954	QC				3	32	8	84	0.6	31	14	477	3.76	15	<2	34	<0.5	<3	<3	76	0.54
896960	Soil	17	<3	4	2	52	7	90	<0.3	36	16	593	3.52	11	3	39	<0.5	<3	<3	79	0.93
REP 896960	QC	18	<3	6																	
896976	Soil	11	<3	<2	<1	104	<3	66	<0.3	58	27	1031	4.95	<2	<2	89	<0.5	<3	<3	190	2.11
REP 896976	QC	11	<3	19																	
896991	Soil	15	<3	16	2	69	5	127	<0.3	39	14	485	2.60	6	<2	54	1.0	<3	<3	62	2.41
REP 896991	QC				2	69	4	127	<0.3	38	14	476	2.56	5	<2	53	1.0	<3	<3	61	2.35
1467501	Soil	89	<3	14	2	140	22	128	0.4	52	31	1499	4.80	28	<2	44	<0.5	<3	<3	81	1.31
REP 1467501	QC	77	15	17																	
896596	Soil	10	<3	8	2	87	12	95	<0.3	56	23	889	4.72	18	<2	43	<0.5	<3	<3	91	0.97
REP 896596	QC				2	85	11	93	<0.3	54	22	877	4.65	18	<2	42	<0.5	<3	<3	89	0.94
Reference Materials																					
STD DS11	Standard				13	139	124	319	1.4	72	11	969	2.92	39	7	62	2.1	6	11	46	0.98

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

Project: 2018-Catalyst
Report Date: January 03, 2019

QUALITY CONTROL REPORT WHI18000734.1

	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																	
896009	Soil	0.043	5	88	2.20	105	0.129	<20	2.61	0.02	0.05	<2	<0.05	<1	<5	6	9
REP 896009	QC																
896035	Soil	0.058	7	20	0.44	86	0.044	<20	0.78	0.03	0.04	<2	0.09	<1	<5	<5	<5
REP 896035	QC	0.055	7	20	0.43	83	0.041	<20	0.76	0.03	0.04	<2	0.08	<1	<5	<5	<5
896416	Soil	0.044	8	21	0.34	41	0.040	<20	0.80	0.02	0.04	<2	0.07	<1	<5	<5	<5
REP 896416	QC																
896428	Soil	0.064	10	28	0.56	101	0.047	<20	0.96	0.03	0.05	<2	0.09	<1	<5	<5	<5
REP 896428	QC	0.063	9	27	0.55	98	0.048	<20	0.94	0.03	0.05	<2	0.08	<1	<5	<5	<5
896752	Soil	0.034	8	72	1.62	121	0.256	<20	2.76	0.01	0.07	<2	<0.05	<1	<5	<5	9
REP 896752	QC																
896765	Soil	0.064	12	61	1.30	158	0.107	<20	2.79	0.01	0.09	<2	0.06	<1	<5	6	11
REP 896765	QC	0.063	12	63	1.38	166	0.114	<20	2.90	0.01	0.10	<2	0.06	<1	<5	<5	11
896788	Soil	0.076	16	63	1.34	606	0.087	<20	1.93	0.03	0.09	<2	0.15	<1	<5	<5	7
REP 896788	QC																
896954	Soil	0.048	9	45	0.80	126	0.083	<20	1.71	0.01	0.07	<2	0.05	<1	<5	<5	<5
REP 896954	QC	0.046	9	44	0.78	124	0.080	<20	1.67	0.01	0.07	<2	<0.05	<1	<5	<5	<5
896960	Soil	0.072	9	45	1.00	139	0.098	<20	2.07	0.03	0.08	<2	0.07	<1	<5	8	6
REP 896960	QC																
896976	Soil	0.035	7	64	2.25	45	0.442	<20	3.82	0.04	0.09	<2	<0.05	<1	<5	19	14
REP 896976	QC																
896991	Soil	0.069	8	38	0.88	226	0.083	<20	1.38	0.04	0.07	<2	0.14	<1	<5	6	<5
REP 896991	QC	0.066	8	37	0.87	218	0.082	<20	1.33	0.04	0.07	<2	0.14	<1	<5	6	<5
1467501	Soil	0.082	10	70	1.73	119	0.058	<20	2.35	0.01	0.08	<2	0.09	<1	<5	<5	9
REP 1467501	QC																
896596	Soil	0.099	12	62	1.31	212	0.081	<20	3.13	0.02	0.09	<2	0.08	<1	<5	6	10
REP 896596	QC	0.096	12	61	1.29	209	0.080	<20	3.09	0.02	0.09	<2	0.08	<1	<5	5	10
Reference Materials																	
STD DS11	Standard	0.066	16	55	0.79	366	0.085	<20	1.08	0.07	0.38	2	0.27	<1	<5	<5	<5

