BMC MINERALS LTD

YMEP 2020

PELLY PROPERTY

FINAL TECHNICAL REPORT

Watson Lake Mining District, Yukon

NTS 105G/8 and 9

61˚ 27’ N Latitude; 130˚ 12' W Longitude

-prepared by-

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SUMMARY

The Pelly Property is 100% owned by BMC Minerals Limited and consists of 422 quartz claims covering 7220 hectares (72.2 km2) of south-central Yukon. The approximate centre of the Property is at 61˚ 27’ N latitude and 130˚ 12' W longitude on NTS map sheets 105G/8 and 9, within the Watson Lake Mining District. The Property can be divided into three mostly contiguous claim blocks (JACK, GO, WOL) The Jack Block hosts the downdip extension of the Wolverine volcanogenic massive sulphide (VMS) deposit (Figure 3).

The 2020 YMEP program on the Pelly Property focused on the Fisher region (WOL claim block) with the aim to build on the understanding of the stratigraphy and structures throughout the area to aid in future targeting of VMS mineralization. Specifically, the area is known to host ironstone units within the stratigraphy that have been variably described as either exhalative or replacement in provenance. Understanding the distribution, nature of formation and relationship to syngenetic and post diagenetic structures of the iron rich units can have implications for further VMS exploration. For this study the approach was twofold; 1) a detailed ground magnetic survey to aid in the identification of additional or heretofore unrecognized structures through the area and further constrain the distribution of iron-rich rocks and 2) rock sampling and prospect mapping to compare the geochemical signature and setting of the ironstone with adjacent lithologies. In total, twenty-four rock samples were collected with emphasis on the mapped ironstone and surrounding volcanic rocks.

Outcrop observations and a review of nearby historic drill hole logs show an abrupt termination to a northwest trending ironstone body approximately 50-60m northwest of the Fisher Porphyry. This termination appears to correspond to an east-west trending fault observed in the magnetic data. Moreover, mapping indicates that the ironstone thickness varies along strike around the Fisher Target and Viking Creek area. Specifically, the ironstones are thickest near their northwest termination. This may outline the location of cryptic syngenetic faults in those areas, further supporting interpretations made in the past (Dessureau, 2005).

Whole rock and multi-element analytical results of the ironstone proximal to the Fisher porphyry and in the Viking Creek area are similar to chemical signatures with the surrounding felsic volcaniclastic rocks and coherent rhyolite flows. The geochemical similarity suggests the ironstone units could have formed from the replacement of the surrounding volcaniclastic material prior to consolidation and compaction. Outcrop and hand specimen observation further support this with textural similarities between ironstone and felsic volcaniclastic rocks in the immediate footwall.

The location and distribution of the local structures, the variations in thickness of several units and the likely replacement nature of the ironstones suggest the Fisher Zone and Viking Creek areas formed a half graben or graben in a subaqueous volcanic environment. The structures would likely be responsible for focussing hydrothermal fluids and would be linked to the distribution of the replacement lithologies. Furthermore, this oxidized fluid may have pooled under coherent flows (acting as aquitards) in the area, replacing the felsic volcanic rock below to form the magnetite rich units.

Estimated expenditure for the 14-day program was ***$98,150.***

Follow-up work should include:

- Additional concentrated rock sampling (to increase the sample population) of the ironstone and surrounding volcanic units on focussed sections.
- Petrological studies to investigate replacement textures in the ironstone units.
- Physical property testing on all unit to aid in geophysical processing and future survey planning

1.0 INTRODUCTION AND PROPERTY INFORMATION

The Pelly Property consists of 422 quartz claims that cover 7,220 hectares (the Pelly Claim block), 280 km east-northeast of the city of Whitehorse, approximately 140 km southeast of the town of Ross River and 250 km northwest of the town of Watson Lake. It is centred at 61˚ 27’ N latitude and 130˚ 12' W longitude (NAD83 UTM Zone 9: 436500E 6814000N) on NTS map sheets 105G/8 and 9, within the Watson Lake Mining District (Figures 1 & 2).

BMC Minerals holds 1,897 mineral claims in the Finlayson District in south central Yukon covering an area of 345 km^2. The most advanced of the properties is the Kudz Ze Kayah (KZK) project that is centred on the ABM poly metallic deposit which is currently contemplated for development and is undergoing an Environmental Assessment under YESAA (Figure 2). KZK is the current base of operations for BMC in the area and is the location of an exploration camp permitted to hold up to 120 people.

The Pelly Property is located approximately 25 km east of the KZK property (Figure 2). The claims that comprise the property are intermingled with claims owned by Yukon Zinc Corp. (“Yukon Zinc”) covering the past producing Wolverine mine (“Wolverine”). BMC’s claims cover down dip extent of the east dipping stratigraphy adjacent to the Wolverine deposit as well as the along strike extent of the host stratigraphy to the north of the deposit.

The Pelly Property comprises three separate claim groups: JACK – located northeast of Wolverine; GO – located southwest of Wolverine; and WOL – located northwest along Wolverine Lake (Figure 3).

Access to the property was via daily helicopter set outs from the KZK Camp at NAD83 UTM Zone 9: 413850 m E 6819700 m.

This Final Technical report has been prepared by BMC MINERALS LTD (“BMC” or “BMC Minerals”) in order to document the procedures and results of the 2020 exploration work on the Pelly Property and to satisfy YMEP reporting requirements for the Yukon Department of Energy, Mines and Resources (“EMR”).

Figure 1: Location of the Pelly Property

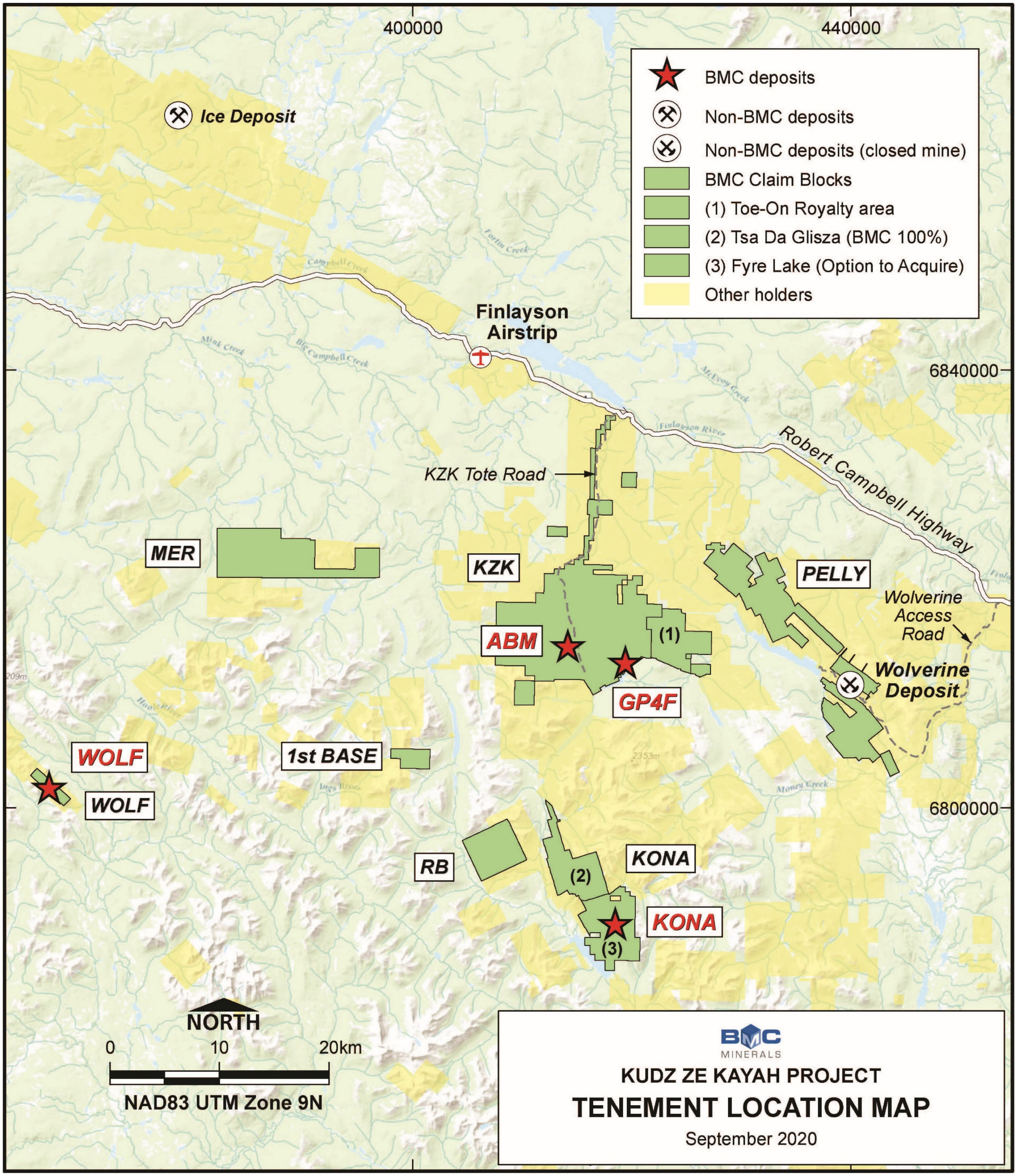


Figure 2: BMC Minerals claim outlines showing the location of the Pelly Property

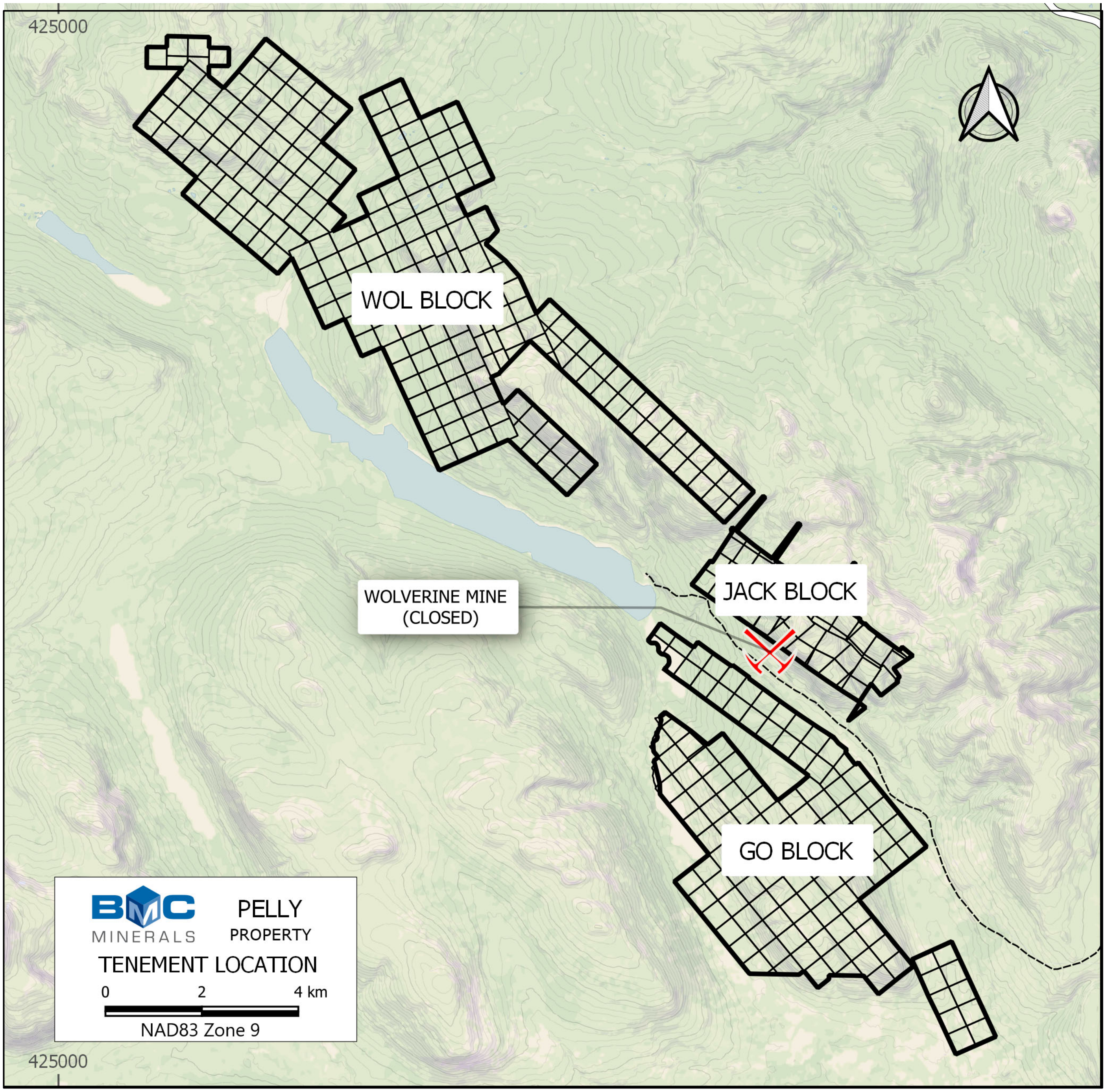
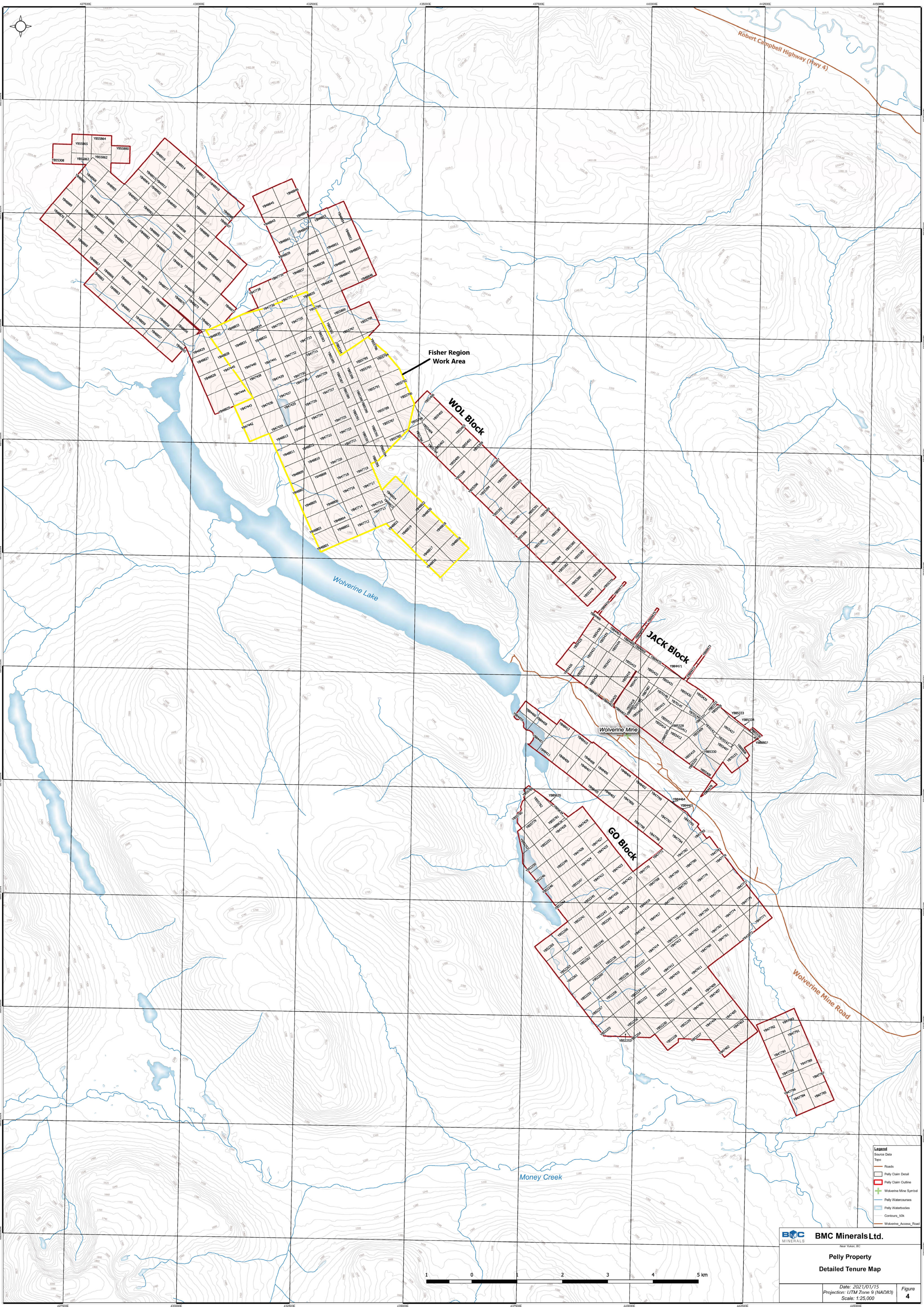


Figure 3: Claim blocks assigned to the Pelly Property



Robert Campbell Highway (Hwy 4)
Fisher Region
Work Area
WOL Block
JACK Block
GO Block
Wolverine Lake
Wolverine Mine
Wolverine Mine Road
Money Creek
1 0 1 2 3 4 5 km
Legend
Source Data
Topo
Roads
Pelly Claim Detail
Pelly Claim Outline
Wolverine Mine Symbol
Pelly Watercourses
Pelly Waterbodies
Contours_50k
Wolverine_Access_Road
BMC Minerals Ltd.
Pelly Property
Detailed Tenure Map
Date: 2021/01/15
Projection: UTM Zone 9 (NAD83)
Scale: 1:25,000
Figure
4

2.0 GEOLOGICAL DESCRIPTION

2.1 Regional Geology

The Pelly Property is located with the Finlayson Lake District, a crescent-shaped area approximately 300 km long and 50 km wide that extends from Ross River in the north to Watson Lake in the south (Figure 5).

