

ASSESSMENT REPORT

describing

2020 SOIL SAMPLING and PROSPECTING

at the

BORDER PROJECT YMEP FOCUSED REGIONAL 20-100

FA 1 – 48, YF30417 – YF30464

BH 1 – 30, YD61333 – YD61362

located at

NTS 116C/10

Latitude 64°34'N; Longitude 140°54'W

Dawson Mining District

Yukon, CANADA

prepared by claim owner

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January, 2021

Field Work Performed September 9- 10, 2020



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INTRODUCTION

The BORDER YMEP project 20-100 was designed to evaluate a local area on the east side of the BH claims known to host an extensive polymetallic soil anomaly that is proximal to a regional northeast trending fault. The BH claims were staked in 2018 to cover a favourable silver- lead- zinc- copper- molybdenum- arsenic anomaly that extended from the FA claims eastward to the Alaska border. The 8-kilometre soil anomaly on the combined property is concentrated in three clusters named the FAN, FAB and Border zones. Most of the property is overburden covered, so the bedrock geology is only partially understood.

Work in 2020 was successful in confirming the Border zone target. Mineralized skarn was confirmed at the Border zone with 10 rock samples from outcrop, float and in three test pits, with two infill and extension soil lines totalling 46 samples.

Highlights of 2020 work include rock assays up to 0.314 g/t Au, 27.7 g/t Ag, 5423 ppm Cu, and 67 ppm Mo from skarn samples. In soil sampling the known polymetallic anomaly was confirmed. Soils returned values up to 383ppm Cu, 131ppm Pb, 12ppm Mo and 3ppm Ag. One of the most intriguing results is a molybdenum soil anomaly at the Border zone that is roughly 1000m diameter, with values up to 90 ppm Mo. This anomaly suggests potential for a moly rich porphyry at depth.

2018 petrographic work identified the skarn rocks as diopside- garnet skarn, actinolite skarn and related chlorite-epidote altered carbonate rocks. The diopside- garnet skarn was formed at high temperature, and is likely proximal to an intrusive source.

The project area is located in Yukon Tanana Terrane adjacent to the Fanning pluton, within the Tintina Gold Belt, just south of the Tintina Fault and Yukon River in westernmost Yukon Territory, adjacent to the Alaska border. The property comprises 78 FA and BH claims staked in 2017 and 2018.

This report describes a program of soil sampling and prospecting designed and performed by the author and his partner Max Mikhailytchev on September 9th and 10th, 2020.

PROPERTY LOCATION, CLAIM DATA AND ACCESS

The property consists of 48 FA claims and 30 BH claims which are contiguous and located in western Yukon at latitude 64°34' north and longitude 140°51' west on NTS map sheet 116C/10 (Figure 2). The claims are registered in the name of the claim owner William Mann at the Dawson Mining Recorder. Claim data are listed below while the locations of individual claims are shown in Figure 2.

Claim Name	Grant Number	Expiry Date	Number
FA 1 – 48	YF30417 – YF30464	2024 – 06 – 05	48
BH 1 – 30	YD61333 – YD61362	2024 – 06 - 25	30

* Expiry date excludes 2020 work which will be filed for assessment credit.

The property lies about 87km northwest of Dawson City, south of the Yukon river and adjacent to the border with Alaska. The claims cover a north facing slope which drains into Fanning creek, which flows northeast into the Yukon River. Some of the BH claims drain southerly into the Liberty Fork of O'Brien creek, which drains westward into Alaska, then into the Yukon River.

Access is by helicopter either from Dawson City or from the road to the past producing Clinton Creek asbestos mine located 15km south of the FA BH property. The Clinton Creek mine can be accessed in two-wheel drive from the Fortymile road, which forks to the north from the Top of the World Highway from Dawson City to Alaska.

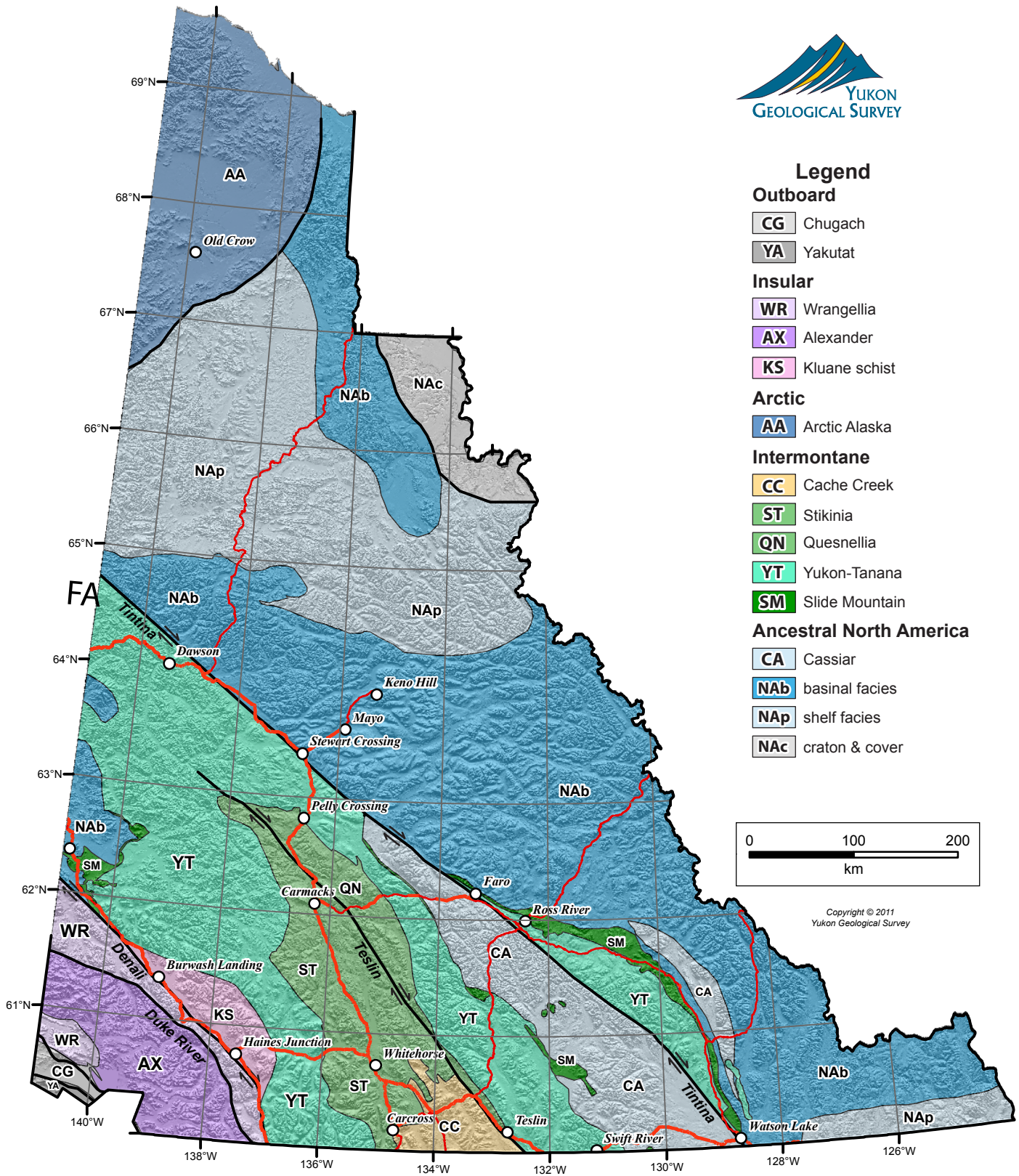


Figure 1. Location and Bedrock Terranes - FA Claims

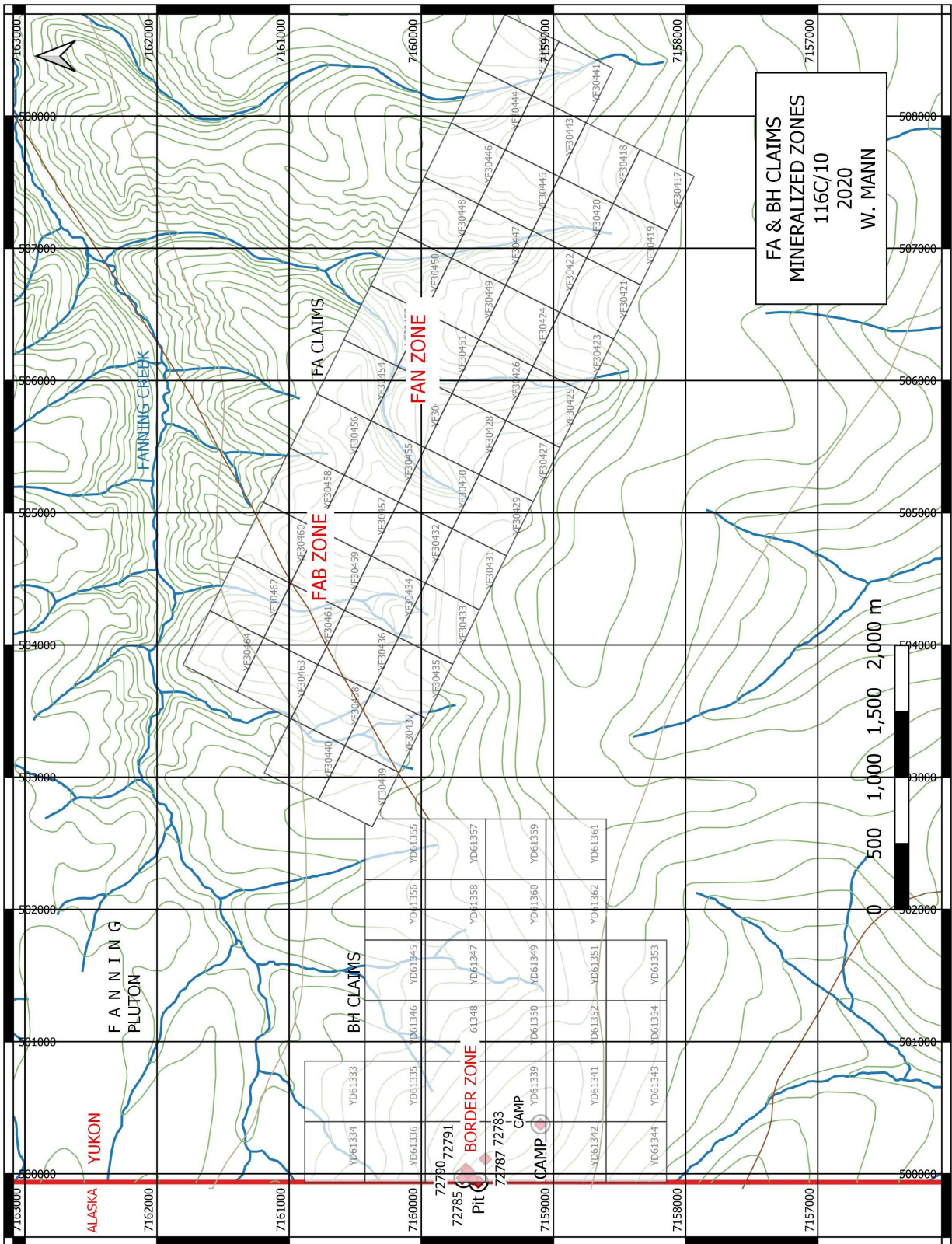


Figure 2.

PREVIOUS WORK

1961 Regional geological mapping conducted at 1:250,000 scale by the Geological Survey of Canada (Green, 1972).

1966 Airborne magnetic survey flown by the Geological Survey of Canada.

1977 Regional stream sediment survey was conducted by the Geological Survey of Canada in the project area (RGS Open File 2365). This work did not identify significant anomalies in streams draining the property, however only a few samples were collected from the Fanning creek drainage, several kilometres downstream.

1979 Cominco performed confidential regional stream sediment geochemical surveys in the area. This program identified anomalies on Fanning creek that led to staking of the FAN claims in 1995.

1995 195 “FAN” claims were staked in the area. 192 contour and stream bank soil and silt samples were collected, and analyzed for Zn, Pb, Ag & Cu. Two significant geochemical anomalies were detected by Cominco during work on this occurrence. Anomaly ‘A’ is 900 metres long and comprises stream bank soil samples with maximum values up to 373 ppm Zn, 146 ppm Pb, 114 ppm Cu and 1.0 ppm Ag. Anomaly ‘B’ is 600 metres long and comprises stream silt and bank samples with maximum values up to 906 ppm Zn, 500 ppm Pb, 80 ppm Cu and 3.2 ppm Ag (Pride, 1996). It is reported by Ross that Cominco flew an airborne geophysical survey at this time but did not file the work for assessment.

1996 Surficial geological mapping at 1:250,000 scale by Geological Survey of Canada (Duk-Rodkin, 1996).

2004 16 Rhea claims staked by J.P. Ross. 7 float rock samples collected (Ross, 2004).

2007 32 additional Rhea claims staked by Ross. 76 soil samples and 4 float rock samples collected (Ross, 2007). Two soil lines were sampled to the west of anomaly B, and analyzed by multi-element ICP. Soil samples were collected by shovel.

2011 The Rhea claims were optioned by Zinccorp Resources Inc., and an additional 95 RH claims were staked. 259 soils, 2 silts and 7 rocks were collected for analysis (Mann, 2011). Soil samples were collected as deep as possible by auger. Work focused between and proximal to Cominco anomalies A & B.

