ROCK AND SOIL SAMPLING, GEOLOGICAL MAPPING AND PETROGRAPHY / MINERAGRAPHY ON MINERALIZATION ON THE TBMB AND STQ PROSPECTS, 105B-3.

By: T. Liverton & W.D. Mann

Claims: TBMB 1-14 (YD11144-11150, YF30471-30472),

STQ 1-6 (YF30465-30470)

Owners: T. Liverton, W. D. Mann

60°09’30’N, 131°15’W and 60°11’N, 131°14’30” W.

Watson Lake Mining Recorder’s District

Fieldwork 13th & 14th July 2019

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APPENDICES

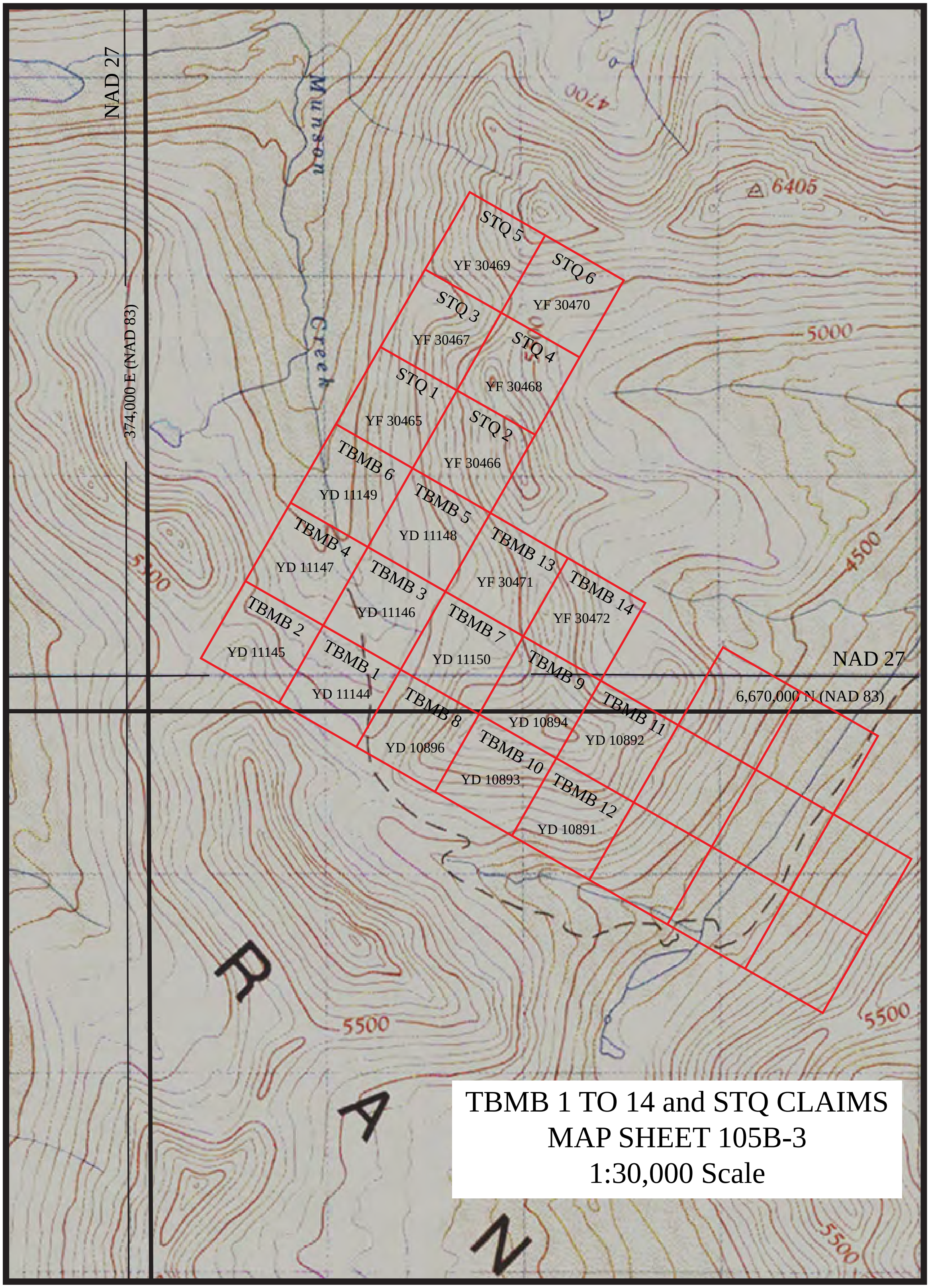
CLAIMS

The TBMB property consists of 12 quartz claims, TBMB 1 to 7 (YD 11144-11150,), TBMB 12-8 (YD10891-YD895), held by T. Liverton with anniversary date 6th. October and TBMB 13-14 (YF30471-YF30472) with anniversary 2020-07-18, held by William Mann. The centre of the TBMB claims is at 60°09'30"N, 131°15' W. The STQ claims are STQ 1 – 6, YF30465 - YF30470 with anniversary 2020-07-18, held by William Mann. The STQ cirque is at 60°11'N, 131°14'30" W.

ACCESS

The TBMB claims, are road-accessible by means of a four-wheel-drive trail that connects to the road from Pine Lake airstrip and the Swift river valley. The portion of the trail that passes the Mod (now Patience claims) property is usually blocked by snow accumulation until July and fresh snow may fall any time after mid September, so the workable season may be short. If there has been a particularly heavy snow accumulation the saddle to the south side of the claim block may have considerable depth of hard-packed snow until the end of July. The road from the Mod showing to the TBMB involves negotiation of two very sharp hairpin bends and a steep gradient.

It is possible to walk to the STQ prospect from the TBMB road, but it is a strenuous route.


NAD 27
374,000 E (NAD 83)
Munson Creek
6405
5000
4700
4500
5500
STQ 5
YF 30469
STQ 6
YF 30470
STQ 3
YF 30467
STQ 4
YF 30468
STQ 1
YF 30465
STQ 2
YF 30466
TBMB 6
YD 11149
TBMB 5
YD 11148
TBMB 4
YD 11147
TBMB 13
YF 30471
TBMB 14
YF 30472
TBMB 3
YD 11146
TBMB 7
YD 11150
TBMB 2
YD 11145
TBMB 1
YD 11144
TBMB 9
YD 10894
TBMB 11
YD 10892
TBMB 8
YD 10896
TBMB 10
YD 10893
TBMB 12
YD 10891
NAD 27
6,670,000 N (NAD 83)
R A N
TBMB 1 TO 14 and STQ CLAIMS
MAP SHEET 105B-3
1:30,000 Scale

HISTORY OF THE TBMB AND STQ PROSPECTS

• Staked in 1946 as the BOM by Hudson Bay Mining & Smelting Co. Nine diamond drill holes drilled in 1947.
The assessment report by Hudson Bay has detailed maps and drillhole cross-sections with assays and geology, but no descriptive text.

• Re-staked in 1958 as the Stan claims by A. Riba and optioned to J. Bradcoe & H. Karels.

• Staked again as Sandy claims in 1966 by G. Kazakoff and as the Glen claims in 1967 by T.R. Cairns.

• Included in the STQ claim block in 1977, optioned to Amax Potash Ltd. Option dropped in 1979 with little work done on the TBMB showings.

1980 - Fringe staked (ROAD claims) by D.C. Syndicate (Cominco Ltd & Dome Petroleum Ltd) (Stephen, 1981a). Silt and talus samples analyzed for Cu, Mo, Sn, W & Zn. Rocks were analyzed for Cu, Mo, Sn & W.

1981 - D.C. Syndicate outcrop mapping, including marble and skarn on the TBMB claims, and geochem sampling (Stephen, 1981b). Silt and talus samples analyzed for Sn, W & Zn. Rocks analyzed for Sn, W and sometimes Cu & Ag (Stephen, 1981b).

1981 – Regional Geochemical Survey – Open File 0733, Geological Survey of Canada.

1981 – Geological mapping focused on the Seagull Batholith (Abbott, 1981).

• Part of the present property was staked in 1984 as the Mas claims by A. Sahacic.

• Staked as the TBMB property by T. McRory and associates. Optioned to Apex energy Corporation until 1987. Trenching and sampling carried out.

• Acquired by Hardy Hibbing in 1992 and further trenching was performed.

1999- 2000 – Geological mapping at 1:50,000 scale and geological studies and interpretations (Roots et. al., 2000, Roots et. al., 2004).

• Claims lapsed in August 2009 and the showings were re-staked (with a block on a different orientation to conform to adjacent claim blocks) in 2010 by T. Liverton.

Various assessment reports are listed in the references.

TBMB – STQ REGIONAL GEOLOGY

The TBMB – STQ claims are within the Yukon-Tanana terrane, close to the displaced North American continental rocks of the Cassiar terrane (4.5 km to the NE of the STQ main showing).

YUKON-TANANA TERRANE

The Yukon-Tanana terrane consists of displaced volcanic and sedimentary units that would have been an arc built upon a rifted portion of the North American margin. Upon closure of the intervening ocean it was obducted onto the continent. The western part of the terrane, the Klondike schist, is of acid to intermediate metavolcanics and their associated plutons. These are of Permian age. The older portion of the terrain is found to the east in the Finlayson district, where the volcanic-sedimentary units are found thrust upon the continental margin immediately east of the Tintina fault. The displaced portion of the continental margin on the west side of that fault contains the Yukon-Tanana sequence upon lower Palaeozoic continental sediments, the Cassiar terrane. The TBMB-STQ properties are within this portion of the terrane west of the transcurrent Tintina fault. The Yukon-Tanana rocks of the upper Swift River region are correlated with the Snowcap Assemblage, two broad units being mapped: PDS1 being quartzite, psammite, pelite and marble with minor greenstone and amphibolite and PDS3, of amphibolite (commonly garnet-bearing) and greenstone. Unit PDS1 has been dated at 355.6 Ma, i.e., close to the Devonian-Carboniferous boundary.

Deformation of the Snowcap units has produced two obvious fold generations (Del-Rey Silva et al, 2001a & 2001b) that were early Mesozoic in age. To the west of the Swift River, rocks correlated with Yukon-Tanana in the Thirtymile Range (formerly called the Dorsey terrane) show lithologies consistent with their being Proterozoic to lower Palaeozoic rifted continental margin strata that are likely the basement for the Yukon-Tanana terrane. These deformed metasediments are intruded by undeformed Jurassic (181Ma: Liverton et al, 2001) granitic to gabbro plutons, hence the regional deformation there was pre-mid Jurassic.