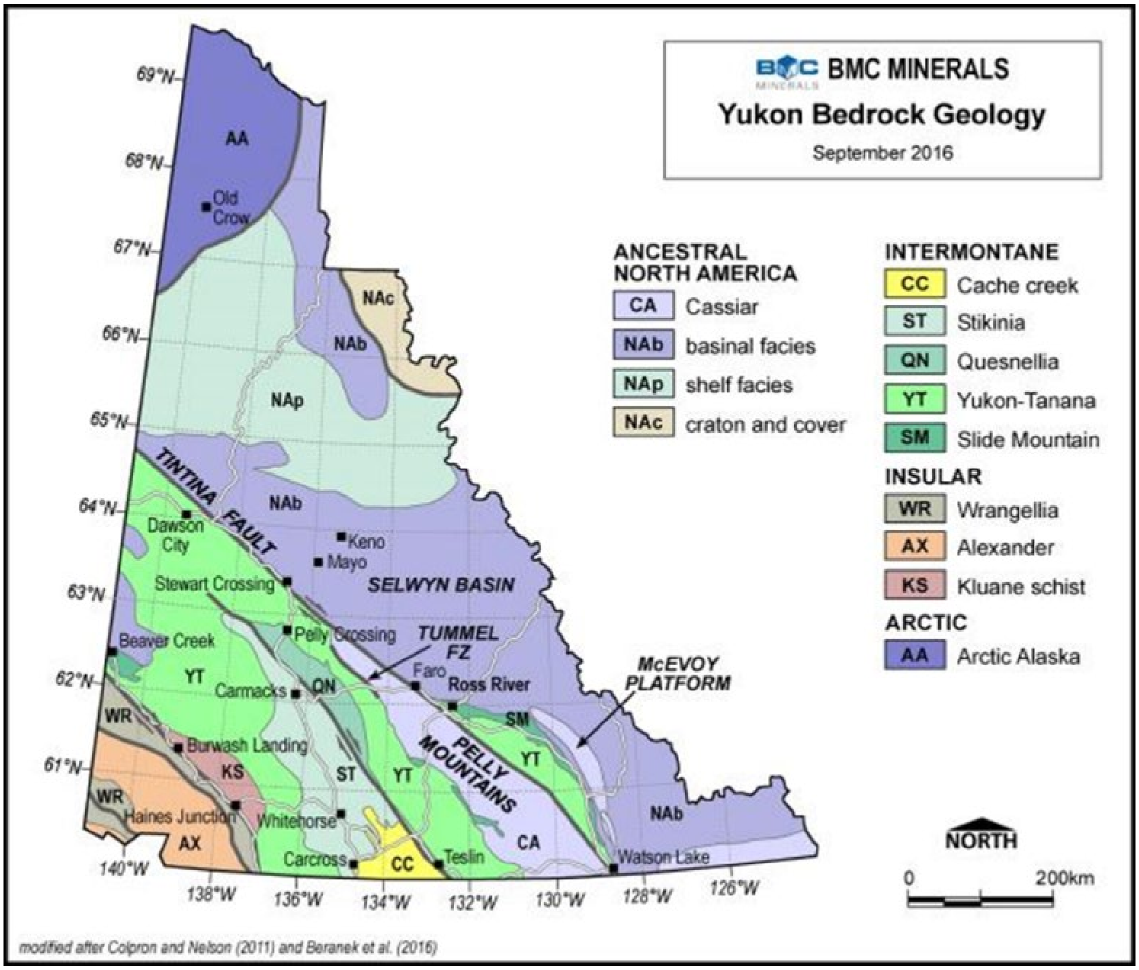


Figure 5: Yukon bedrock geology and terrane map.

Modified after Colpron and Nelson (2011) and Beranek et al. (2016)

The Finlayson Lake District predominantly comprises Devonian to Lower Carboniferous (Mississippian) volcanic, intrusive, and sedimentary rocks bounded to the east by Proterozoic and Palaeozoic strata of the Selwyn Basin, representing the ancient North American continental margin, and to the southwest by the Tintina Fault. Rocks of the Finlayson Lake District comprise several fault- and unconformity-bound groups and formations of early Mississippian to Early Permian age (Murphy et al., 2006; Figure 6). The Yukon-Tanana and Slide Mountain terranes, which together with minor allochthonous elements that make up the Finlayson Lake District, are separated from the ancient continental strata to the northeast by the Inconnu Thrust (Mortensen and Jilson, 1985; Plint and Gordon, 1996; Tempelman-Kluit, 1979; Figure 6). Within the Finlayson Lake District, the Jules Creek Fault separates the Yukon-Tanana terrane from the Slide Mountain terrane. The Yukon-Tanana terrane of the Finlayson Lake District is interpreted to be contiguous with the main body of the Yukon-Tanana terrane, which underlies most of west central Yukon, after reconstruction of an approximately 425 km right-lateral, strike-slip movement of Late Cretaceous age along the Tintina Fault (e.g. Mortensen, 1992; Peter et al., 2007).

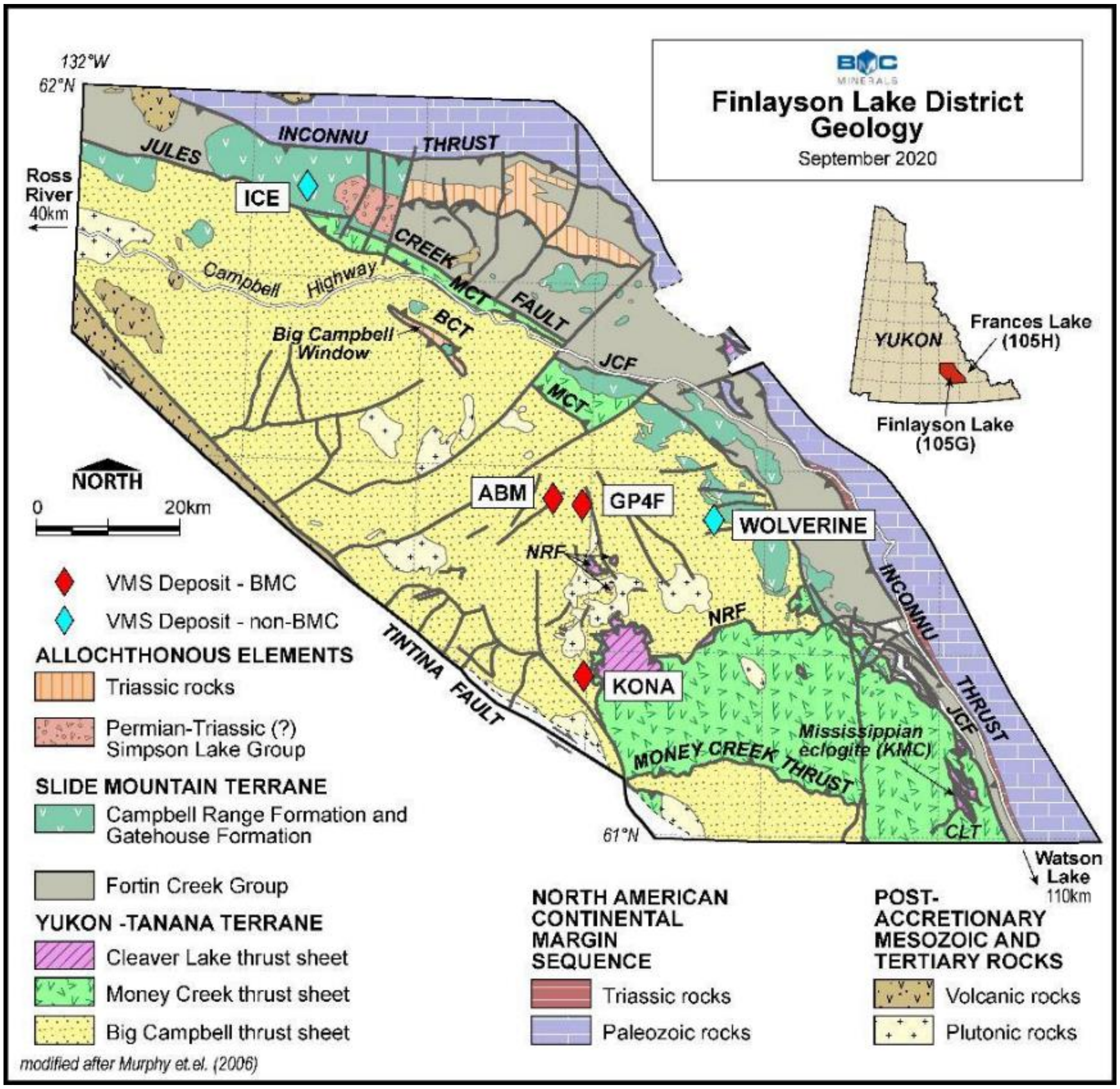


Figure 6: Tectonostratigraphic subdivisions of the Finlayson Lake District

Source: Murphy et al. (2006)

Rocks of the Finlayson Lake District comprise several fault- and unconformity-bound groups and formations of early Mississippian to Early Permian age (Murphy et al., 2006) (Figure 6 and Figure 7). Massive sulphide deposits have been identified primarily within the Big Campbell thrust sheet (Figure 6 and Figure 7), with the exception of the Ice deposit which is hosted by basalts of the Campbell Range Formation within the Slide Mountain Terrane.

Rocks of the Big Campbell thrust sheet include Pre-Late Devonian quartz-rich sedimentary rocks of the North River Formation ; mafic and felsic volcanic, and carbonaceous clastic rocks of the Upper Devonian Grass Lakes Group; Late Devonian to Early Mississippian granitic rocks of the Grass Lakes plutonic suite; carbonaceous clastic, mafic and felsic volcanic rocks of the Lower Mississippian Wolverine Lake Group; and carbonaceous clastic rocks and chert of the Lower Permian Money Creek Formation (Murphy et al.,2006) (Figure 7).

The Grass Lakes Group (**Grass Lakes - DMF**) comprises strongly foliated and lineated layered sedimentary and volcanic rocks positioned in a roof setting above and between bodies of Early

Mississippian granitic orthogneiss and weakly foliated mid-Cretaceous granite (Murphy, 1997). The Grass Lakes Group has been subdivided into three formations which, from oldest to youngest, are the Fire Lake Formation, Kudz Ze Kayah Formation, and the Wind Lake Formation (Peter et al., 2007). Each formation is briefly described below:

- The Upper Devonian (ca. 365 Ma) Fire Lake Formation is a mafic volcanic sequence comprising mainly chloritic phyllite with some carbonaceous phyllite and rare muscovite-quartz phyllite of probable felsic volcanic protolith. Intrusions and sills of mafic and serpentinized ultramafic plutonic rocks occur within the Fire Lake Formation (Peter et al., 2007).
- Stratigraphically overlying the Fire Lake Formation is the Kudz Ze Kayah Formation, a Late Devonian (ca. 360–356 Ma) sequence dominated by felsic volcanic and volcaniclastic and sedimentary rocks. It predominantly comprises feldspar-muscovite-quartz phyllite and augen phyllite of probable felsic volcanic and volcaniclastic origin, and lesser fine-grained carbonaceous and siliciclastic sedimentary rocks (Peter et al., 2007).
- The Wind Lake Formation forms the uppermost unit of the Grass Lakes Group and comprises carbonaceous phyllite, quartzite, and chloritic phyllite of probable alkalic mafic volcanic and intrusive protolith (Peter et al., 2007).

Coeval with the Kudz Ze Kayah and Wind Lake formations are peraluminous plutonic granitoids of the Grass Lakes Suite which are interpreted as the subvolcanic intrusive equivalents to the felsic volcanic host rocks of the Kudz Ze Kayah deposit and are as old as 363 ± 3.3 Ma (Mortensen, 1992). These rocks are deformed and were intruded by younger, late-kinematic plutonic rocks prior to deposition of the Wolverine Lake Group (Peter et al., 2007).

The Grass Lakes Group is unconformably overlain by rocks of the Wolverine Lake Group (**Wolverine Lake – DMF**), and comprises a basal unit of conglomerate, grit, sandstone, and carbonaceous argillite, a middle unit of quartz-feldspar phyric felsic volcanic rocks, rare chert and sandstone, and an upper unit of aphyric rhyolite, argillite, magnetite iron formation, and mafic volcanic and intrusive rocks (Murphy et al., 2006; Peter et al., 2007).

A second unconformity separates the Wolverine Lake Group from the overlying carbonaceous clastic rocks (carbonaceous phyllite, chert-pebble conglomerate, quartzofeldspathic sandstone to pebble conglomerate, and locally, matrix-supported diamictite) and dark grey to black chert of the Lower Permian Money Creek Formation within the (Peter et al., 2007).

Both the Grass Lakes Group and Wolverine Lake Group occur in the footwall of the Money Creek thrust and record two cycles in the evolution of a Late Devonian to early Mississippian ensialic back-arc (Murphy and Piercey, 2000a; Piercey et al., 2001a, 2006). The unconformity separating these groups marks a period of deformation, uplift, and erosion (Peter et al., 2007).

Uranium-Lead geochronology places an upper age limit of 356.9 ± 0.5 Ma for the host rocks to the Wolverine deposit (Mortensen, 1992b; Piercey et al., in press), and the immediate stratigraphic hanging wall is dated at 346 ± 2.2 Ma (Piercey, 2001), indicating that Wolverine is younger than Kudz Ze Kayah (Peter et al., 2007).

The **Campbell Range Formation – CPSM,** is a mafic-dominated sequence comprising basalt, chert, and argillite which unconformably overlies rocks of the Wolverine Lake Group. Radiolarians and ca. 273 to 274 Ma UPb ages on gabbros and plagiogranites indicate a Pennsylvanian to Permian age (Murphy et al., 2006; Peter et al., 2007).

The rocks of the Finlayson Lake District indicate formation and emplacement in a variety of tectonic settings, including rifted frontal arc, continental back-arc, and oceanic back-arc that range in age from 365 to 275 Ma (Peter et al; 2007).

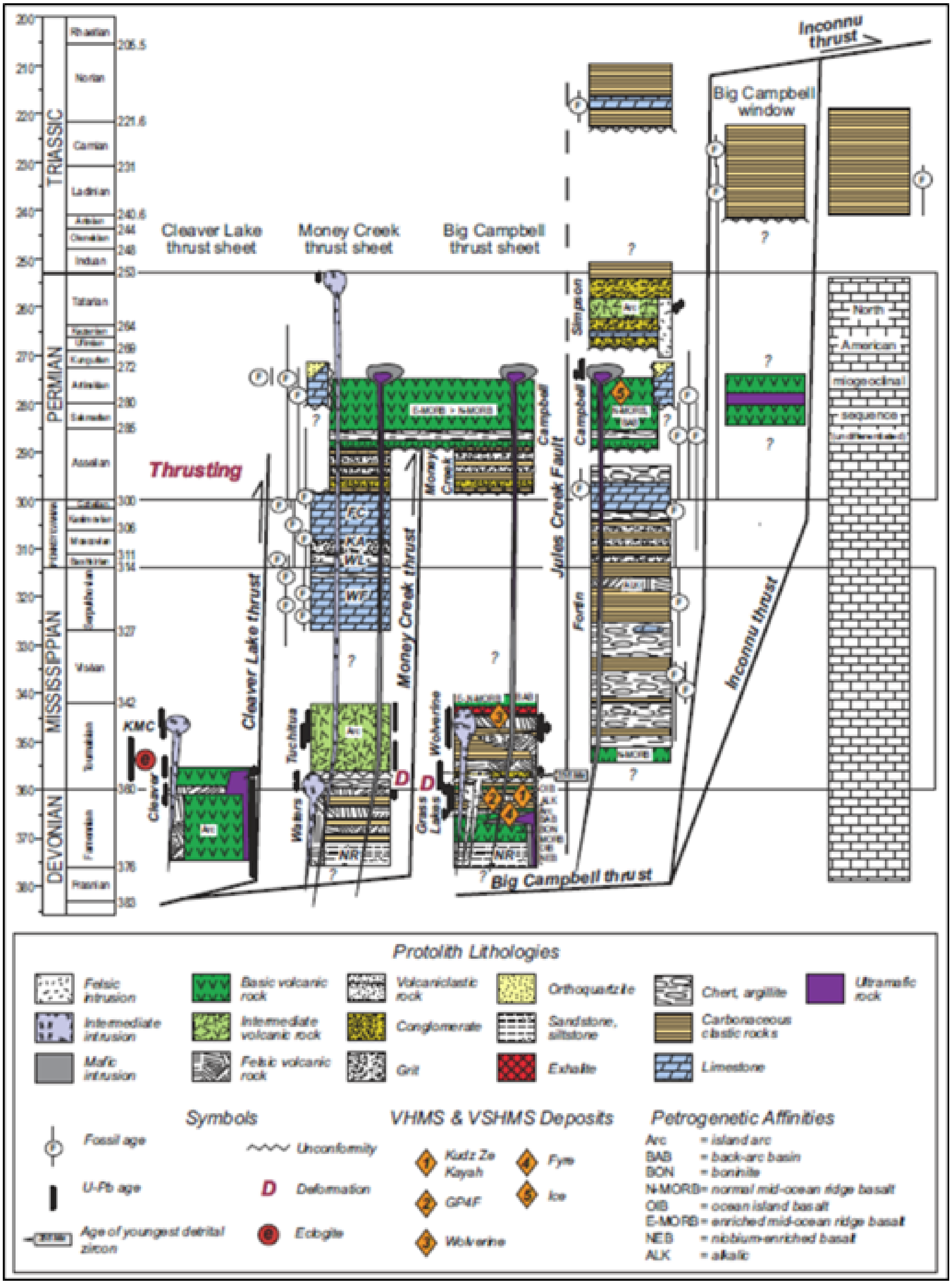


Figure 7: Structural and stratigraphic relationships in the Finlayson Lake District

Abbreviations are as follows: FC=Finlayson Creek limestone; KA=King Arctic formation; KMC=Klatsa metamorphic complex; NR=North River formation; WF=Whitefish limestone; WL=White Lake formation.