2014 Airborne magnetic survey flown at 400m line spacing, 125m above terrain by Goldak Airborne Surveys for the Geological Survey of Canada (Kiss & Coyle, 2014). Much higher precision, accuracy and resolution was achieved compared to the 1966 survey. A prominent linear FVD magnetic high is seen to occur proximal to the polymetallic soil anomaly.

2016 Enhanced interpretation of existing RGS stream sediment geochemical data for NTS map sheet 116C. Yukon Geological Survey, Open File 2016-32, scale 1:250,000. Still no anomalies in project area due to distant sampling.

2017 48 FA claims staked by W.D. Mann to cover the FAN minfile occurrence (Assessment Report #097168). 171 soil samples and 11 rock samples were submitted for assay. 3 test pits were dug. Petrographic examination of thin sections was performed, indicating the presence of weakly deformed felsic volcanic rocks. The polymetallic soil anomaly was extended to the Alaska border.

2018 30 BH claims were staked by W.D. Mann to cover an area of highly anomalous soils and skarn showings adjacent to the Alaska border. A program of soil geochemistry, prospecting, test pitting and petrographic examination was conducted which led to the definition of the FAN, FAB and Border zones along an 8-kilometre anomalous trend.

GEOMORPHOLOGY AND VEGETATION

The FA & BH claims are situated in the Yukon Plateau ecoregion, part of the Boreal Cordillera ecozone (Smith et al, 2004). The property lies about 7 km southwest of the Tintina Trench. The area features rounded ridges and low peaks which represent the top of an ancient peneplane that has been incised by dendritic drainages. Glaciation has not affected the property. The property is drained by Fanning creek that flows north- eastward into the Yukon River and by Liberty Fork, which drains westward into Alaska and then into the Yukon River.

Local elevations range from about 2000 feet along Fanning creek on the FA claims to over 3400 feet at Border Hill on the BH claims. Rock is rare in outcrop, and is mostly confined to steep slopes near creeks and in float at Border Hill above treeline. Soil development is poor, and consists of a colluvium veneer of silt, sand and mixed fragments (Duk-Rodkin, 1996). The project lies within the zone of extensive discontinuous permafrost, with north and east facing slopes that are often moss covered and permanently frozen. This presents an obstacle to soil sampling, trenching and road construction. Soil sampling is most effective if conducted in late summer. A thin blanket of loess is present on the north-facing slope near treeline. Solifluction is apparent on slopes above treeline, and loess mixed with local soil extends downslope from high on the ridge. Loess is noted to dilute metal anomalies in some shallow soils.

Vegetation varies from mature spruce, poplar and birch forests on the lower slopes, thick stunted spruce and buckbrush near tree line, and open mossy grassland on the ridge top. Precipitation totals less than 400mm per year. Temperatures are extreme, with long very cold winters (-30C) and summers that can be hot (+30C).



Plate 2. Geomorphology of the BH claims. Note bronze border marker #115.

GEOLOGY

Geology in the vicinity of the project has not been recently mapped, and is based mostly on field work from 1961 at 1:250,000 scale (Green, 1972). Some unpublished mapping of 116C/10 was conducted in the late 1980s (Mortensen, pers comm). The geological setting has been put into broader context by Dusel-Bacon et. al. (1998), Gordey and Makepeace (1999) and Colpron (2006).

The property lies in the Yukon Tanana Terrane, southwest of the Tintina Fault. The area lies within the Tintina Gold Belt. The Yukon-Tanana Terrane (YTT) is a terrane of pericratonic affinity which occupies an intermediate position between continental margin rocks of Ancestral North America (Cassiar Terrane, Selwyn Basin) to the east and arc and oceanic terranes accreted in Mesozoic time to the west (Quesnellia, Stikinia and Cache Creek). It consists of polydeformed and metamorphosed Paleozoic metasedimentary and meta-igneous rocks (Colpron, 2006). The Yukon-Tanana comprises thrust sheets that are overlain by klippen of weakly metamorphosed oceanic rocks of the Slide Mountain terrane (which hosts asbestos at Clinton Creek).

At the FA & BH claims these rocks are intruded by the Fanning Creek Pluton, a post-kinematic mid Cretaceous granitic unit of the Whitehorse suite. This pluton is described by Green as fine to coarse grained, uneven textured biotite granodiorite and biotite quartz monzonite.

A northeast trending fault along lower Fanning creek (“Mortensen’s Fault”) cuts the pluton and is interpreted to extend southwest across the west end of the claims, and probably extends into Alaska. This fault appears to terminate the soil geochemical anomaly and a linear magnetic high anomaly. The fault extension to the southwest passes adjacent to the Border Hill area, and an outcrop of granitic rock. At Border Hill narrow felsic dykes are present (less than 20 meters wide, mostly less than 1m wide), and therefore not shown on more recent maps. Northeast trending faults are spatially related to mineralization at the Fortymile Pb-Zn-Ag district in nearby Alaska, and to the southeast proximal to the Pika- Sixtymile fault.

The YTT is host to significant base metal occurrences, including the Wolverine and Kudz Ze Kayah VMS deposits in the Finlayson Lake district, in the part of the terrane which lies northeast of Tintina Fault. Restoration of the offset of the Tintina Fault would place the FA property in proximity to the Finlayson district. Several minor VMS occurrences are found to the southeast of FA & BH (e.g. Mickey, Mort, Clip). This model was the basis for exploration by Cominco (Pride, 1996) and subsequent explorers of the FAN occurrence.

Preliminary geological mapping by Cominco determined that the claims are underlain by the Nasina Assemblage, consisting of Devonian-Mississippian black meta-pelites, quartzites and thin felsic meta-tuffs. These lithologies have been hornfelsed by the Cretaceous Fanning Creek Pluton located to the north. Contour soil sampling detected two areas anomalous in Cu/Zn/Pb/Ag (anomalies A & B) underlain by black phyllite and carbonaceous siltstone (Pride, 1996).

Work by the author in 2011, 2017 and 2018, thin section work by Dr. Tim Liverton and discussion with Professor Jim Mortensen has led to a change in interpretation of the property geology, presented in the 2018 assessment report. A significant amount of younger (non-foliated) felsic volcanic flow and pyroclastic rocks are present in the anomalous areas, along with limestone layers and rhyolitic dykes. Grey, rusty weathering massive rhyolitic flows look very similar to biotite-pyrrhotite hornfels. Work on the Alaska side of the border has identified similar rocks which have been dated as Permian despite lack of cleavage, and are interpreted to be a stiff basal layer at the base of Slide Mountain terrane (Mortensen, personal communication). The Fanning pluton was found to extend further to the south than shown on government maps.

The rocky area of the FAN zone on the north side of the western creek fork east of Cominco’s anomaly “A” is the largest area of outcrop on the property. The pale rocks present include marble, felsic metatuff and rhyolite flows and dykes. Subcrops of microgranite were found on the northeast end of this trend. Lower in this area a cliff outcrop of massive rhyolitic tuff contained a 2m thick band of limestone replaced by skarn (Mann, 2018). The dark grey rhyolites at the western end of these cliffs contain secondary pyrrhotite and pyrite, and occur at the location of the first vertical derivative magnetic high. The grey pyrrhotite bearing rhyolites have a field appearance similar to a pyrrhotite hornfels: very hard, weakly magnetic, massive and rusty stained. The bedded rocks near anomaly “A” have an orientation of about 110° azimuth (similar to the FVD magnetic anomaly), with a 45° dip to the south.

The creek bed west of the FAB zone contains numerous outcrops. The southern area, south of Mortensen's fault encountered outcrops of grey- green- brown phyllite of the Yukon Tanana formation (Mann, 2018) . Across the fault the only rocks seen were grus weathered biotite-quartz- Kfeldspar granites, generally very coarse-grained with feldspars up to 1.5cm and quartz to 1cm. Some impressive hoodoos are formed in these granite cliffs.

The area of the claims is mapped as metamorphic rocks of the Yukon Tanana Terrane on Yukon government maps, however on the Alaskan side of the border there is a different unit, with a "border fault" between. In Alaska, the rocks nearest the claims are mapped as a slightly metamorphosed sedimentary rock with a component of limestone (Foster & Keith, 1968). This is likely to be the same unit found on the key areas of the BH and FA claims with undeformed felsic volcanics and limestone that hosts skarn. Recent unpublished work by Professor Mortensen and Alaskan colleagues suggest that this unit is of Permian age:

"There is a slightly odd package of unfoliated to at most very weakly foliated felsic volcanic rocks that is exposed along the Taylor Highway in E Alaska along King Solomon Creek, a bit north of Liberty. These rocks have always been problematical; however, we now interpret them as part of a thrust slice that sits under large slabs of Slide Mountain greenstones and ultramafic rocks, and on top of typical Yukon-Tanana metamorphic rocks. I dated zircons from a sample of this stuff and got a crystallization age of 259.0 +/- 1.1 Ma, so Late Permian. Similar age as most of the Klondike Schist, but this is clearly a completely unrelated package. It isn't clear whether this is part of the Slide Mountain terrane or something completely unrelated at this point. In any case, this package (which only locally includes the felsic rocks) appears in several areas in the eastern part of the Eagle quadrangle, including an area just south of where the Fanning Cr pluton crosses the border. I interpret this as another thrust sheet of the same package of rocks that should extend across the border and along the southern side of the pluton." (Mortensen, pers. comm. 2018)

The bulk of the Fanning pluton north of the claims is indicated to be a biotite granodiorite or quartz monzonite, however the 1961 mapping noted strong weathering and sparse outcrop of the unit. Intrusive rocks seen in the project area extend south of the pluton boundary shown on the government map, and are biotite granite and microgranite. Dating by Mortensen of the Fanning pluton indicates a mid-Cretaceous age of the Whitehorse Suite (105 to 112ma). A recessive weathering zone of biotite granite grus is present on the southeast flank of Border Hill proximal to the extension of Mortensen's Fault. Rhyolite dykes are seen at the central FA claim area as well as being abundant at Border Hill. Some dykes are anomalous in ore metals, as indicated by XRF. The Lead Creek Pb-Zn-Ag occurrence in nearby Alaska has been dated by Pb isotopes as mid-Cretaceous, and a proximal thin felsic sill returned a zircon age of 96.1 Ma, the same as the Fanning Creek pluton (Dusel-Bacon et. al., 2003).

A government regional airborne magnetic survey was conducted in 2014 over the project area (Kiss & Coyle, 2014). Much higher precision, accuracy and resolution was achieved compared to the 1966 survey. A prominent linear FVD magnetic high is seen coincident with the polymetallic soil anomalies at the FAN and FAB zones at the FA claims, however the Border zone lies within a magnetic low (see figure 5). The FVD linear is likely a fault splay off Mortensen's fault that

drops the felsic volcanic package down into the YTT, and forms a conduit for hydrothermal fluids that deposit pyrrhotite.

DEPOSIT TYPES

This area was explored by Cominco in the search for VMS mineralization after their discovery of the Kudz Ze Kayah VMS deposit. If the Tintina fault offset is restored, the project area lies proximal to the Finlayson VMS camp where the KZK, Fyre Lake and Wolverine deposits are located. Several minor VMS occurrences are found to the southeast of FA & BH claims (e.g. Mickey, Mort, Clip) and in nearby Alaska (Dusel-Bacon, 1998). VMS remains a possible target for the area, though Finlayson group metavolcanics are no longer thought to be present in the anomalous areas.

Two significant geochemical anomalies were detected by Cominco during work in the project area in 1995. Anomaly 'A' is 900 metres long and comprises contour soil samples with maximum values up to 373 ppm Zn, 146 ppm Pb, 114 ppm Cu and 1.0 ppm Ag (Fig. 2). Anomaly 'B' is 600 metres long and comprises stream silt and bank samples with maximum values up to 906 ppm Zn, 500 ppm Pb, 80 ppm Cu and 3.2 ppm Ag. These anomalies form the FAN zone (Yukon Minfile 116C 172), and were considered worthy of follow-up, however Cominco let the FAN claims expire.

The possibility that the anomalies are related to high temperature carbonate replacement deposits (CRD) was considered by prospector J.P. Ross who staked the RHEA claims to cover the Cominco anomalies (Ross, 2007). The presence of this deposit type is known in the nearby 40 Mile district of Alaska (Dusel-Bacon et. al. 2015). This district has had a series of CRD discoveries, with elevated values for Zn, Ag, Pb, Cu and In. Some of the occurrences are noted to be skarns, while most are mantos. The occurrences are hosted in carbonates, and are spatially associated with intrusive rocks (often immediately adjacent to felsic dykes) and northeast trending faults. The nearest of these occurrences is Lead Creek, located approximately 25km to the west of FA & BH in Alaska, which has returned drill intersections of 15.4m of 370 g/t Ag and 5.5% Pb and 9.6m of 725 g/t Ag and 6.4% Pb.

Work at the FAN zone in 2011 and 2017 revealed small patches of subcrop and float that containing coarse epidote replacing limestone, with weak sulphide mineralization. Carbonate replacement is now considered to be a key deposit type at the FAN target. Following the limestone beds using outcrops, subcrop and Ca in soils is thought to be an important exploration criterion.

The best soil anomaly cluster at the FAB zone occurs where the limestone unit overlies the magnetic high anomaly in proximity to the Mortensen Fault. 2018 prospecting at Border Hill and test pits at the FAB zone resulted in the discovery of diopside- garnet and actinolite skarn with highly anomalous values in Pb, Zn, Cu, Ag and Au (Mann, 2018). Skarn and carbonate replacement type deposits are now thought to be the prime exploration target on the claims.

