

LONGFORD

EXPLORATION

Prospecting, Geological and Geochemical Survey Report

On the

Catalyst North Property

Quill Creek, Whitehorse Mining District, Yukon, Canada

Located Within:

NTS Sheet 115 G6

Centered at Approximately:

Latitude 61.30° North by Longitude 139.30° West

Claim Names: BC 229-323

Grant Numbers: YE64829-YE64923

Grouping Certificate:

HWO7655

Field Work Conducted June 21, 2018

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1 Introduction

The Catalyst North Property consists of 95 claim units (BC 229-323) with grant numbers (YE64829-YE64923) covering an area of the front ranges of the Kluane Mountains known as the Shakwak Valley centered over the Quill Creek drainage, approximately 25 km northwest of Burwash Landing, Yukon Territory in the Whitehorse Mining District.

The 2018 exploration program on the BC claims comprised preliminary geological mapping, contour soil geochemical sampling and rock sampling undertaken to test airborne geophysical targets.

2 Summary of Previous Investigations

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, Wade and Swede Johnson Creeks. Old camps and equipment mark the creeks that were mined.

The area surrounding the Catalyst North property has been explored periodically since the early 1950's after the completion of the Alaska Highway in 1942-1945 provided access to the Quill Creek drainage. The discovery of the Wellgreen mineral deposit on upper Quill Creek 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 Cu-Ni mineralization in mafic to ultramafic Triassic aged sills.

The best known deposit and the sole past producer in the belt is the Wellgreen Deposit (Minfile 15G024). The Wellgreen deposit, 7 km southwest of Catalyst North claims, 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 Wellgreen Platinum Ltd 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).

One MINFILE occurrence of note is located in the vicinity of the Catalyst North claims. The Arpy, (Minfile Number 115G 095), as documented by the Yukon Geological Survey (*T. Bremner, 1988*). Contour soil sampling in 1988 outlined two areas with anomalous values up to 55 ppb Pt, 55 ppb Pd and 104 ppb Au. In the claim area, rocks of the Pennsylvanian to Lower Permian Skolai Group (Station Creek and Hasen Creek Formations) make up the majority of bedrock. To the west 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 290-310° trend and then folded again along NE axes. At lower elevations along the Shakwak Valley, the bedrock is overlain by Quaternary unconsolidated glacial, glaciofluvial and glaciolacustrine deposits. Outcrop is limited to the banks of incised creek gullies.

Soil sample results on the Catalyst North property in 2017 were weakly anomalous in copper, nickel and gold. One rock sample and one pan sample returned elevated copper and gold values. A limited program of further prospecting, soil sampling, geophysical survey and mapping was proposed in the assessment report as follows:

- Compilation, digitization, and interpretation of all available historic data \$5,000
- Structural mapping and prospecting \$15,000
- Detailed structural mapping and sampling to identify additional shear zones and investigate the potential for gold bearing disseminated sulfides throughout the property.
- Geophysics, mag & VLF survey \$10,000
- Geochemical sampling \$10,000

Reports, maps and assessment data found in the Yukon Geological Survey database with information pertaining to the property can be summarized as follows:

Table 2.1 Assessment report & geological files concerning the Property.

Date	Report ID	Author	Title
1988	092537	Davidson, G.	Assessment Report on the Greg 1-36 Mineral Claims
1997	GSC Bulletin 506	Hulbert, L.J. 1997	Geology and metallogeny of the Kluane mafic-ultramafic belt, Yukon territory.
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).
2017	Open File 2017-36	Aurora Geosciences	Reprocessing of airborne magnetic data for NTS 115G.
2018	2017 Assessment Report on the Catalyst North Claims	Longford Exploration Services Ltd. on behalf of Group Ten Metals Inc.	Grid soil geochemistry, rock and pan sampling, prospecting and preliminary mapping.

A detailed list of references accompanies this report in Section 10.

3 Property Description and Location

3.1 Location

The Catalyst North Property is located on the south margin of the Shakwak Valley, 7km south west of Mile 1110 on the Alaska Highway centered over 61.30° Lat., 139.30° Long. within National Topographic System (NTS) map sheet 115 G5/6. The property lies 285 km northwest of the city of Whitehorse, Yukon (Figure 3.1) that is well equipped to support the mining industry with general service as well as an available 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.

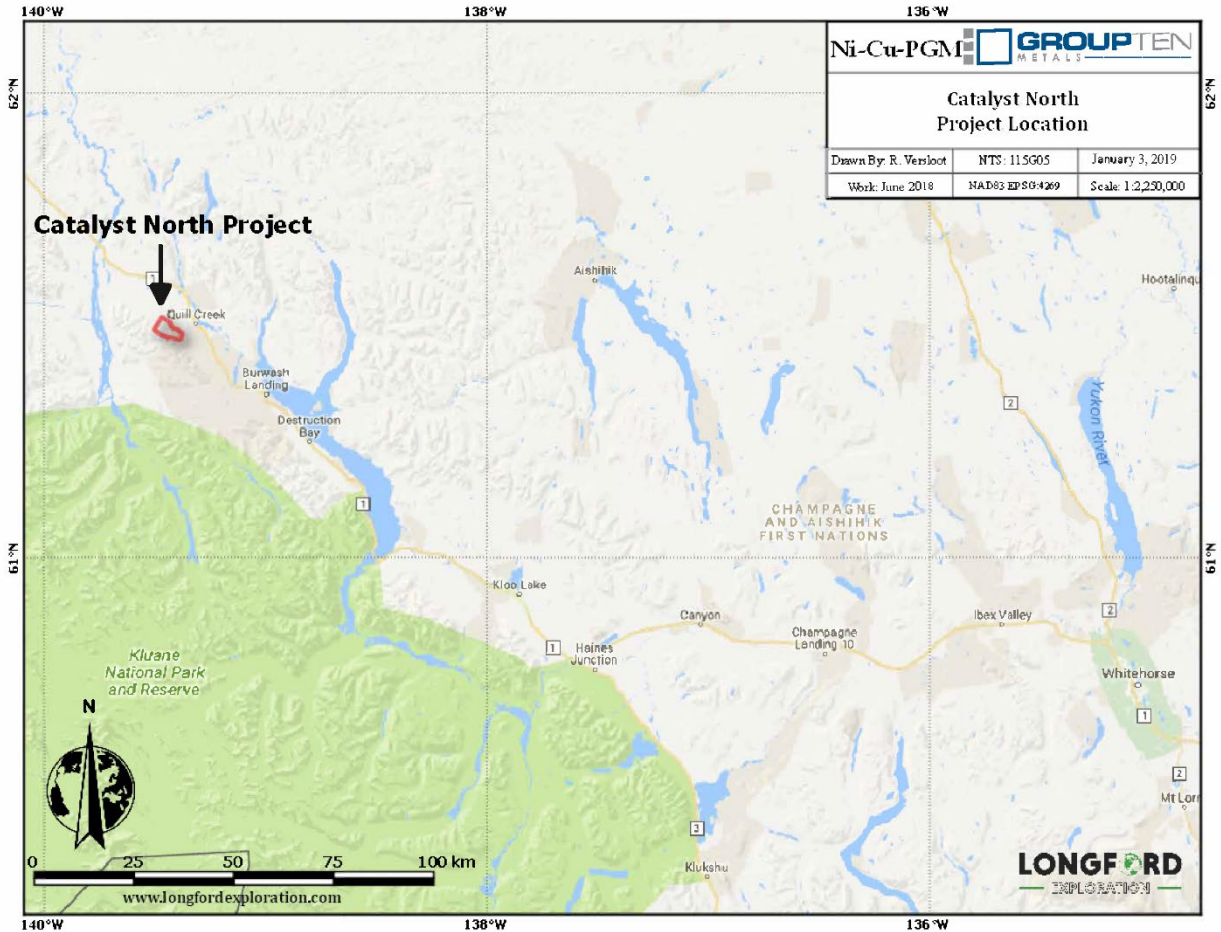


Figure 3.1 Catalyst North project location map.