Source: Peter et al. (2007) modified after Murphy et al. (2006)

2.2 Property Geology

Previous work (MacRobbie, 1996a, 1996b, 1996c; Senft and Hall, 1997; Murphy et al., 2001; Piercey et al., 2001; Murphy et al., 2006; Voordouw, 2017; Hume, 2019) has developed a detailed stratigraphy for rocks of the Wolverine Lake group, Money Creek Formation and Campbell Range Formation contained within the Pelly Property claims, which is summarized in (Table 1) and shown in (Figure 8) These rocks have been subjected to greenschist facies metamorphism and ductile deformation. These units dip moderately to shallowly to the east-northeast throughout the Property (Hume, 2019).

Table 1: Descriptions of the geological units on the Pelly Property

Formation	BMC 2018 code	Senft and Hall (1997) Code	Murphy et al. (2001) Code	Lithology	Description
Campbell Range formation	UMI	lu	Pum	Ultramafic	Dark green, massive ultramafic rocks intensely altered to serpentinite; contain abundant calcite veins and secondary alteration
	PBA	Mf	PCb	Basalt	Massive basalt with local pillows; local intense epidote alteration
Money Creek formation	SED	Ft-1/Mt	Pcl	Clastic sedimentary rocks	Mudstone, siltstone, sandstone, and chert
Wolverine Lake group	MFV	N/A	MWb	Basalt and Gabbro	Massive basalt with rare reworked (volcaniclastic?) mafic rocks; coarser-grained than Campbell Range basalts and pyroxene/hornblende-phyric
	FRB	foSQ	MWt	Rhyolite	Fragmental or resedimented rhyolite breccia (i.e. turbidite?); rhyolite fragments can contain feldspar phenocrysts; variable alteration
	RCF	SQ/FF	MWt	Rhyolite	Coherent, massive, flow-banded and -laminated rhyolite with rare intercalations of felsic tuffs
	FLT	Ft-2	MWf	Felsic volcaniclastic	Pale, very fine to fine-grained felsic to intermediate(?) ash and lapilli tuffs with intercalations of argillite; locally intensely silica altered
	BIF	N/A	N/A	Ironstone	Disseminated, semi-massive, and massive magnetite ± silica ± barite (iron formation) of either exhalative or replacement origin in tuff and mudstone
	CBX	BIF	MWt	Carbonate	Calcite/dolomite-rich rocks with local pyrite and barite of either exhalative or replacement origin
	ARG	cSA	MWcp	Carbonaceous sedimentary rocks	Dark, finely laminated to thinly bedded argillite with intercalations of siltstone; locally intensely silica altered and carbonaceous?
	FSP	IQFP	MWf	Fisher Porphyry: Feldspar porphyry	Coherent to locally sheared feldspar +/- hornblende (minor) porphyritic intrusive; feldspars are sub-euhedral, 5-25 mm, and variable altered to white mica-epidote
	FLI	N/A	N/A	Quartz-feldspar porphyry	Felsic to intermediate quartz-feldspar porphyritic intrusive rocks; feldspar up to 25-30 mm, broken to augen-textured; quartz typically as blue phenocrysts; crystals make up ~10-30 modal %
	XLT	N/A	MWf	Crystal-bearing felsic volcaniclastic	Fine to medium grained feldspar-quartz and quartz crystal tuffs; equigranular crystals from ~2-5 mm in size, 5-15% modal abundance; hosted in fine-grained ash to local lapilli-rich matrix

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These units are separated by unconformities and display moderate to shallow east-northeast dips throughout the Property. Massive sulphide mineralization at the Wolverine mine outside the Property boundary occurs within carbonaceous mudstone of the Wolverine Lake group. Porphyritic intrusions cut the Wolverine Lake group and appear to be semi-concordant sills. A regionally extensive north-northwest trending and east-northeast dipping deformation fabric is observed in nearly all rocks in the Wolverine Lake group. A later deformation resulted in localized features of westerly-verging, asymmetric, parasitic and isoclinal folds that deform the earlier fabric. Three significant brittle late faults trending east-west to northeast-southwest cut the entire stratigraphy.

2.3 Mineralization

Known mineralization on the Pelly Property includes massive and disseminated sulphide encountered in drilling at the Fisher target, and massive sulphide mineralization intersected in drilling interpreted to be the downdip extension of the Wolverine deposit.

Diamond drilling in the Fisher target intersected numerous narrow sulphide bands hosted within strongly altered felsic volcanic and/or sedimentary rock that is overlain by thick accumulations of baritic ironstone and massive barite. These chemical sedimentary units are interbedded with carbonaceous argillite, felsic volcanic rock, fragmental tuff and massive tuff. The ironstone, magnetite, baritic and carbonate units in the Wolverine Lake Succession have commonly been interpreted to be exhalative in nature, however more work is required to determine conclusively whether they are exhalative or produced by replacement and alteration of volcanic units. Potentially, there are both replacement and exhalative derived occurrences of these units as hydrothermal fluids would also be circulating within the near sea-floor sediments. In keeping with the current regional interpretation, the units will be generally referred to as ironstones although previous work has commonly referred to them as exhalates.

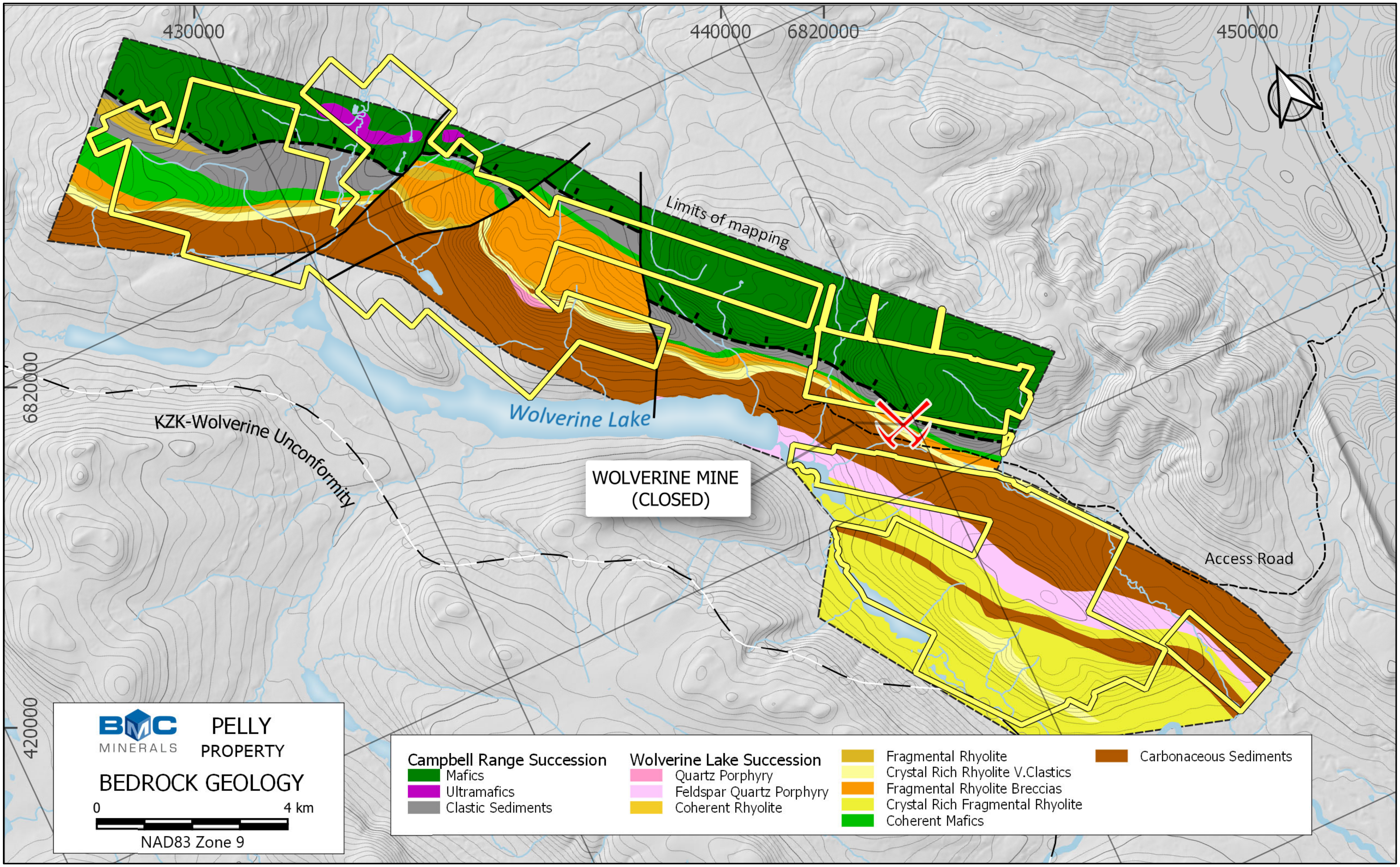

Figure 8: Pelly Property bedrock geology map. Rotated 25 degree to the west.

3.0 PREVIOUS EXPLORATION WORK

In 1987, the Geological Survey of Canada conducted and subsequently published results from a regional stream sediment and water sampling programs in the Finlayson Lake area.

The earliest record of mineral exploration activity was in 1966, with further activity in 1973, but it was not until 1993 that significant exploration occurred. Cominco's discovery of anomalous geochemistry, mineralized float and a strong electromagnetic (EM) conductor at what was to become the ABM deposit on the KZK claim block precipitated additional district scale staking and increased exploration activity by Cominco. The discovery of the ABM Zn-Cu-Pb-Ag-Au massive sulphide deposit in 1994 further boosted activity, and the following year Westmin Resources Ltd (Westmin) discovered the Wolverine deposit, where initial drilling returned up to 8.3 m of Zn-Cu-Pb-Ag-Au-rich massive sulphide mineralization. These discoveries resulted in strong competition and a patchwork of claim ownership along the strike of prospective stratigraphy around the Property area and a rush of staking throughout the district.

In 1994, Cominco staked the WOL claims to cover geophysical targets, undertook geological mapping and soil sampling that defined several zones of anomalous base metals. Exploration activities on the Property during the 1990s included: geological mapping, soil sampling, ground-based geophysical surveys including electromagnetic, magnetic and gravity surveys, a regional airborne electromagnetic survey and diamond drilling. A total of 601.1 m of diamond drilling was completed in three holes intersecting felsic volcanic-hosted ironstone in drillhole WO96-02.

In 2000, Expatriate Resources Ltd (Expatriate) drilled three holes on the WOL219 claim which now forms part of the JACK claim group. Hole WW-00-03 intersected 2.5 m of massive and semi-massive sulphide at 8.33% Zn, 1.32% Pb, 1.55% Cu, 293 g/t Ag and 1.17 g/t Au, which is interpreted as the down-dip extension of the Wolverine deposit. Drillhole WW-00-02 intersected weak mineralization. BMC acquired the Pelly Property from Teck on 24 January 2015, at the same time that BMC acquired the nearby KZK project.

In 2015, BMC Minerals conducted a 269.4 line-km airborne Versatile Time Domain Electromagnetic (VTEM) survey over the WOL block (Voordouw and Jones, 2016). This was followed by 481.6 line-km over the JACK and GO blocks in 2016 (Voordouw, 2017), including 81.1 line-km of re-flights to meet quality assurance/ quality control (QA/QC) standards. Integration of survey results with historical mapping identified several strong electromagnetic conductors interpreted to be derived from ironstone within the Wolverine Lake Succession stratigraphy and a reinterpretation of faulting, particularly between the JACK and WOL blocks (Voordouw, 2017; Figure 3).

In 2018, property scale bedrock mapping was completed by a crew of four that resulted in a revised geological map of the Pelly Property (Figure 8).

4.0 EXPLORATION TARGET

4.1 Deposit Style

Volcanogenic massive sulphide (VMS) deposits, also known as volcanic-associated or volcanic-hosted massive sulphide (VHMS), and volcanosedimentary-hosted massive sulphide (SHMS) deposits, are major sources of Zn, Cu, Pb, Ag, and Au, and significant sources for Co, Sn, Se, Mn, Cd, In, Bi, Te, Ga, and Ge. They typically occur as lenses of polymetallic massive sulphide that form at or near the seafloor in submarine volcanic environments, and are classified according to base metal content, gold content or host-rock lithology (Galley et al., 2007). They occur in submarine volcanic terranes that range in age from 3.4 Ga to actively forming deposits in modern seafloor environments. The most common feature among all types of VMS deposits is that they are formed in extensional tectonic settings, including both oceanic seafloor spreading and arc environments. Most ancient VMS deposits that are still preserved in the geological record formed mainly in oceanic and continental nascent-arc, rifted arc, and back-arc settings. Primitive bimodal mafic volcanic-dominated oceanic rifted arc and bimodal felsic-dominated siliciclastic continental back-arc terranes contain some of the world's most economically important VMS districts (Galley et al., 2007).

Most, but not all, significant VMS mining districts are defined by deposit clusters formed within rifts or calderas. Their clustering is further attributed to a common heat source that triggers large-scale subseafloor fluid convection systems. These subvolcanic intrusions may also supply metals to the VMS hydrothermal systems through magmatic devolatilization (Galley et al., 2007).

As a result of large-scale fluid flow, VMS mining districts are commonly characterized by extensive semiconformable zones of hydrothermal alteration that intensifies into zones of discordant alteration in the immediate footwall and hangingwall of individual deposits. VMS camps can often be further characterized by the presence of thin, but laterally extensive, units of ferruginous chemical sediment formed from exhalation of fluids and distribution of hydrothermal particulates (Galley et al., 2007).

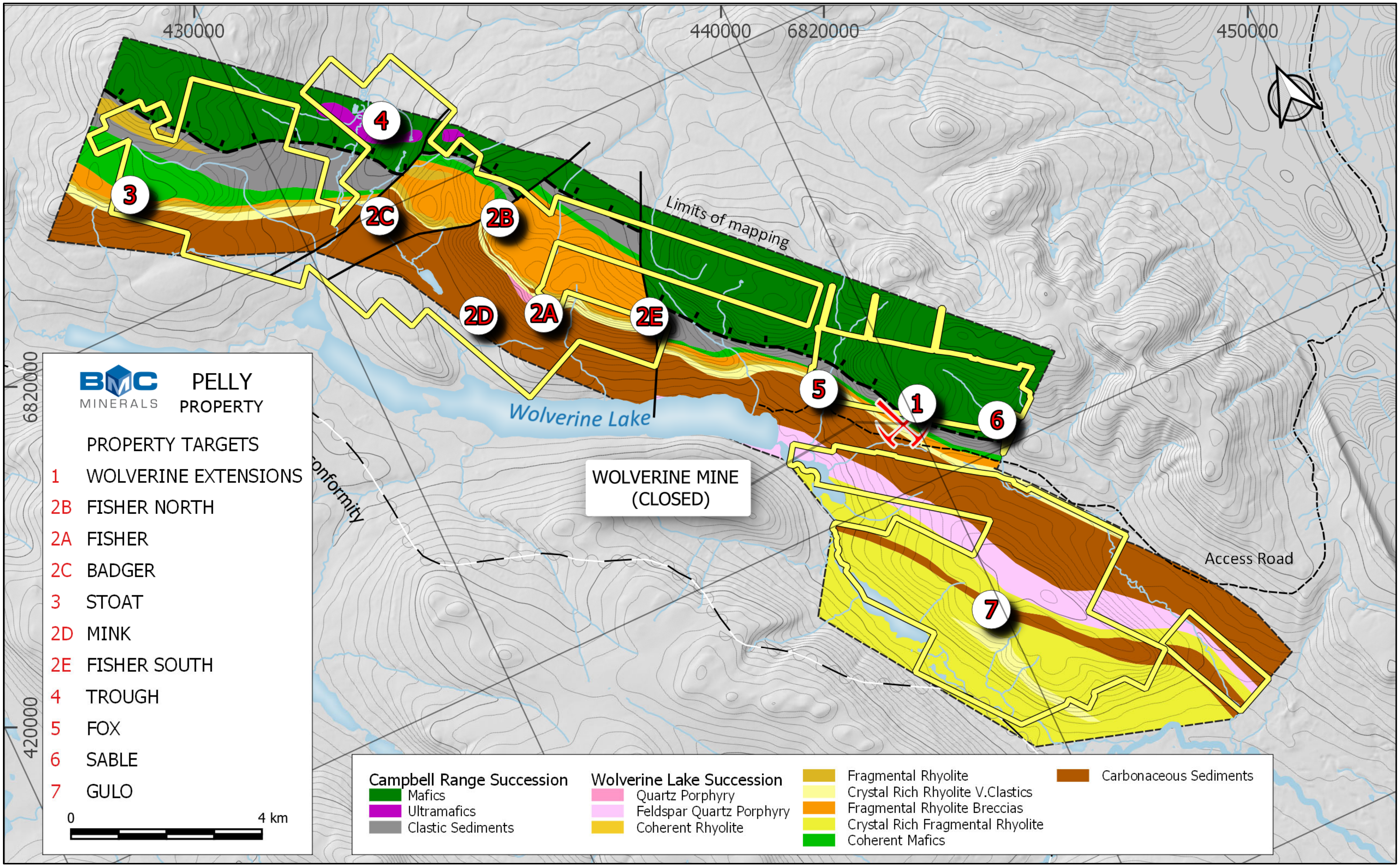

Figure 9: Location of prospective targets at the Pelly Property

4.2 Rational and Target Descriptions

Desktop targeting using previously compiled historical datasets, recently flown airborne geophysics (2015 and 2016) as well as property scale mapping completed in 2018 has outlined and progressed several prospects throughout the property.