Prospecting at the Border Zone in 2017, 2018 and 2020 revealed narrow vuggy quartz veins bearing arsenopyrite and trace galena. These veins are highly anomalous in Ag, As, Pb, Zn, Mo, Cu and potential Au pathfinder elements. They cut felsic bomb tuff in proximity to rhyolite dykes, and are considered to be epithermal veins. These epithermal veins may be peripheral to a porphyry target, and combined with extensive Mo- Cu soil anomalies further work targeting porphyries is recommended.

2020 EXPLORATION PROGRAM

The 2020 field program was conducted by the author and senior field technician Max Mikhailytchev. The field program was conducted on September 9th and 10th, on the BH claims. The property was accessed by truck to the Top of the World highway, then by helicopter to the property. A tent camp was established on Border Hill, with sampling and prospecting traverses on foot. 46 soil samples were collected. 10 rocks samples were sent for assay. The work was hampered by sleet, snow and wind.

A hand-held XRF device was used to evaluate soil samples before analysis. The program was successful in locating additional mineralized skarn in float and confirming gold in outcrop, and in infilling and extending known polymetallic soil geochemical anomalies. The presence of significant copper, gold and silver values was confirmed at the Border zone.

2020 Soil Geochemistry

Soil sampling has been established as the best method for testing the ground. A total of 46 soil samples were collected in 2020 on 2 north-south lines based on UTM NAD83 zone 7 grid lines. Samples were spaced 50m apart. The lines were located to provide infill and extension to previous soil lines at the Border Hill area.

The 2020 soil samples were located using handheld GPS units, with supplemental navigation by compass. The sites are marked by flagging tape marked with the sample number. Soil samples were collected using Dutch soil augers. They were placed into Kraft paper bags along with an analytical sample tag. Soil descriptions were not recorded in 2020 due to steady rain, sleet and snow with wind. Samples were collected as deep as possible, typically between 40cm and 60cm deep, occasionally to 90cm, but sometimes much shallower where very rocky soil and permafrost limited sampling depth. Sample material and sample sites were documented with photographs in some circumstances, however this was also hampered by bad weather.

Soil sample locations from 2020, 2018, and 2017 are shown in Figure 3, Cu (Fig. 4), Pb (Fig. 5), Mo (Fig. 6) and Ag (Fig 7) with values in ppm. Certificates of Analysis for soil samples are in Appendix III.

The 2020 geochemical sampling program was successful, as strong multi-element anomalies were confirmed and expanded upon in the Border Hill area. Line 500000E was extended to the south to cover the assumed extension of the Mortensen fault near the border where modest anomalies in Mo, Cu, Zn were identified. Line 500100E was an offset to confirm the main anomalous section of L500000E and extended to the north. This line returned elevated Mo, Pb, Zn, Ag and As on the southern half, and elevated Mo, Cu, Ag, As, Au, Sb and Bi on the northern half. This northern half line included 5 adjacent samples above 1ppm, including up to 3ppm Ag. The strongest gold values on Border Hill are located on the northern slope (maximum 10.1ppb Au). Soil coverage should be extended further to the north in this area, at least into the area underlain by granitic rocks.

The western side of the Border zone is very high in Mo and Cu, with elevated As, Bi and W. Arsenic forms an anomaly about 1000m diameter above 20ppm and up to 177 ppm As, however there is only very weakly elevated gold in soils within this area.

Potassium and thorium in soils is thought to indicate the presence of granitic rocks. Values of K above approximately 0.3% (and locally over 0.6%) coincide with known granitic rocks, while most soils underlain by other lithologies contain less than 0.1% K. Thorium shows a very similar distribution to K, with elevated Th (above about 10 or 20 ppm Th) associated with granitic intrusives. Soils in the area that are high in Ca (above 0.5% and locally over 2%) suggest the presence of limestone or calcareous sediments, potentially a host rock for skarn and CRD deposits.

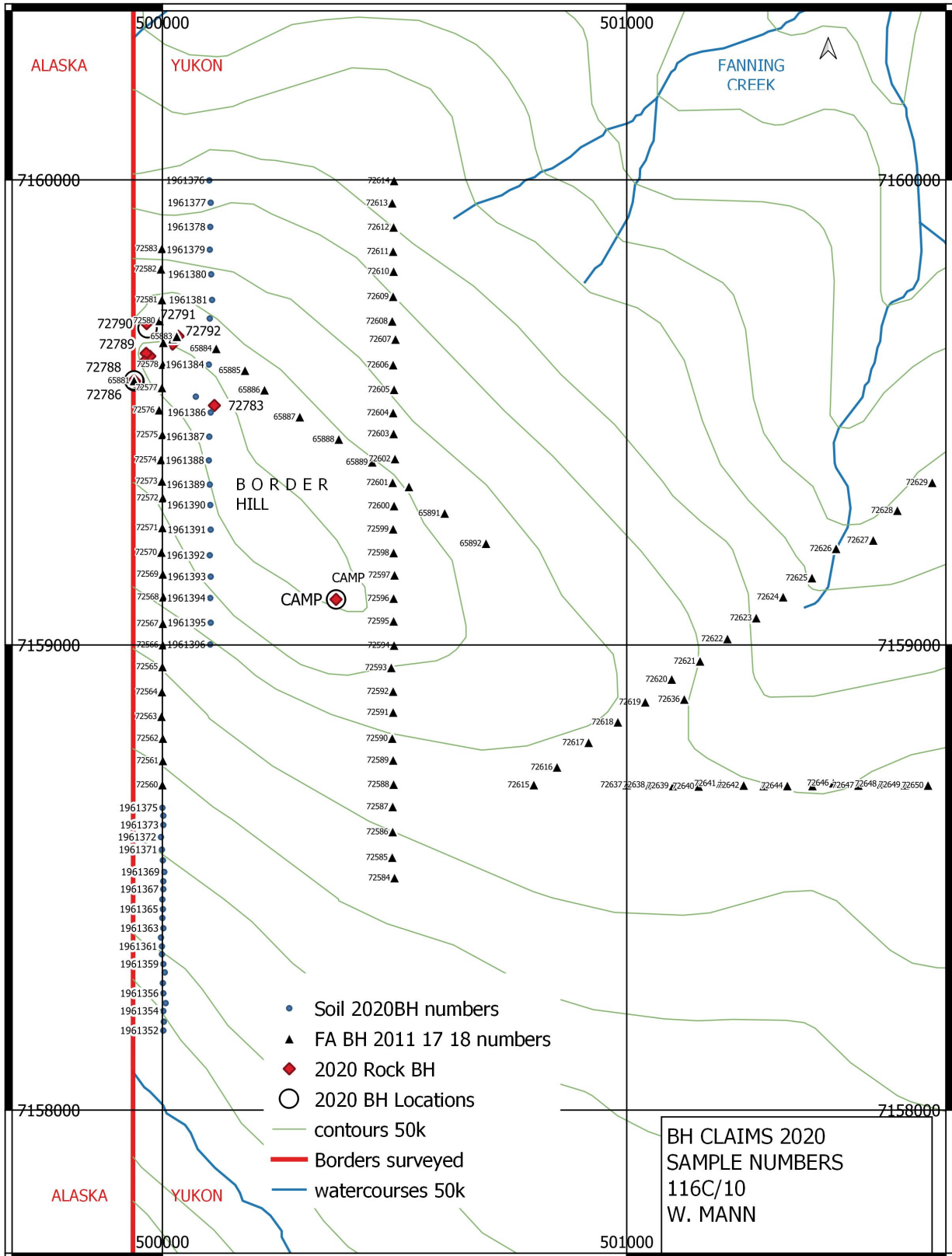


Figure 3.

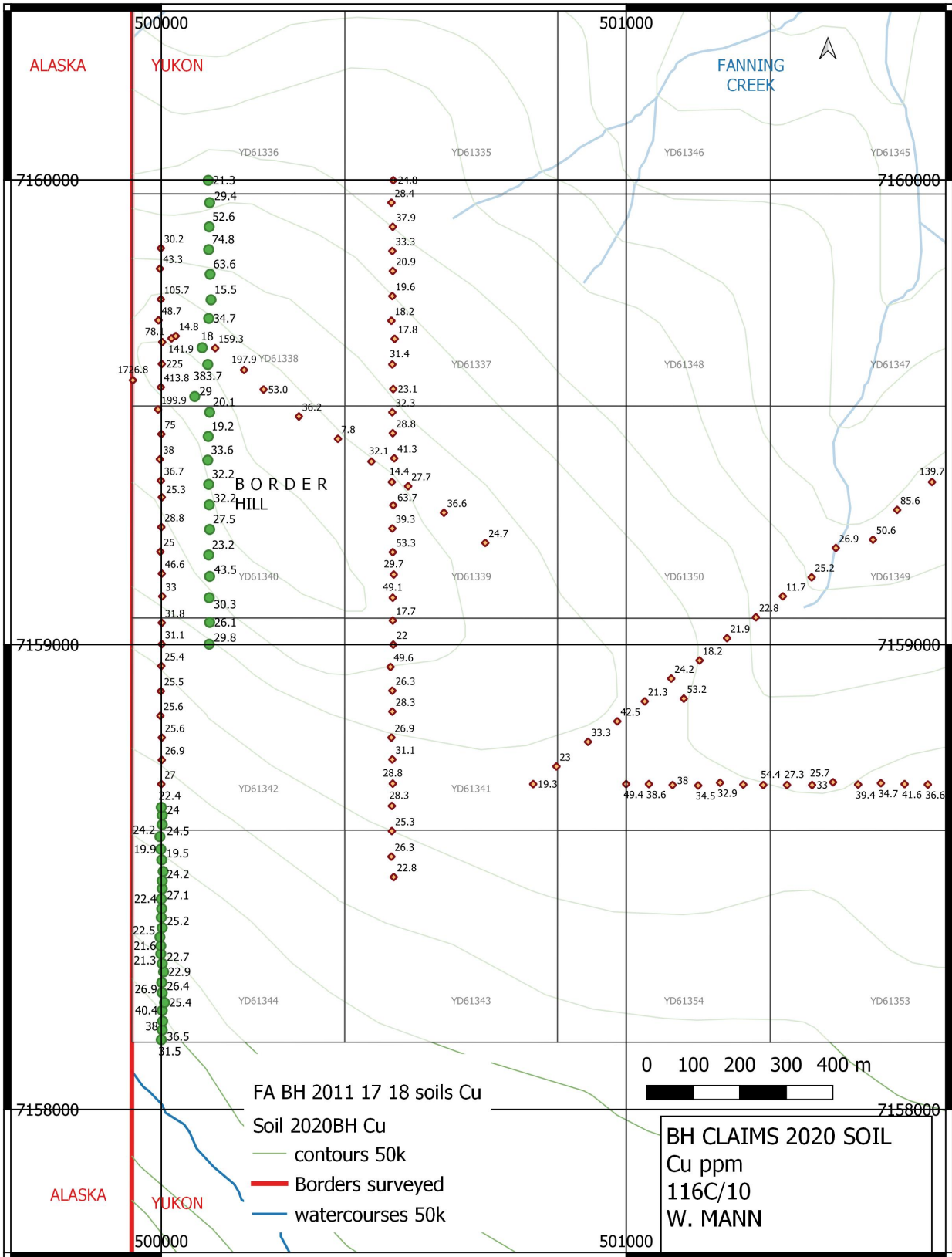


Figure 4.

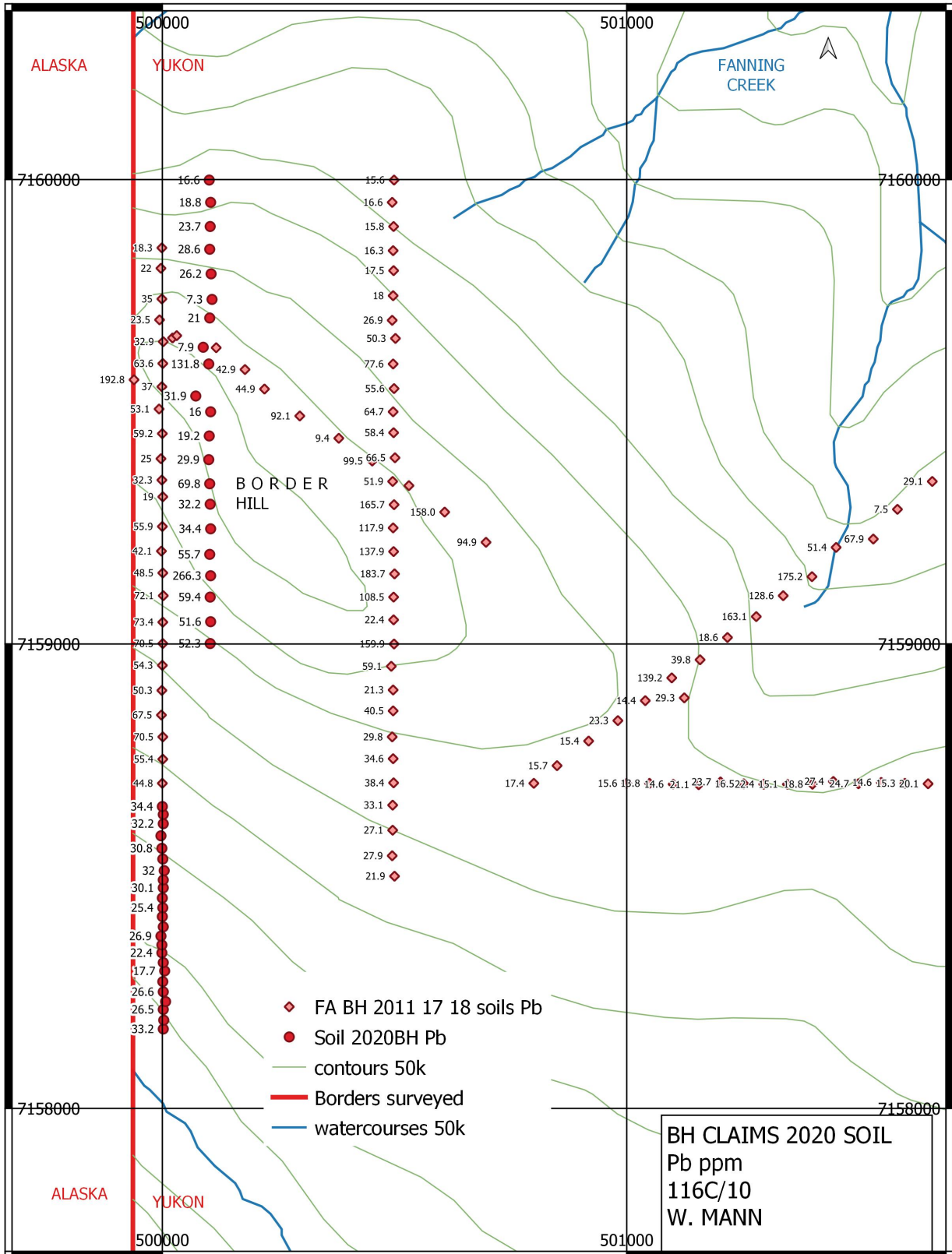


Figure 5.