3.2 Mineral Titles

Group Ten Metals Inc. owns 100% of the BC Claim Group. Ryan Versloot of Longford Exploration filed an Application for a Certificate of Work (YQMA Form 4) on July 4th, 2018.

The 95 mineral claims (Figure 3.2) under Grouping Certificate HW07655 that are subject of this Assessment Report are listed in Table 3.1.

Table 3.1 Mineral tenure summary

Claim Name	Grant Numbers	District	Owner	Grouping Certificate	Renewal Date	Expiry Date
BC 229-323	YE64829- YE64923	Whitehorse	Group Ten Metals. Inc.	HW07655	2018-07-04	2021-07-15

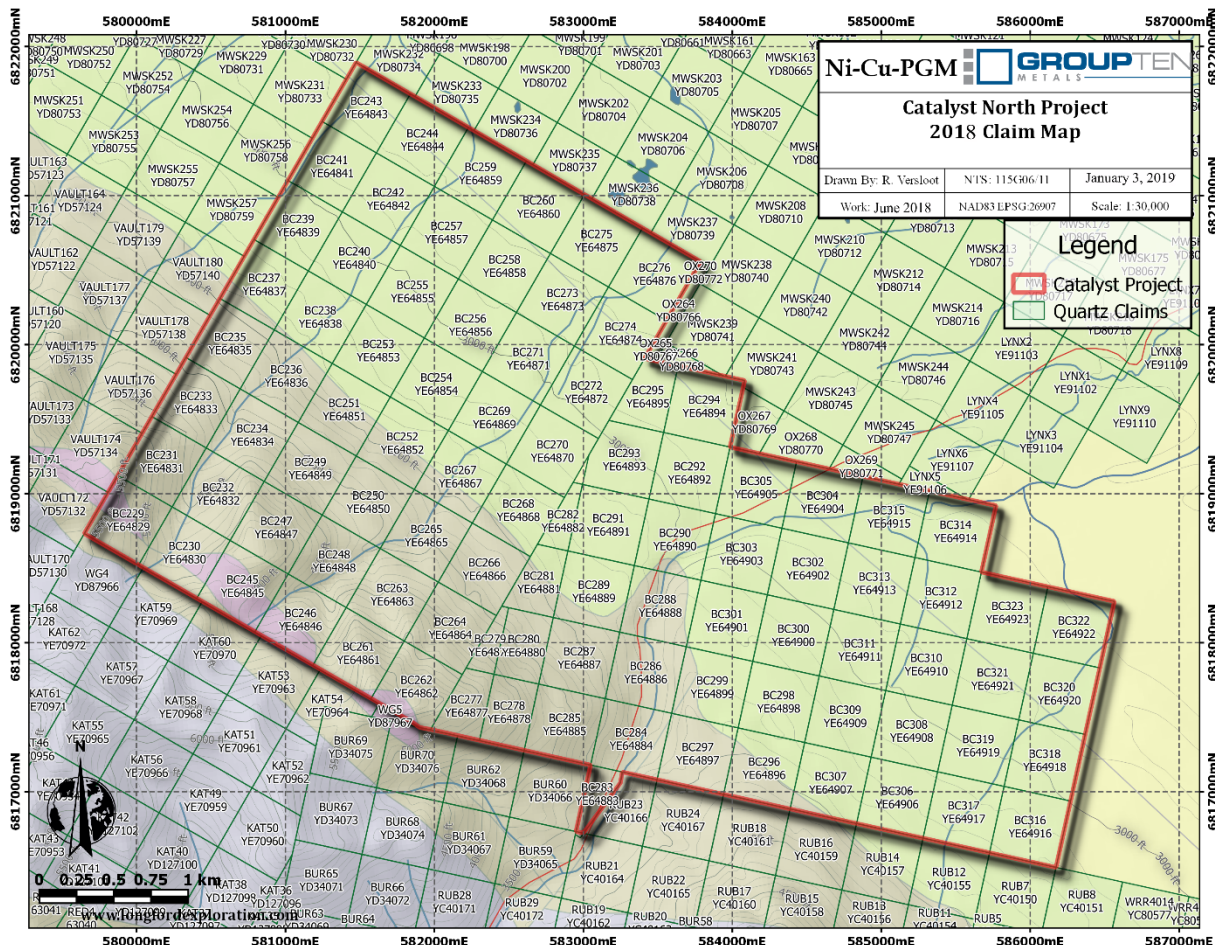


Figure 3.2 Claim map of Catalyst North project area.

3.3 Property Legal Status

The Yukon Mining Recorder website (<http://www.yukonminingrecorder.ca/>) confirms that all claims of the Property as described in Table 3.1 Mineral tenure summary were 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.

4 Accessibility, Infrastructure and Climate,

4.1 Accessibility

The BC claims are located on the southwest side of the Shakwak Valley, 7 km southwest of Mile 1110 on the Alaska Highway. The village of Destruction Bay is 35 km to the southeast and the Yukon capital Whitehorse lies 310 km southeast of the property. The Quill Creek gravel road passes through the claims at kilometer 7 from the Alaska Highway. A helicopter was used to access the more remote west portion of the property during the 2018 program. Road distances from the property to communities are summarized in the following table:

Table 4.1 Driving distances to the Property.

Location	Description	Road Distance
Whitehorse (pop. 25,000)	Nearest city with services	310 km
Haines Junction	village	115 km
Destruction Bay	village	45 km

4.2 Climate

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

4.3 Topography and Vegetation

The project is on the northeast facing slope of the Shakwak Valley, surrounding Quill Creek. Upland areas above 1200m elevation feature open slopes of grass and rock with thickets of willow and alder in incised stream gullies (Figure 4.1). Rocky ridges crest above 1800m elevation while the valley floor is at 900m elevation, featuring spruce forest and swampy areas. The 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; pockets of alder willow and sub-alpine flora are found at and above the timberline.



Figure 4.1 Photo showing the topography conditions in the 2018 work area.

5 History

The area surrounding the Catalyst North property has been explored periodically since the early 1950's after the completion of the Alaska Highway in 1942-1945 provided access to the Quill Creek drainage. The discovery of the Wellgreen mineral deposit on upper Quill Creek (Minfile 115G024) initiated an exploration boom through the Kluane Ranges focused on rocks of the Kluane Ultramafic Belt.

Assessment report #092537 summarizes a preliminary exploration program:

“In 1988 S. Ridgway and M. Glynn performed a prospecting and reconnaissance sampling program on the GREG claims. Camp was established at Quill Creek just west of the junction with Nickel Creek. Four man days of prospecting and contour sampling traverses were undertaken on the claims.

The property is underlain by Permo-Triassic volcanic and sedimentary rocks intruded by bodies of Triassic gabbro. Analysis of the samples recorded weakly anomalous values in Pt and Pd, consistent with results obtained from gabbroic source rocks throughout the district. Sample values in Cu are also elevated, however little correlation exists between Cu and Pt-Pd. Several anomalous areas were outlined by the contour soil sampling. On contour soil line GS-1 above background Pt-Pd values extend from station 3+00 to 6+00 and contour soil line GS-2 weakly anomalous Pt values extend from 2+00 to 3+50.