As a result, BMC has developed 11 prospective exploration targets on the Pelly claims (Figure 9) with the Fisher zone currently the highest priority for BMC and warranting further.

Fisher Zone

The Fisher Zone is located approximately 8.5km northwest of the Wolverine mine and is centered around the Fisher Porphyry (unit FP) northeast of Wolverine Lake. The Fisher Porphyry is a prominent feature evident from the light beige colour anomaly and prominent topographic high midway up the slope east of Wolverine Lake. The area is roughly 6 km long and bound by an east-northeast striking fault to the north and a north-northeast striking fault on the south side. The faults at either end of the zone mark the location of rapid increase in thickness in the northwest striking stratigraphy (Figure 8). The zone is characterized by an area of felsic volcaniclastic rocks that exhibits; rapid lateral changes in thicknesses, several occurrences of sulphide and barite mineralization, areas of strong alteration; and the presence of subvolcanic intrusions. Several strong untested electromagnetic conductors are observed through the region.

Collectively the rock types, alteration and structure within this zone and the local geology suggest a volcanically active environment where possible syngenetic faults are responsible for the rapid changes in lateral thickness variations. These faults would also act as plumbing for magmas and hydrothermal fluids represented in the subvolcanic porphyiritc intrusions and alteration / mineralization occurring throughout the zone respectively.

The region has multiple targets that are characterized by both ground and airborne electromagnetic and magnetic responses coincidental with areas of strong multi-element geochemistry in soil anomalies and sulphide/barite mineralization in outcrop (Figure 10).

Fisher – Target 2A

The Fisher target is comprised of a series of volcanic and sedimentary rocks assigned to the Wolverine Lake Succession and interpreted to be the equivalent to rocks in the hanging wall of the Wolverine deposit further to the south. At the Fisher target rocks are cut by feldspar porphyritic rocks of the Fisher Porphyry. Magnetite-rich and carbonate-rich ironstones have been mapped at the prospect scale but are not continuous throughout the entire target area. The magnetite-rich layers occur in at least five distinct map units stratigraphically above and below thin argillite beds (unit ARG) that occur within the felsic volcaniclastic unit (unit FLT). The assay results from an ironstone unit yield high Zn (593 ppm) and Ba (1–10 wt.%). Drill hole WV95-06 located 200m north of the Fisher Porphyry intercepted 2.4 m of semi-massive sulphide @ 2.8% Zn, 1.4% Pb, 0.12% Cu, 62 g/t Ag, and 0.14 g/t Au, from 194.3 m to 196.7 m (Baknes and Weber, 1996); however, the drill hole was abandoned at 227.4 m due to complications with drilling. Yukon Zinc also drilled a number of holes in 2004 north and east of the Fisher Porphyry which indicate the presence of mineralized intervals.

Fisher North – Target 2B

The Fisher North target is located in fragmental rhyolite breccia unit (unit FRB) and carbonate rich ironstone which have been mapped immediately to the west in felsic volcaniclastic rocks (unit FLT). Drill hole WO96-2 did not yield any mineralization but felsic volcaniclastic rocks revealed prospective white mica peak absorption wavelengths at 200 m and 301 m like those identified in the KZK property close to massive sulphide mineralization of the ABM deposit (Nielson, 2017). Elevated zinc and barium suggest the volcanic and ironstones units may be prospective for massive sulphide mineralization at depth.

Badger – Target 2C

The Badger target is located in a fault block distinct from the Fisher Graben and immediately to the north of the Fisher Zone. The area is underlain by laterally continuous argillite, felsic tuff, and locally foliated (possible flow banding) rhyolite interpreted to be equivalent to lithologies in the footwall of the Wolverine deposit (Figure 10). In contrast to the Fisher Graben to the south, no porphyritic intrusive rocks or ironstone units occur in the vicinity of this target and none have been observed in the area to date. The VTEM high responses proximal to the prospective horizon as well as elevated copper, zinc, and silver in soil geochemistry make this area prospective for mineralization at depth (Figure 10). This target shows similar thicknesses of the lithofacies to the Fisher zone, which could likely represent formation within the same extensional basin as those rocks in the Fisher zone.

Mink – Target 2D

The Mink target is located primarily in the argillite (unit ARG) stratigraphically below the Fisher Porphyry and the Fisher target area. Features that make this area prospective include zinc, silver, copper and barium in soil geochemical anomalies locally coincident with electromagnetic highs indicated in historical horizontal loop electromagnetic (HLEM) survey data. Three uncategorized north-northeast striking HLEM responses are up to 2 km in length and coincident with a large zinc in soil anomaly (Figure 9). A 2018 mapping traverse cut directly through the centre of Mink and identified four small (<2–4 m) outcrops of interbedded argillite and felsic tuff in the vicinity of a silver in soil anomaly in the southeast part of the target; no outcrop exists in the marshy lowlands where the zinc in soil and coincident HLEM anomalies occur. Drill hole WO96-1 was collared in the northern part of the zone targeting a coincidental ground EM and gravity anomaly, however yielded dominantly argillites, below deep overburden, containing no mineralization or alteration. This target is still prospective for mineralization in the southern part of the target near the silver anomaly, but further investigation into the nature of the soil anomalies will help to assess the true mineralization potential. Graphite within the argillite may act as a conductor and be responsible for the HLEM anomalies however the anomalies remain untested (Figure 10). Additional soil or rock sampling, as well as diamond drilling where no adequate material at surface exists to be sampled, may be helpful in improving the understanding of a potential mineralization system.

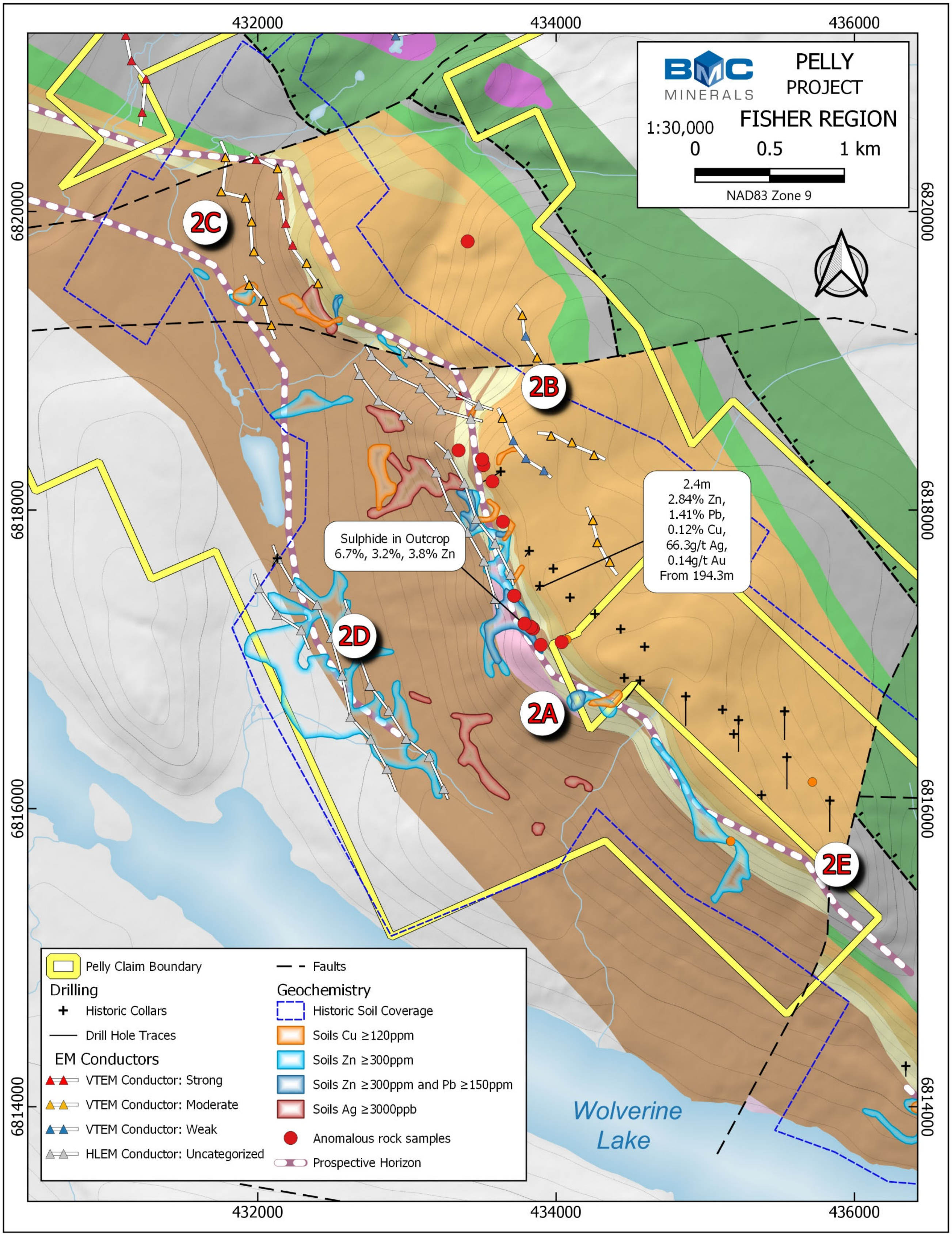

Figure10 : Bedrock geology of the Fisher Region including compiled historic soil anomalies, drilling and anomalous rock samples. Refer to Figure 7 and 8 for geology legend.

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5.0 2020 EXPLORATION PROGRAM

Exploration work done on the Pelly Property as part of the 2020 YMEP funding initiative included a 14-day detailed ground magnetic survey and a three-day prospecting/sampling program. The ground magnetic survey was completed by Aurora Geosciences Ltd out of Whitehorse and geochemical analysis completed by SGS labs in Vancouver.

5.1 Ground Magnetics

Fisher Zone

Yukon based Aurora Geosciences Ltd was contracted to complete the ground magnetic survey throughout the Fisher region at the Pelly Property. Acquisition of the initial planned 250 line-kms started on August 12th, 2020 and was expanded with an addition 83 line-kms (totalling 333 line-kms) due to higher than expected daily production from the crew of four. A control grid was established several hundred metres away from the Kudz Ze Kayah camp, in a magnetically quiet area. Twenty stations were read by each operator each morning prior to heading to the survey area to establish an independent daily offset to be applied to all data recorded (Scott and Dziuba, 2020).

Table 2: Base magnetometer Locations

Base Station	Easting (NAD83 Z09)	Northing (NAD83 Z09)
134 (Primary)	413981	6819407
694 (Backup)	413971	6819385

Data Processing

Magnetic data was downloaded at the end of each survey day and the raw, unedited data archived. A copy of the data was then corrected for diurnal variations using recordings from the base magnetometer. Each data point was georeferenced using coordinates collected during the survey with non-differential handheld GPS units (Scott and Dziuba, 2020).

Profiles of the corrected magnetic data were reviewed on a line-by-line basis to check for data integrity. Daily control readings collected were used to create a daily offset for each operator. Overlap areas were used to create an offset between multiple operators or daily files. Tie line data were used to create line by-line offset values that were applied selectively to reduce the introduction of new error. Occasional hardware or operator error that appear as traceable sudden offsets on a single file were corrected by static shift addition. Any remaining corrugation was filtered using the Oasis Montaj Micro levelling function. Plan images of the total magnetic field were produced using Geosoft's Rangrid (minimum curvature) gridding algorithm with a cell size of 12.5 m (Figure 11) (Scott and Dziuba, 2020).

Magnetic interpretation of the processed magnetic data identified four additional magnetic high anomalies for future investigation (Figure 11).

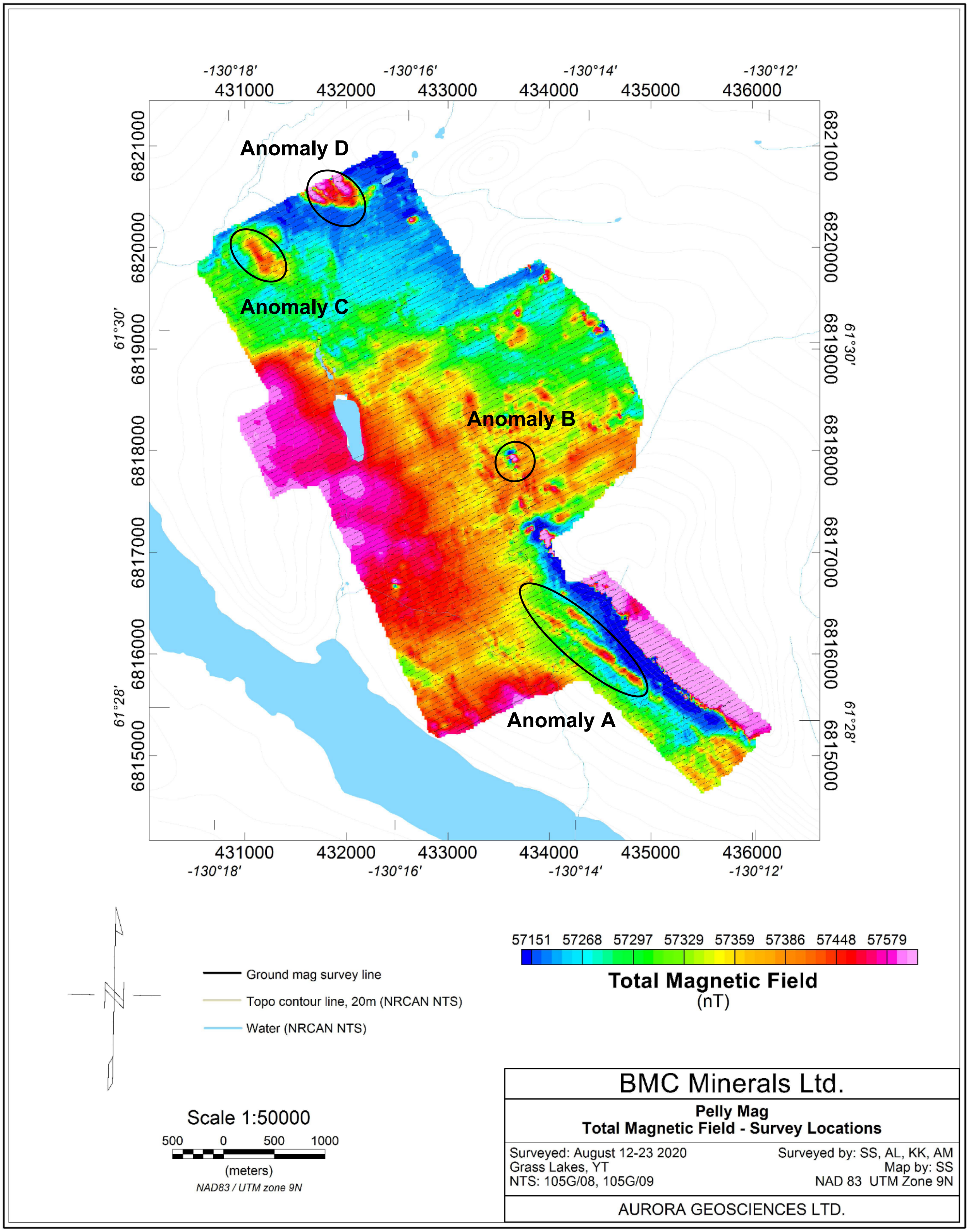

Figure 11: TMF image with 50m spaced survey line of the ground magnetic survey over the Fisher region at the Pelly Property (Scott and Dziuba, 2020).