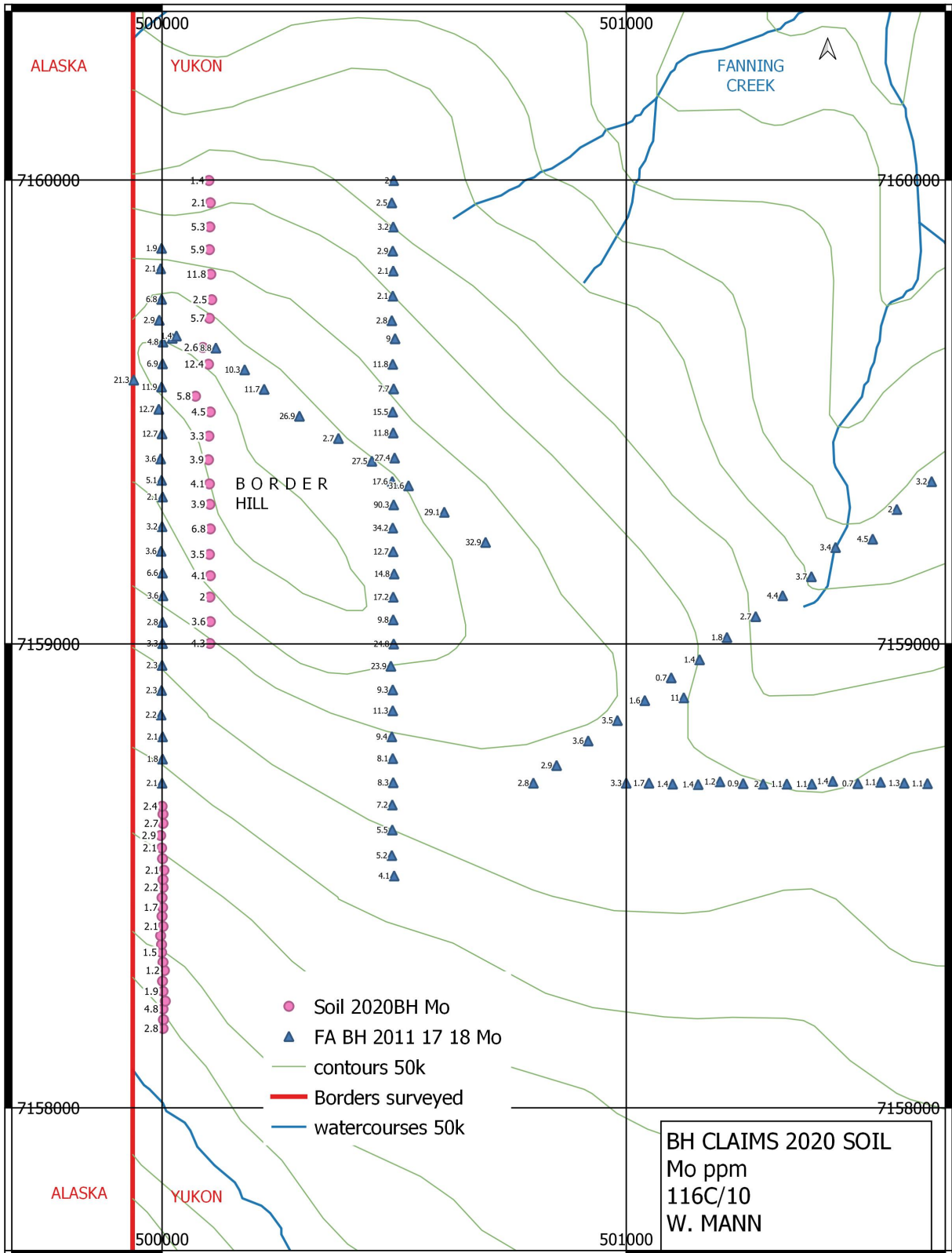


Figure 6.

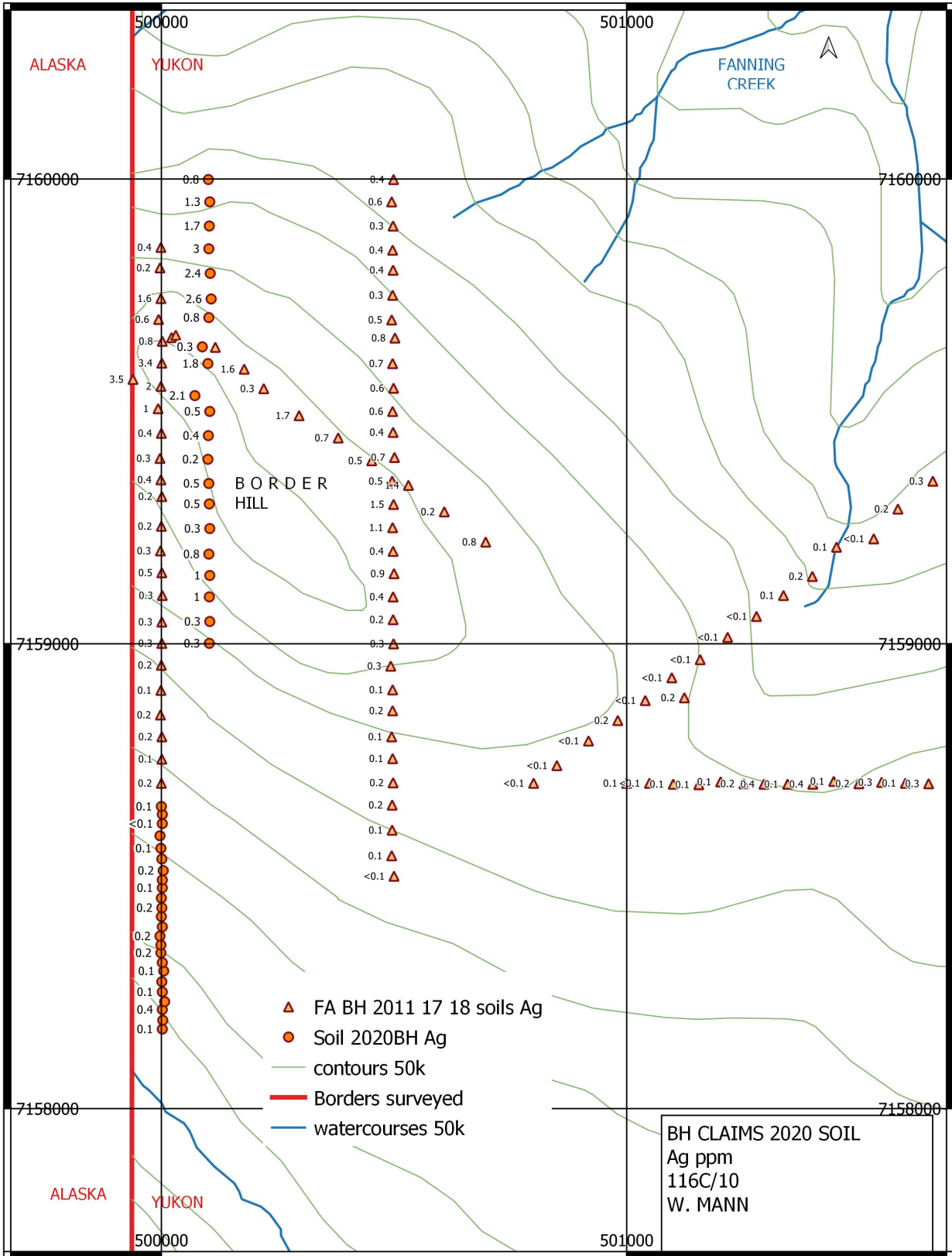


Figure 7.

2020 Prospecting

The author's time was spent prospecting, digging and describing test pits in the area between the 2020 camp and the border marker area at the Border zone. Assay samples and test pit locations are shown in figure 8.

Ten rocks were submitted for assay (see Table 1 below). The results include local high gold and silver values from skarn (314 ppb Au, plate 6 and 27.7 ppm Ag, plate 3). These confirm the high precious metal values from the property found in 2018. These rocks also returned the highest Cu (5473 ppm, plate 3), on the property.

Float of volcanoclastic bomb tuff cut by sheeted quartz veins was located just north of the Border zone skarn (plate 4). These veins were not elevated in metals.

Locations of rock assays and test pits are presented in figure 8. Rock assay certificates with complete analyses are presented in Appendix IV.

The FAN, FAB and Border Zones

The eight kilometre long polymetallic soil anomaly present at the property has been subdivided into three main zones that reflect distinct areas based on geology and anomalous geochemistry. The locations of the FAN, FAB and Border zones are shown in figure 2.

The **FAN zone** encompasses the original Cominco A and B anomalies (Yukon Minfile 116C 172) and the infill and extension work between these anomalies conducted by Ross, ZincCorp and Mann. This zone covers much of the FVD magnetic high anomaly that coincides with the original polymetallic soil high values. This zone has some coincident limestone, particularly at its northwest end. The limestone unit follows along the northern edge of the magnetic zone, and diverges to the north of the main anomaly near the eastern end of the zone. Some of the soils have not been tested above this limestone, especially in the central part of the zone where it coincides with a steep north-facing mossy slope with thick bush and permafrost. This should be a priority for follow-up. This zone includes the best outcrop on the property near the creeks, and not all outcrops have been examined yet due to thick bush and steep loose rock terrain. And a bear.

The **FAB zone** appears to be geologically separate from the FAN zone, as the main limestone unit pinches out as determined from the distribution of Ca in soils (Mann, 2018). The FAB zone has the greatest concentration of metals in soils on the property, with a 500m diameter zone with very high Cu- Zn- Ag and other pathfinder elements returned from a cluster of over 80 soil samples. There is a strong As- Bi- W anomaly that occurs in the centre of the zone. The FAB zone is lower in Pb than the other zones, except on the peripheries. The area contains significant limestone (Ca in soil and limestone in test pits) that overlies the FVD magnetic high and lies adjacent to Mortensen's Fault. This target has almost no outcrop, with one rusty grey rhyolitic cliff near the creek. Test pits here returned strong malachite staining (2008ppm Cu) in one, and

276 ppm Pb, 539 ppm Zn, 50 ppm Ag, 1001 ppm Cu, 298 ppb Au, 3895 ppm As, >100 ppm W, 486 ppm Bi from rocks in another.

The **Border zone** lies across Mortensen's Fault from the FAB and FAN zones, and is underlain by a magnetic low rather than a high. It is possible that the anomalous geochemical trend at FAB- FAN is offset southeast by the major fault to the Border zone. The geochemical signature of Border is somewhat different from FAB- FAN, with a large very high Mo anomaly and extensive elevated As. The highest Cu values are found on the west side of the zone near the border, with Pb elevated at the east and Zn broadly distributed. Ag is elevated at the west and central part of the Border zone. Limestone is of limited extent in float and interpreted from Ca in soil, but the best mineralization near the Border marker is a skarn. It is almost certain that mineralization continues across the border into Alaska. The skarn appears to have formed from an impure limestone or calcareous volcanoclastic host rock. The highest gold found on the property is from a skarn outcrop in this area. The main rock type at Border Hill is unfoliated felsic bomb tuff.