The presence of gabbroic rocks and the anomalous Pt-W values outlined in the June, 1988 work program indicate that there is good potential for discovering platinum group bearing sulphide mineralization at the GREG claims. On the adjoining Wellgreen property altered gabbro host disseminated chalcopyrite, pyrrhotite and pentlandite. This mineralization assays an average 800 ppb Pt and 833 ppb W and can represent low grade ore delineated as reserves.

Further prospecting and sampling is required to try and locate nickel copper sulphide mineralization on the GREG claims. Traverses should target contacts between gabbroic rocks and Permo-Triassic sediments and volcanics of the Skolai Group.”(Davidson, G. 1988)

In 2017 Longford Exploration Services Ltd. explored the central portion of the claims with a program of geochemical sampling. Soil sample results on the grid area were weakly anomalous in copper, nickel and gold. One rock sample and one pan sample returned elevated copper and gold values which were targeted in the 2018 program.

6 Geological Setting and Mineralization

6.1 Regional geology

The Catalyst North Claim Group is located on the southwest side of the Shakwak Valley underlain by mafic volcanic rocks of island arc and ocean floor genesis (Wrangellia Terrane) with thick assemblages of overlying oceanic sedimentary rocks that range in age from 400 to 220 million years old (Figure 6.1).

The Wrangellian Terrane is characterized by widespread Triassic flood basalts and complementary mafic intrusive rocks which are believed to have originated in a mantle plume which erupted onto the extinct Pennsylvanian and Permian Sicker-Skolai island arc (Carne, R. 2001). The Upper Triassic Nikolai Formation forms a discontinuous linear belt extending across southwest Yukon and is characterized by basal conglomerate and/or volcanic breccia, amygdaloidal basalt and andesitic flows and local tuff, breccia, shale and limestone. The Nikolai Formation was initially mapped in the area of the Pacer Claim Group by Kindle (1976) as partly serpentinized peridotite, talc schist and green serpentine schist of Lower Cretaceous or later age.

The Catalyst North property lies on the margin of 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).

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 (glossy 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 290° to 310°. 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 (Carne, 2001).

The Kluane mafic-ultramafic sills are elongated cumulate bodies that 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 (James, 2016).

The Skolai Group contains the oldest rocks in the ultramafic belt, the Station Creek Formation a sequence of volcanic and volcanoclastics rocks with increasing sedimentary content in the upper half. In the upper 400m of the Station Creek Formation, shale siltstone, limestone and argillite are 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. The Hasen Creek Formation is a subaqueous sequence consisting 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 (James, 2016).

The upper Triassic Nikolai Group is widespread consisting 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.

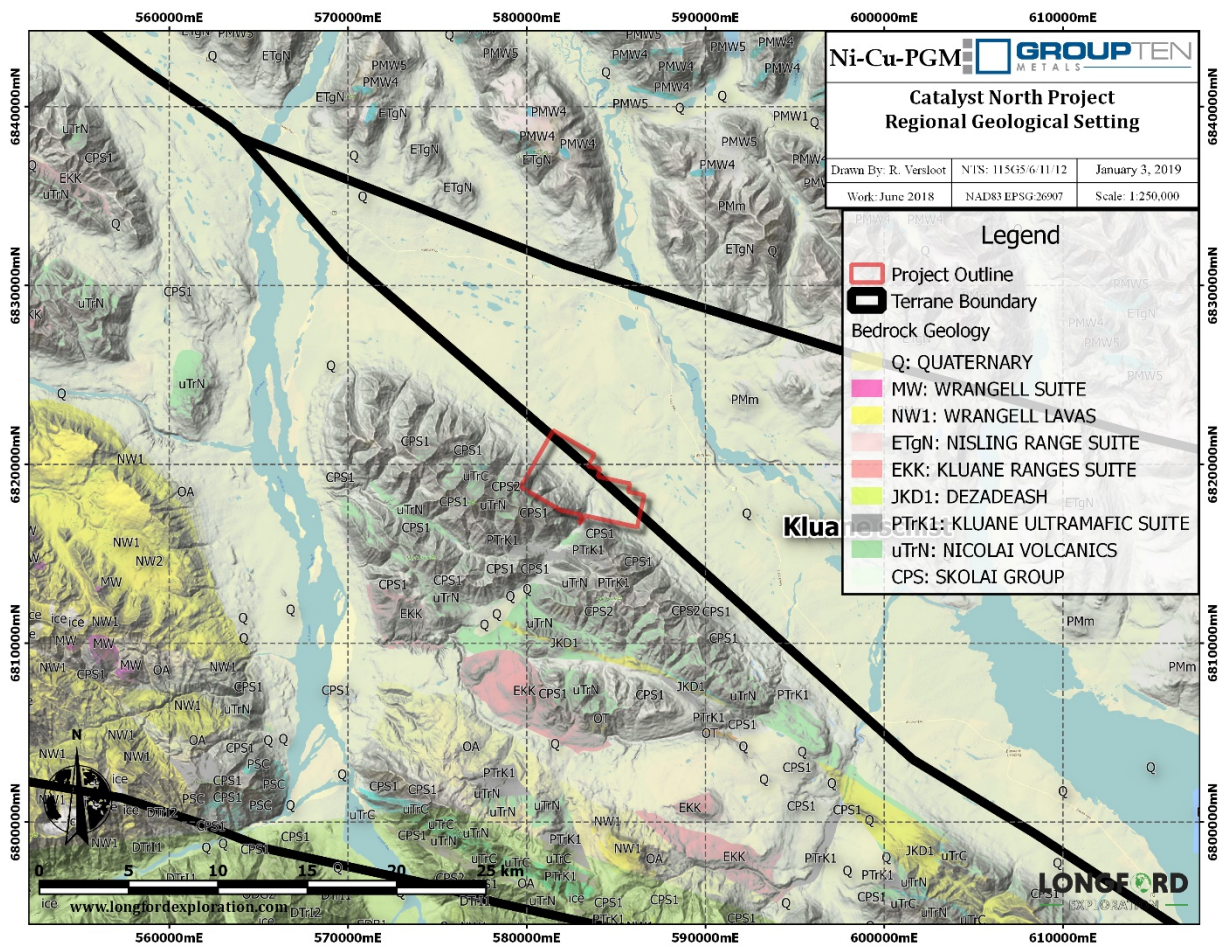


Figure 6.1 Catalyst North regional geological setting.

Table 6.1 Table of formations (Units and descriptions modified from the Yukon Geological Survey digital geology map (Open File 2016-1))

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	Youngest intrusions in the area. Related to the Wrangell Lavas. Felsic to mafic composition.
OT Oligocene Tkope Suite	Homogeneous granite with lesser granodiorite, diorite and gabbro. Subvolcanic rhyolite, rhyodacite and dacite.
Kgd, Kd, Kg late Early Cretaceous Kluane Ranges Suite	Found along the length of the ultramafic belt but are more prevalent in the north. Medium to coarse-grained, biotite-hornblende granodiorite, quartz diorite, quartz monzonite and hornblende diorite. Minor diorite and gabbro.
uTrC upper Triassic Chitistone	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)
uTrNv upper Triassic Nikolai formation	uTrN3 – thinly bedded grey limestone and argillite. uTrN2 – dark green to maroon amygdaloidal basalt and basaltic andesite flows, locally pyroxene and plagioclase phyric. (Nicolai Greenstone) uTrN1 – light to dark green volcanic breccia, pillow lava and basal conglomerate.
LTrK 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.
PH lower Permian Skolai Group - Hasen Creek Fm.	PHp – fine-grained clastic rocks. Lower part contains volcanoclastics, rare basalts, rare chert beds and chert-pebble conglomerate. PHc – limestone, locally fossiliferous, massive to bedded.
PSv Mississippian to Pennsylvanian Skolai Group- Station Creek Fm.	PSv-undifferentiated Skolai Gp; includes Hasen and Station Creek formations PSvb - Dark green basalt flows, pillows, pillow breccia, local magnetite-rich jasper. PSvt – bedded to massive chert, tuff PSv – interbedded volcanic breccia, volcanoclastics; minor basalt flow. PSvt – laminated volcanic tuff and volcanoclastic siltstone.