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Survey Parameters

Equipment

Equipment to support a ground magnetic survey included:

MAGNETOMETERS:	7 - GSM-19 MAGNETOMETERS (S/N: 979, 980, 981, 810, 261, 134, 694)
	4 - WALK-MAG HARNESSES AND ACCESSORIES
	2 - 12 VOLT BATTERIES AND CHARGERS
OTHER EQUIPMENT:	1 - FLATBED TRUCK
	1 - LAPTOP WITH OASIS MONTAJ 4 - DELORME INREACH 4 - BEAR SPRAY AND BEAR BANGERS 4 - HANDHELD GARMIN GPS

SURVEY SPECIFICATION

Geographic datum & projection:	NAD83, UTM Zone 9N
Line Spacing:	50 m
Reading cycle:	1 reading every 1 second

Temporal geomagnetic variation:

The base station was installed in a magnetically quiet area and cycled at 3 seconds. Base station and field magnetometers were synchronized daily to GPS time prior to surveying. Temporal geomagnetic variation was removed by linear interpolation and subtraction of the base station drift.

Noise threshold:

The survey would have been suspended if geomagnetic variation exceeded 10 nT over 10s on a sustained basis. No data were collected when geomagnetic noise exceeded this specification and therefore no data were removed from the final data set.

Final Deliverables

Final data was delivered within two weeks of survey completion and included:

- Final Located data as ascii. xyz and Geosoft gdb in NAD83 NUTM9
- Final data to include raw mag, final levelled mag, diurnal, DTM, signal strength, number of satellites
- Grids of final levelled TMI in Geosoft and ERMapper format
- Line paths as Shape files. Shp

Two copies of the final operational report were delivered. The report provided information pertaining to the acquisition, processing and presentation of the data. It also included daily production logs (Appendix C)

5.1 Prospecting and Sampling Program

In conjunction with the ground magnetics survey, three days of detailed prospecting and rock chip sampling was completed over the Fisher region. Access to the property was via daily helicopter set outs from the Kudz Ze Kayak camp 20 km to the west. Systematic whole rock geochemical sampling and multi-element analysis of various units were completed through the Fisher region.

Analytical Parameters

Twenty-four rock samples were collected for geochemical analysis, with photographs taken, location recorded with a GPS, and field location marked with an aluminium tag. One standard and one blank were also included in the analysis and past within acceptable ranges. All samples were submitted to SGS Vancouver in Burnaby, BC, an ISO 9001:2008 certified laboratory (accredited laboratory No. 744). Once received at SGS' Burnaby, BC lab samples were logged and sorted prior to drying, weighing and crushed to 75% passing 2mm. Form there a 250 gram sample was split and pulverized to 85% passing 75 µm. Pulverized samples were analyzed via several methods to get a total rock characterization. These included 1) fire assay of a 30 g subsample for gold with atomic absorption spectroscopy finish; 2) X-ray fluorescence (XRF) analyses of a borate fused pressed pellet for major element oxides; 3) Digestion by sodium peroxide fusion with combined inductively coupled plasma atomic emission spectroscopy (ICP-AES) and inductively coupled plasma mass spectrometry (ICP-MS) for 56 elements; and 4) Selenium was analysed via ICP-MS on an aliquot of sample digested via sodium peroxide fusion. Thirteen samples that were overlimit for detection in barium concentration were reanalysed by XRF on a pyrosulfate fusion press pellet disk (SGS, 2020)

Program

A total of 11.7 km of prospecting was completed with rock chip sampling focusing on units stratigraphically above and below the mapped ironstone units as well as the ironstone units themselves (Figure 12). The aim was to fingerprint the chemostratigraphy through the Fisher region and investigate the potential that these ironstone units (at least within the Fisher region) represent a replacement alteration of the surrounding volcanic units.

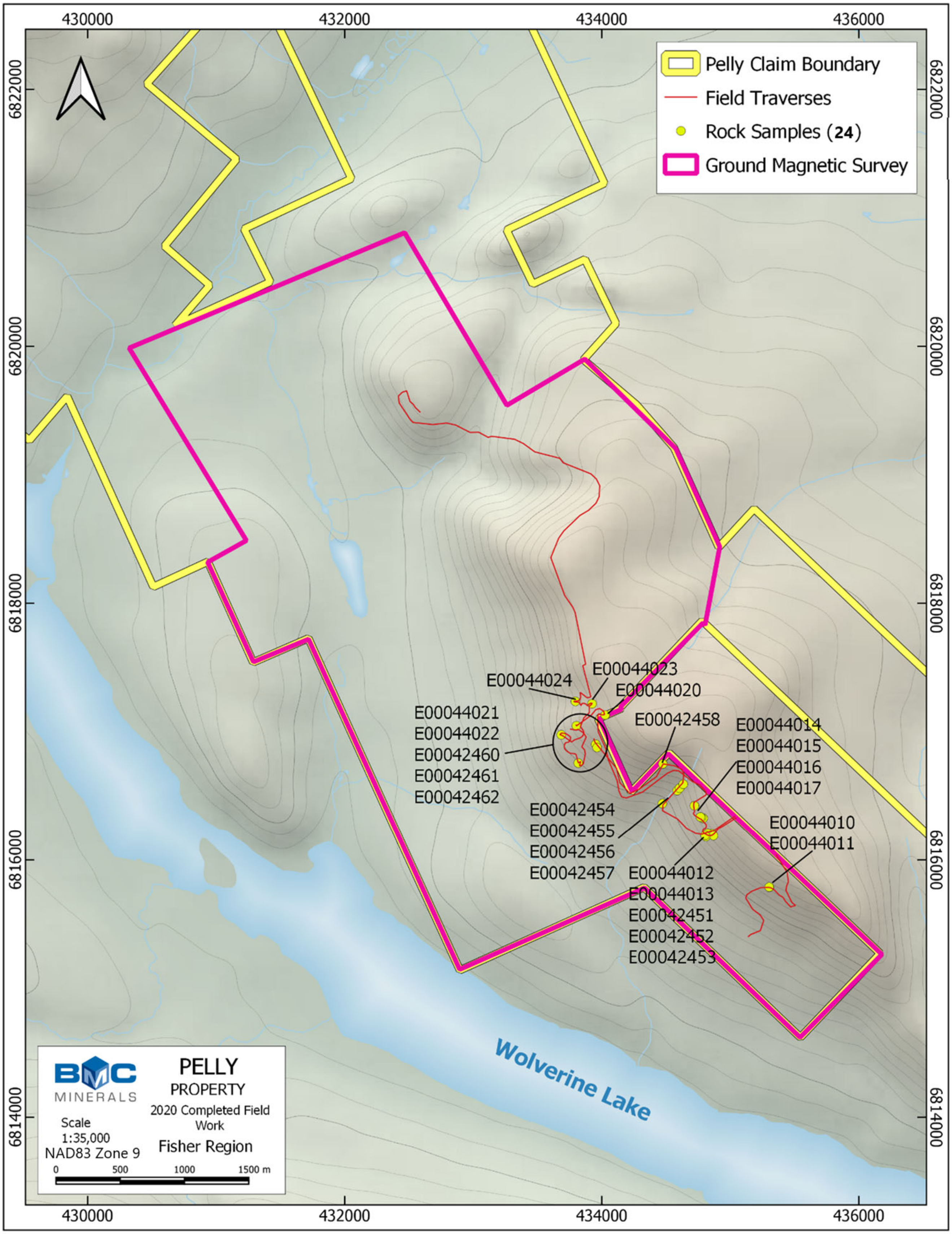

Figure 12: Location map of 2020 field work area through the Fisher Region at the Pelly property

Multielement Geochemistry

Analytical results of the 24 rock samples did not return any notable base metal results (Table 3), although samples were not collected for prospective mineralization. However, several samples did return elevated barium in two locations. Results show the Viking Creek and Fisher target as areas of increased barium concentrations within the mapped ironstone units, where these units are observed to be thicker (Figure 13). Zones of increased barium are common in cooler zones of the hydrothermal system with increase seawater interaction. As the Ba-bearing hydrothermal fluids rise and mix with the oxidizing seawater (primary source of SO_4), barite is precipitated (Lajoie, 2017). The potential of precious metal mineralization is also increase within these barite deposit as gold is transported in Au bisulfide ($Au(HS)_2$) in low temperature systems. This mixing of seawater and hydrothermal fluids decrease the temperature of the system and increase oxidation of the fluids initiating the precipitation of low temperature mineral (e.g. Ag-Pb-Zn). The increase oxidation of the fluid as well as the increase of sulphur precipitation decreases the redox buffering capacity and promotes gold precipitation in or proximal to the barite (Lajoie, 2017).

The highest concentration of Zn from the 2020 program was returned from a sample of sheared argillites with minor quartz veining and iron oxide staining at the southwest contact of the Fisher Porphyry.

Table 3: Base and precious metal results of rock sample taken during the 2020 field program

Sample ID	Eastings (m) NAD83 Z9	Northing (m) NAD83 Z9	Lithology Code	Au ppb	Ag ppm	Ba %	Cu ppm	Pb ppm	Zn ppm	Fe %	Se ppm
E00042451	434868	6816188	FRHc	2.5	<1	0.4	5.0	<5	45.0	2.3	<0.2
E00042452	434809	6816180	SIF	6.0	<1	3.7	13.0	<5	17.0	24.7	<0.2
E00042453	434804	6816190	SIF	8.0	<1	4.9	23.0	<5	15.0	>25	<0.2
E00042454	434471	6816439	FRHc	2.5	<1	1.2	36.0	58.0	106.0	1.1	<0.2
E00042455	434586	6816541	SMU	6.0	<1	0.1	63.0	166.0	619.0	1.8	<0.2
E00042456	434605	6816560	FRHc	11.0	<1	0.01	5.0	48.0	9.0	0.5	<0.2
E00042457	434633	6816590	FRHc	2.5	<1	0.1	5.0	113.0	75.0	0.9	<0.2
E00042458	434474	6816748	SBA	145.0	<1	0.4	37.0	<5	105.0	11.9	0.2
E00042460	433952	6816901	TFZ	33.0	<1	2.8	56.0	167.0	1239.0	>25	8.7
E00042461	433963	6816876	TFZ	5.0	<1	10.3	22.0	24.0	1001.0	>25	3.2
E00042462	433802	6817045	FPO	2.5	<1	0.2	5.0	19.0	10.0	1.3	<0.2
E00044010	435303	6815786	SIF	21.0	<1	3.0	206.0	32.0	43.0	6.4	1.1
E00044011	435310	6815787	SBA	9.0	<1	0.9	23.0	13.0	59.0	20.3	<0.2
E00044012	434859	6816204	FRHv	2.5	<1	0.9	47.0	<5	26.0	1.9	<0.2
E00044013	434825	6816207	FRHv	2.5	<1	0.9	31.0	11.0	119.0	20.7	0.4
E00044014	434788	6816325	FRHc	2.5	<1	0.5	21.0	11.0	67.0	1.9	<0.2
E00044015	434774	6816330	SIF	15.0	<1	19.2	29.0	80.0	52.0	8.7	1.8
E00044016	434767	6816335	SIF	15.0	<1	23.5	140.0	27.0	19.0	11.8	2.4
E00044017	434720	6816422	FRHc	7.0	<1	0.7	60.0	<5	32.0	1.5	0.1
E00044020	434026	6817129	ZSS	21.0	1.0	1.2	93.0	72.0	810.0	>25	1.3
E00044021	433817	6816755	SMU	11.0	<1	0.1	325.0	29.0	315.0	9.2	3.9
E00044022	433684	6816975	SMU	2.5	<1	0.1	75.0	381.0	1822.0	3.9	80.9
E00044023	433924	6817216	FRHc	19.0	2.0	9.1	52.0	69.0	171.0	10.4	5.6
E00044024	433794	6817235	SIF	53.0	<1	4.7	133.0	25.0	1250.0	15.7	2.7

Note: Lithology Codes: FRHc- Coherent rhyolite rocks; FRHv- Rhyolitic volcaniclastics rocks; FPO- Felsic porphyry; SIF- Magnetite ironstone; SBA- Barite rich/ carbonate ironstone; SMU; Mudstone; ZSS- Stringer mineralization; TFZ- Fault gouge.

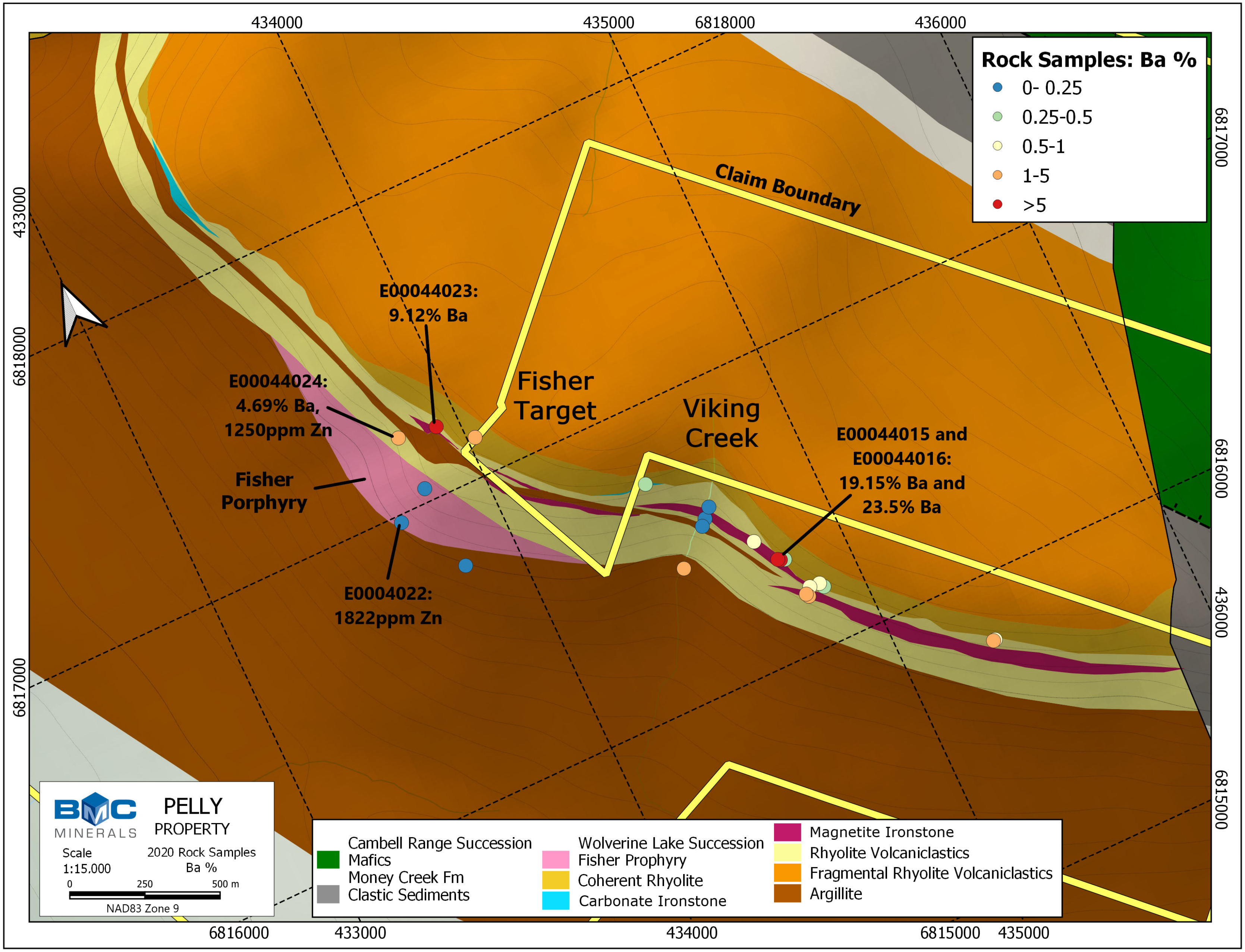

Figure 13: Location of elevated barium in 2020 rock samples. Map rotated 25 degrees to the west.

Whole Rock Analysis

The carbonate and magnetite ironstone units (unit CBX and BIF) occur within a package of felsic volcaniclastic rocks (unit FLT) below a discontinuous coherent rhyolite flow banded unit (unit RCF) constrained to the Fisher Graben (Figure 14). One of the main objectives for the 2020 program was to better understand these ironstone units and their relationship with the surrounding volcanic units. The aim was to investigate whether the ironstones were sedimentary in origin (exhalative) or a product of hydrothermal fluids replacing the surrounding volcanic strata. Understanding the distribution, nature of formation and relationship to syngenetic and post diagenetic structures of the iron rich units can have implications for further VMS exploration.