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

Project: 2018-Catalyst
Report Date: January 03, 2019

QUALITY CONTROL REPORT WHI18000734.1

		FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
STD DS11	Standard				14	148	140	347	1.9	75	13	1016	3.12	44	7	68	2.3	8	10	49	1.04
STD DS11	Standard				13	136	126	318	2.0	72	12	958	2.96	40	9	60	2.0	6	11	46	0.99
STD DS11	Standard				12	135	126	312	2.0	71	12	960	2.94	41	8	58	2.1	7	11	46	0.97
STD DS11	Standard				14	138	130	329	2.4	76	12	995	3.09	42	8	63	2.2	7	13	48	1.03
STD DS11	Standard				13	149	130	347	1.6	77	12	1031	3.13	42	8	68	2.2	6	12	48	1.06
STD OREAS45EA	Standard				2	682	14	30	<0.3	378	48	397	21.08	<2	9	3	<0.5	<3	<3	298	0.04
STD OREAS45EA	Standard				3	705	16	33	0.8	420	51	413	26.24	16	7	4	<0.5	<3	<3	315	0.04
STD OREAS45EA	Standard				2	672	13	29	0.9	367	47	390	21.65	11	10	3	<0.5	<3	<3	294	0.03
STD OREAS45EA	Standard				2	692	12	29	0.9	378	47	410	22.47	11	10	3	<0.5	<3	<3	307	0.03
STD OREAS45EA	Standard				2	680	11	29	0.8	369	47	402	23.05	10	11	3	1.1	<3	<3	299	0.03
STD OREAS45EA	Standard				2	714	17	33	0.3	405	51	416	22.67	3	11	4	<0.5	<3	<3	313	0.04
STD PD05	Standard	510	439	618																	
STD PD05	Standard	504	430	598																	
STD PD05	Standard	525	438	627																	
STD PD05	Standard	530	434	617																	
STD PD05	Standard	516	424	614																	
STD PD05	Standard	542	448	636																	
STD PG04	Standard	1013	947	1279																	
STD PG04	Standard	1072	859	1150																	
STD PG04	Standard	997	907	1243																	
STD PG04	Standard	1026	928	1268																	
STD PG04	Standard	1051	950	1277																	
STD PG04	Standard	1006	926	1224																	
STD OREAS45EA Expected					1.6	709	14.3	31.4	0.26	381	52	400	22.65	11	10.7	4.05				303	0.036
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 PG04 Expected		1004	903	1196																	
STD PD05 Expected		519	430	596																	
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

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Project: 2018-Catalyst
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QUALITY CONTROL REPORT WHI18000734.1

		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
STD DS11	Standard	0.072	17	60	0.83	429	0.093	<20	1.15	0.07	0.40	4	0.28	<1	<5	<5	<5
STD DS11	Standard	0.064	16	57	0.79	357	0.084	<20	1.07	0.07	0.37	3	0.26	<1	<5	<5	<5
STD DS11	Standard	0.064	16	56	0.78	354	0.083	<20	1.04	0.06	0.37	<2	0.26	<1	<5	<5	<5
STD DS11	Standard	0.067	17	58	0.82	376	0.088	<20	1.11	0.07	0.38	3	0.27	<1	<5	<5	<5
STD DS11	Standard	0.070	17	59	0.85	431	0.091	<20	1.16	0.07	0.41	2	0.28	<1	6	6	<5
STD OREAS45EA	Standard	0.029	7	852	0.09	142	0.098	<20	3.24	0.02	0.05	<2	<0.05	<1	<5	18	82
STD OREAS45EA	Standard	0.032	8	885	0.10	157	0.105	<20	3.44	0.02	0.06	<2	<0.05	<1	13	<5	84
STD OREAS45EA	Standard	0.029	7	910	0.09	138	0.098	<20	3.38	0.02	0.06	<2	<0.05	<1	<5	8	81
STD OREAS45EA	Standard	0.029	7	950	0.09	146	0.101	<20	3.40	0.02	0.06	<2	<0.05	<1	<5	<5	85
STD OREAS45EA	Standard	0.029	7	922	0.09	143	0.099	<20	3.44	0.02	0.06	<2	<0.05	<1	<5	16	83
STD OREAS45EA	Standard	0.031	7	900	0.10	149	0.102	<20	3.56	0.02	0.06	<2	<0.05	<1	<5	22	87
STD PD05	Standard																
STD PD05	Standard																
STD PD05	Standard																
STD PD05	Standard																
STD PD05	Standard																
STD PD05	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD PG04	Standard																
STD OREAS45EA Expected		0.029	7.06	849	0.095	148	0.0984		3.32	0.02	0.053		0.036			12.4	78
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 PG04 Expected																	
STD PD05 Expected																	
BLK	Blank	<0.001	<1	2	<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

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		FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		2	3	2	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				<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	3																	
BLK	Blank	4	<3	<2																	
BLK	Blank	3	<3	<2																	
BLK	Blank	3	5	4																	
BLK	Blank	3	<3	<2																	
BLK	Blank	2	<3	4																	
BLK	Blank	2	<3	<2																	
BLK	Blank	3	<3	3																	
BLK	Blank	3	<3	3																	
BLK	Blank	<2	<3	<2																	
BLK	Blank	3	<3	2																	
BLK	Blank	4	<3	<2																	

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		AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
		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	<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																
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