6.2 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. Figure 6.2 below illustrates a typical, simplified ultramafic sill. The best known deposit and the sole producer in the belt is Wellgreen Platinum's Wellgreen Deposit (Minfile 115G024). At Wellgreen the platinum group metals combine with As, Sb, Te, Bi, Ni, S, Co and Fe to form minerals and alloys. Sperrylite (PtAs₂) and Sudburyite (PdSb) are two of the more abundant minerals (Hulbert, 1997).

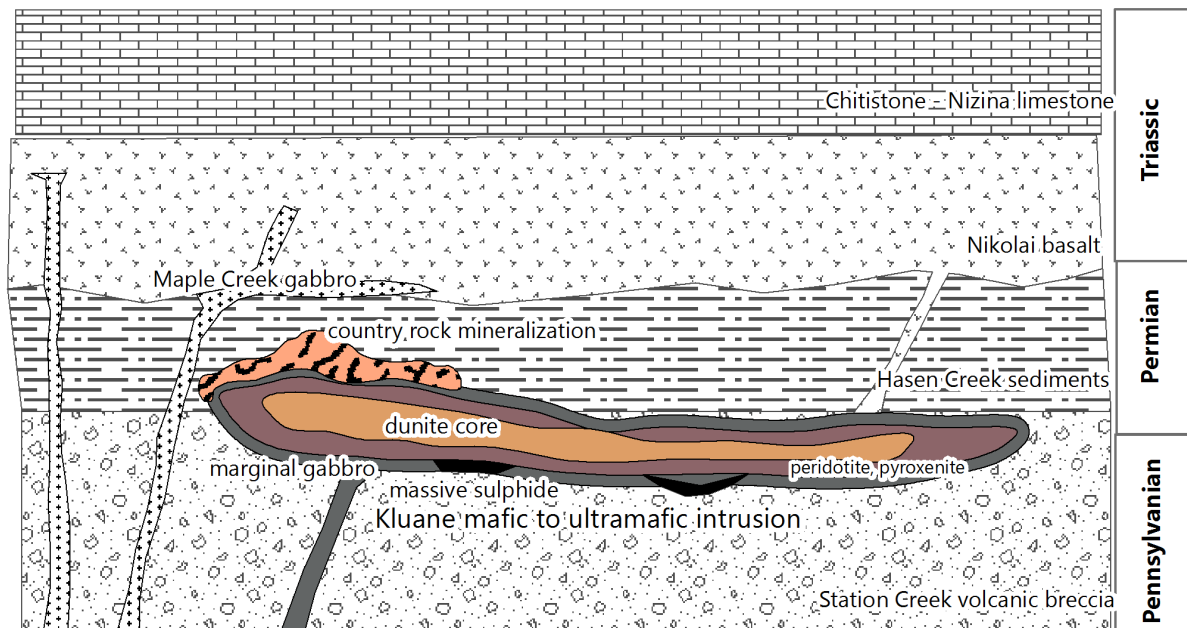


Figure 6.2 Deposit model for the Kluane Belt (modified from Hulbert, 1997)

6.3 Property Geology

On the Catalyst North claims, rocks include Triassic Nikolai mafic volcanics and the Permian Skolai Group consisting of Station Creek volcanics and Hasen Creek sediments (Figure 6.3). Northwest of the property Skolai rocks are locally intruded by ultramafic sills, close to the favourable unit contact, which host the target PGE-Ni-Cu mineralization. All rocks have been folded into a series of anticlines and synclines along fold axis at the dominant 290-310 deg. trend parallel to the Shakwak Valley. At lower elevations in the Quill Creek valley the above units are locally overlain by Quaternary unconsolidated glacial, glacio-fluvial and glacio-lacustrine deposits.

Along Quill Creek, Skolai Group sediments and metasedimentary rocks outcrop at lower elevations and extend northwest across gently sloping areas. Station Creek volcanics mainly mafic tuffaceous and porphyritic volcanics underlie the sediments. The Skolai rocks are locally intruded by Kluane Ranges Suite quartz feldspar porphyry dykes. On higher slopes and along the ridge tops, the upper Triassic Nikolai formation consists of basalts and mafic volcanic tuffs. Prominent outcrops of buff weathering limestone are common in the northern corner of the claim block.



Figure 6.3 Hasen Creek sediments overlying Station Creek volcanics, looking southeast toward Shawkak Valley

7 Work Program: Geological and Geochemical Survey

Expenditures during the exploration program conducted on June 21, 2018 consisting of prospecting, geological mapping and contour soil sampling amounted to \$11,214

A Longford Field Crew utilized helicopter access to the BC claims on June 21, 2018 from Burwash airstrip. Field personnel included: geologists Graham Davidson, Sarah Ryan and Ryan Versloot, and field assistant Matt Martinolich. Local supplies, services and fuel were obtained from Destruction Bay and Burwash Landing. A total of 4 man-days were spent on the exploration program with collection of 38 soil and 8 rock samples and identification of 8 geological reference points.

7.1 Geological Survey, Prospecting, Rock Sampling

Preliminary geological mapping of the western area of the BC Claim Group was undertaken in the 2018 field season, with traverses across claims BC 245, 246, 247, 261 and 263. A total of 8 representative rock samples were collected and 6 geological points were described (Appendix A). Mapping was focused on tracing the contact between Hasen sediments and Station Creek volcanics. No mineralization associated with ultramafic rocks was located during the 2018 program on the Catalyst North property.