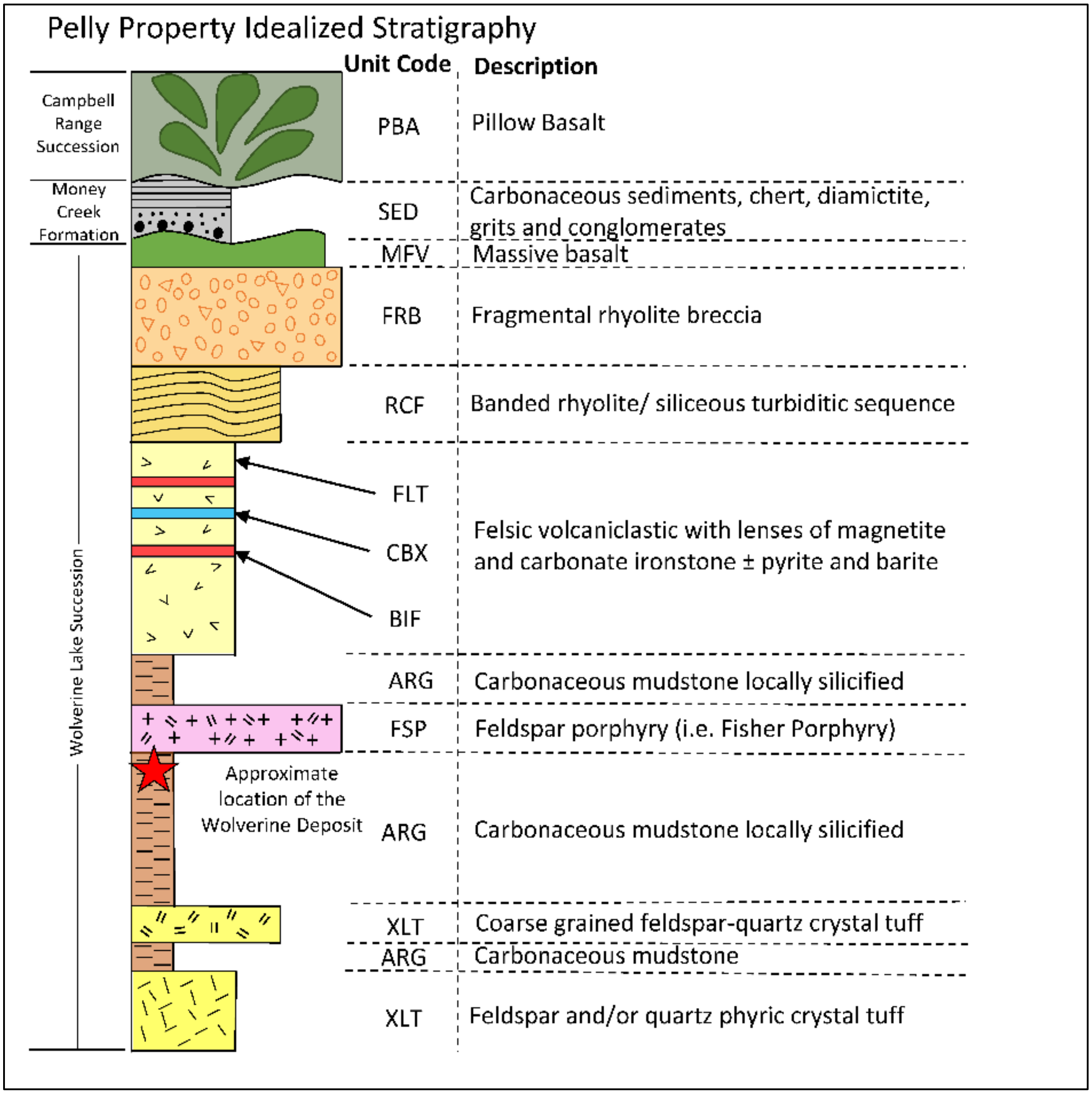

Figure 14: Pelly property idealized stratigraphy with corresponding description table. Note the ironstone units within (units CBX and BIF) within the felsic volcaniclastic rocks (unit FLT).

Whole rock and multi-element results from the 2018 mapping campaign and 2020 sampling program of the felsic volcaniclastic unit (unit FLT); coherent felsic volcanic unit (unit RCF) as well as the ironstone units (units BIF and CBX) were compiled and analysed (Figure 15). Signatures for the felsic volcaniclastic and coherent units were established using a variety of immobile and immobile element ratio plots (Figure 16). The data highlights the apparent overlapping nature of the signatures which may suggest that the FLT and RCF units are related and could have a similar volcanic source (Figure 16a-d). This source may be more rhyo-dacite to andesite in composition as suggested in the rock classification diagram (Figure 15e). The Zr/Y plot (Figure 16d), which shows a wider spread in ratios for each rock type may reflect some mobility in Y in the most strongly altered samples (mass loss and mass gain), particularly immediately southeast Viking Creek and around the Fisher Porphyry areas.

The effects of alteration should be eliminated when an immobile-element ratio is used on each axis of the binary plot. The degree of correlation of the data, however, may be partly an artifact if the denominator is the same and in order to remove this effect, should be different (Barrett et al., 2005). These ratio- ratio plots can therefore be used as a simple means of determining the precursor of an altered rock as metamorphism typically does not affect these ratios (Barrett et al., 2005). Note the overlap in signatures on the Al3O3/TiO2 vs. Zr/Al203 plot in Figure 16f further supporting a similar precursor to the volcaniclastic and coherent rock (unit FLT and RCF respectively) in the area.

The next step in investigating the potential for replacement alteration was to overlay the immobile element signatures from the nearby ironstone units that stratigraphically lie between the lower felsic volcaniclastics unit and upper coherent flows (units FLT and RCF). As shown in Figure 17, their signature appears to be overlapping in most of the binary plots, the immobile element ratio plots and the volcanic rock classification diagram. As above the Zr/Y plot displays a general trend, however, there is a wide range and this maybe due to increased alteration of the samples (Figure 17d). Such samples are located proximal to the three known prospective areas within the Fisher Region (Figure 15).

The overlapping signatures between the interpreted ironstone units and surround volcanic units may suggest that the ironstone units are not sedimentary in origin but could represent replacement alteration of the surrounding volcanic units.

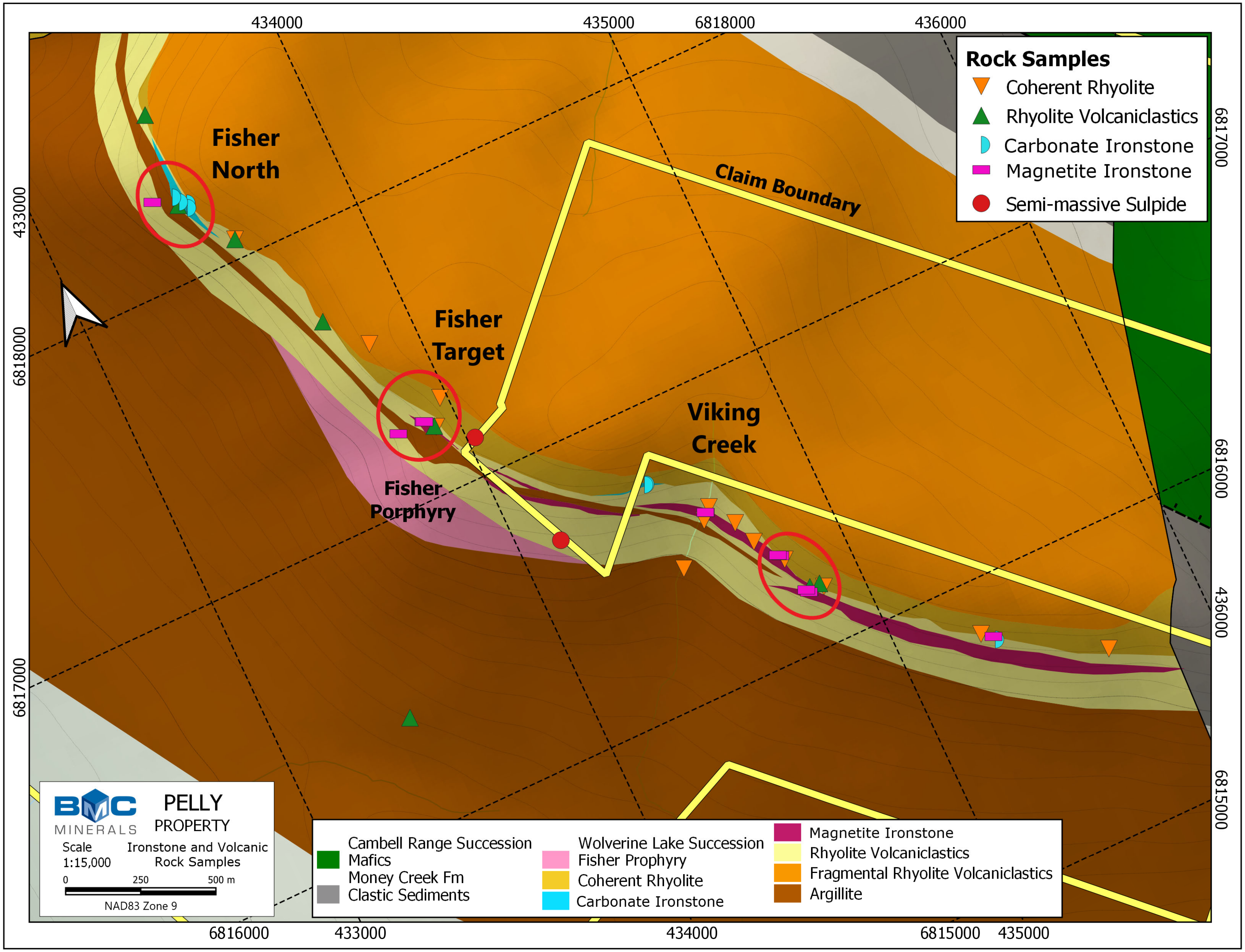

Figure 15: Location of compiled rock samples used in whole rock and multi-element analysis symbolized on rock type.
Map rotated 25 degrees to the west

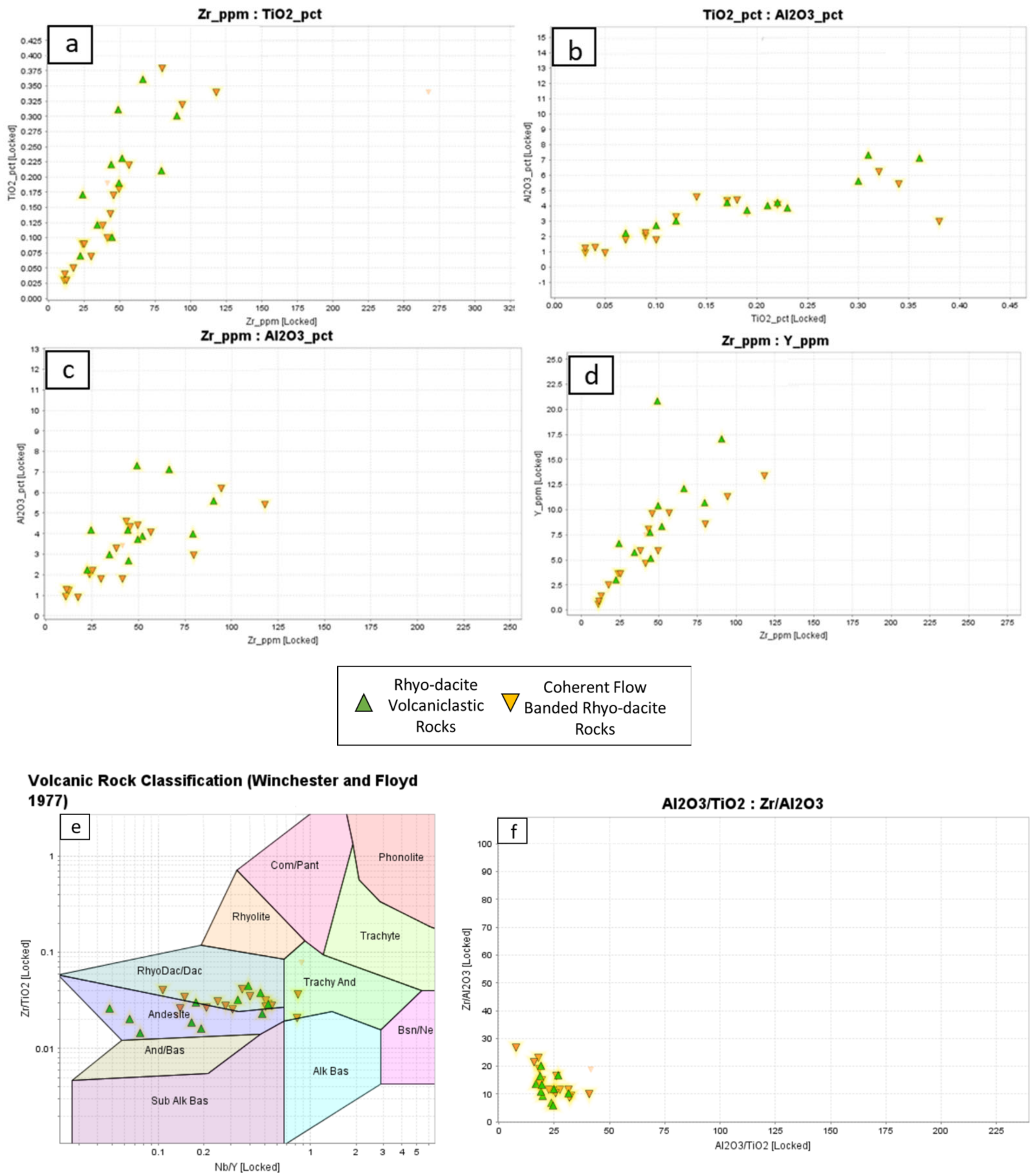

Figure 16: Multi-element and whole rock analysis of the coherent and volcaniclastic rocks around the Fisher region. Top 4 (a-d) display the binary plots while e) displays the Winchester and Floyd 1977 Volcanic rock classification diagram and f) displays the immobile element ratio plot. Note that the overlapping nature of the samples which may suggest a similar volcanic source.

Figure 17: Multi-element and whole rock analysis of the coherent and volcaniclastic rocks (unit RCF and FLT) as well as the ironstone units (units CBX and BIF) around the Fisher region. Top 4 (a-d) display the binary plots while e) displays the Winchester and Floyd 1977 Volcanic rock classification diagram and f) displays the immobile element ratio plot. Note that the overlapping nature of the samples which may suggest a similar volcanic source.

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RHAT Unit

Field observations backed by literature reviews from previous explorer in the region (Bakness and Weber, 1996 and Dessureau,2005) suggests that the felsic volcaniclastic unit (unit FLT) could be sub-divided into two units based on argillite content. The upper unit is characterized by tan, white, and grey, very fine to fine-grained felsic to intermediate (?) ash and lapilli tuffs (Hume *et al.*, 2018) (Figure 18a). This is similar to Baknes and Weber, 1996 RHAL description "*Pale green-grey, fine-banded, aphanitic rhyolite-ash lapilli tuff. Planar to curvy banded (0.3-3cm) often microlite-bearing felsite bands, separated by (0.1-0.3) cm sericitic laminae.*"

Stratigraphically lower in this unit, the argillite content increases, especially in the Fisher region. This unit displays features typical of sedimentation following subaqueous emplacement of felsic to intermediate volcanic deposits. Intercalated finely laminated, black mudstones/argillites indicate deposition in a relatively deep (i.e. sub-wave base), quiet water environment, punctuated by the emplacement of abundant felsic-intermediate volcaniclastic rocks. Higher energy currents triggered either by upslope gravitational instabilities and/or nearby seismic and volcanic activity could explain the emplacment mechanisms. This unit corresponds to the RHAT unit decribed by Bakness and Weber, 1996 "*Grey and White Argillaceous Rhyolite Lapilli Tuff Often texturally similar to RHAL, however, sericitie laminae substituted by argillaceous materia*" (Figure 18b and c). The RHAT unit sits within the stratigraphic position of the Wolverine deposit to the souteast and shows textural similarities to the ore with respects to felics volcanic units being replaced with an interbedded agillite package (Figure 19). Of note, the lower argillite rich volcaniclastic unit (RHAT) (Figure 20a) in some locations has many similar textural characteristics visually in hand sample to the finaly laminated magnetite ironstone unit (unit BIF) (Figure 20b).