Intrusion of a Jurassic granodiorite to gabbro stock, some 700m thick and 2.5km to the north of the MOD-TBMB and both the Seagull batholith (100Ma) and its satellite stock to either side have thermally metamorphosed the metsediments and volcanics. The whole sequence has,

mid Cretaceous

mKgs Seagull batholith

mKgc Cassiar batholith

Permian

Pqs Sulphur Creek intrusion

U. Devonian- lower Miss.

DMEC1 Earn Group

Devono-Mississippian or older

DMF1 Finlayson assemblage

DMF3 Finlayson assemblage

Carboniferous

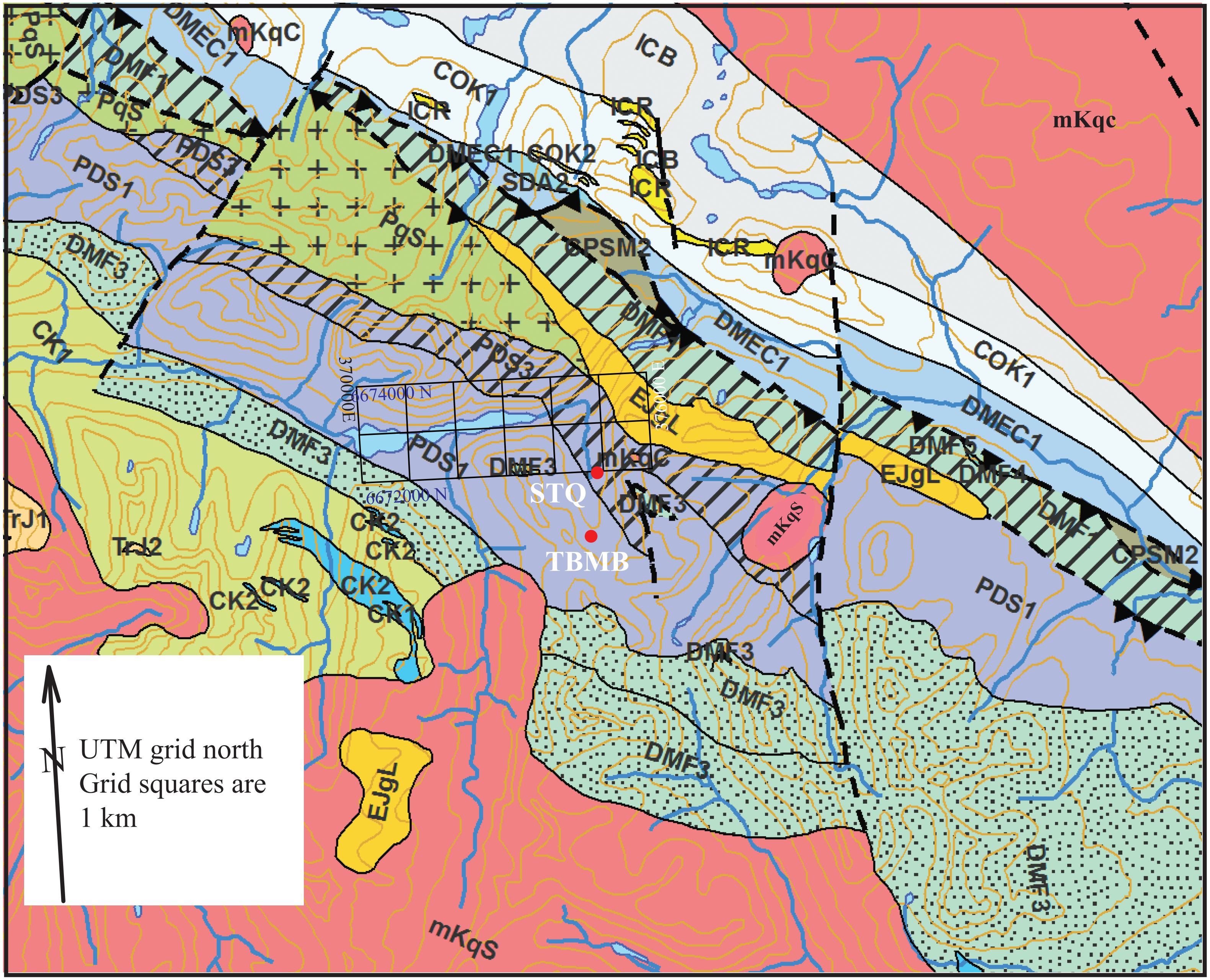
CK1 Klinkit assemblage

Neoproterozoic - Palaeozoic

PDS3 Snowcap assemblage (amphibolite)

PDS1 Snowcap assemblage (clastics and marble)

The NAD 83 UTM grid for the immediate property area is shown



therefore been subjected to regional metamorphism followed by two thermal events. Chlorite-epidote- amphibole mineral assemblages are common.

Two trends of Ag-Pb-Zn mineralization are found within the Snowcap on the south side of the Swift river basin. The Dan – Atom trend mineralization is found associated with marble and acid to intermediate tuffs. The southern trend, which includes the subject of this report is associated with marble, acid tuffs, siliciclastic sediments and minor greenstone. The Bond, Mod and TBMB prospects mark this trend. The origin of this mineralization is currently disputed. Common lead isotopes (Craig Hart, unpublished) for the Mod would indicate a Mesozoic age for the sulphides. Examination of mineral zoning and textures at both the Dan and particularly the Mod (Liverton and Casselman, 2018) are more consistent with a syngenetic origin i.e., VMS type for the MOD.

The two adjacent prospects described in this report are therefore of two types: pyrrhotite-sphalerite-galena-tetrahedrite-arsenopyrite mineralization concordant with the enclosing metasediments and tin-tungsten±molybdenite greisen and replacement mineralization associated with the Cretaceous STQ leucogranite apophyses.

CRETACEOUS GRANITES AND MINERALIZATION

THE STQ STOCK

The STQ stock, which crops out as several small apophyses, most notably in the cirque at {375,650E, 6,671,500N}, is a satellite intrusion of the Seagull batholith, as indicated by its chemistry. The mid Cretacous Seagull batholith is part of the Seagull-Thirtymile intrusions (Liverton, 1992) or simply the Seagull Suite (Rasmussen, 2013) that also include the Hake batholith, Thirtymile stock and Ork stocks to the NW, plus one further northern stock identified by Rasmussen. These intrusions are the most fractionated Cretaceous granites of the northern Cordillera. They are halogen and boron enriched A-type plutons and as such are associated with Sn-Ta mineralization.

The presence of F and B in a granitic magma drastically lower the solidus temperature. This enables hydrothermal fluid to interact with the melt over a protracted time period and extract the incompatible metals (Sn, Ta, Nb, U etc.). The fluid phase so produced is capable of forming mineralization within the aureole of the pluton as skarn, greisen and lode deposits.

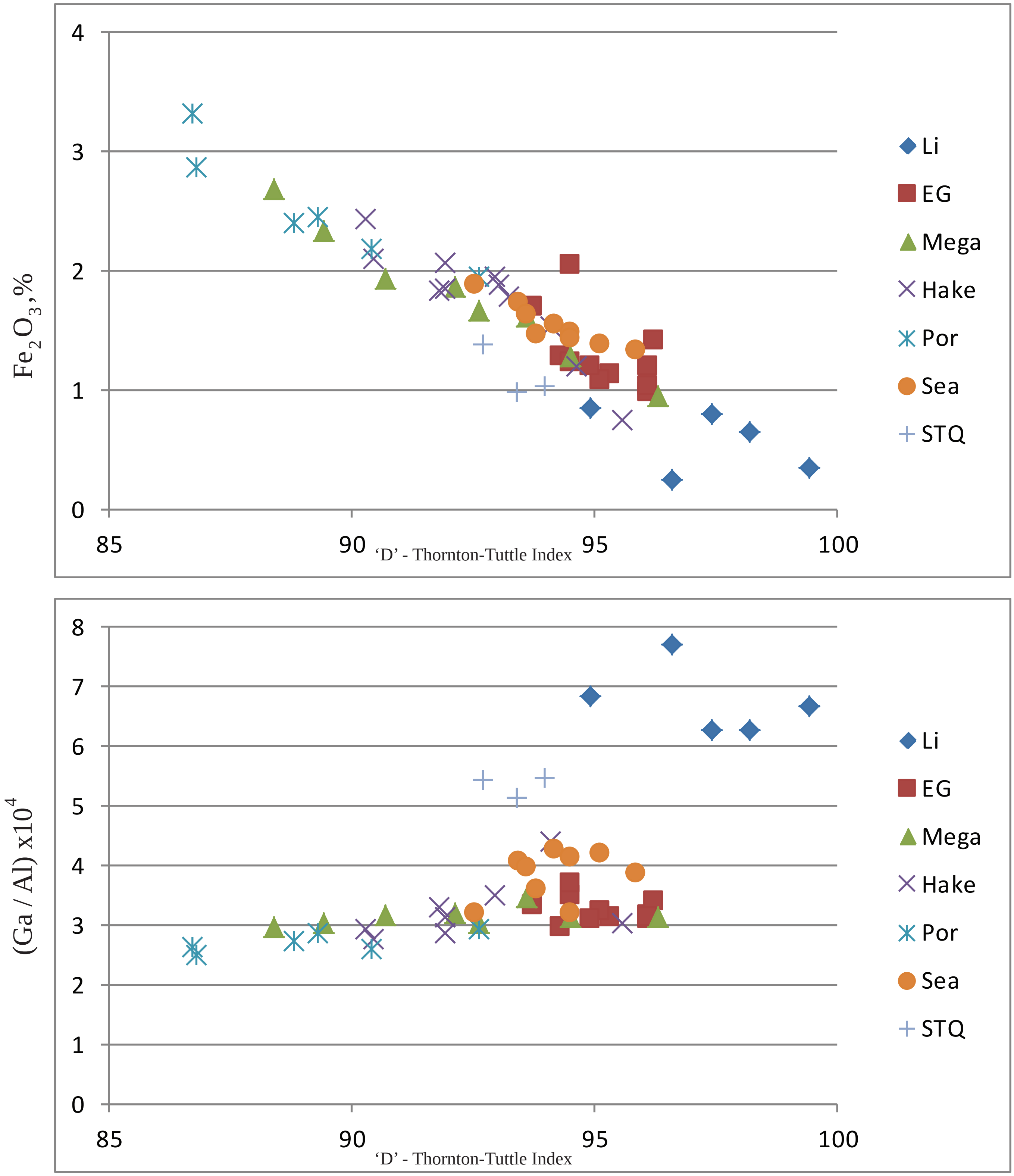
A highly fractionated fluorine-rich magma in the apex of a batholith will follow a different fractionation trend to that of simply quartz enrichment. The F-bearing magmas fractionate towards albite and the most ‘evolved’ granites are the alkali feldspar granites according to the Streckeisen classification (Le Maitre 1989), where the plagioclase is > 95% Ab in composition, hence it is classified as an alkali feldspar. These granites, sometimes called alaskite, have distinctive textures (with comparatively large, equant quartz phenocrysts) and micas close to zinnwaldite composition. Amphibole is absent in these. Accessory minerals, or their absence, is also distinctive. Apatite and zircon are rare or absent, monazite is common and REE or Nb-REE minerals such as cerite or fergusonite may be present.

Interpretation of geochemical (‘whole-rock’) trends within these plutons may be at first confusing. Use of conventional Harker diagrams leads to an apparent reversal of trend at the high silica end. This is a consequence of the albite enrichment of the ultrafractionated lithofacies. Silica content is less. If trends are plotted against the Thornton-Tuttle Differentiation Index (CIPW normative quartz + plagioclase + alkali feldspar) a simple near-linear plot results, demonstrating the fractionation trend for the suite. The four plutons of the Seagull suite for which analytical data is available (55 analyses) show a simple linear NNW trend which mirrors the fabric of the Cordillera.