Table 1. 2020 Rock Assay Summary
NAD83 Zone 7W

Sample	E	N	Mo	Cu	Ag	As	Au	Bi	Description
			ppm	ppm	ppm	ppm	ppb	ppm	
72783	500112	7159515	12.8	9.2	0.1	8.5	1.3	0.2	Boulders of white Quartz Vein w/ rusty fractures.
72784	499973	7159621	13.6	1601.6	2.3	8.9	3.2	5.8	Rusty boulder dark green skarn w/ py., cp., non-mag
72785	499965	7159627	3.9	441.5	0.7	4.1	3.9	7.4	Downslope from 72784, similar. Pyritic cobbles.
72786	499940	7159567	4.6	86.6	0.6	16.2	60.8	54.5	Outcrop R3 chips, north side. Mottled gry-grn.
72787	499940	7159566	2.2	19.5	0.8	9.5	314	259.6	Outcrop R3 chips, south side. Mottled gry-grn.
72788	499939	7159569	12.0	40.5	0.2	5.9	3.2	2.6	Test pit at soil site 65881, pebbles and chips. Skarn, rusty.
72789	499961	7159609	67.0	5473.2	27.7	46	10.7	17.7	2 rusty boulders skarn w/ tr py., cp.
72790	499966	7159691	12.0	22.3	0.1	9.9	<0.5	0.2	Boulders of lapilli tuff cut by sheeted QVs.
72791	500034	7159664	16.1	63.2	7.7	228	8.6	13.6	Vuggy QVs w/ terminated crystals, limonite & hem stain.
72792	500022	7159647	7.2	119.3	9.3	713.0	6.3	11.2	Vuggy QVs w/ terminated crystals, limonite & hem stain.



Plate 3. Sample 72789. Skarn with 67ppm Mo, 5374ppm Cu, 27.7ppm Ag.



Plate 4. Sample 72790. Sheeted quartz veins cut volcaniclastics, northwest flank of Border Hill. Sorry, no gold.



Plate 5. Diopside- garnet skarn outcrop R3 at Border zone assays 476ppb Au (2018).



Plate 6. 2020 pit dug at site R3 above to expose skarn outcrop. 314ppb Au.

2020 Test Pits

Two test pits were dug with pick and shovel at the site of skarn outcrop identified in 2018, and at a soil sample site with strong polymetallic anomalies from 2017, with data presented in Table 2 below. See photo of Pit R3 above. The pit depths ranged from 30cm to 50cm, with depth limited by densely packed larger rocks or outcrop. Attempts to dig at the site of other mineralized boulders in the area were abandoned, as no obvious mineralization was encountered in any loose material, suggesting that mineralized zones either lie deeper or that mineralized rocks have travelled downhill from above.

Table 2 **BH Test Pit Locations and Descriptions 2020**

UTM NAD83
7W

Pit R3	Location	499939 E	7159567 N	See thin section from this outcrop in 2018 report
	Pit Size	200 cm x 90 cm	50 cm deep	Small outcrop further exposed by digging.
	Strata:	A horizon	0 to 5 cm	Moss, grass, roots, black humus
		C horizon	0 to 30cm	rocky colluvium, angular pebbles, cobbles, boulders
	Rock	bedrock outcrop		mottled green and dark grey fine to medium grained skarn w/ epidote veins, red-brown garnet and diopside
	Samples	2020 Rock	72786 & 72787	Max. 314ppb Au, 259ppm Bi
		2018 Rock	72776	476ppb Au, 366ppm Bi

Border Pit	Location	499939 E	7159569 N	3m from bronze border marker
	Pit Size	75 cm X 50 cm	30 cm deep	
	Strata:	A horizon	0 to 10 cm	Thin moss and humus
		C horizon	10 cm +	angular pebbles & cobbles, minor soil
	Rock			light green f.g. skarn w/ rusty fractures
	Samples	Rock	72788	12ppm Mo, 21ppm W
		Soil	65881	1726ppm Cu, 21ppm Mo, 192ppm Pb, 8.8ppm W, 575ppm Zn, 23ppb Au

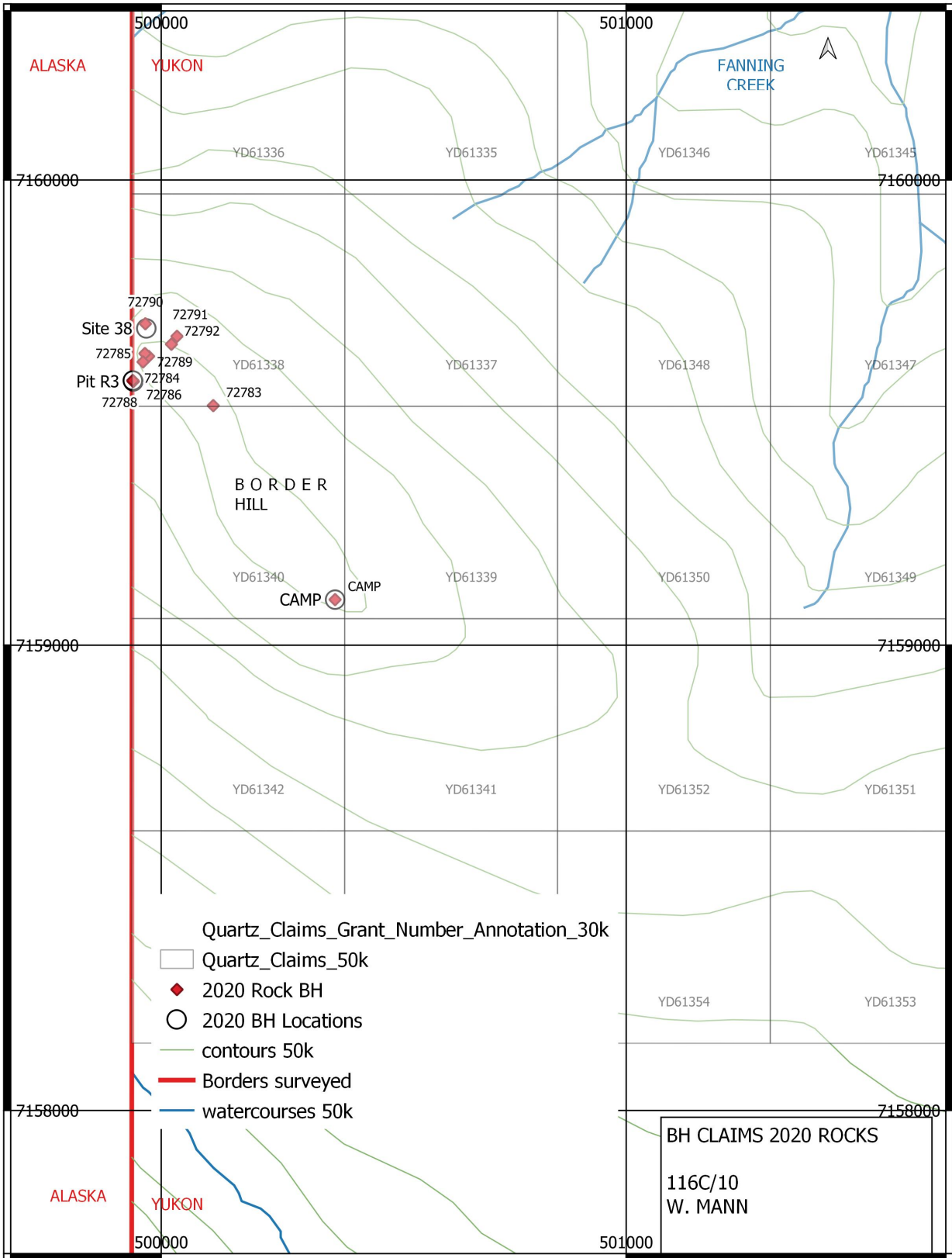


Figure 8.

2020 Portable XRF Utilization

A Niton XL3t portable hand-held XRF was used in the field to provide rapid qualitative evaluation of soils and rocks. The information provided by the XRF is potentially useful in confirming anomalous areas, and could be used to adjust soil line locations and lengths.

XRF readings were taken for 30 seconds through the soil sample bags, and high values of Pb, Zn, Cu (and sometimes As, Mo & W) used as indicators of mineralization. Rock samples were also analyzed by XRF, and this information was used to reduce the number of rock samples submitted for assay.

SAMPLE PREPARATION, ANALYSES AND SECURITY

The 2020 samples were placed into rice bags in the field by the author, sealed with zip ties and secured. The samples were transported and delivered directly by the author to the Whitehorse preparation facility of Bureau Veritas Minerals (AcmeLab). The samples were shipped by BVM to their Vancouver laboratory. Bureau Veritas Mineral Laboratories is accredited and certified to the International Organization for Standardization for Quality ISO9001:2008, Environmental Management: ISO14001 and Safety Management OH SAS 18001 and AS4801.

At the laboratory samples were dried at 60°C. Soil samples were sieved to -80 mesh. Rocks were crushed, then a 250g split was pulverized to 200 mesh. The samples were analyzed by BVM method AQ201 for 36 elements by ICP-MS after digestion of 15g by 1:1:1 aqua regia.

Quality control procedures were implemented at the laboratory, involving the regular insertion of blanks and standards and repeat analyses on the samples. Quality Assurance data is provided for each batch of samples and included with each analytical certificate (Appendices III & IV).

There was no evidence of any tampering with the samples during collection or shipping. All sample preparation was conducted by the laboratory.

INTERPRETATION AND CONCLUSIONS

The geology of the FA BH property is only partly understood due to scarce outcrop and limited mapping. The regional northeast trending fault appears to be an important control of mineralization, similar to structures at the Fortymile CRD district in nearby Alaska. The southeast trending FVD magnetic high anomaly near the FAB and FAN zones may reflect a splay structure off this fault.

An unusual package of felsic volcanic rocks with abundant bomb tuff and local limestone is present in cliff outcrop at the FAN zone, in boulders present at the FAB zone, underlying the hill at the Border zone and across the border in Alaska. The limestone within these rocks hosts skarn that may be the same age as the mid Cretaceous Fanning pluton immediately to the north of the property. Polymetallic skarn deposits are the most obvious target at the property, however related epithermal veins and a mineralizing source porphyry deposit are valid targets that should be explored for.

RECOMMENDATIONS

The FA & BH property covers a large Pb- Zn- Ag- Cu- Mo anomaly in soils that is open to further expansion. Skarn has been discovered in outcrop, float and test pits that contains elevated Au. The target at the property is skarn/ CRD deposits along with epithermal As- Au- Ag veins, with additional potential for Mo- Cu- Au- Ag porphyry. The length, width, strength and continuity of the soil anomalies are encouraging, and may lead to a significant discovery. The FAB zone contains a concentrated Cu- Zn- Ag anomaly that appears to be carbonate hosted, and lies proximal to a regional fault and a subsidiary splay fault indicated by a magnetic signature. The Border zone is a large, strong Mo anomaly with locally enriched Cu, Zn, Ag, Pb and pathfinder elements. There is potential at Border for an adjacent or underlying porphyry intrusive deposit, and this potential extends into adjoining Alaska. The FAN zone is the largest target, and has not been fully investigated along the northern edge where some limestone outcrop is present on steep slopes with very thick vegetation.

Soil geochemistry is a very effective exploration method for this property. Additional soil lines should be sampled to infill gaps in the existing sample pattern at the Border zone, and extend coverage to the north and south. There is a strong magnetic low to the northwest of Border Hill shown by an airborne survey conducted in Alaska, and this area may have elevated porphyry potential.

A base map should be prepared for the FAB zone at 1:5,000 scale to enable more detailed exploration of this rich zone. Additional test pits are recommended, as this technique is effective for discovery of mineralized rock. Test pit #4 from 2018 should be re-excavated and deepened to seek mineralized outcrop similar to the rock sample analyzed (276 ppm Pb, 539 ppm Zn, 50 ppm Ag, 1001 ppm Cu, 298 ppb Au, >100 ppm W, 486 ppm Bi). An additional infill soil line should be added to the FAB zone along 504100E. Line cutting in preparation for ground geophysics at the FAB zone (IP, Mag, EM?) is warranted at this stage.

Additional soils would be beneficial at the FAN zone along line 7160100N near the north-central area, and at the far east extension of the zone at line 508500E. This area contains a limestone bed suitable as a skarn host rock.

Geological mapping and prospecting should be continued across the entire area. Particular attention should be focused north of Border Hill area seeking altered and mineralized intrusive rocks that might indicate porphyry mineralization. A simplified geology map of the entire property should be produced at 1:20,000 scale compiling known outcrops and subcrop, and deduced from airborne magnetic patterns and Ca, K & Th in soils.

The area adjacent to the Border zone in Alaska is almost certainly mineralized. This area is owned surface and subsurface by Doyon Ltd., within land block R. 33 E. Doyon Ltd should be contacted to discuss possible cooperative exploration.

The property has reasonable logistics, with roads within 10 or 15km to the southeast at Clinton Creek or across the border to the west in Alaska. The terrain is moderate, so construction of trails would be reasonably easy if exploration is successful, with no stream crossings necessary.

Respectfully submitted,

William D. Mann, M.Sc., P.Geo.

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APPENDIX I**STATEMENT OF QUALIFICATIONS****WILLIAM D. MANN, M.Sc., P.Geo.****19 HAYES CRESCENT, WHITEHORSE, YUKON Y1A 0E1**

1. I am a member in good standing of the Association of Professional Engineers and Geoscientists of BC, Licence #31907.
2. I am a Graduate of Queen's University, 1986, with a Master of Science Degree in Mineral Exploration Geology.
3. I am a Graduate of the University of British Columbia, 1983, with a Bachelor of Science Degree in Geology.
4. I have worked in mineral exploration and mining continuously since 1979.
5. I participated in the work program on the BH claims in 2020.
6. I am the owner of the FA and BH claims.

January 31, 2020

William D. Mann, M.Sc., P.Geo.