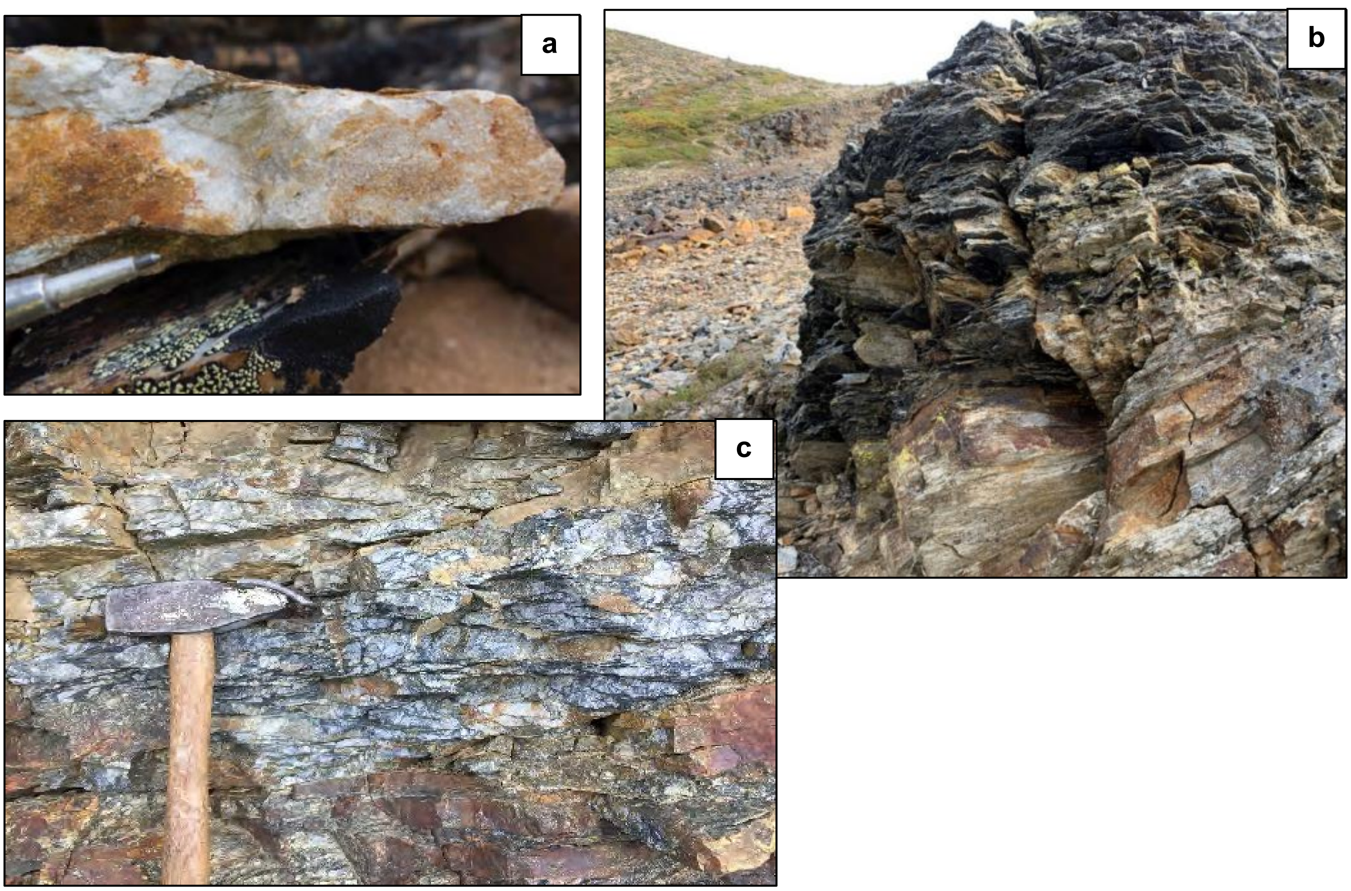

Figure 18: Examples of felsic to intermediate volcaniclastic units observed through the Fisher region. a) White, very fine-grained silica-altered felsic tuff of the upper FLT unit. b) and c) interbedded and interstitial argillite within a felsic to intermediate volcaniclastic rock (RHAT).

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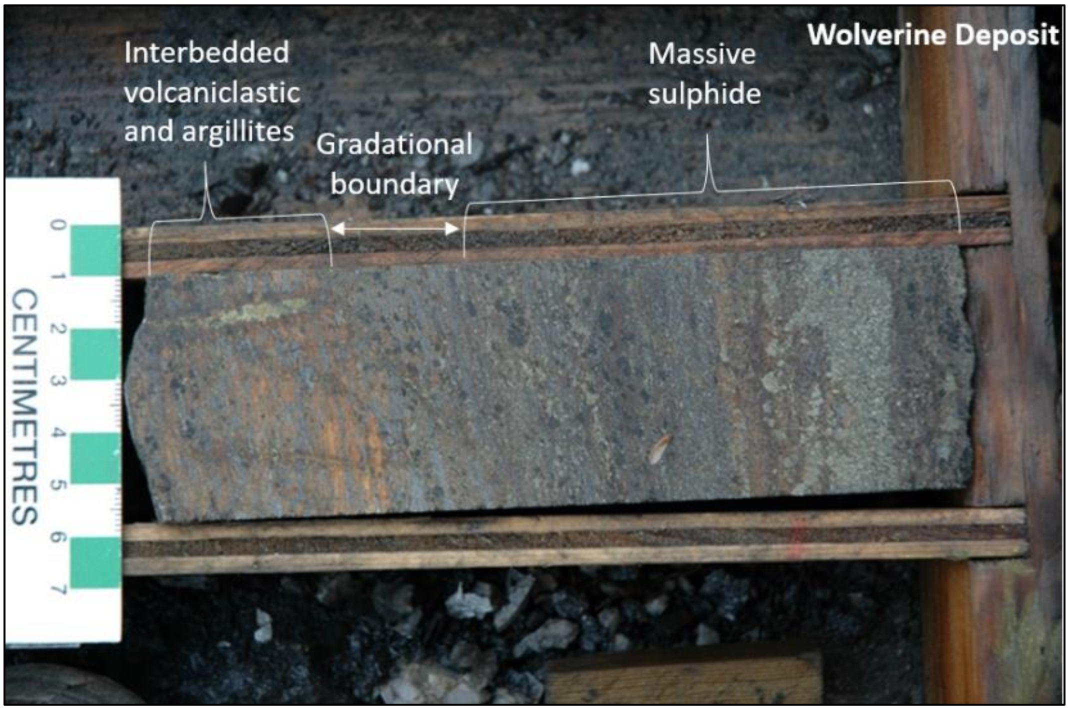

Figure 19: Replacement textures at the Wolverine deposit (Manor *et al*, 2020)

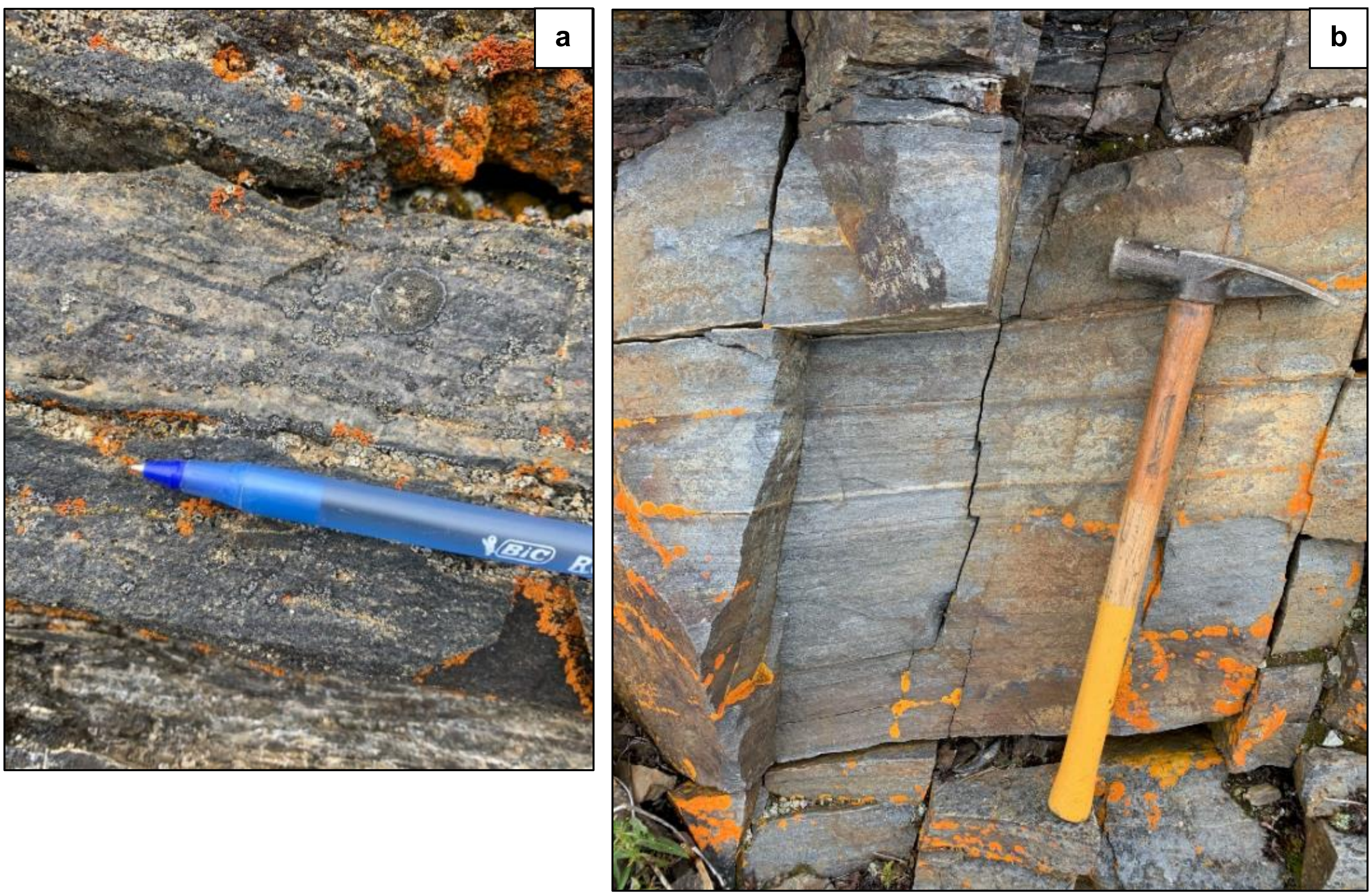

Figure 20: Visual similarities between the lower argillite rich volcaniclastic unit (RHAT) (a) and the nearby magnetite ironstone unit (unit BIF) (b) in the Viking Creek area.

6.0 Discussion

Interpretation of the magnetic data using a combination of the ground magnetic data acquired during this program in 2020 and airborne magnetic data acquired during a VTEM survey in 2015 has highlighted the structural complexity in the Fisher region (Figure 21). A strong northwest trending linear magnetic feature corresponds to magnetite rich replacement bodies that are bounded to the northwest and southeast by east-west and east-northeast trending faults. Additionally, sheared surfaces and increased sericite alteration around the upper and lower contacts of the Fisher Porphyry, as well as a notable topographic bench above the magnetite ironstone units (unit BIF) near the porphyry may have been products of faulting, suggesting some northwest trending faults in the area (Figure 21).

The abrupt termination of the magnetite ironstone unit (unit BIF) to the northwest of the Fisher target is further supported by the absence of this unit in the nearby K95-06 drillhole (Figure 23). K95-06 logs show that the hole passes through a sequence of fragmental rhyolite (unit FRB), aphanitic rhyolites (unit RCF?) and volcaniclastic units (unit FLT) before intersecting a package of interbedded volcaniclastic and black argillite rocks logged as the RHAT unit. Near the base of this lower RHAT unit, the hole intercepted a zone of semi-massive sulphide dominated by pyrite, calcite, barite and bands of sphalerite with blebs of galena and isolated chalcopyrite before intersecting the argillite unit (unit ARG),   interpreted to be in the footwall to the stratigraphic level of the Wolverine deposit (Baknes and Weber, 1996).

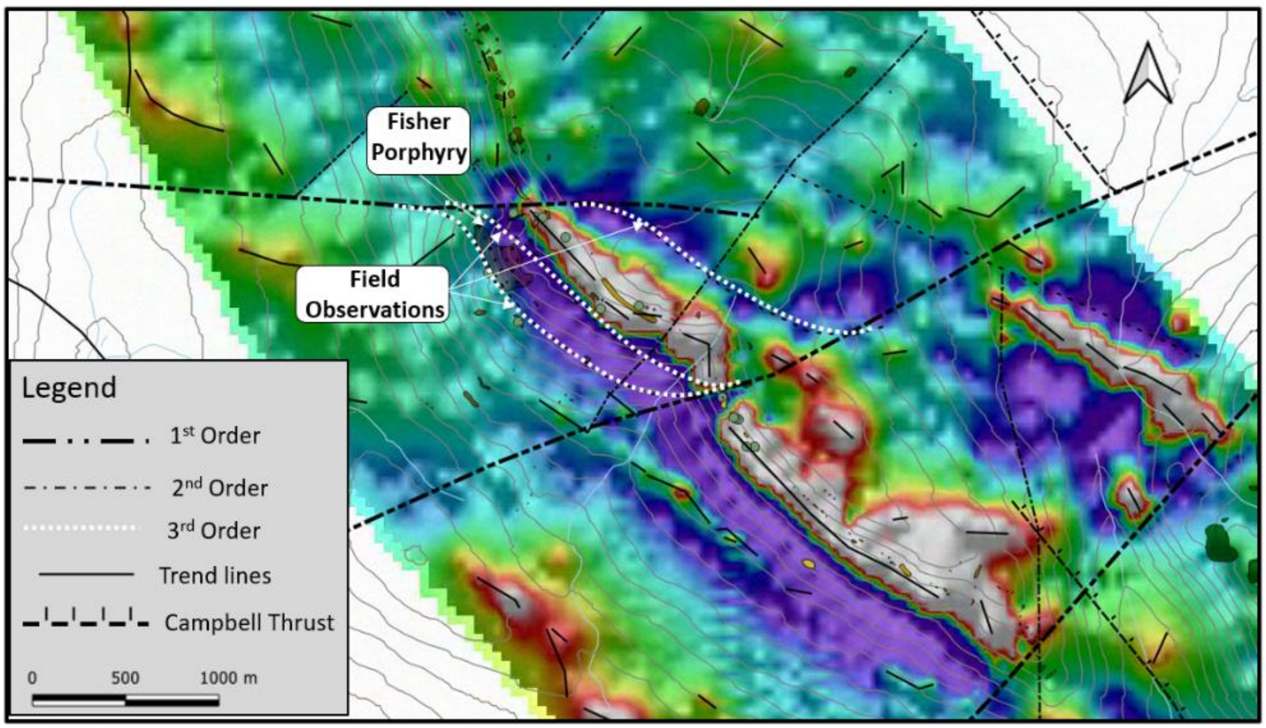

Figure 21: Magnetic interpretation of the Fisher target and Viking Creek areas over TMI 1vd RTP magnetics using a combination of the 2016 VTEM survey, 2020 ground magnetic survey and field observations.

Additional to the magnetic interpretation displayed in Figure 21, a more detailed geological interpretation around the Fisher target area was completed (Figures 22-24).

This detailed interpretation is shown in figures 22 through 24 and outlines a series of structures that explain:

- The abrupt northwest termination to the magnetite ironstone unit
- Proposed offset of the RHAT unit to the northwest.
- The absence of the ironstone units (BIF and CBX) in the nearby K95-06 drillhole
- The internal chopped up nature of the units within Fisher target.
- Observed and interpreted alteration throughout the Fisher target.

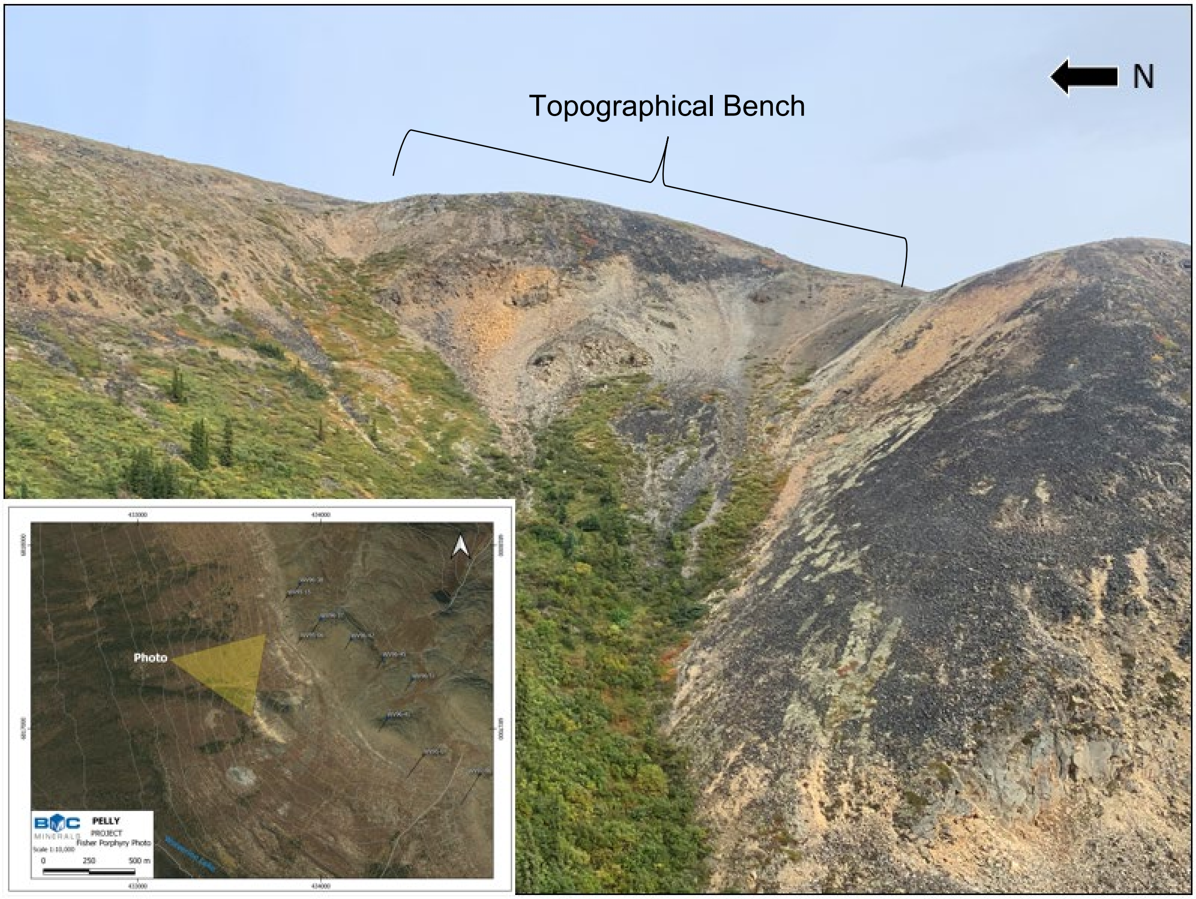

Figure 22: Photo of the Fisher target looking east. Wolverine Lake stratigraphy dipping east and occupies the left had (north) portion of the photo while the Fisher porphyry occupies the right-hand portion of the photo.