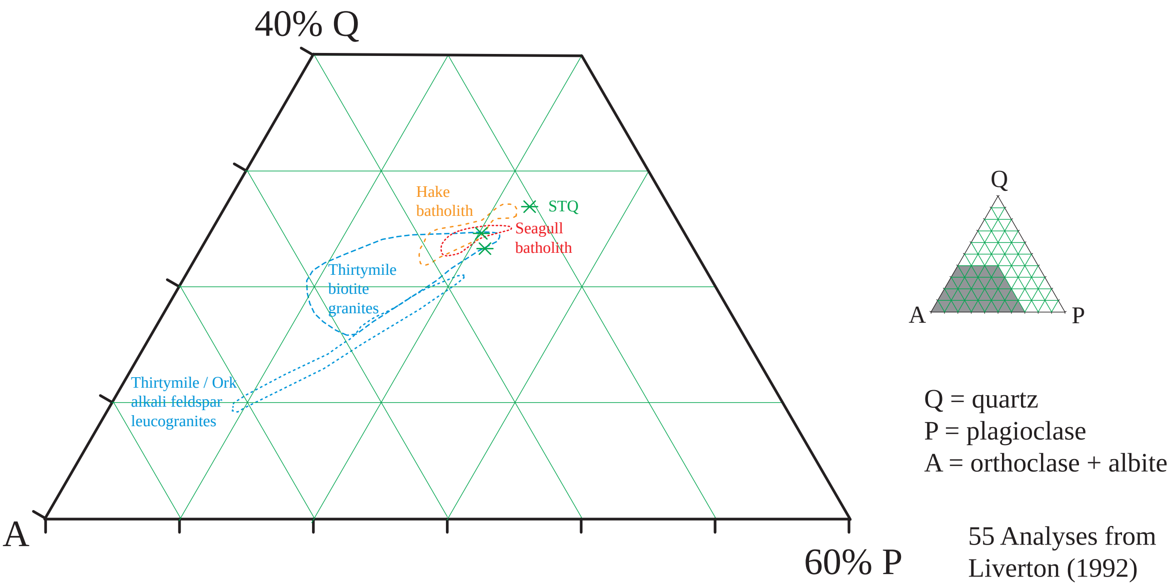
The batholiths of the Seagull suite show initial fractionation towards quartz enrichment. The most evolved biotite granite and‘ultrafractionated’ stocks follow the fluorine trend towards albite concentration. A measure of the fractionation within these granites may be gained by using the (chemical) Rb/Sr ratio. The Seagull suite shows values up to 3000. Most granites elsewhere are below 50. The STQ stock is compositionally approximately at the quartz peak (Fig. 4). The other small stocks of the suite (Thirtymile and Ork) show the extreme fluorine enrichment trend which leads to albite concentration. The ratio Ga/Al is elevated in highly fractionated plutons and values of [(Ga x 10^4)/Al] above 4 is considered indicative of A-type plutons. Trace element discrimination diagrams indicate the Seagull suite to be in the A-type field (Liverton and Alderton, 1991, Liverton and Botelho, 2004, Liverton et al., 2005). Hildebrand and Whalen (2017) demonstrate that A-type characteristics are to be expected in the

Cretaceous of the Cordillera. The A-type nature of the Seagull suite plutons indicates why these are one of two regions noted for tin mineralization in the Yukon (the other being the Rhosgobel property, associated with younger intrusions).

Vein and greisen tin mineralization are found in the immediate aureole of the STQ stock; tourmaline and fluorite are obvious. Skarns are more distal and their location indicates that the Jurassic sill might have at least also contributed to the contact metamorphism. The YGS regional stream sediment geochemistry indicates that the lower part of Munson Creek is obviously anomalous in tungsten and tin, but also distinctly in gold. Exploration for gold has not been attempted around the STQ stock.



Geochemical plots for the Seagull suite. [For the Thirtymile-Ork plutons, Li = Li mica leucogranite, EG = even grained, mega = megacrystic, Por = porphyry. Hake = Hake batholith, Sea = Seagull batholith, STQ = STQ stock.]



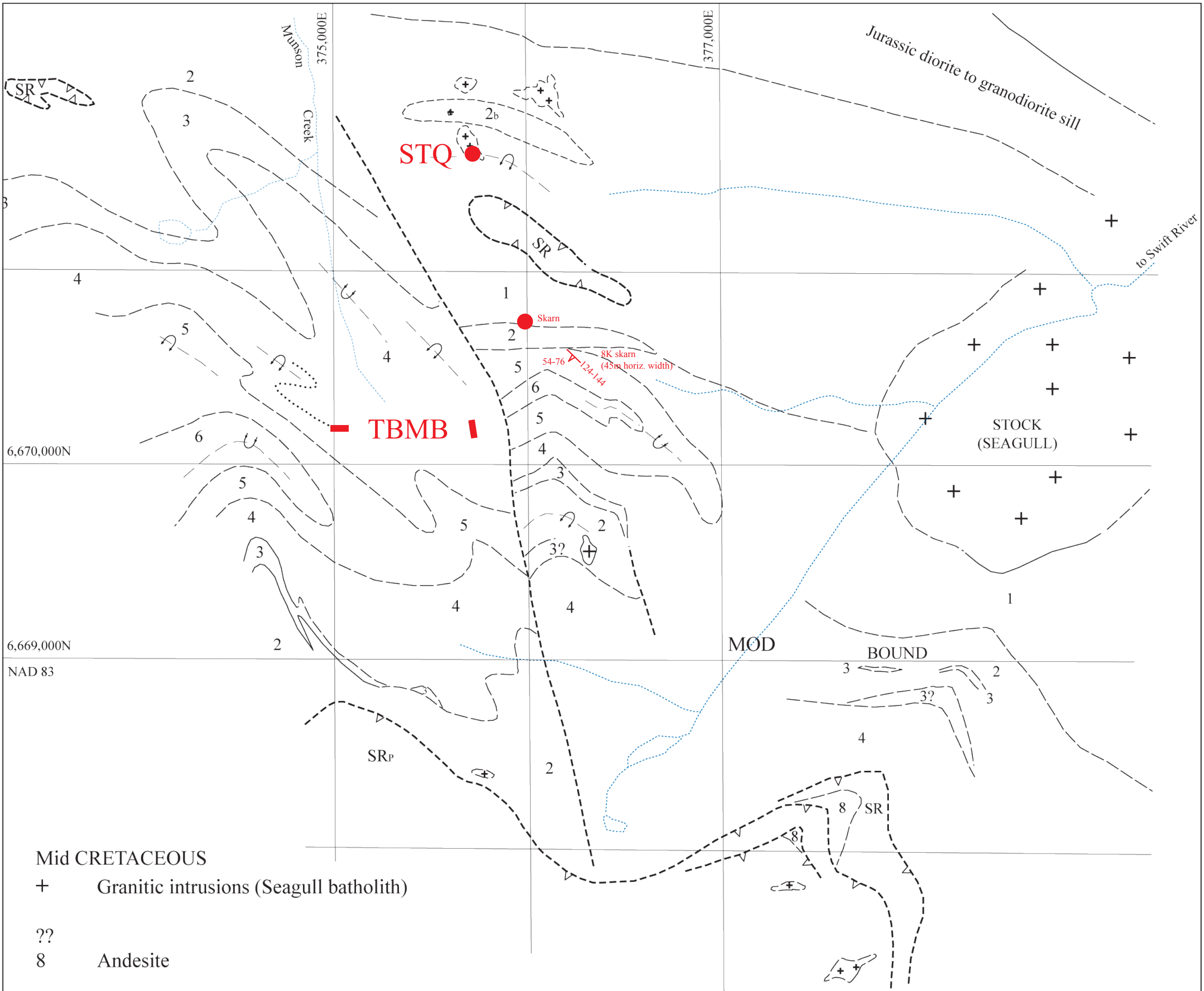
RATIOS OF CIPW NORMATIVE QAP COMPONENTS FOR THE SEAGULL GRANITE SUITE

Pluton/facies	SiO2	Al2O3	Fe2O3*	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Total	LOI
STQ Drill core	77.16	12.52	1.39	0.14	0.50	3.22	4.34	0.06	0.01	0.02	99.36	0.59
STQ Dyke	76.08	13.54	1.04	0.12	0.27	3.51	4.75	0.06	0.01	0.02	99.40	1.33
STQ Dyke	76.19	12.99	0.98	0.15	0.51	3.39	4.83	0.06	0.01	0.01	99.12	1.04
	Ni	**Cr**	**V**	**Sc**	**Cu**	**Zn**	**Cl**	**Ga**	**Pb**	**Sr**	**Rb**	**Ba**
	4.4	1.4	0.7	1.9	2.0	45.1	139.1	36.1	23.2	22.4	843.8	28.3
	4.4	1.7	1.0	3.1	48.5	56.7	0.0	39.3	25.7	7.1	908.3	42.6
	3.9	0.8	0.0	2.5	52.1	28.4	0.0	35.4	35.5	10.0	904.7	34.6
	Zr	**Nb**	**Th**	**Y**	**La**	**Ce**	**Nd**	**D Index**				
	122	111.4	87.8	156.8	70.6	165.4	56.3	92.71				
	138.4	114.5	56.5	108.9	53	98.1	37	93.97				
	136.3	117.2	70.8	166.8	100.6	188.5	74.2	93.38				

Table 1. Analyses of STQ intrusions.

TBMB MINERALIZATION

The TBMB claims exhibit several exposures of lead-zinc or copper mineralization that are associated with marble and volcanic units. These units are within the Palaeozoic assemblage correlated with the Snowcap. They are polydeformed, although only one generation of folding is prominent on a larger scale (D'El-Rey Silva et al., 2001). Regional and perhaps two episodes of contact metamorphism have produced amphibole, epidote and chlorite in the calcareous country-rocks. The main TBMB showing has been exposed by trenching and shows approximately a metre thickness of massive galena or sphalerite, which dips to the SSE at about 30°. Other mineralization is found in trench 'E': predominantly copper, and Pb-Zn at trench 'C', which was the target for this season's rock sampling. The nature of the TBMB mineralization is disputed. Common lead isotopic data compares with Mesozoic ratios for the Cordillera (Craig Hart, unpublished), yet geological setting and textures of ore minerals at the Mod (2.8 km SE of the TBMB) in particular are reminiscent of exhalative (VMS) mineralization (Liverton and Casselman, 2018).