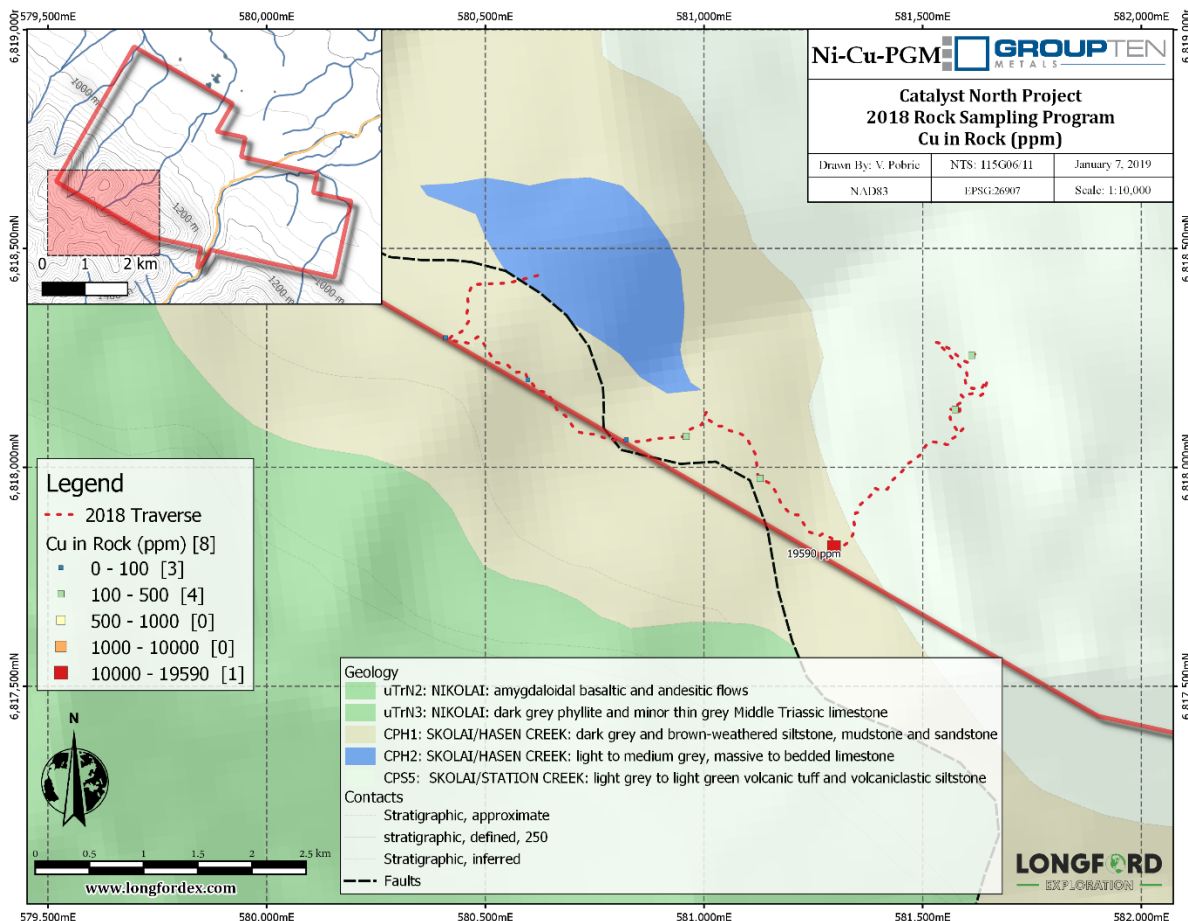


Figure 7.1 Property geology and traverse map.

Outcrop on the western portion of the claims consists of the Pennsylvanian to Lower Permian Skolai Group (Station Creek and Hasen Creek formations) seen as prominent cliffs of buff limestone, more recessive argillite and siltstone on upper slopes. Underlying the sediments are poorly exposed mafic volcanic rocks of the Station Creek Formation, with outcrop limited to small gullies incising the broad upland slopes. The Longford Exploration Services Ltd.

volcanics show rusty weathering with patchy quartz carbonate veining and are locally sheared with intervals of chloritic and graphitic schist containing minor disseminated pyrite, chalcopyrite and pyrrhotite. A few quartz carbonate veins are evident in the volcanics both cross-cutting and parallel to the foliation. The dominant foliation is 275-290° trend parallel to the Shakwak Valley axes.

Rock samples K736075-K736082 were collected from outcrop of the Station Creek mafic volcanic rock. Localized quartz-carbonate veining, chloritic and epidote alteration contain 2-5% disseminated pyrite + pyrrhotite and minor chalcopyrite with spotty malachite.

Results from rock samples collected on the 2018 traverses, summarized in Table 7.1.

Table 7.1 Rock sample summary.

SAMPLE NUMBER	EASTING	NORTHING	Zone NAD83	LITHOLOGY	CU ppm	NI ppm	PGE+Au ppb
K736075	580409	6818296	7	Station Creek mafic Tuff, trace po	78	266	48
K736076	580568	6818158	7	Station Creek mafic Volcanic breccia, chloritic, trace po+cpy	96	59	26
K736077	580773	6818001	7	Station Creek meta-volcanic, chloritic, trace po	8	13	8.5
K736078	580959	6818071	7	Station Creek meta-volcanic, qt-carb alteration, trace po+malachite	122	30	21
K736079	581128	6817975	7	Station Creek meta-volcanic, trace po	102	23	17
K736080	581297	6817818	7	Station Creek meta-volcanic breccia, qtz-carb veining, trace po	19590	58	48
K736081	581574	6818132	7	Station Creek mafic volcanic, rusty, qtz-carb veins, trace po	116	36	49
K736082	581612	6818256	7	Station Creek andesite, foliated, chloritic, epidote, qtz-carb veins, diss. 2% py+cpy	253	56	37
*1889409	581587	6818282	7	Station Creek andesite	18000	56	20

*2017 rock sample

Table 7.2 2018 Geo Point Summary

GEO POINT	EASTING	NORTHING	Zone NAD83	LITHOLOGY
CNT-42	580550	6818168	7	Hasen Creek Fm, shale and phyllite, strike 64°, dip 74°
CNT-44	580616	6818094	7	Hasen Creek Fm, shale and phyllite, strike 60°, dip 45°
CNT-47	581003	6818132	7	Hasen limestone, light grey, bioclastic, strike 45°, dip 42°
CNT-49	581153	6817962	7	Hasen Creek Fm argillite, silvery grey to black
CNT-50	581228	6817868	7	Hasen Creek Fm limestone, chalky to bioclastic
CNT-52	581350	6817895	7	Hasen Creek Fm limestone, cliffs, light grey, strike 45°, dip 40°.

7.2 Soil Geochemical Survey

Longford field crews collected 38 soil samples at 50m along contour intervals around a knob with distinct aeromagnetic anomaly. The samples were submitted for analysis to the Bureau Veritas lab in Whitehorse, Yukon. Anomalous results favoured the contact between Station Creek and Hasen Creek Formations.

The soil sample results and locations are shown for copper, nickel and platinum, palladium and gold in Figures 7.3, 7.4 and 7.5 respectively. Assay certificates can be found in Appendix D. Poor soil development on the steep slope does not appear to have hindered the geochemical response seeing as results for copper and gold are distinctly elevated on the upper slopes. Results for nickel were very subdued, while results for the Au-Pt-Pd elements were somewhat elevated and conform to the NW-SE trend.