APPENDIX II**Border Project YMEP 20- 100 Actual Costs 2020**

W.D. Mann

SEPT. 9, 10, 2020

		Activity	Units	Rate	Total
Labour	W.D. Mann	Prospecting/ Sampling/ Travel	2.5	500	\$1,250.00
	M. Mikhailytchev	Soil Sampling/ Test Pitting	<u>2</u>	350	\$700.00
Field Costs	\$100 per worker-day		4.5	100	\$450.00
Helicopter	Fireweed Heli	Jet Ranger mob/demob	2.5	1438	\$3,595.20
Trucks	\$.60 per km	Whitehorse to TOW km75 rtrn (split w/ Blackbear project)	625	0.6	\$375.00
Assays	BV VANI371795	soils	46		\$1,482.81
	BV VANI375263	rocks	10		\$358.13
XRF	Niton XL3t	\$110 per day of use	2	110	\$220.00
Maps	W.D. Mann	GIS	1	500	\$500.00
Report	W.D. Mann	Writing, Editing, Printing	4	500	\$2,000.00
					\$10,931.1
TOTAL					4
YMEP request (75%):					\$8,198.36
YMEP 20-100 payment #1					<u>\$5,147</u>
Expected final YMEP payment					\$3,052



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Canada

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Client: **Bill Mann**
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Whitehorse Yukon Y1A 0E1 Canada

Submitted By: Bill Mann
Receiving Lab: Canada-Whitehorse
Received: September 16, 2020
Analysis Start: October 09, 2020
Report Date: October 15, 2020
Page: 1 of 3

CERTIFICATE OF ANALYSIS

WHI20000404.1

CLIENT JOB INFORMATION

Project: BORDER
Shipment ID:
P.O. Number
Number of Samples: 46

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
IMM-RJT Return immediately after analysis

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: Bill Mann
19 Hayes Cres.
Whitehorse Yukon Y1A 0E1
Canada

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SS80	46	Dry at 60C sieve 100g to -80 mesh			WHI
AQ201	46	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SVRJT	46	Save all or part of Soil Reject			WHI
SHP01	46	Per sample shipping charges for branch shipments			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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Project: BORDER
Report Date: October 15, 2020

Page: 2 of 3

Part: 1 of 2

CERTIFICATE OF ANALYSIS

WHI20000404.1

Method Analyte	Unit	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
MDL		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001	
1961351	Soil	3.7	31.5	16.5	76	0.1	29.4	8.4	349	1.67	33.0	1.6	1.9	10.0	12	0.2	0.7	0.1	12	0.13	0.060
1961352	Soil	2.8	36.5	33.2	97	0.1	24.4	7.3	187	2.28	13.2	1.8	2.2	12.4	17	0.1	1.3	0.2	20	0.19	0.066
1961353	Soil	6.2	38.0	26.7	114	0.2	31.7	8.9	217	2.67	8.1	2.0	2.5	14.4	20	0.2	0.5	0.3	12	0.22	0.111
1961354	Soil	4.8	40.4	26.5	145	0.4	44.8	14.4	656	3.99	15.6	1.1	1.8	10.7	22	1.2	4.9	0.3	28	0.31	0.074
1961355	Soil	2.0	25.4	27.6	76	0.2	22.8	8.4	432	2.35	25.6	1.3	5.8	7.0	24	0.1	0.9	0.3	51	0.28	0.042
1961356	Soil	1.9	26.4	26.6	80	0.1	23.3	8.0	435	2.49	26.1	1.4	2.5	6.8	26	0.2	0.9	0.4	52	0.30	0.041
1961357	Soil	1.8	26.9	22.5	76	0.2	25.2	8.3	416	2.61	22.2	1.5	2.8	5.9	28	<0.1	0.9	0.3	54	0.32	0.043
1961358	Soil	1.2	22.9	17.7	64	0.1	21.7	6.6	297	2.13	16.4	1.3	2.6	5.4	25	0.1	0.7	0.2	46	0.29	0.044
1961359	Soil	1.7	22.7	25.5	67	0.1	20.1	7.0	406	2.16	20.6	1.5	3.9	6.3	20	0.2	0.7	0.3	48	0.20	0.034
1961360	Soil	1.5	21.3	22.4	66	0.2	18.9	6.6	350	2.06	16.4	1.3	2.0	5.1	20	0.1	0.7	0.3	48	0.22	0.033
1961361	Soil	2.2	21.6	35.5	74	0.2	19.6	7.2	448	2.24	28.4	1.6	2.4	7.0	23	0.2	0.9	0.4	50	0.23	0.033
1961362	Soil	1.9	22.5	26.9	74	0.2	19.9	6.7	387	2.32	21.2	1.6	3.7	6.0	24	<0.1	0.7	0.3	50	0.24	0.035
1961363	Soil	2.1	25.2	31.1	83	0.2	22.3	6.8	489	2.36	25.9	1.7	4.3	6.3	28	0.1	0.8	0.4	53	0.28	0.036
1961364	Soil	1.9	23.6	29.8	74	0.2	20.7	6.9	412	2.25	25.0	1.5	5.7	6.7	25	0.1	0.8	0.3	50	0.24	0.030
1961365	Soil	1.7	19.6	25.4	63	0.2	17.3	6.5	384	2.08	18.7	1.2	2.4	5.8	16	0.1	0.6	0.3	46	0.15	0.022
1961366	Soil	1.8	22.4	26.5	67	0.1	19.3	6.2	395	2.08	21.4	1.3	4.2	6.1	20	0.1	0.7	0.3	45	0.20	0.026
1961367	Soil	2.2	27.1	30.1	85	0.1	23.2	7.3	447	2.46	26.7	1.8	2.3	7.0	26	0.2	0.8	0.4	53	0.24	0.028
1961368	Soil	2.2	24.2	36.6	79	0.1	20.2	6.3	383	2.12	28.1	1.6	2.6	6.6	22	0.2	0.7	0.4	48	0.20	0.024
1961369	Soil	2.1	22.0	32.0	74	0.2	19.3	6.2	312	1.96	24.6	1.5	1.7	5.9	20	0.2	0.7	0.3	45	0.18	0.024
1961370	Soil	2.1	19.5	30.2	72	0.1	19.2	6.5	319	2.16	26.1	1.2	1.5	6.3	20	0.1	0.7	0.3	48	0.18	0.020
1961371	Soil	2.1	19.9	30.8	72	0.1	17.8	6.0	301	2.04	25.1	1.3	2.0	6.2	16	0.2	0.6	0.3	47	0.14	0.020
1961372	Soil	2.9	24.2	47.4	82	0.1	19.1	7.0	484	2.07	34.3	1.6	2.4	7.1	18	0.2	0.8	0.8	44	0.15	0.027
1961373	Soil	2.7	24.5	32.2	79	<0.1	21.7	7.0	362	2.28	26.6	1.8	2.4	6.0	20	0.2	0.7	0.3	51	0.19	0.030
1961374	Soil	2.5	24.0	35.3	81	<0.1	20.4	6.7	364	2.22	32.0	1.3	3.2	6.2	21	0.2	0.8	0.3	47	0.22	0.030
1961375	Soil	2.4	22.4	34.4	80	0.1	20.5	6.8	331	2.33	36.4	1.2	2.7	6.2	16	0.2	0.8	0.3	54	0.16	0.022
1961376	Soil	1.4	21.3	16.6	70	0.8	19.4	8.1	281	1.88	9.4	1.1	8.3	4.3	16	0.3	0.5	1.2	44	0.21	0.055
1961377	Soil	2.1	29.4	18.8	72	1.3	19.6	8.0	339	2.07	15.3	1.3	3.7	3.6	16	0.3	0.7	1.4	44	0.19	0.050
1961378	Soil	5.3	52.6	23.7	88	1.7	22.9	10.0	1314	2.29	36.2	1.7	8.5	4.0	19	0.4	0.9	3.4	47	0.21	0.053
1961379	Soil	5.9	74.8	28.6	105	3.0	27.1	9.1	681	2.45	38.3	2.6	6.2	5.0	22	0.6	1.1	5.5	52	0.23	0.059
1961380	Soil	11.8	63.6	26.2	96	2.4	21.4	7.6	803	2.56	57.2	2.3	10.1	5.9	22	0.4	1.2	7.3	47	0.25	0.054



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Project: BORDER
Report Date: October 15, 2020

Page: 2 of 3

Part: 2 of 2

CERTIFICATE OF ANALYSIS

WHI20000404.1

Method Analyte Unit MDL	AQ201																	
	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te	
	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
1961351	Soil	32	7	0.09	166	0.003	<1	0.41	0.005	0.12	<0.1	0.02	1.3	<0.1	<0.05	1	<0.5	<0.2
1961352	Soil	36	14	0.20	240	0.008	1	0.83	0.006	0.11	<0.1	0.03	2.4	0.1	<0.05	2	0.8	<0.2
1961353	Soil	33	7	0.05	102	0.001	<1	0.37	0.004	0.12	0.1	0.03	1.6	<0.1	<0.05	<1	1.3	<0.2
1961354	Soil	34	30	0.92	210	0.003	<1	2.21	0.009	0.10	0.2	0.03	3.0	0.2	<0.05	6	1.9	<0.2
1961355	Soil	17	32	0.36	306	0.052	<1	1.43	0.013	0.06	0.2	0.04	4.7	0.1	<0.05	5	<0.5	<0.2
1961356	Soil	18	31	0.42	319	0.052	1	1.62	0.013	0.06	0.3	0.04	4.9	0.1	<0.05	5	<0.5	<0.2
1961357	Soil	17	34	0.43	348	0.047	<1	1.58	0.013	0.06	0.2	0.04	4.9	0.1	<0.05	5	<0.5	<0.2
1961358	Soil	17	29	0.42	319	0.049	<1	1.31	0.011	0.05	0.2	0.03	4.2	<0.1	<0.05	4	<0.5	<0.2
1961359	Soil	18	30	0.38	266	0.050	<1	1.40	0.011	0.06	0.2	0.03	4.6	0.1	<0.05	4	<0.5	<0.2
1961360	Soil	18	29	0.38	263	0.048	1	1.43	0.011	0.05	0.2	0.03	4.1	0.1	<0.05	5	<0.5	<0.2
1961361	Soil	18	30	0.36	271	0.050	<1	1.44	0.012	0.06	0.2	0.03	4.3	0.2	<0.05	4	<0.5	<0.2
1961362	Soil	18	32	0.41	290	0.049	<1	1.62	0.011	0.06	0.2	0.04	4.7	0.1	<0.05	5	<0.5	<0.2
1961363	Soil	19	34	0.44	327	0.054	<1	1.70	0.011	0.07	0.2	0.03	4.8	0.2	<0.05	5	<0.5	<0.2
1961364	Soil	18	30	0.41	292	0.053	1	1.55	0.012	0.06	0.2	0.03	4.7	0.2	<0.05	5	<0.5	<0.2
1961365	Soil	16	29	0.39	199	0.046	<1	1.49	0.010	0.05	0.2	0.02	3.8	0.1	<0.05	5	<0.5	<0.2
1961366	Soil	18	30	0.39	259	0.050	<1	1.41	0.010	0.06	0.2	0.02	4.1	0.1	<0.05	4	<0.5	<0.2
1961367	Soil	19	35	0.48	313	0.053	<1	1.68	0.011	0.07	0.2	0.04	5.4	0.1	<0.05	5	<0.5	<0.2
1961368	Soil	19	32	0.43	252	0.052	<1	1.59	0.012	0.06	0.2	0.02	4.5	0.2	<0.05	5	<0.5	<0.2
1961369	Soil	18	30	0.38	239	0.048	<1	1.40	0.010	0.06	0.2	0.04	4.1	0.1	<0.05	5	<0.5	<0.2
1961370	Soil	16	31	0.42	218	0.047	<1	1.57	0.010	0.06	0.2	0.03	3.9	0.2	<0.05	5	<0.5	<0.2
1961371	Soil	16	29	0.42	205	0.043	<1	1.51	0.009	0.06	0.2	0.02	3.7	0.2	<0.05	5	<0.5	<0.2
1961372	Soil	19	28	0.36	235	0.051	<1	1.50	0.012	0.06	0.2	0.03	4.2	0.2	<0.05	5	<0.5	<0.2
1961373	Soil	17	33	0.46	296	0.045	<1	1.68	0.010	0.06	0.2	0.04	4.9	0.2	<0.05	5	<0.5	<0.2
1961374	Soil	17	32	0.45	267	0.047	<1	1.48	0.010	0.06	0.2	0.03	4.1	0.1	<0.05	4	<0.5	<0.2
1961375	Soil	16	33	0.45	218	0.048	<1	1.59	0.009	0.06	0.2	0.02	3.9	0.1	<0.05	5	<0.5	<0.2
1961376	Soil	15	30	0.42	206	0.043	1	1.49	0.010	0.07	0.3	0.03	3.3	0.2	<0.05	5	<0.5	<0.2
1961377	Soil	15	28	0.39	216	0.033	1	1.37	0.009	0.06	0.4	0.06	3.4	0.2	<0.05	5	0.7	<0.2
1961378	Soil	17	29	0.36	230	0.039	1	1.33	0.010	0.07	0.5	0.05	3.8	0.2	<0.05	5	0.6	<0.2
1961379	Soil	21	33	0.42	284	0.041	1	1.62	0.010	0.08	0.5	0.06	5.2	0.2	<0.05	5	0.8	<0.2
1961380	Soil	17	28	0.39	141	0.051	1	1.28	0.011	0.09	0.7	0.05	3.8	0.2	<0.05	4	0.6	<0.2



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Project: BORDER
Report Date: October 15, 2020