Mid CRETACEOUS

+	Granitic intrusions (Seagull batholith)
??	
8	Andesite

LATE DEVONIAN - EARLY MISSISSIPPIAN

SR	Swift River assemblage (dark siltstone, chert, quartzite)

LATE DEVONIAN

6	Calc-silicate, chert, phyllite
5	Brown quartzite, psammite
4	Greywacke, quartzite, felsic tuff, dark argillite
3	Marble, brown weathering chert
2_b	Green-brown metasandstone, mafic tuff, minor limestone
2_a	Light grey silt/sandstone, psammite, felsic tuff
1	Metavolcanic (chlorite-amphibole)

SWIFT RIVER, 105B-3
MOD & TBMB GEOLOGY

Re-drawn (T.L. 2017) from original (2000) compilation by Charlie Roots

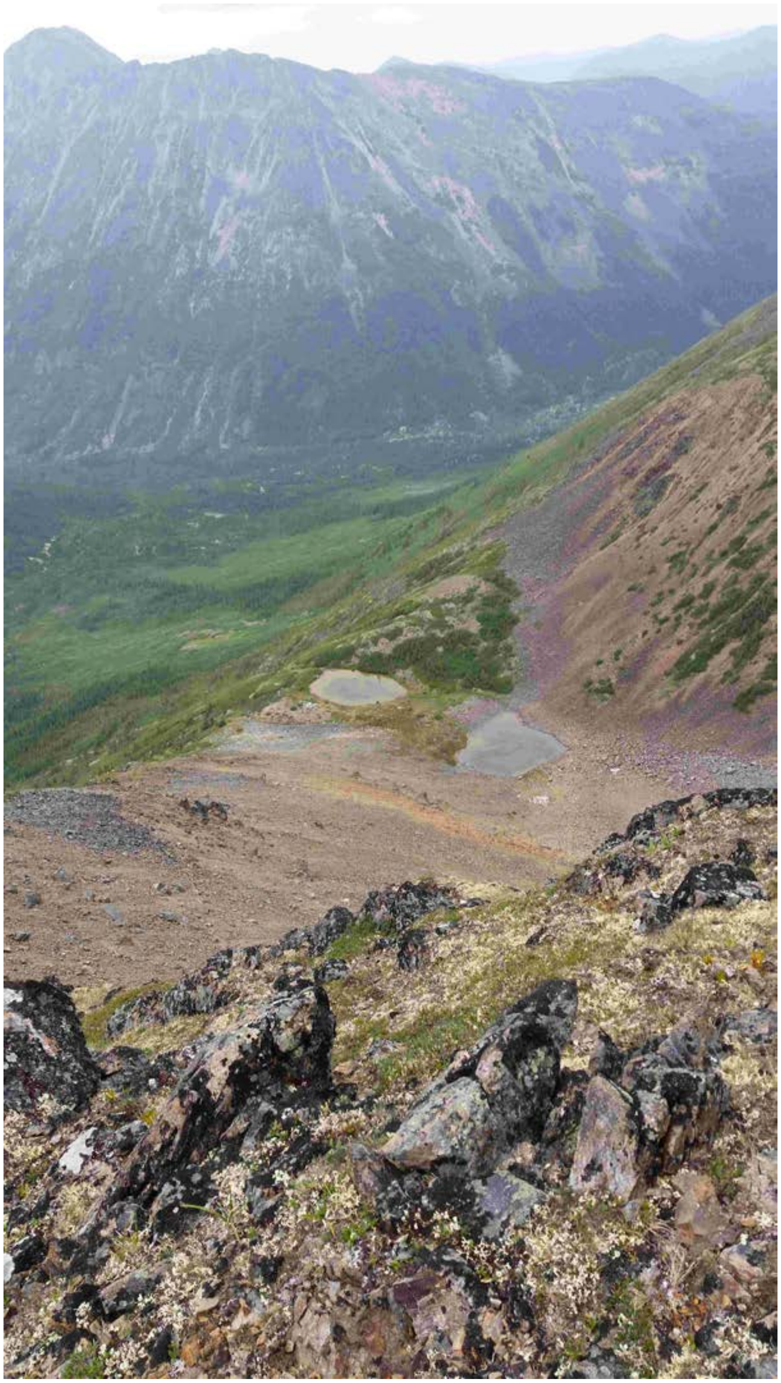


Figure 6. STQ tarns, location of 1979 drilling.

THE CURRENT WORK

TBMB PROSPECT

At the TBMB prospect the 2019 work consisted of the following:

a) One line of soil sampling across the mineralized trend at the head of Munson Creek;

b) Sampling of sulphide mineralization exposed at the east end of historical trench ‘C’. Petrographic specimens were also taken;

c) A compass traverse along the road to trench ‘C’, with sampling of in-situ rock for petrography to attempt to elucidate the protolith of the the rock unit.

The enclosed map (Fig. 8) shows the location of the soils, hard-rock sampling and samples for petrographic work.

Figure 7. Soils were collected on the uphill side of the trail on the left side of the photo.

RESULTS

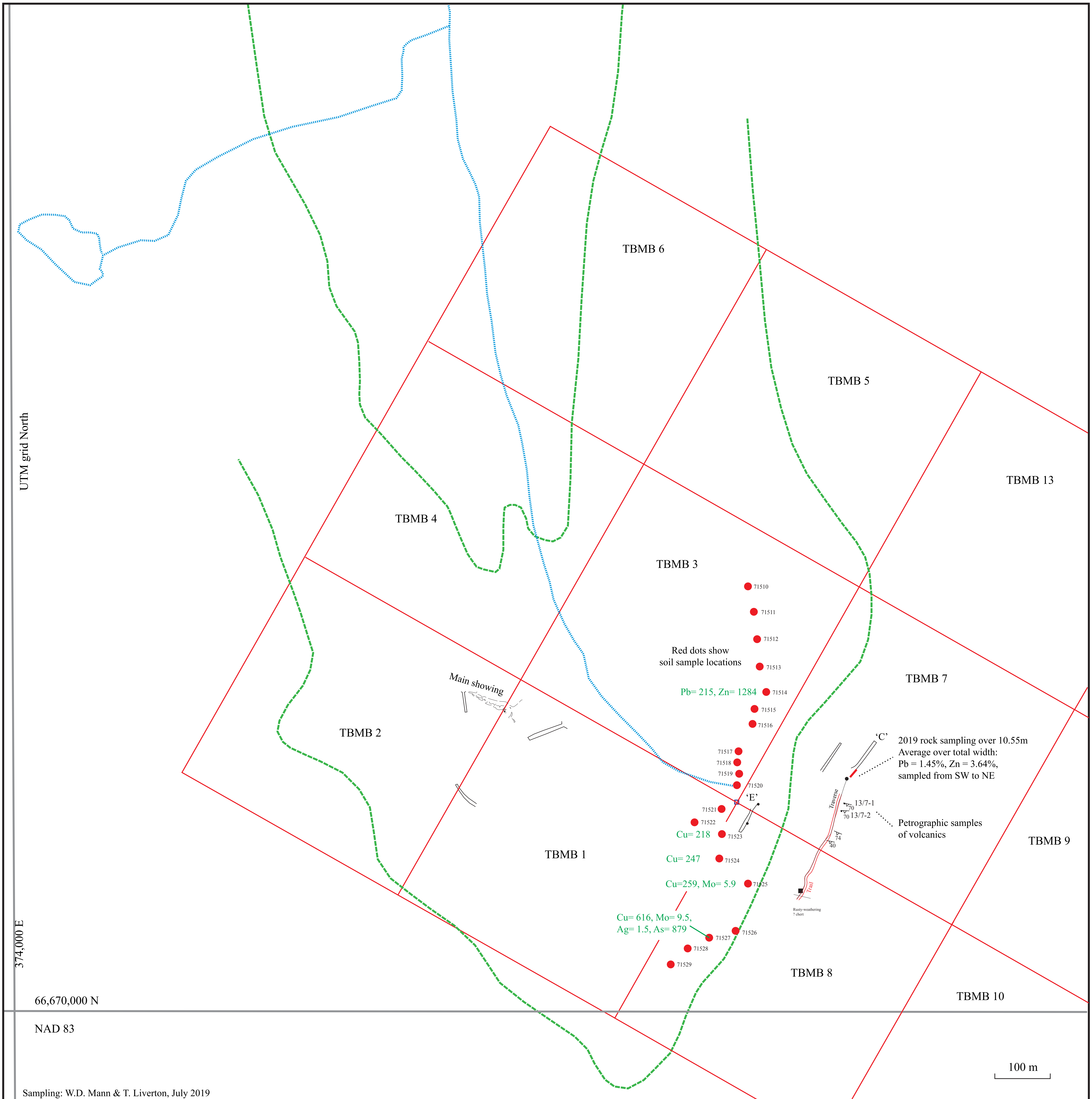
The soil analyses (certificates appended) yielded significantly high values at Five sites. Anomalies in Pb, Zn, Cu, Ag and As were obvious, but not all together. These are shown as the chemical symbols on the map (in green). Sample 71514 may indicate the on-strike trend of the main mineralization, displaced perhaps by the fault down Munson Creek. Samples 71523-25 anomalous in Cu ± Mo, Ag and As are more problematical. The known copper mineralization in Trench 'E' does not seem to have a down-slope expression. The anomalous values are contained within the on-strike extension of the volcanic unit identified by the petrography (below), somewhat to the south and cross the extension of the observed contact between volcanics and presumed sediment, although the exact location of the Munson fault is not mapped.

Gold values up to 54 ppb are considered to be significant, and are of note partly due to lack of gold analysis in previous work in the area. One of the highest RGS gold in silt values in the area is present downstream from this site.

Field notes for the soil sampling are shown below:

TBMB 2019 SOIL SAMPLES							
Sample #	UTM NAD 83	Zone 9 V		depth	colour	texture	Notes
71510	375313	6670769		20	orange-brown	silty	bouldery area
71511	375324	6670720		35	dark red-brown	sandy	
71512	375330	6670673		35	dark red-brown	silt-sand	
71513	375334	6670622		45	light brown	silt-sand	
71514	375350	6670580		40	brown	silty	
71515	375323	6670547		45	light brown	silty	
71516	375321	6670520		45	orange-brown	silty	rusty boulders
71517	375303	6670488		40	light brown	silty over sandy	
71518	375301	6670464		35	light brown	silty over sandy	
71519	375303	6670436		25	brown	silty	
71520	375297	6670407		25	light brown	silt-clay	saturated soil
71521	375268	6670369		40	lt orange-brown	silty	
71522	375237	6670344		30	lt orange-brown	silty	
71523	375272	6670323		35	lt yellow-brown	silty	
71524	375268	6670279		25	light brown	silt-clay	
71525	375319	6670233		20	orange-brown	silt-sand	dozer disturbed soil
71526	375294	6670153		20	orange-brown	silty	on rusty zone above cut
71527	375245	6670140		25	orange-brown	silt	
71528	375207	6670120		40	dark red-brown	sandy	
71529	375176	6670088		30	light brown	silt-sand	

Table 2.



TBMB CLAIMS: LOCATION OF 2019 SAMPLES

Figure 8

Rock sampling consisted of the following horizontal widths of chip samples (1.88 to 2.61 kg each):

SAMPLE	WIDTH, m	Pb %	Zn %	Ag ppm	S %
71531	2.2	3.33	9.62	48	7.58
71532	1.15	3.01	2.35	48	8.17
71533	1	1.51	3.05	52	1.59
71534	1.2	0.83	4.31	31	1.95
71535	1.55	0.06	0.54	3	0.06
71536	1	1.02	2.62	26	1.13
71537	1.45	0.53	1.58	12	0.92
71538	1	0.17	0.59	4	<0.05
Average:	10.55	1.45	3.64		

Table 3.

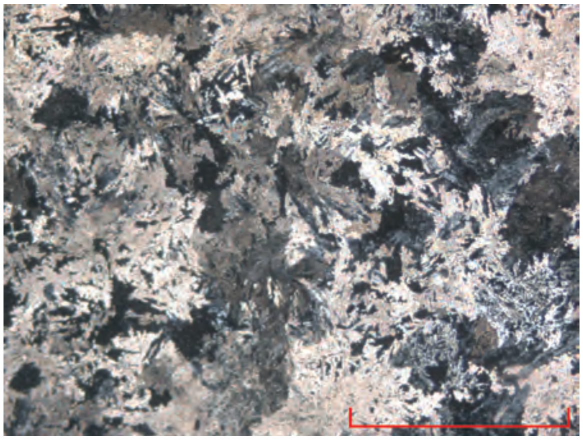
Significant results are shown. Copper values were below 0.13 % and Au below 0.024 ppm.