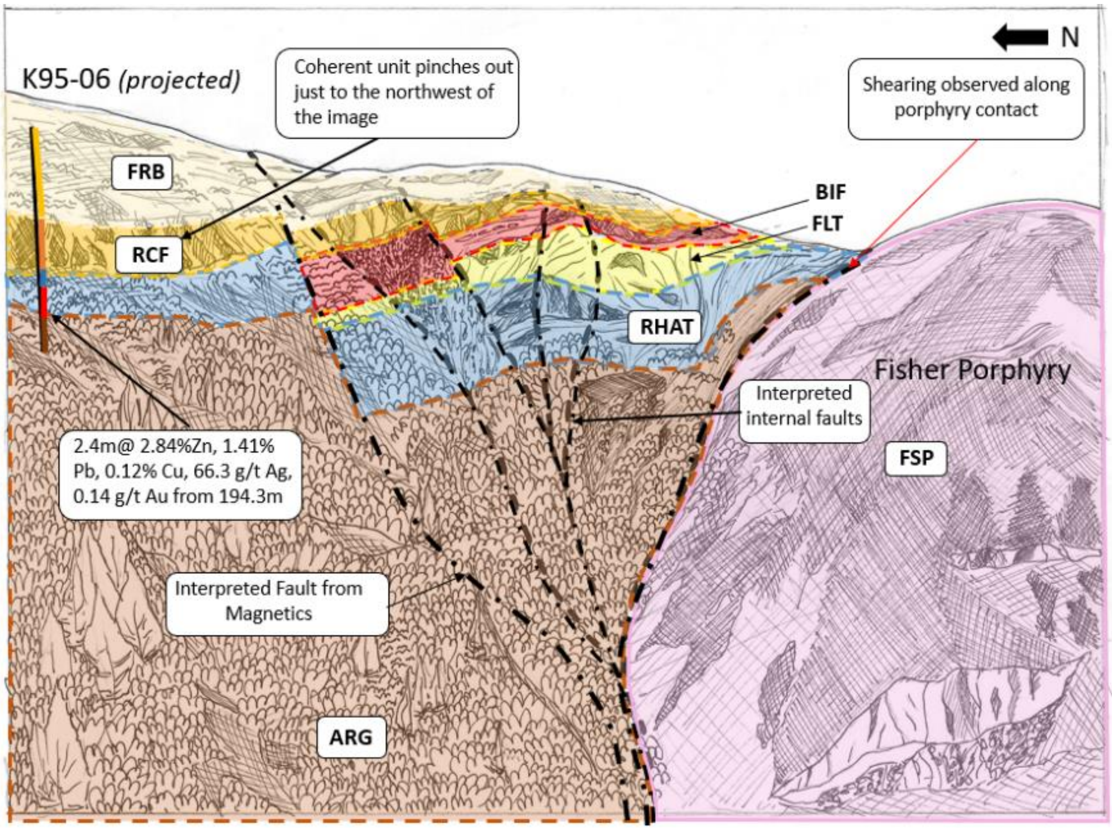

Figure 23: Geological interpretation of the Fisher target using field observation and the near by K95-06 historic drill hole logs. The geology was sketched over the photo shown in Figure 21. Refer to table 1 for unit descriptions.

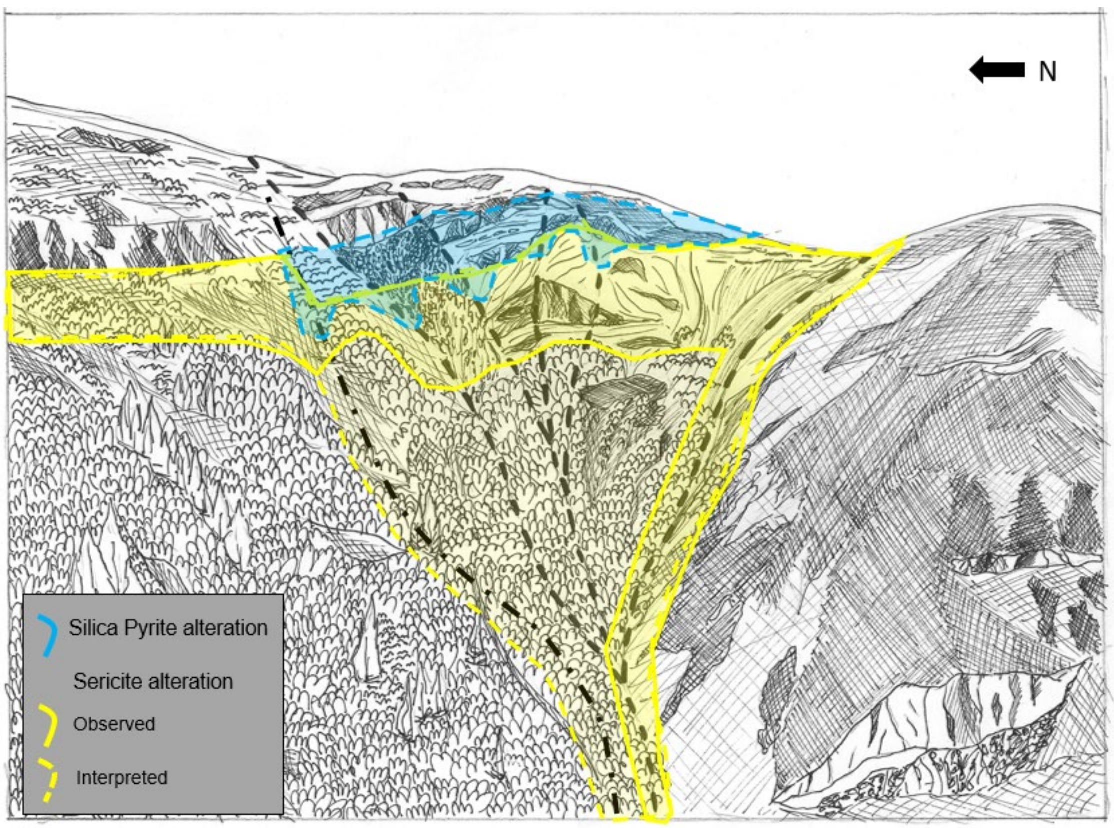

Figure 24: Observed and interpreted alteration through the Fisher target.

These structures are east to northeast trending 1st order structures that may have been basin bounding faults to a graben structure in the area, referred to herein as the Fisher Graben. The presence of a graben in this area aligns with the work of Piercey *et al.* (2006) who interpret the overlying fragmental rhyolite unit (unit FRB) having been deposited into a subsiding basin. The fragmental and silica rich nature of the FRB unit is the result of fragments derived from the underlying laminated silica-altered siltstone and rhyolitic tuffaceous rocks (unit FLT) that were deposited by turbidity currents into the basin. Indeed, the marked change of thickness of unit FRB across the inferred basin bounding faults suggests infilling of a localized depression.

As the name suggests the Fisher Graben is centered on the Fisher area but is interpreted to be a composite of at least two basins separated by a fault in the Viking Creek area. The inference of the fault is based on aeromagnetic data and an increased thickness of the magnetite ironstone units adjacent to the inferred basin bounding fault and subsequent thinning to the southeast with increasing distance from the fault (Figure 15 and Figure 25). These faults would also act as plumbing for magmas and hydrothermal fluids represented in the subvolcanic porphyiritc intrusions and alteration / mineralization occurring throughout the zone respectively.

Two mechanisms related to the formation of ironstones at the Fisher region are possible. Slack (2012) describes true exhalites to be common in VMS environments as a Fe ± Mn ± Si ± S ± Ba ± B phase of VMS related hydrothermal venting and plumes. True exhalites are also tabular and conformable within enclosing volcanic or sedimentary strata. Alternatively, (Doyle and Allan 2013) have described that ironstones can be formed by subsea-floor replacement as the syn-volcanic formation of sulfide minerals within pre-existing volcanic or sedimentary deposits by infiltration and precipitation in open spaces (fractures, inter- and intra-granular porosity) as well as replacement of solid materials. Through the Fisher region several characteristics of the magnetite and carbonate ironstones suggest that sedimentary deposition (exhalative) is unlikely including the irregularity and discontinuity in outcrop and drill core of these units. Additionally, if these magnetite and carbonate units were related to an exhalative plume event with fallout, they would appear to be mantling the underlying strata with gradual thinning of the unit on both sides away from the source. This is not the case through the Fisher region from outcrop observations and historic drill core. In contrast, these units appear to be thicker near interpreted 1st order structures and thin away from them. The abrupt termination of the magnetite ironstone unit to the northwest of the Fisher target would also be unlikely if exhalative in nature.

If not exhalative in nature (fallout and sedimentary deposition), replacement mechanisms must be considered. As outlined in previous sections, whole rock and multi-element geochemistry was used to further investigate this. The data highlights the apparent overlapping nature of the host FLT and RCF units' signatures which may suggest that they are related and could have a similar volcanic source (Figure 16 a-d). When overlying the ironstone samples on these binary plots, their signatures overlapped the signatures of the host volcanic samples (unit FLT and RCF) also suggesting a similar source (Figure 17a-d). Additionally, the immobile element ratio displayed in Figure 16f, which was deemed to be a useful ratio by Barrett et al., 2005 in determining the precursor of an altered and metamorphosed rock is similar between the ironstone units and their host FLT and RCF volcanic units. Furthermore, textural characteristics in hand samples and outcrop observations (Figure 20) as well as the irregularity and discontinuity of the ironstone unit distribution (Figure 23) suggests that the ironstone units are intimately related to the surrounding volcanic host rocks.

The coincidental spatial location of the ironstone units with respect to the stratigraphically overlying coherent unit (unit RCF) is also something to be noted. As outlined above the chemically similar coherent rocks (unit RCF) to the underlying volcaniclastic rocks (unit FLT, Figure 16) are observed in outcrops from the Fisher target through to the southeast of the Fisher Graben (confined sub-basin). These coherent rhyo-dacite to andesite flows (unit RCF) pinch out northwest of the Fisher target and could be directly related to effusive volcanism from a volcanic dome centered around the Fisher Porphyry (unit FSP) as previously interpreted by Bakness and Weber, 1996.

The above data and observations suggest that the ironstone units in and around the Fisher region are the product of replacement alteration. It is proposed that hydrothermal fluids, driven from the heat of the nearby Fisher Porphyry, were focussed along 1st order structures near the Fisher target and Viking Creek area. These oxidizing fluids may have pooled under coherent flows (unit RCF) (acting as aquitards) in the area, replacing the volcaniclastic rock (unit FLT) below to form the magnetite and carbonate ironstone units (unit CBX and BIF, Figure 25).

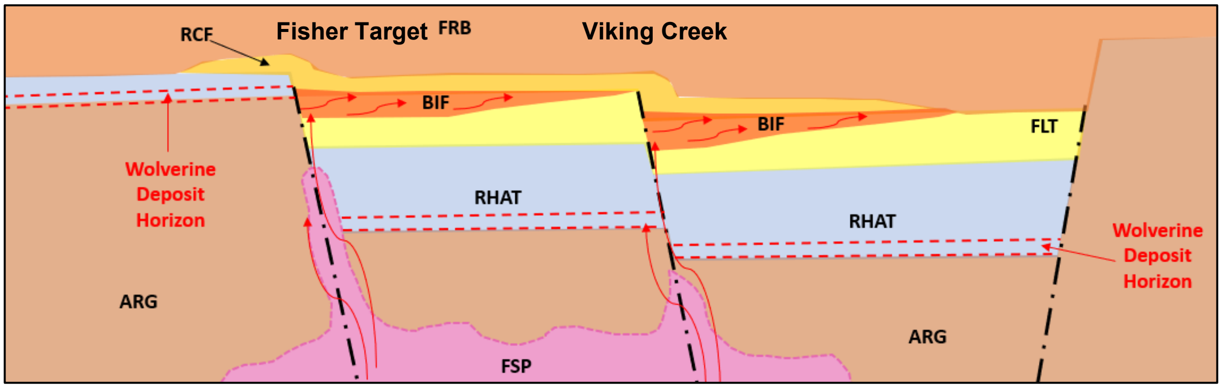

Figure 25: Proposed depositional environment and formation of magnetite ironstone units (BIF) through the Fisher Zone and Viking Creek area.

7.0 Conclusion and Further Recommended Work

Notable findings as a result of the 2020 YMEP field work, through the Fisher region on the Pelly Property:

- Identification of four discrete magnetic anomalies coincidental with electromagnetic and geochemical signature that requires follow-up.
- Increased structural complexity throughout the Fisher region. Identification of these structures will aid in increasing BMC's understand of the geology throughout the area.
- Whole rock and multi-element geochemistry of the ironstone units and surrounding volcanic units as well as outcrop and hand specimen observations suggest some physical and chemical similarities between the units. This is interpreted to be evidence of replacement alteration as a mechanism for emplacement of the ironstone units rather than sedimentary deposition.
- Interpreted geology of the Fisher target as well a proposed depositional environment suggests that not only the Fisher target, but also the Viking Creek areas are proximal to syn-genetic structures, confirming previous interpretations (Dessureau,2005)

Recommendations:

- Additional sampling of magnetite and surrounding volcanic units along several defined stratigraphic sections to bolster replacement alteration as a cause for these units.
- Petrography studies of the units to investigate the presence of replacement textures as well as volcanic textures within the magnetite units.
- Physical property measurement of all mapped units to better constrain ground magnetic data processing and future geophysical studies.
- Fully process the raw ground magnetic data.

8.0 Expenditure

Program expenditure for the 2020 Pelly Property YMEP Program was ~$98,150.

Table 4: Program expenditure breakdown.

Item	Crew Size	Program Duration (days)	Cost/Unit	Units	Sub total
Daily Field Expenses	7	14	$100	75 man days	$7,500
Senior Geologist Wages	2	3	$500	6 man days	$3,000
Assays	26		~$102.84	26 sample	$2,673.87
Ground Magnetic Survey	4	14	~$170.10	333 line-km	$56,641.86
Helicopter Support	1	12	$1,084	24.3 hrs	$26,331.29
Report			$2,000	1	$2,000.00
Total					***$98,147.02***

Expenditure Breakdown

- Daily field expenses based YMEP expense rate guidelines. Consisted of:
  - Ground magnetic crew of four for 14 days (56 units).
  - Helicopter pilot for 12 days (12 units)
  - Two Senior Geologist for three days (six units) plus one day program preparation (one unit).
  - Total of 75 man days for field expenses.
- Twenty-six samples submitted for the program includes one standard and one blank. Accompanying invoices show 29 samples. Three samples on the invoice were not part of this program. Additionally, 14 samples were submitted for over limits analysis for Ba (13) and Zn (1) of which 11 were part of this program. Expenditure for samples related to the YMPE program was reduced from invoices.

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APPENDIX A: Pelly Property Group 1 Claims

APPENDIX B: List of Claims Where Work was Completed

APPENDIX C: Ground Magnetic Field Report and Crew Log

APPENDIX D: Traverse Summaries

APPENDIX E: Rock sample Descriptions

APPENDIX F: Rock Sample Certificates of Analysis

APPENDIX G: Expenditure Invoices

APPENDIX H: Data Disk

APPENDIX I: Qualified Person's Certificate

GEOLOGIST'S CERTIFICATE

Robert Burke
204-625 3rd Street E
North Vancouver, BC, Canada
VL7 0G3

I, **ROBERT BURKE**, B.Sc. in Geological Sciences, do hereby certify that:

1. I am presently a Senior Geologist with BMC Minerals LTD, with offices at Suite 750, 789 West Pender Street, Vancouver, British Columbia, Canada.

2. I am a graduate of the University of Manitoba, Canada with a Bachelor of Science in Geological Sciences (2009) and I have practiced my profession continuously since 2009.

3. I am a professional geologist in good standing order (#42498) in the province of British Columbia

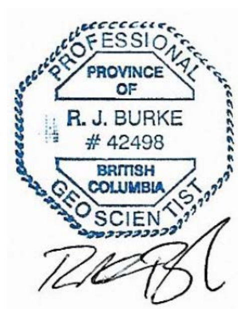
4. Since 2010 I have been involved in natural resource exploration for base metals and gold (2010 to present) in Canada and Australia.

5. I am the author of the technical report "YMEP *2020 Final Technical Report: Pelly Property"* prepared for BMC MINERALS LTD.

6. I was directly involved with the planning, managing and execution of the 2020 program at the Pelly Property which is subject of this technical report.

Dated 20 January 2021, at Vancouver, British Columbia.

Signed and sealed: "*Robert Burke*"



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Robert Burke, B.Sc., P. Geo