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CERTIFICATE OF ANALYSIS

WHI20000404.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL
1961381	Soil	2.5	15.5	7.3	40	2.6	5.2	3.4	282	1.22	16.1	0.4	0.8	0.8	13	0.1	0.3	1.2	26	0.13	0.031
1961382	Soil	5.7	34.7	21.0	95	0.8	18.1	7.2	745	2.35	21.8	0.9	2.7	3.0	21	0.4	0.7	2.3	50	0.17	0.043
1961383	Soil	2.6	18.0	7.9	38	0.3	3.5	2.6	293	1.03	4.9	0.3	<0.5	0.3	12	0.2	0.3	0.7	29	0.09	0.022
1961384	Soil	12.4	383.7	131.8	317	1.8	23.0	8.0	1104	3.04	59.1	2.2	6.5	1.9	27	1.4	2.4	15.6	49	0.22	0.038
1961385	Soil	5.8	29.0	31.9	80	2.1	14.4	5.3	271	3.03	15.9	0.6	2.9	3.3	10	0.3	0.7	1.1	79	0.11	0.024
1961386	Soil	4.5	20.1	16.0	71	0.5	17.0	7.1	299	2.95	13.4	0.6	4.9	2.8	11	0.4	0.6	0.4	67	0.12	0.030
1961387	Soil	3.3	19.2	19.2	64	0.4	19.6	7.5	296	2.79	18.6	0.6	1.7	3.3	10	0.4	0.7	0.4	63	0.10	0.026
1961388	Soil	3.9	33.6	29.9	87	0.2	19.2	6.9	436	2.30	29.2	1.1	2.6	1.7	10	0.4	0.8	0.6	49	0.10	0.046
1961389	Soil	4.1	32.2	69.8	194	0.5	22.0	7.1	552	2.42	44.3	1.1	2.4	4.6	22	0.5	1.1	0.6	49	0.25	0.049
1961390	Soil	3.9	32.2	32.2	129	0.5	22.6	6.7	475	2.25	40.0	2.9	7.1	5.0	20	0.2	0.8	0.4	46	0.22	0.038
1961391	Soil	6.8	27.5	34.4	120	0.3	19.1	7.3	486	2.26	29.9	1.7	2.5	4.5	19	0.3	0.7	0.7	44	0.21	0.029
1961392	Soil	3.5	23.2	55.7	126	0.8	11.5	5.0	371	1.78	21.4	0.7	1.7	1.1	11	1.3	0.5	0.6	39	0.09	0.026
1961393	Soil	4.1	43.5	266.3	189	1.0	23.4	9.4	898	2.66	106.6	1.6	3.3	4.6	16	1.2	1.5	1.4	46	0.17	0.036
1961394	Soil	2.0	30.3	59.4	62	1.0	9.2	2.4	189	1.15	17.8	1.5	0.8	0.3	14	1.1	0.4	0.3	25	0.13	0.033
1961395	Soil	3.6	26.1	51.6	107	0.3	21.9	8.9	811	2.65	84.6	1.2	2.4	3.0	14	0.5	0.9	0.5	55	0.12	0.032
1961396	Soil	4.3	29.8	52.3	115	0.3	22.6	9.7	798	2.81	27.3	1.2	2.9	4.1	16	0.5	0.7	0.6	57	0.14	0.032



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Project: BORDER
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CERTIFICATE OF ANALYSIS

WHI20000404.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
1961381	Soil	5	8	0.12	59	0.035	<1	0.78	0.028	0.04	0.1	0.03	0.9	<0.1	<0.05	3	<0.5	<0.2
1961382	Soil	14	23	0.29	154	0.039	1	1.45	0.010	0.06	0.5	0.06	2.1	0.2	<0.05	5	<0.5	<0.2
1961383	Soil	5	7	0.05	60	0.029	<1	0.55	0.018	0.06	0.2	0.03	0.4	<0.1	<0.05	3	<0.5	<0.2
1961384	Soil	16	24	0.31	138	0.025	1	1.62	0.008	0.06	0.7	0.08	2.1	0.3	<0.05	5	0.7	1.6
1961385	Soil	12	29	0.30	153	0.035	<1	2.02	0.006	0.04	0.2	0.06	2.7	0.2	<0.05	8	<0.5	<0.2
1961386	Soil	12	28	0.31	169	0.036	<1	1.99	0.007	0.04	0.2	0.04	2.6	0.2	<0.05	7	<0.5	<0.2
1961387	Soil	10	28	0.30	151	0.036	<1	2.03	0.008	0.05	0.2	0.06	2.5	0.2	<0.05	7	<0.5	<0.2
1961388	Soil	14	25	0.35	88	0.039	<1	1.63	0.010	0.05	0.3	0.04	2.6	0.2	<0.05	5	0.6	<0.2
1961389	Soil	16	30	0.45	213	0.046	<1	1.44	0.010	0.06	0.3	0.03	4.2	0.2	<0.05	5	0.5	<0.2
1961390	Soil	18	29	0.46	227	0.047	<1	1.45	0.009	0.06	0.3	0.04	4.7	0.1	<0.05	5	0.6	<0.2
1961391	Soil	17	28	0.41	186	0.031	<1	1.63	0.007	0.08	0.4	0.04	3.3	0.2	<0.05	5	0.5	0.2
1961392	Soil	7	17	0.20	119	0.028	<1	1.30	0.014	0.04	0.2	0.03	1.5	0.1	<0.05	5	<0.5	<0.2
1961393	Soil	15	26	0.39	159	0.042	<1	1.30	0.009	0.06	0.3	0.03	3.2	0.2	<0.05	4	0.8	<0.2
1961394	Soil	10	12	0.12	122	0.021	<1	0.96	0.021	0.04	0.1	0.03	1.2	0.1	<0.05	4	<0.5	<0.2
1961395	Soil	15	28	0.40	174	0.045	1	1.65	0.010	0.06	0.2	0.03	3.3	0.2	<0.05	6	0.5	<0.2
1961396	Soil	15	30	0.41	194	0.043	<1	1.72	0.008	0.07	0.2	0.03	3.3	0.2	<0.05	6	0.5	<0.2



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Project: BORDER
Report Date: October 15, 2020

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QUALITY CONTROL REPORT

WHI20000404.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%	
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
Pulp Duplicates																					
1961366	Soil	1.8	22.4	26.5	67	0.1	19.3	6.2	395	2.08	21.4	1.3	4.2	6.1	20	0.1	0.7	0.3	45	0.20	0.026
REP 1961366	QC	1.7	23.0	27.0	71	0.1	20.0	6.4	399	2.14	22.2	1.3	3.2	6.4	20	0.2	0.7	0.3	47	0.20	0.026
1961391	Soil	6.8	27.5	34.4	120	0.3	19.1	7.3	486	2.26	29.9	1.7	2.5	4.5	19	0.3	0.7	0.7	44	0.21	0.029
REP 1961391	QC	6.7	27.5	34.3	120	0.3	19.3	7.3	491	2.25	30.2	1.6	3.0	4.4	20	0.3	0.7	0.7	44	0.20	0.029
Reference Materials																					
STD BVGEO01	Standard	10.9	4189.5	197.2	1639	2.5	175.4	26.4	684	3.78	115.7	4.0	220.2	16.6	51	6.2	3.5	25.0	81	1.34	0.078
STD DS11	Standard	15.3	143.5	134.9	333	1.9	83.7	14.6	1045	3.19	42.8	2.6	85.5	7.6	66	2.3	8.3	10.8	51	1.08	0.068
STD OREAS262	Standard	0.7	112.3	56.4	150	0.5	68.7	27.4	551	3.37	36.8	1.2	61.8	9.3	35	0.6	5.0	1.0	24	2.96	0.038
STD OREAS262	Standard	0.6	113.4	59.7	150	0.5	68.3	28.7	507	3.43	36.7	1.2	66.8	10.3	35	0.6	6.1	1.0	24	3.04	0.044
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701
STD BVGEO01 Expected		11.2	4415	187	1741	2.53	163	25	733	3.7	121	3.77	219	14.4	55	6.5	3.39	25.6	73	1.3219	0.0727
STD OREAS262 Expected		0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98	0.04
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001



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QUALITY CONTROL REPORT

WHI20000404.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
Pulp Duplicates																		
1961366	Soil	18	30	0.39	259	0.050	<1	1.41	0.010	0.06	0.2	0.02	4.1	0.1	<0.05	4	<0.5	<0.2
REP 1961366	QC	18	29	0.42	258	0.053	<1	1.37	0.010	0.05	0.2	0.03	4.3	0.1	<0.05	4	<0.5	<0.2
1961391	Soil	17	28	0.41	186	0.031	<1	1.63	0.007	0.08	0.4	0.04	3.3	0.2	<0.05	5	0.5	0.2
REP 1961391	QC	16	28	0.41	184	0.029	<1	1.62	0.007	0.08	0.4	0.04	3.4	0.2	<0.05	5	<0.5	0.2
Reference Materials																		
STD BVGEO01	Standard	26	205	1.31	293	0.243	4	2.30	0.181	0.92	5.3	0.09	5.8	0.6	0.66	8	5.0	1.0
STD DS11	Standard	17	60	0.87	355	0.091	7	1.16	0.070	0.39	3.0	0.29	3.3	5.1	0.33	5	2.5	4.8
STD OREAS262	Standard	17	44	1.20	245	0.003	3	1.32	0.065	0.30	0.2	0.16	3.3	0.5	0.31	4	0.8	0.2
STD OREAS262	Standard	16	44	1.20	250	0.003	5	1.24	0.072	0.32	0.2	0.15	3.2	0.5	0.27	4	<0.5	0.2
STD DS11 Expected		18.6	61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
STD BVGEO01 Expected		25.9	187	1.2963	260	0.233	3.8	2.347	0.1924	0.89	5.3	0.1	5.97	0.62	0.6655	7.37	4.84	1.02
STD OREAS262 Expected		15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	4.1	0.4	0.23
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2



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Client: Mann & Hulstein Prosepectors
Whitehorse Yukon Canada

Submitted By: Bill Mann
Receiving Lab: Canada-Whitehorse
Received: September 16, 2020
Analysis Start: November 19, 2020
Report Date: December 01, 2020
Page: 1 of 2

CERTIFICATE OF ANALYSIS WHI20000405.1

CLIENT JOB INFORMATION

Project: BORDER
Shipment ID:
P.O. Number
Number of Samples: 10

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	10	Crush, split and pulverize 250 g rock to 200 mesh			WHI
AQ201	10	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SHP01	10	Per sample shipping charges for branch shipments			VAN

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
IMM-RJT Return immediately after analysis

ADDITIONAL COMMENTS

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

Invoice To: Mann & Hulstein Prosepectors
Whitehorse Yukon
Canada

CC:



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



BUREAU VERITAS MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

Client: Mann & Hulstein Prosepectors
Whitehorse Yukon Canada

Project: BORDER
Report Date: December 01, 2020

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CERTIFICATE OF ANALYSIS

WHI20000405.1

Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	1	0.01	
72783	Rock	0.51	12.8	9.2	5.0	9	0.1	0.5	<0.1	43	0.40	8.5	<0.1	1.3	0.6	<1	<0.1	0.7	0.2	<1	<0.01
72784	Rock	1.02	13.6	1601.6	11.9	78	2.3	39.4	30.8	1719	13.20	8.9	4.6	3.2	3.2	76	0.8	0.4	5.8	96	4.10
72785	Rock	0.93	3.9	441.5	8.7	23	0.7	18.4	6.7	991	5.16	4.1	3.8	3.9	4.0	44	0.2	0.5	7.4	49	2.49
72786	Rock	0.73	4.6	86.6	47.1	110	0.6	18.6	3.0	2474	2.29	16.2	11.2	60.8	6.0	99	1.4	5.6	54.5	73	5.67
72787	Rock	0.96	2.2	19.5	53.3	70	0.8	19.9	1.7	2618	2.49	9.5	3.6	314.4	4.3	36	0.6	1.3	259.6	84	5.78
72788	Rock	0.76	12.0	40.5	14.1	83	0.2	6.7	2.0	985	1.72	5.9	2.4	3.2	4.7	878	0.7	0.5	2.6	28	2.74
72789	Rock	0.79	67.0	5473.2	61.7	99	27.7	23.3	4.8	1560	7.30	46.0	2.2	10.7	2.4	33	0.7	0.2	17.7	44	5.60
72790	Rock	0.76	12.0	22.3	6.5	32	0.1	34.9	6.9	486	2.44	9.9	1.4	<0.5	7.9	11	<0.1	0.4	0.2	79	0.17
72791	Rock	0.58	16.1	63.2	75.6	28	7.7	0.9	0.3	103	1.15	228.2	0.6	8.6	4.9	5	<0.1	5.5	13.6	3	0.02
72792	Rock	0.70	7.2	119.3	76.2	51	9.3	0.8	0.6	188	1.05	713.0	1.1	6.3	4.6	8	1.2	6.1	11.2	2	0.01



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Project: BORDER
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CERTIFICATE OF ANALYSIS