Brief petrographic notes and photomicrographs follow:

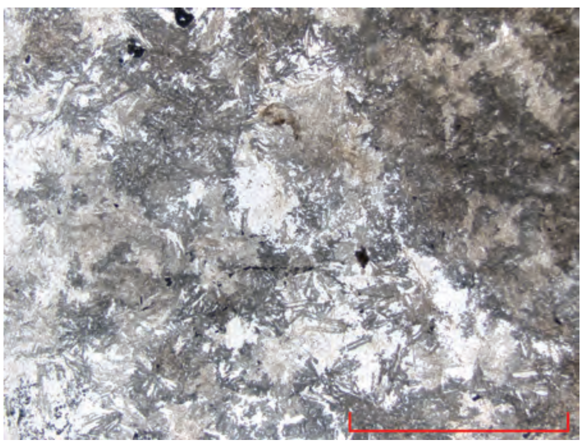
Note:

'TC' specimens are from Trench 'C' and correspond to the material shown in the assay table above.

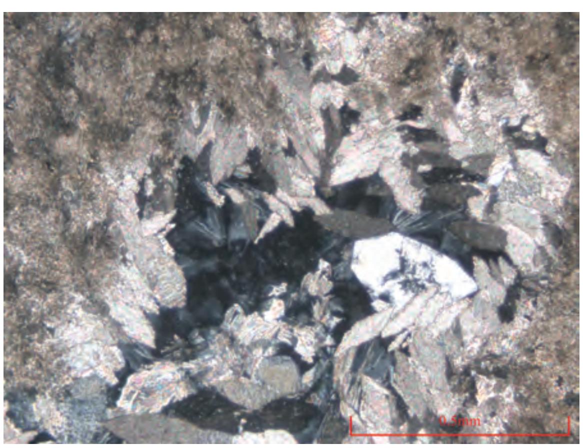
TC 1



Fe-rich carbonate

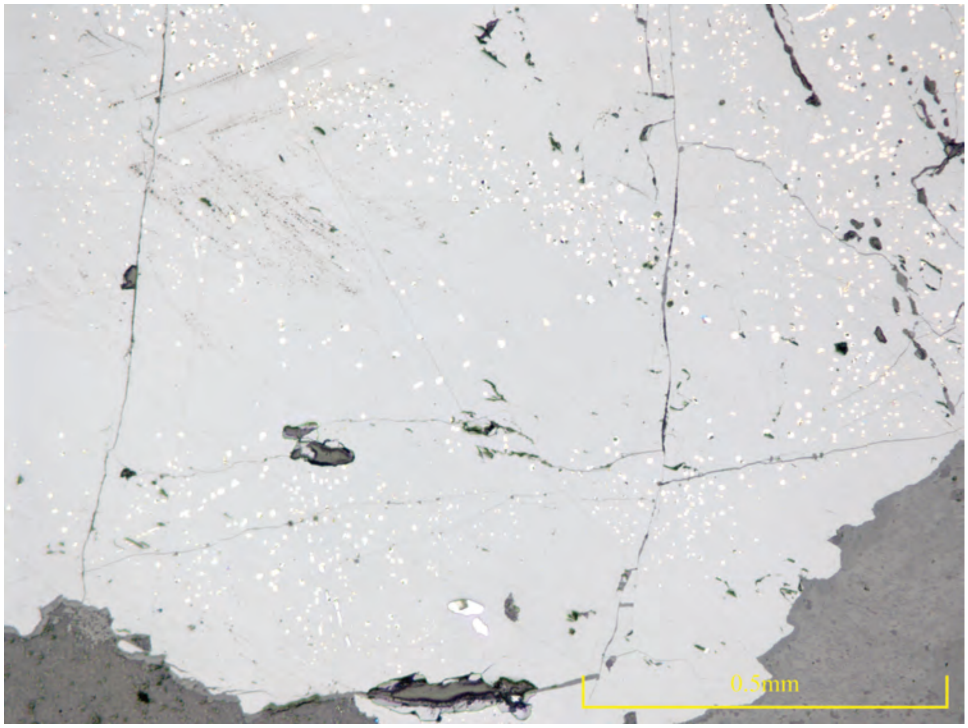


Carbonate with a few crystals of sulphide

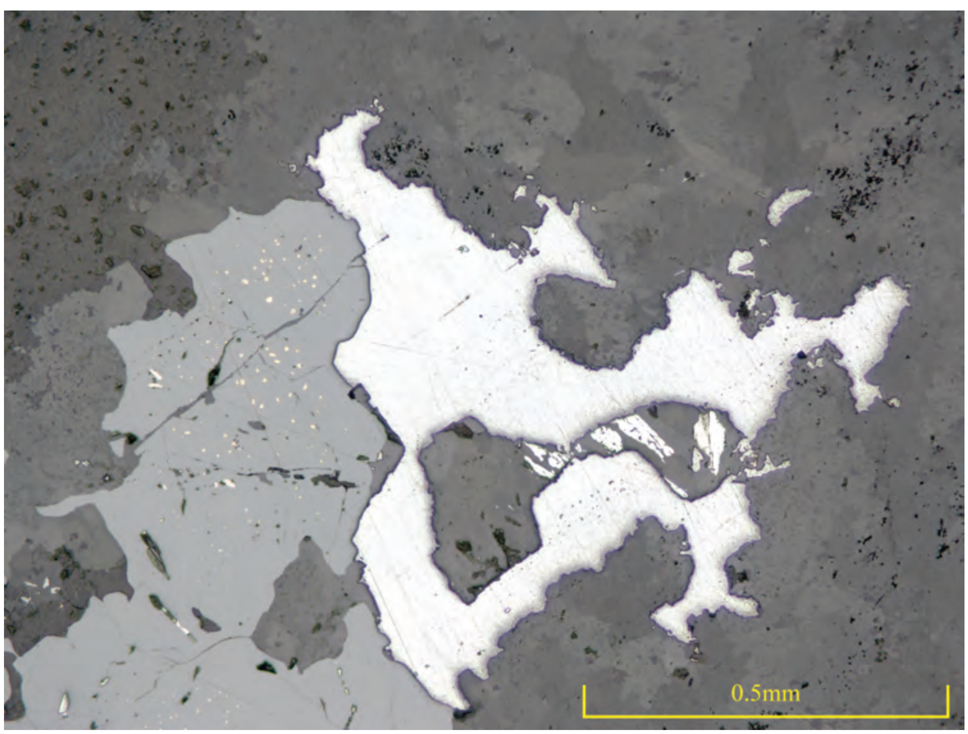


Carbonate-chlorite vugh

TC 2

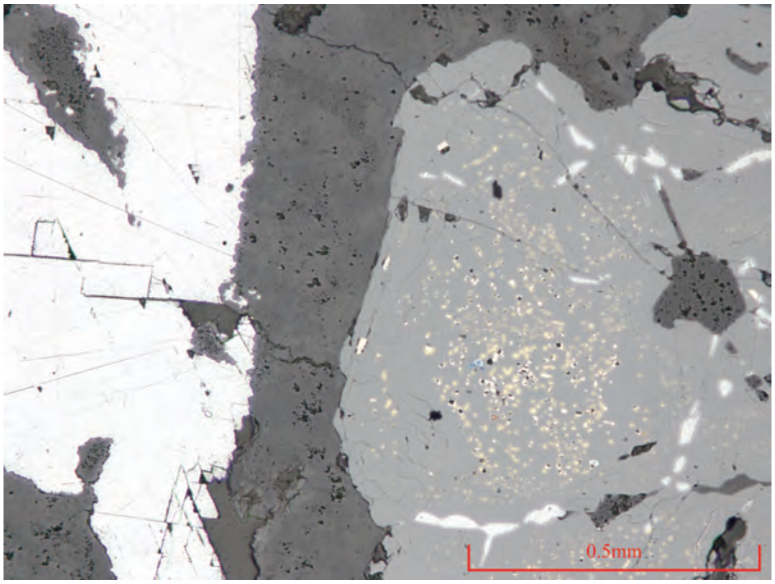


Reflected pp light: sphalerite with pyrite inclusions

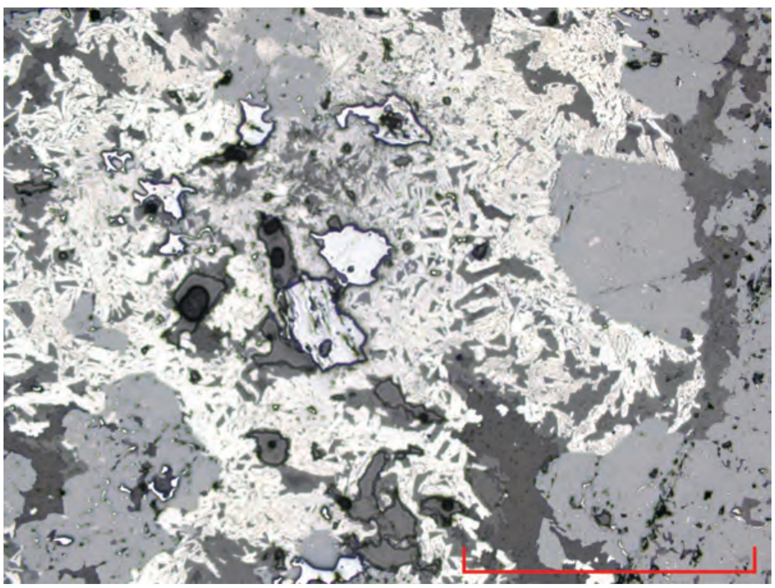


Reflected light: galena and sphalerite

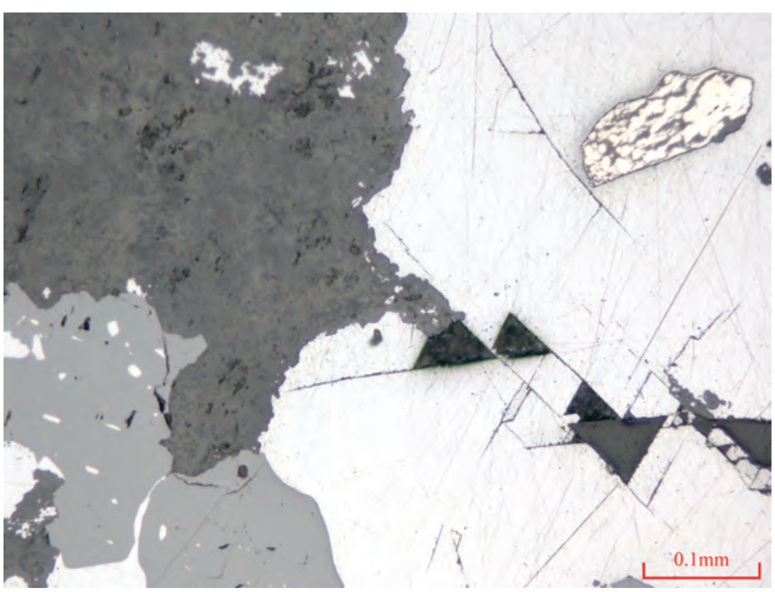
TC 3



Reflected light: sphalerite with pyrite inclusions, galena on left

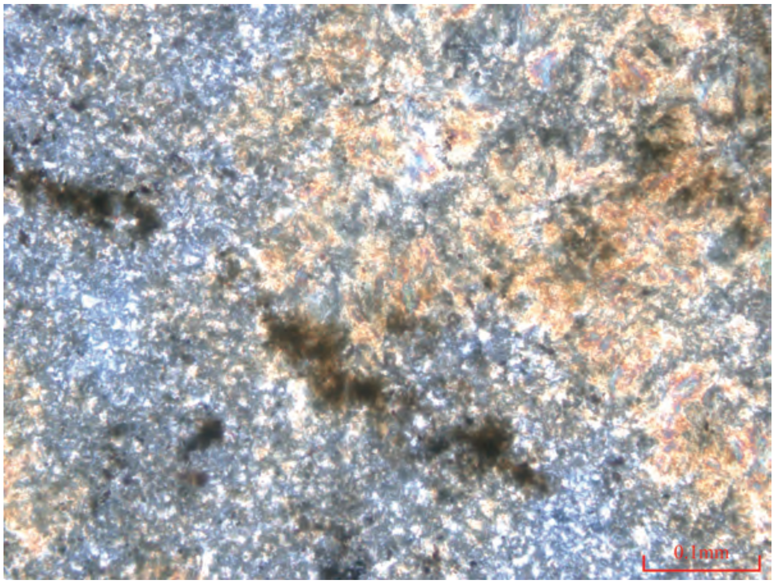


Reflected light: sphalerite, arsenopyrite and galena

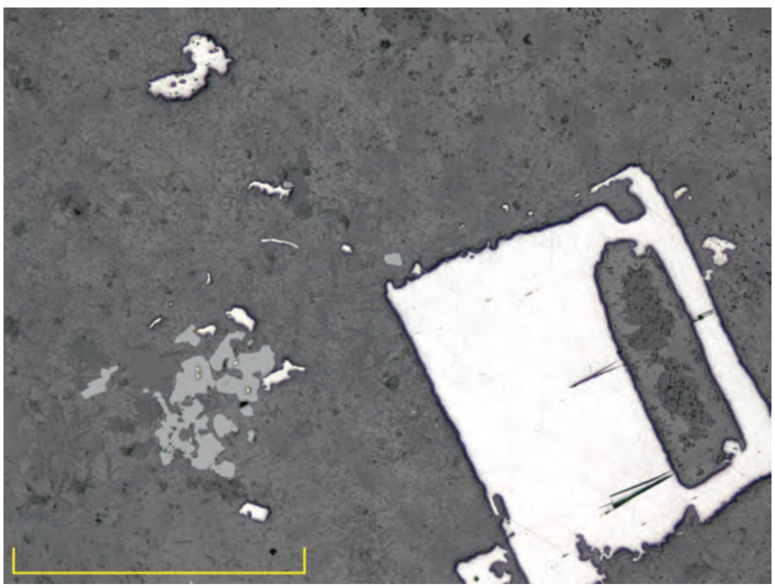


Reflected light: galena with pyrite inclusion, sphalerite with galena inclusions

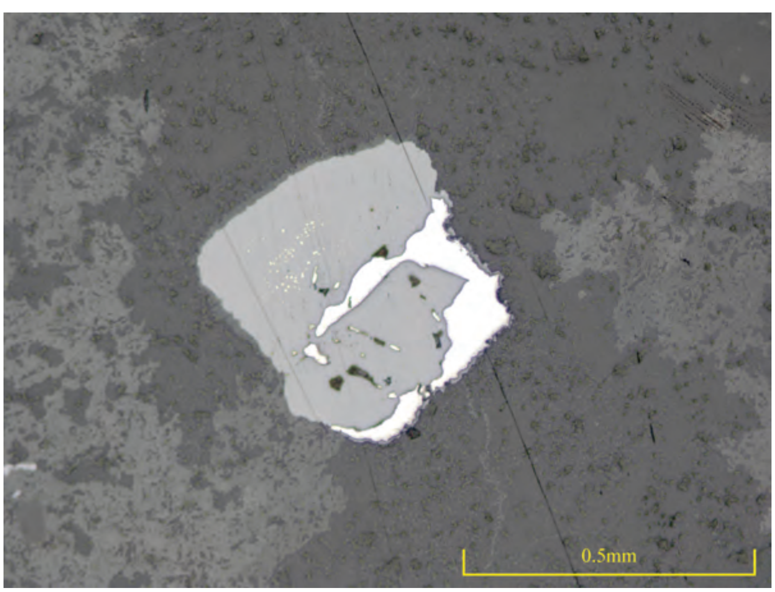
TC 4



XP light: texture of the rock



Reflected light: skeletal galena and sphalerite

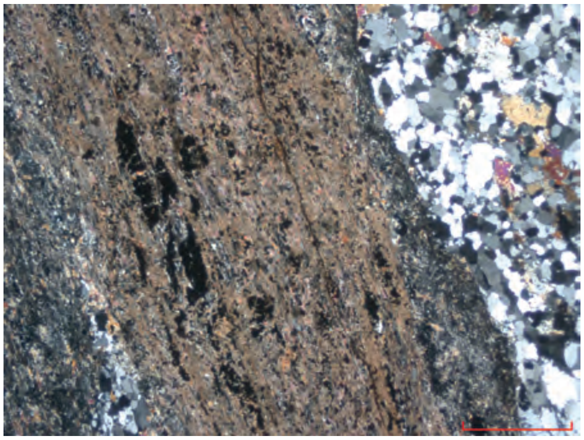


Reflected light: sphalerite with pyrite inclusions and galena

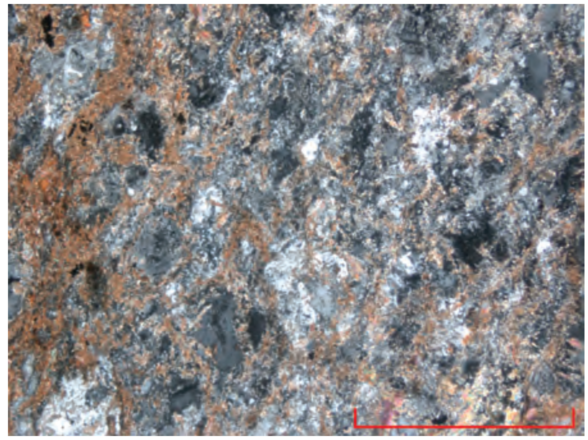
EXPOSURES ALONGSIDE ROAD

A compass traverse was made along the access trail to Trench ‘C’. The only two solid exposures present were sampled for petrography to elucidate the lithology. The locations for the two specimens are shown on the map (Fig. 3). Petrography is given on the following page. These specimens may well have had an acid volcanic (rhyolitic or dacitic tuff?) protolith. Such a unit should be mapped as volcanic in future work. To the south, at the end of this compass traverse, the contact with fine-grained metasediments is defined by their rusty weathering appearance.