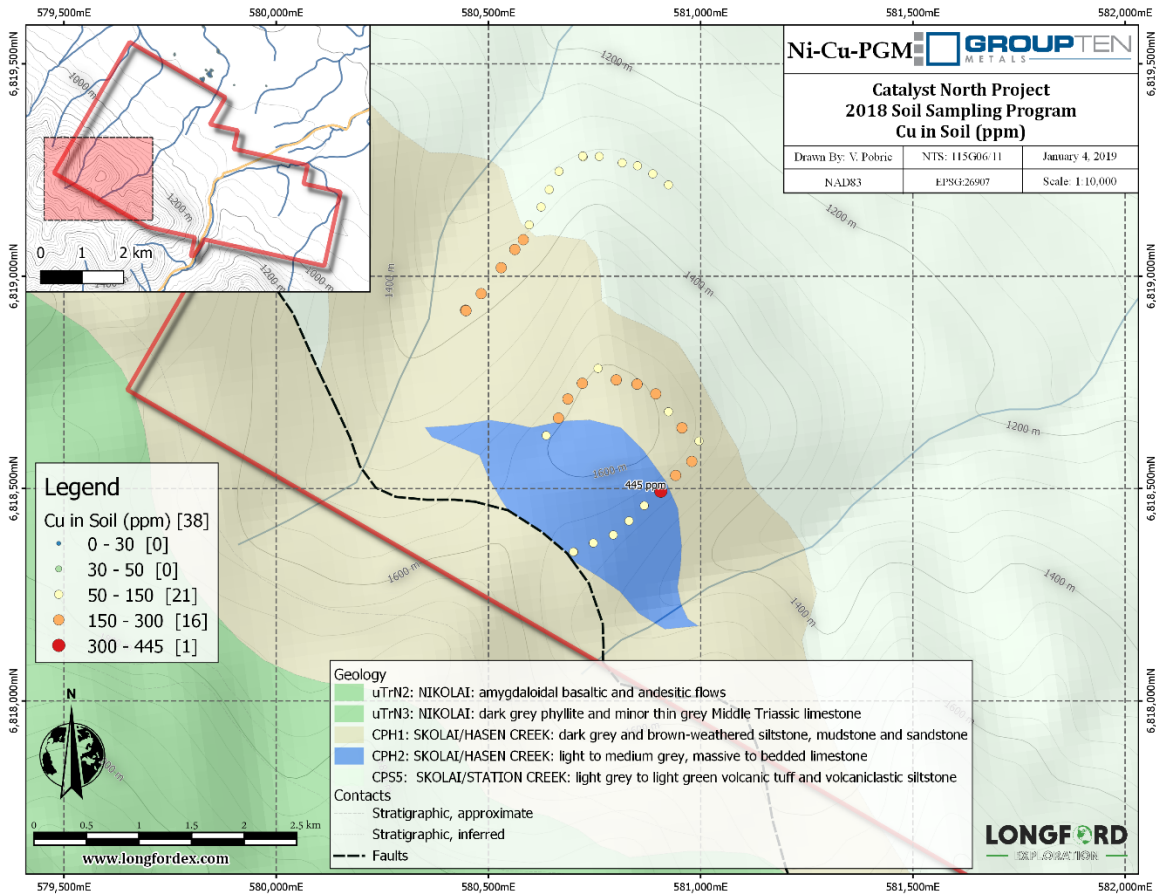


Figure 7.2 Catalyst North Cu in soil results (ppm).

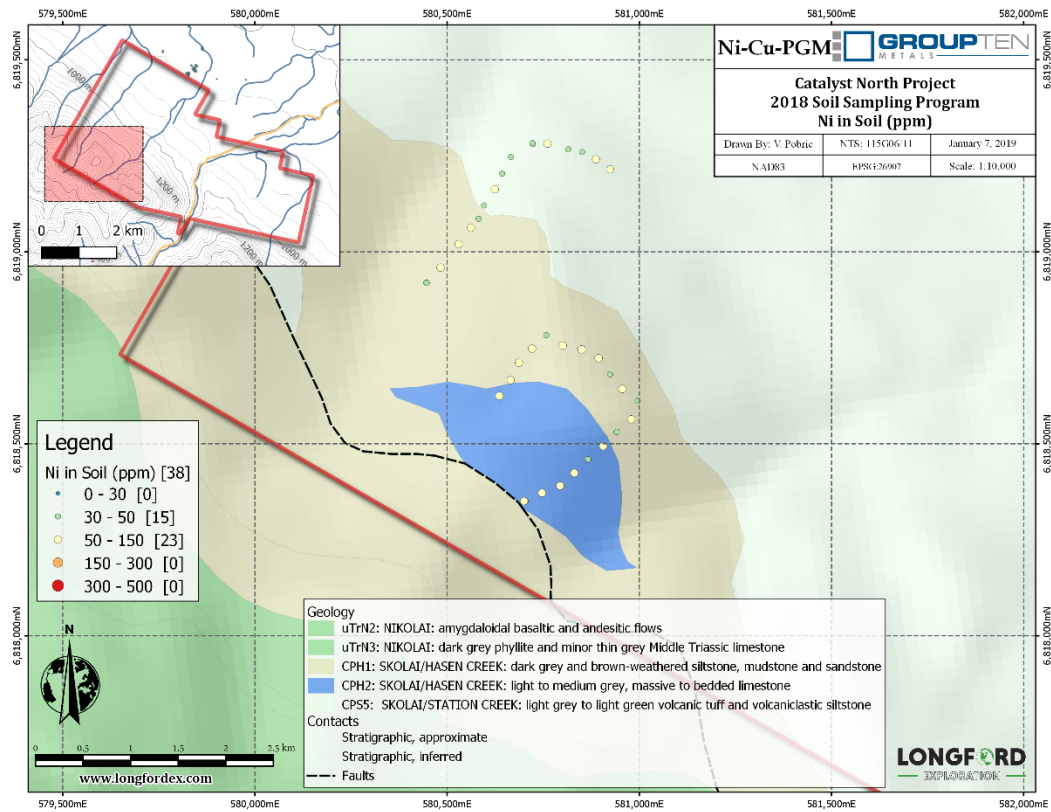


Figure 7.3 Catalyst North Ni in soil results (ppm).

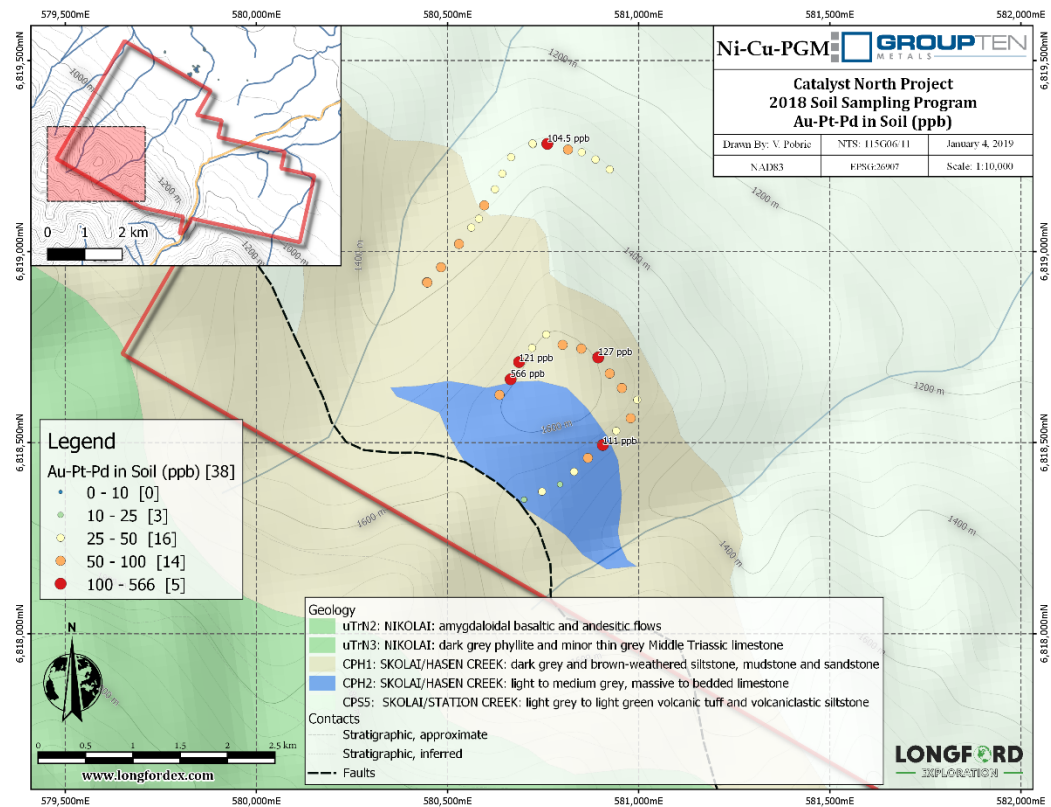


Figure 7.4 Catalyst North Au+Pt+Pd in soil results (ppb).