WHI20000405.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	
Unit		%	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm		
MDL		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	
72783	Rock	0.002	<1	4	<0.01	17	<0.001	<1	0.05	0.004	0.04	0.2	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2	
72784	Rock	0.276	10	59	0.24	7	0.053	<1	2.46	0.061	0.01	19.8	<0.01	3.7	0.2	5.57	15	19.7	1.6	
72785	Rock	0.253	12	30	0.10	8	0.075	<1	1.17	0.055	0.01	0.7	<0.01	1.5	0.2	1.62	7	4.1	4.2	
72786	Rock	0.310	19	47	0.22	59	0.090	5	1.72	0.005	0.01	1.7	<0.01	2.4	<0.1	0.05	5	0.6	0.4	
72787	Rock	0.246	7	49	0.14	26	0.065	1	1.36	0.004	0.01	1.3	<0.01	2.2	<0.1	<0.05	5	0.6	1.2	
72788	Rock	0.164	10	13	0.12	39	0.085	1	2.37	0.106	0.02	21.3	<0.01	0.6	<0.1	<0.05	5	0.6	0.5	
72789	Rock	0.171	8	30	0.09	31	0.042	<1	1.09	0.015	0.09	2.9	<0.01	2.0	0.2	0.64	6	33.6	7.0	
72790	Rock	0.031	16	56	0.72	241	0.097	1	1.86	0.060	0.90	0.6	<0.01	8.0	0.9	<0.05	6	<0.5	<0.2	
72791	Rock	0.008	13	4	0.02	61	<0.001	<1	0.33	0.004	0.24	0.4	0.01	0.4	0.7	<0.05	<1	0.8	0.3	
72792	Rock	0.006	9	3	0.01	82	<0.001	<1	0.31	0.007	0.22	0.3	<0.01	0.2	0.4	<0.05	<1	<0.5	0.2	



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Report Date: December 01, 2020

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QUALITY CONTROL REPORT

WHI20000405.1

Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	1	0.01	
Reference Materials																					
STD BVGEO01	Standard	10.7	4491.9	186.6	1730	2.5	157.1	25.0	703	3.73	115.8	3.7	216.1	13.7	54	5.9	3.3	23.8	74	1.32	
STD DS11	Standard	14.8	150.4	144.9	351	1.9	82.5	14.5	1041	3.14	47.5	2.7	142.1	8.2	69	2.7	9.2	12.9	48	1.07	
STD OREAS262	Standard	0.7	114.7	55.5	145	0.4	64.8	27.4	528	3.33	35.2	1.2	66.8	8.8	34	0.6	5.1	1.0	23	2.89	
STD OREAS262	Standard	0.6	118.7	62.3	157	0.5	67.2	29.2	558	3.27	39.4	1.3	68.0	10.0	38	0.7	5.5	1.1	21	2.98	
STD BVGEO01 Expected		11.2	4415	187	1741	2.53	163	25	733	3.7	121	3.77	219	14.4	55	6.5	3.39	25.6	73	1.3219	
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	8.74	12.2	50	1.063	
STD OREAS262 Expected		0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98	
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	5.0	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	
Prep Wash																					
ROCK-WHI	Prep Blank	0.9	1.7	3.1	22	0.1	0.5	3.4	397	1.72	15.7	0.4	1.3	3.0	25	<0.1	0.2	0.4	21	0.60	
ROCK-WHI	Prep Blank	0.7	2.6	12.3	23	0.3	0.7	3.5	396	1.75	58.4	0.4	4.1	2.5	26	<0.1	0.2	0.8	22	0.62	



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QUALITY CONTROL REPORT

WHI20000405.1

Method		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Reference Materials																			
STD BVGEO01	Standard	0.069	26	191	1.26	284	0.235	3	2.25	0.191	0.89	5.3	0.10	6.2	0.6	0.66	7	4.8	1.0
STD DS11	Standard	0.077	19	62	0.86	401	0.098	6	1.16	0.072	0.41	3.3	0.29	3.3	5.0	0.27	5	2.6	4.7
STD OREAS262	Standard	0.039	16	44	1.19	247	0.003	4	1.34	0.068	0.31	0.2	0.17	3.2	0.5	0.25	4	0.6	<0.2
STD OREAS262	Standard	0.041	17	47	1.19	262	0.003	3	1.39	0.068	0.31	0.2	0.17	3.5	0.5	0.26	4	<0.5	0.3
STD BVGEO01 Expected		0.0727	25.9	187	1.2963	260	0.233	3.8	2.347	0.1924	0.89	5.3	0.1	5.97	0.62	0.6655	7.37	4.84	1.02
STD DS11 Expected		0.0701	18.6	61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
STD OREAS262 Expected		0.04	15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	4.1	0.4	0.23
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
Prep Wash																			
ROCK-WHI	Prep Blank	0.041	7	2	0.40	74	0.080	2	0.91	0.123	0.10	<0.1	<0.01	4.1	<0.1	<0.05	3	<0.5	<0.2
ROCK-WHI	Prep Blank	0.041	7	2	0.42	77	0.078	1	0.98	0.142	0.11	0.1	<0.01	4.0	<0.1	<0.05	4	<0.5	<0.2

APPENDIX V XRF 2020 BORDER HILL

Sample#	Reading#	Duration	Mo	Mo Error	Pb	Pb Error	As	As Error	Zn	Zn Error	Cu	Cu Error	Co	Co Error	Fe	Fe Error	Mn	Mn Error
1961351	1577	30.14	7.41	4.23	9.46	6.18	17.02	5.78	77.27	14.76	25.1	16.47	< LOD	112.36	11021.49	265.92	222.21	61.36
1961352	1578	30.12	< LOD	6.51	18.92	7.25	11.07	6.09	79.97	15.2	31.68	17.38	< LOD	117.89	11140.09	271.89	160.56	57.3
1961353	1579	30.13	< LOD	6.51	20.11	7.24	< LOD	8.5	76.85	15.18	34.21	17.56	155.58	82.56	11932.88	281.69	204.31	61.81
1961354	1580	30.13	12.91	4.42	13.93	6.69	10.02	5.66	79.31	15.07	< LOD	24.34	177.92	71.73	8384.58	236.63	207.61	59.66
1961355	1581	30.13	7.12	4.07	9.11	5.82	14.6	5.34	30.29	10.41	24.42	15.42	108.45	54.82	5419.43	180.23	82.09	43.59
1961356	1582	30.11	< LOD	6.22	19.48	7.02	12.95	6.07	44.14	12.46	31.67	16.88	184.42	71.46	8693.14	235.82	192.1	57.84
1961357	1583	30.13	< LOD	6.7	16.49	7.14	10.89	6.11	55.47	14.22	45.63	19.51	< LOD	122.44	10999.62	280.48	217.83	65.36
1961358	1584	30.12	8.2	4.6	12.26	6.79	20.54	6.59	52.33	14.04	31.7	18.72	147.29	81.49	10436.29	276.51	213.92	65.5
1961359	1585	30.14	< LOD	6.36	18.85	7.06	9.28	5.86	70.08	14.45	< LOD	23.63	121.37	76.42	10552.95	261.95	230.15	62.55
1961360	1586	30.12	< LOD	6.37	18.98	7.1	10.87	6.04	47.29	13.09	32.7	17.55	152.95	76.43	10017.26	258.07	171.09	57.88
1961361	1587	30.14	< LOD	6.77	30.98	8.66	18.75	7.66	60.66	14.8	49.24	20.36	< LOD	123.5	10716.16	282.69	217.86	65.43
1961362	1588	30.13	< LOD	6.54	30.91	8.32	16.19	7.22	95.09	16.66	47.29	19.14	< LOD	131.07	13605.07	306.71	326.92	73.44
1961363	1589	30.15	< LOD	6.62	23.61	7.81	22.74	7.27	77.36	15.86	29.68	18.17	< LOD	118.42	10422.13	271.02	250.85	66.52
1961364	1590	30.14	< LOD	6.32	24.51	7.68	18.14	6.79	59.13	13.86	39.86	17.75	168.52	78.25	10734.11	264.1	253.8	64.53
1961365	1591	30.11	7.5	4.36	41.75	9.09	< LOD	10.96	101.35	16.75	26.68	17.13	120.4	79.19	11099.72	272.28	251.14	65.37
1961366	1592	30.12	< LOD	6.57	26.41	8	11.13	6.72	46.45	13.24	39.22	18.74	154.61	75.95	9117.69	254.92	402.11	77.54
1961367	1593	30.13	8.61	4.42	25.29	7.83	26.86	7.47	72.16	14.93	30.01	17.53	152.56	86.62	13112.51	297.57	390.75	76.43
1961368	1594	30.06	< LOD	6.65	16.39	7.07	22.1	6.79	52.6	13.65	< LOD	26.35	< LOD	109.85	9404.06	256.58	197.41	61.54
1961369	1595	30.14	7.97	4.59	38.82	9.23	15.4	7.78	63.69	14.8	37.5	18.82	< LOD	128.41	12447.91	299.28	312.57	73.44
1961370	1596	30.09	< LOD	6.78	26.87	8.14	17.61	7.25	48.66	14	< LOD	27.16	132.15	85.06	11696.77	292.1	254.06	68.76
1961371	1597	30.14	< LOD	6.42	33.19	8.6	19.03	7.56	55.9	14.03	42.3	18.88	< LOD	127.07	12431.38	295.18	298.71	70.2
1961372	1598	30.12	< LOD	6.55	21.91	7.71	21.84	7.15	50.66	13.34	29.4	18.1	< LOD	107.49	8418.4	244.45	240.24	64.73
1961373	1599	30.14	< LOD	6.73	30.64	8.51	27.44	7.96	75.33	15.72	37.06	18.74	170.37	91.42	13886.53	313.34	313.56	72.91
1961374	1600	30.14	< LOD	6.99	30.32	8.84	25.48	8.21	62.28	15.5	< LOD	29.05	< LOD	131.19	11754.72	302.93	471.84	87.5
1961375	1601	30.13	< LOD	7.12	26.49	8.73	28.65	8.36	56.82	15.43	30.54	20.17	155.6	97.37	13955.31	335.08	250.3	72.62
1961376	1602	30.14	7.93	4.12	< LOD	8.71	< LOD	6.99	45.55	11.78	25.48	15.73	108.57	56.86	5765.47	187.98	108.38	47.24
1961377	1603	30.11	< LOD	6.18	10.7	6.13	9.99	5.22	28.65	10.62	30.2	16.16	144.3	66.27	7930.04	220.87	219.4	58.07
1961378	1604	30.12	9.92	4.11	< LOD	8.11	18.85	5.39	32.91	10.49	30.9	15.82	101.3	52.18	4829.22	171.05	323.16	63.97
1961379	1605	30.15	< LOD	6.19	17.19	6.78	15.42	6.04	52.32	12.74	51.64	17.9	218.79	73.2	9180.7	239.63	261.44	62.46
1961380	1606	30.15	14.4	4.39	18.32	6.77	31.44	7.06	57.31	13.24	50.04	18	201.55	70.95	8491.38	232.18	289.37	64.56
1961381	1607	30.12	< LOD	5.94	< LOD	7.89	7.38	4.49	29.51	10.73	24.53	15.71	117.69	54.96	5139.67	178.77	118.19	47.76
1961382	1608	30.07	6.3	3.8	< LOD	7.67	8.77	4.45	33.15	10.07	25.73	14.49	108.9	57.56	6782.08	192.82	140.26	48.13
1961383	1609	30.13	< LOD	6	10.51	5.96	< LOD	7.15	26	10.73	< LOD	22.84	155.63	68.23	8608.22	227.61	124.72	49.4
1961384	1610	30.13	< LOD	6.27	14.15	6.51	11.78	5.67	59.51	13.74	< LOD	23.75	260.1	88.82	13771.78	296.87	149.57	56.93
1961385	1611	30.12	7.55	4.03	68.81	10.19	16.34	8.35	117.64	16.59	157.66	23.27	107.59	65.94	8537.76	224.57	261.69	60.51
1961386	1612	30.12	6	3.7	< LOD	7.72	< LOD	6.27	37.64	9.98	23.96	13.8	69.43	43.5	3829.1	143.06	184.91	48.83

Sample#	Reading#	Duration	Mo	Mo Error	Pb	Pb Error	As	As Error	Zn	Zn Error	Cu	Cu Error	Co	Co Error	Fe	Fe Error	Mn	Mn Error
1961387	1613	30.14	< LOD	6.29	11.47	6.22	16.85	5.78	54.31	12.87	25.66	16.13	152.93	74.16	10084.2	250.78	359.85	69.71
1961388	1614	30.14	< LOD	5.75	19.75	6.42	9.29	5.39	48.72	11.59	< LOD	21.21	120.52	61.86	7809.36	208.11	142.41	48.74
1961389	1615	30.13	8.51	4.38	43.36	9.03	13.49	7.49	110.68	17.01	36.16	17.44	220.36	78.55	10324.13	259.55	181.54	58.36
1961390	1616	30.14	< LOD	6.5	23.52	7.62	29.27	7.45	92.66	16.22	34.8	17.71	151.05	78.56	10654.3	266.66	287.47	67.14
1961391	1617	30.08	7.76	4.28	32.06	8.18	22.81	7.42	77.88	14.94	49.13	18.4	< LOD	108.64	9453.4	248.22	256.76	63.2
1961392	1618	30.09	< LOD	5.82	38.46	8	16.94	6.89	67.72	12.9	36.23	15.75	< LOD	79.6	5606.96	179.34	137.44	48.09
1961393	1619	30.12	< LOD	5.8	33.31	7.71	< LOD	9.07	67.96	12.78	23.01	14.57	84.83	45.47	3770.61	147.11	129	46.23
1961394	1620	30.13	9.36	4.32	148.32	14.67	32.69	12.16	101.88	16.23	34.01	17.2	< LOD	108.12	9614.45	249.01	322.95	67.9
1961395	1621	30.13	< LOD	6.44	67.37	10.95	67.05	11.18	73.37	15.33	< LOD	25.65	264.51	94.77	14575.05	318.13	520.14	86.67
1961396	1622	30.14	< LOD	6.34	37.71	8.7	14.04	7.35	89.28	16.14	< LOD	24.81	270.05	90.39	13399.98	301.01	461.68	80.55