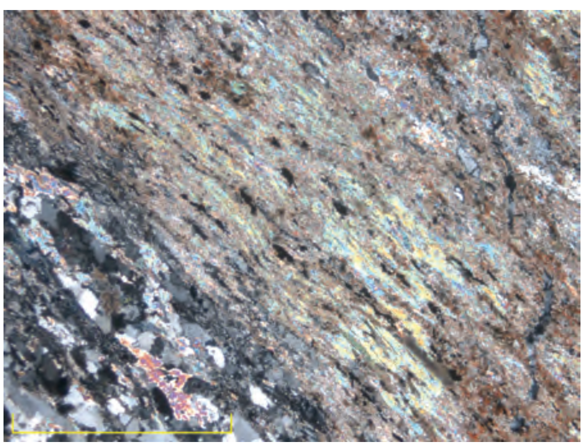
TBMB SPECIMENS 7-1 & 7-2



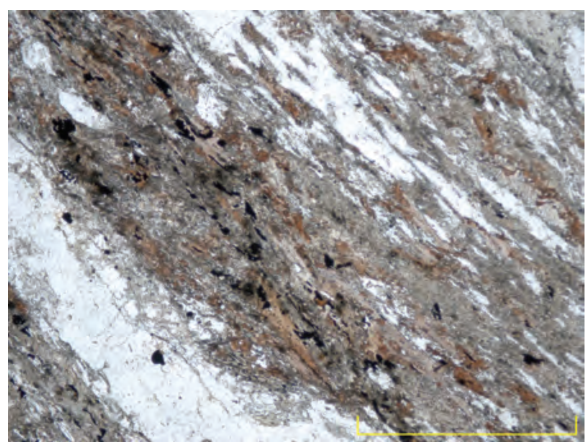
7-1: mica & quartz-feldspar
-epidote layers



Quartz, biotite & feldspar



7-2: muscovite-biotite & quartz
layers



Opaques with biotite

STQ PROSPECT

Amax carried out a soil geochemical survey over the region eastwards from the STQ cirque in 1977, mapped (mostly felsenmeer) over the soil grid (Hodgson, 1979, Figs. 4 & 5) and produced a more detailed geological map of the cirque (his Fig. 6). One diamond drill hole was drilled in the cirque. Nothing substantive was done on the prospect since then.

The current work consists of a petrographic examination of lithologies collected from the STQ cirque and from the skarns to the west (Unit 8k on Hodgson's map). Drill core from the Amax hole in the cirque is now jumbled on the ground (marmots eat core boxes!) Pieces were selected and included among the surface samples taken.

Hand specimens are described below:

STQ cirque [375500, 6672150]

ST1 Drill core of granite with a 1mm mineral vein

ST2 Fine-grained intrusive (surface)

ST3 Core: metasediment (?) with quartz veins

ST4 Tourmaline veins in (?) fine-grained intrusive

ST5 A rock of irregular layers of pink, fine-grained quartz-feldspar with black aphanitic layers, 1-14mm thick

ST6 Core: fine-grained intrusive

ST7 Very fine-grained yellow intrusive (or volcanic?)

ST8 Irregularly oriented black veins, 2-10mm thick, some branching, in fine-grained feldspathic metavolcanic.