7.3 Geophysical Interpretation (from 2017 Assessment report)

The re-processing of the airborne magnetic data for the 115 G Map Sheet was used to target areas for follow-up on the Catalyst North property. A linear anomaly in the southwest of the property corresponds to the contact between Hasen Creek and Station Creek Formations and to a 2017 grab sample and stream sample elevated in Cu. Soil sampling results also show a correlation with the contact between Hasen Creek and Station Creek Formations where it outcrops on the NE flank of the knob and near the contact with limestone.

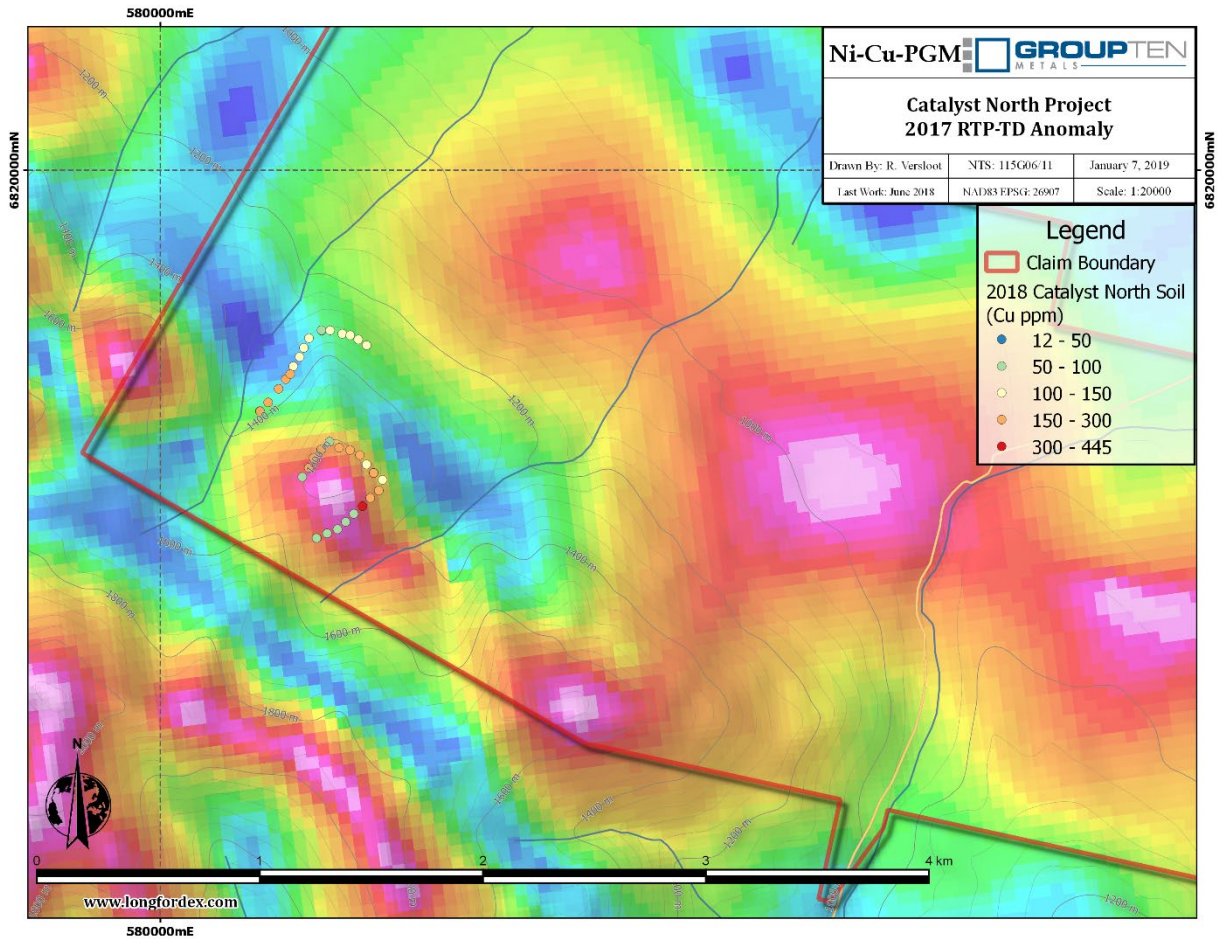


Figure 7.5 2017 aeromagnetic anomaly with Cu in soil results.

8 Interpretation and Conclusions

The 2018 exploration program targeted aeromagnetic anomalies defined by the reinterpreted aeromagnetic maps in the western portion of the BC claims.

Preliminary geological mapping and sampling suggests that mafic volcanic rocks of the upper portion of the Station Creek Formation host disseminated patchy pyrite + chalcopyrite mineralization associated with quartz carbonate veining and foliated intervals. One rock sample recorded a copper value of 1.9% close to an anomalous 2017 rock sample. Results from the two contour soil lines also produced spotty elevated copper and precious metal values.

Further prospecting and mapping of the southwest portion of the BC claims is recommended, to follow up the 2018 rock and soil sample results. Rock sampling and soil geochemistry should focus on the contact between the Station Creek Formation and Hasen Creek Formation particularly sheared mafic volcanic rocks with intervals of quartz carbonate veining.

A budget of \$ 25,000 is proposed for this follow-up program.

9 Recommendations

Soil and rock sample results on the Catalyst North property in 2018 were anomalous in copper and gold which warrant follow up examination. A two day program of further rock sampling and soil sampling is outlined as follows:

Phase I \$23,000

- Rock sampling and mapping (approx. 25 rocks) \$5,000
- Geochemical sampling (approx. 100 soils) \$7,500
- Access, accommodations, support \$ 8,000
- Report \$ 2,500

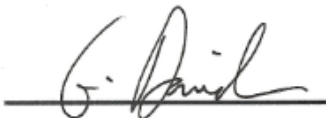
10 References

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11 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 Catalyst North 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: Detailed Descriptions of Geosites

Site No.	Sample No.	Easting	Northing	NAD83 Zone	Elevation (m)	Date	Lithology	Colour	Alteration	Description
CNT-41	K736075	580409	6818296	7	1628	6-21-2018	Mafic Tuff	Dark green		Station creek volcanic, amafic tuff, gabbroic intervals, trace carbonate veins, trace PO
CNT-42		580550	6818168	7	1628	6-21-2018	Shale/Phyllite			Laminated shale to phyllite
CNT-43	K736076	580568	6818158	7	1608	6-21-2018	Mafic Volcanic	green	Chlorite/epidote	Nikolai green mafic volcanics, foliated, chlorite, carbonate veins, trace PO + PY. Grey-green volcanic breccia, clasts green gabbroic, tuffaceous matrix, chlorite, quartz-carbonate veins, 5%/ trace PO, epidote alteration
CNT-44		580616	6818094	7	1585	6-21-2018	Meta-seds			Platey, meta-seds, shale, phyllite, quartz carbonate veins, volcanoclastic intervals
CNT-45	K736077	580773	6818001	7	1536	6-21-2018	Meta-volcanic	green-black	Chlorite	green-black, foliated, meta-volcanic with argillaceous interbeds, trace PO, chloritic
CNT-46	K736078	580959	6818071	7	1519	6-21-2018	Meta-volcanics	black-green	Chlorite/Limonite	rusty-red weathering, meta-volcanic, extensive quartz-carbonate veining, black-green chlorite alteration, slickensides, trace PO+ CUPR to malachite stain, limonitic bands 5%
CNT-47		581003	6818132	7	1918	6-21-2018	Limestone	light-grey		Limestone outcrop, light grey, bioclastic
CNT-48	K736079	581128	6817975	7	1522	6-21-2018	Meta-volcanic		Quartz-Carbonate	Meta-volcanics, amygdaloidal basalt, trace PO
CNT-49		581153	6817962	7	1524	6-21-2018	Argillite	Black, Silver-grey		Cross into black, silver-grey platey argillite slope for the last 25 meters
CNT-50		581228	6817868	7	1522	6-21-2018	Limestone			Limestone outcrop, cliffs of grey-white, chalky, bioclastic, quartz-carbonate above limestone
CNT-51	K736080	581297	6817818	7	1509	6-21-2018	Meta-volcanic	grey-brown	Chlorite	Volcanic breccia, grey-brown, quartz-carbonate veining, 10-20% of rocks, trace PO. Quartz-carbonate veining in altered meta-volcanics, foliated, chloritic, mafic comp, trace PO.
CNT-52		581350	6817895	7	1514	6-21-2018	Limestone	light-grey		Massive, light-grey limestone cliffs and outcrop
CNT-53	K736081	581574	6818132	7	1471	6-21-2018	Volcanic		Limonite	Volcanic, quartz-carbonate veins, limonite, rusty weathering, trace PO.
CNT-54	K736082	581612	6818256	7		6-21-2018	Andesite	Green	Chlorite/epidote	Greenstone, quartz-carbonate veins, disseminated PY + CPY (2%), andesite, foliated, quartz carbonate veins, chlorite and epidote alteration.