8K Skarn [376250, 6670550]

8K1 Skarn, probably with some epidote

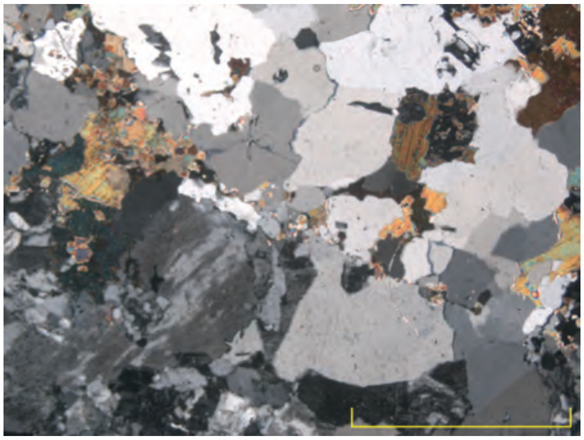
8K2 Skarn with epidote

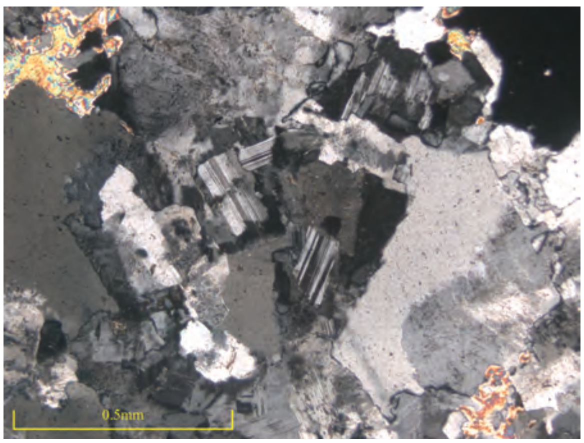
8K3 Garnet skarn

8K4 Epidote skarn

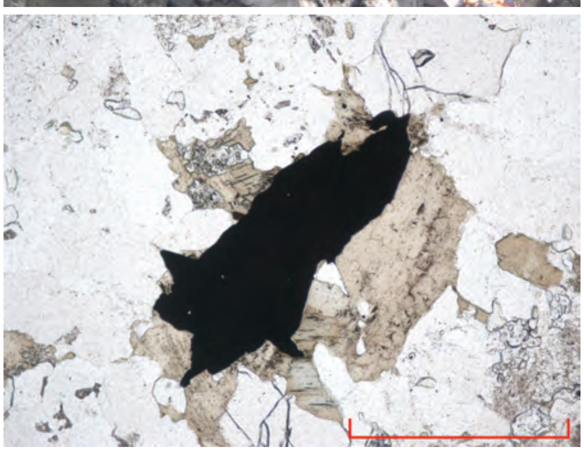
Sawn slab of specimen ST8. Amphibole-filled stockwork.

ST1

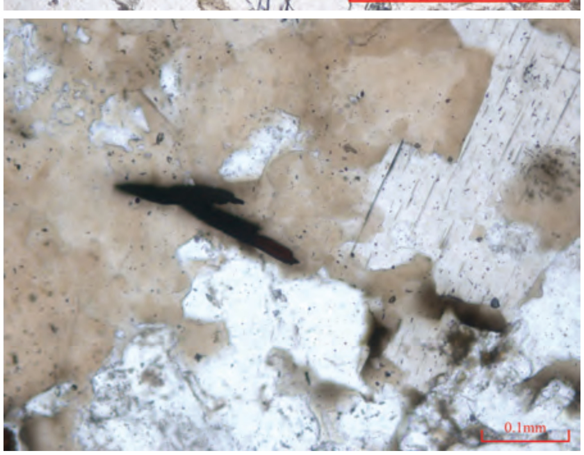




This microgranite is a highly evolved pluton. The composition is on the syenogranite / alkali feldspar granite boundary according to the Streckeisen scheme. It is composed of much quartz, orthoclase, very little plagioclase and a Fe-Li mica. Plagioclase is approx. Ab 89% from albite twin extinction angles, so the rock is not quite an alkali feldspar granite. No apatite or zircon are present. Accessory minerals are fluorite, topaz, monazite, fergusonite and (?) sphene. Anhedral masses of quartz, 1mm across dominate the texture, but are unlike the ultrafractionated granites of this suite (Thirtymile / Ork) that show euhedral to subhedral form. Orthoclase is predominant feldspar and is quite anhedral. Plagioclase shows some subhedral crystals but is quite subordinate in quantity. The mica is pleichroic from pale yellow-brown to colourless, hence it is likely close to zinnwaldite. Topaz and fluorite are common (but < 1% total), monazite is sparse, producing pleichroic halos in mica, in which it is mostly included. Fergusonite, as euhedral crystals is also found in the mica. It produces a weak halo. One 2.5mm wide vein cuts the section. It contains quartz, somewhat darker mica, much topaz and a few 1mm pyrite grains.

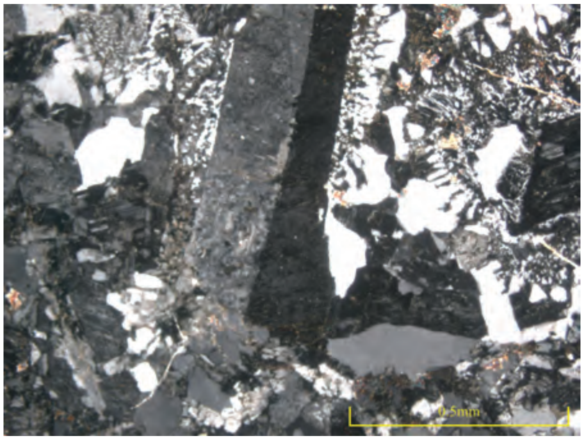


Vein: Fe-Li mica, pyrite and fluorite.

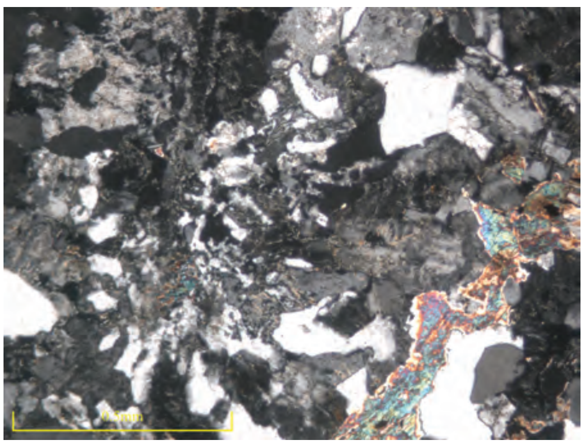


Fergusonite in zinnwaldite.
Note the slight pleochroic halo.

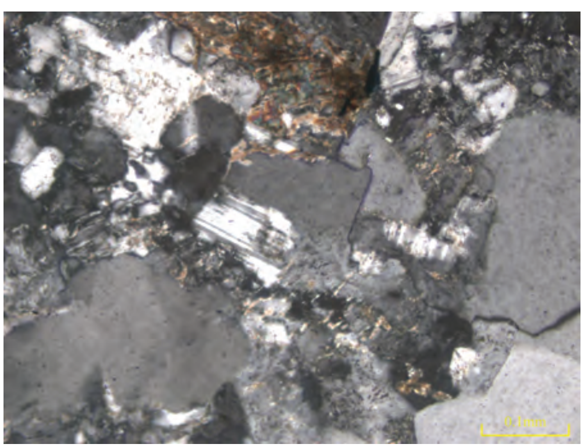
ST2



This is a very fine-grained alkali feldspar granophyre. It has a few 1mm subhedral K-feldspar phenocrysts, but most are anhedral and < 1mm. Quartz and orthoclase are present in equal proportion. Plagioclase is rare (0.2mm grainsize, < 5%). Micas are pleichroic from light brown to colourless, < 0.5mm and interstital to the feldspar and quartz. Some white mica alteration is evident. Topaz is rare (0.3mm grains) and fluorite was not seen. Only a few 0.1mm fergusonite crystals are associated with the mica. The low plagioclase content indicates that this is an alkali feldspar granite.

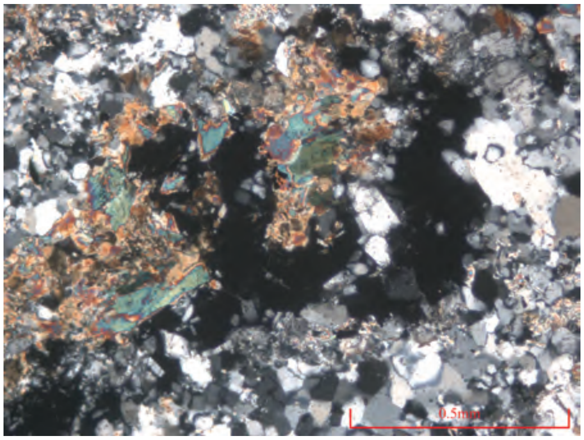


Detail of granophyre & white mica

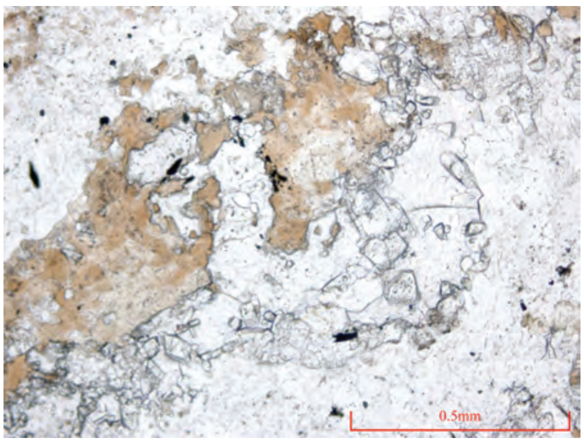


Plagioclase, orthoclase & quartz with slightly altered zinnwaldite

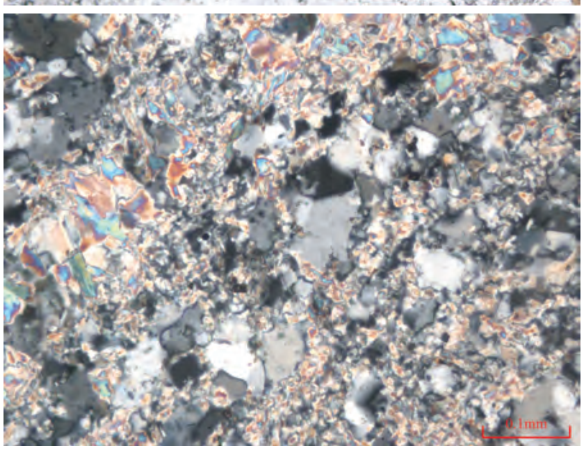
ST3



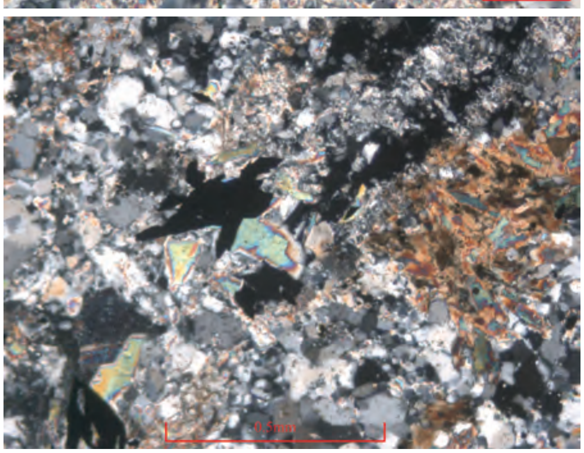
This is greisenized rock. The bulk of the rock is a very fine grained aggregate of quartz, tourmaline and white mica: quartz to 0.1mm, micas 0.02mm. One 1mm thick vein contains coarse white mica, quartz, fluorite and fergusonite.



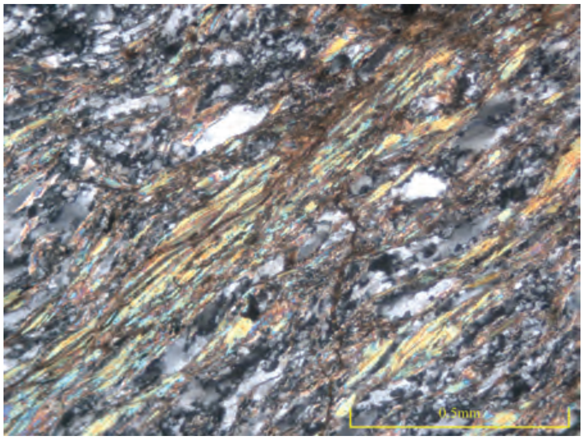
Same field of view as above: zinnwaldite and fluorite in granitic matrix. Crossed polarizers & pp light.