APPENDIX B: Statement of Costs

DATE: July 25, 2018



SEND TO:

Group Ten Metals Inc.
 #904-409 Graviile 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 North 2018

Personnel		Days	Rate	Line Total
Pgeo - Davidson		1	\$ 600.00	\$ 600.00
Geologist - Versloot		1	\$ 500.00	\$ 500.00
Junior Geologist - Ryan		1	\$ 350.00	\$ 350.00
Student Geologist - Martinolich		1	\$ 300.00	\$ 300.00
	total man days	4	Cat. Total	\$ 1,750.00
Food and Lodging		Units	Rate	Line Total
Food and Groceries		4	\$ 55.00	\$ 220.00
Lodging	Copper Joe Cabin	1	\$ 250.00	\$ 250.00
			Cat. Total	\$ 220.00
Transportation		Units/Days	Unit Price	Line Total
Mob/Demob		1	\$ 1,000.00	\$ 1,000.00
Truck	1 ton with safety and recovery gear	2	\$ 140.00	\$ 280.00
Trailer	18' 7000lb covered trailer	2	\$ 50.00	\$ 100.00
Fuel	per km for truck, km	40	\$ 0.55	\$ 22.00
Heli		2.7	\$ 975.00	\$ 2,632.50
Jet Fuel		270	\$ 1.80	\$ 486.00
			Cat. Total	\$ 3,520.50
Equipment Rentals		Units	Unit Price	Line Total
Electronics Kit	Radios, Sat phones, GPS, per man day	4	\$ 20.00	\$ 80.00
portable XRF with Stand	Per Day	1	\$ 177.42	\$ 177.42
			Cat. Total	\$ 257.42
Consumable		Units	Unit Price	Line Total
Sample Bags	per man day	4	\$ 10.00	\$ 40.00
Flagging Tape	per man day	4	\$ 5.00	\$ 20.00
Office Consumables	per man day	4	\$ 5.00	\$ 20.00
			Cat. Total	\$ 80.00
Analytical		Units	Unit Price	Line Total
Analysis-soil	SS80, AQ300 FA330	38	\$ 30.25	\$ 1,149.50
Analysis-rock	PRP70-250, FA330, AQ300	8	\$ 34.25	\$ 274.00
			Cat. Total	\$ 1,423.50
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				\$ 9,751.42
Management 15%				\$ 1,462.71
SUB TOTAL				\$ 11,214.13
GST 5 %				\$ 560.71
Total				\$ 11,774.84

APPENDIX C: 2018 Rock Assay Certificates

Note: Arch and Corky project included in this submission.



BUREAU VERITAS MINERAL LABORATORIES
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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

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.

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

CC:

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



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



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Canada

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Client: Longford Exploration Services Ltd.

6970 Napier Street
Burnaby British Columbia V5B 2C4 Canada

Project: 2018-Catalyst

Report Date: August 16, 2018

Page: 2 of 3

Part: 1 of 2

CERTIFICATE OF ANALYSIS

WHI18000267.1

Method	Analyte	WGHT	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	
	Unit	kg	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	
	MDL		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	
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

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



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

Page: 2 of 3

Part: 2 of 2

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

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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	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	2.96	<2	<2	194	<0.5	<3	<3	138

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Project: 2018-Catalyst
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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
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	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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6970 Napier Street
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Project: 2018-Catalyst
Report Date: August 16, 2018

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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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Client: Longford Exploration Services Ltd.
6970 Napier Street
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Project: 2018-Catalyst
Report Date: August 16, 2018

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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	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	%	
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	0.001	
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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APPENDIX D: 2018 Soil Assay Certificates

Note: Arch and Corky project included in this submission.



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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
Page: 1 of 8

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.

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

CC:

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


JEFFREY CANNON
Geoscience Department Supervisor

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*** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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

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CERTIFICATE OF ANALYSIS WHI18000734.1

Method Analyte Unit MDL	FA330	FA330	FA330	AQ300	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	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	
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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Project: 2018-Catalyst
Report Date: January 03, 2019

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CERTIFICATE OF ANALYSIS WHI18000734.1

Method	Analyte	Unit	MDL	AQ300	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	TI	Ga	Se	
				%	ppm	ppm	%	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	
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	<20	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
Report Date: January 03, 2019

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CERTIFICATE OF ANALYSIS **WHI18000734.1**

Method	Analyte	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
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	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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Project: 2018-Catalyst
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CERTIFICATE OF ANALYSIS

WHI18000734.1

Method	Analyte	Unit	MDL	FA330	FA330	FA330	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	ppm
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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Project: 2018-Catalyst
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CERTIFICATE OF ANALYSIS WH118000734.1

Method	Analyte	AQ300																
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Se	
Unit		%	ppm	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	0.68	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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Client: Longford Exploration Services Ltd.
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

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

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CERTIFICATE OF ANALYSIS

WH118000734.1

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

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

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CERTIFICATE OF ANALYSIS

WH118000734.1

Method	Analyte	AQ300															
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Se
Unit		%	ppm	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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Project: 2018-Catalyst
Report Date: January 03, 2019

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Part: 2 of 2

CERTIFICATE OF ANALYSIS

WHI18000734.1

Method	Analyte	Unit	MDL	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
		%	ppm	ppm	%	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
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	2.85	<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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460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

Project: 2018-Catalyst
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CERTIFICATE OF ANALYSIS

WH118000734.1

Method	Analyte	Unit	MDL	FA330	FA330	FA330	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	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
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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Client: Longford Exploration Services Ltd.
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

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

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CERTIFICATE OF ANALYSIS

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Method	Analyte	AQ300															
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Se
Unit		%	ppm	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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CERTIFICATE OF ANALYSIS WHI18000734.1

Method	Analyte	AQ300																
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Se	
Unit		%	ppm	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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Vancouver British Columbia V6B 1P1 Canada

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

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QUALITY CONTROL REPORT WHI18000734.1

Method Analyte Unit MDL	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	%	
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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Vancouver British Columbia V6B 1P1 Canada

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

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QUALITY CONTROL REPORT WHI18000734.1

Method	Analyte	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
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	0.01	2	0.05	1	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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Bureau Veritas Commodities Canada Ltd.
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Client: Longford Exploration Services Ltd.
460-688 West Hastings St.
Vancouver British Columbia V6B 1P1 Canada

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		FA330	FA330	FA330	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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		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 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	
		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																
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