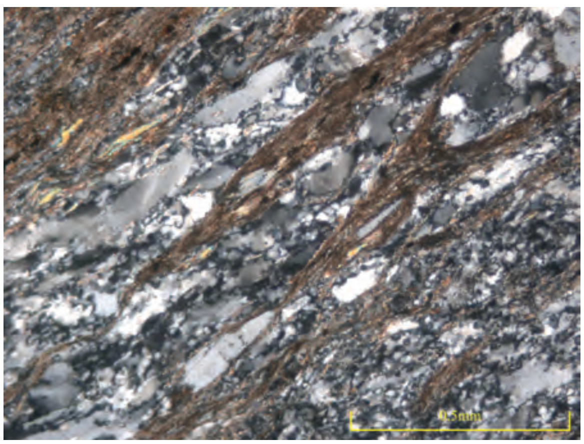
Greisen textures: white mica & topaz. Some zinnwaldite & fluorite in lower image.



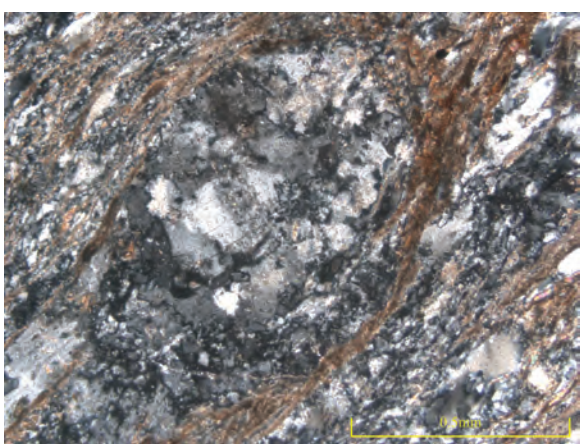
ST4



This is a metasediment, possibly from a tuff protolith. It is well-foliated, showing a somewhat anastomosing foliation of mica layers. Occasional feldspars are subrounded porphyroblasts around which the micas wrap. There is a hint of S-C fabric. Mica layers are 0.1mm thick and feldspars, though not obvious, may constitute 5% of the fine grained minerals. Muscovite is dominant, then biotite with chlorite and magnetite.

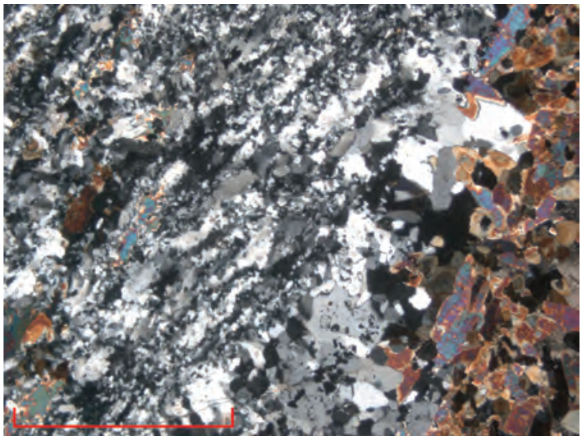


Fabric of the metamorphic

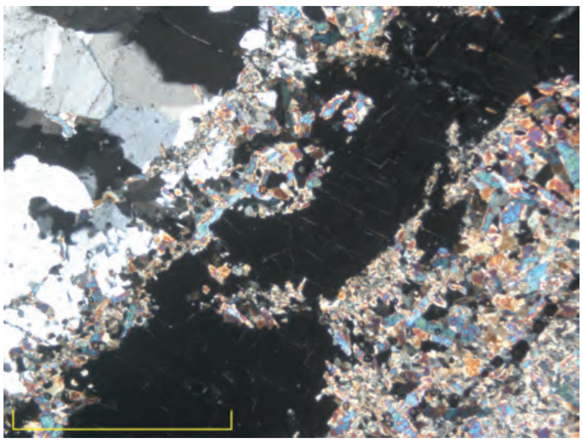


Detail of feldspar porphyroblast.

ST5

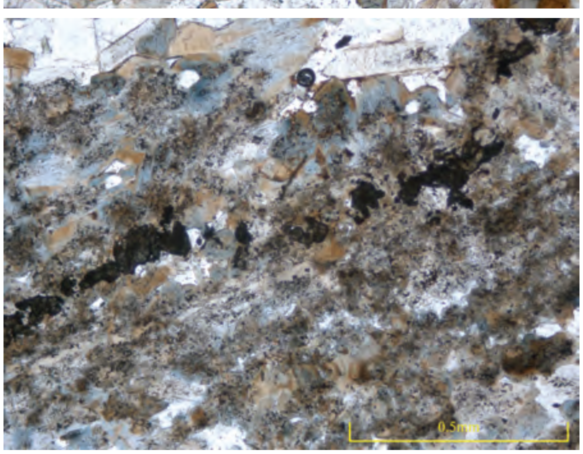


This is a quartz rich metasediment replaced by tourmaline and fluorite. Tiny veins of cassiterite are present. Quartz is polygonized and as 0.05 - 2mm grains. tourmaline, which is zoned brown to blue, pervasively replaces the (?) quartzite and also occurs as veins of coarser crystals to 1mm long, often accompanied by fluorite.



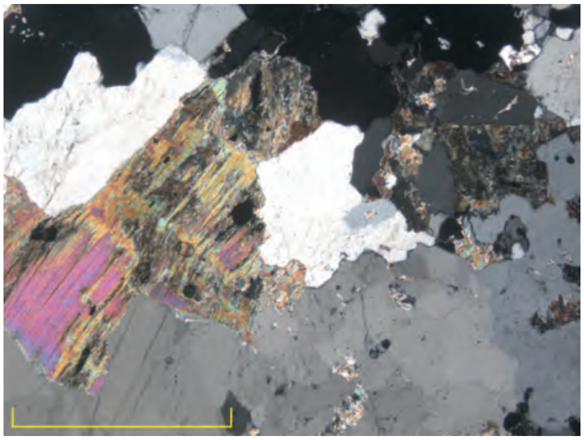
X.P: vein of fluorite in the centre, with tourmaline either side

Plane polarized light: zoning in tourmaline crystals

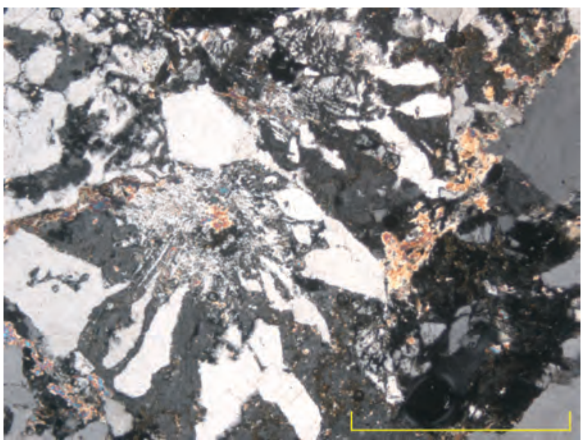


Cassiterite vein

ST6



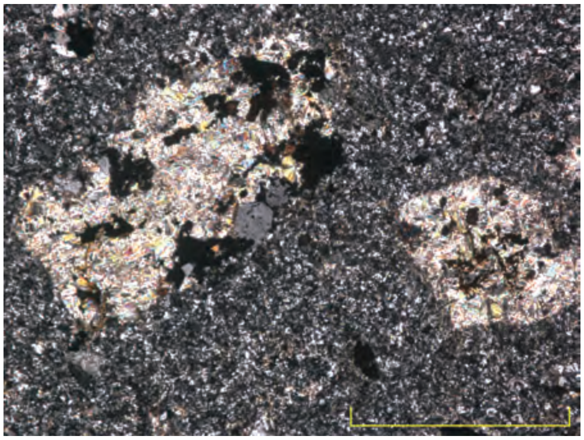
A greisen: some granophyre is distinguishable (containing biotite), as well as regions of K-feldspar and quartz. Much of the section contains coarse quartz, white mica and about 10% topaz. The mica is very ‘ragged’ in outline, often in 2mm slightly yellow grains and it is somewhat altered to chlorite. Four crystals (0.35mm) of cerite were noted.



Granophyric texture

Cerite crystal

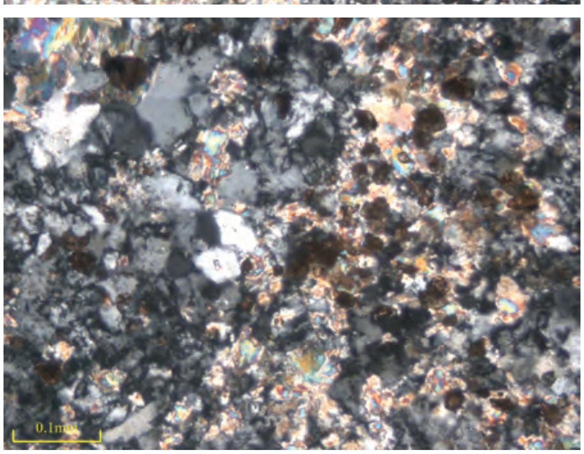
ST7



This rock was likely a volcanic. In hand specimen it is cream coloured, aphanitic, with a faint foliation. In thin section it appears as an aggregate of 0.05 - 0.1mm quartz grains with, presumably, feldspar. About 5% is white mica (0.1mm) distributed throughout. Some coarse quartz grains, 1mm long, with some containing white mica are reminiscent of phenocrysts. One in particular, 2mm long, contains tourmaline, cassiterite and a little fluorite: perhaps it is a replaced feldspar. The texture indicates that the rock might be an altered, originally glassy rhyolite tuff. Most importantly, cassiterite is disseminated throughout. One 0.8mm thick layer contains about 2%.

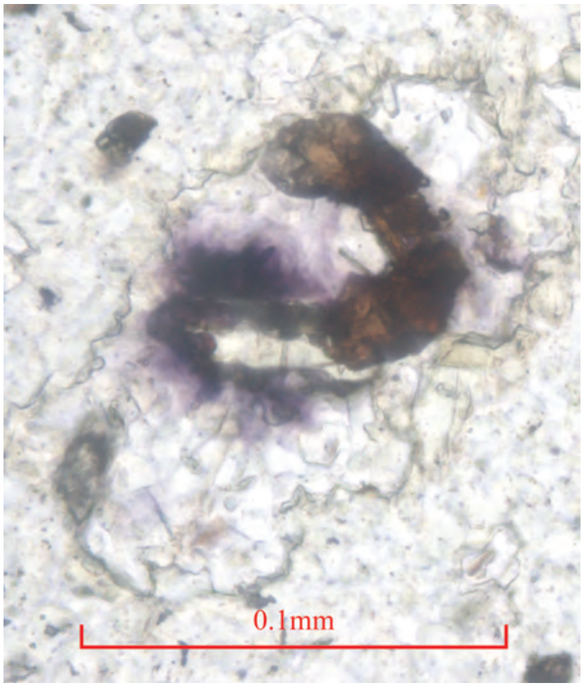
P.P: quartz-tourmaline-cassiterite vein

XP: (?) Cerite with white mica and fluorite



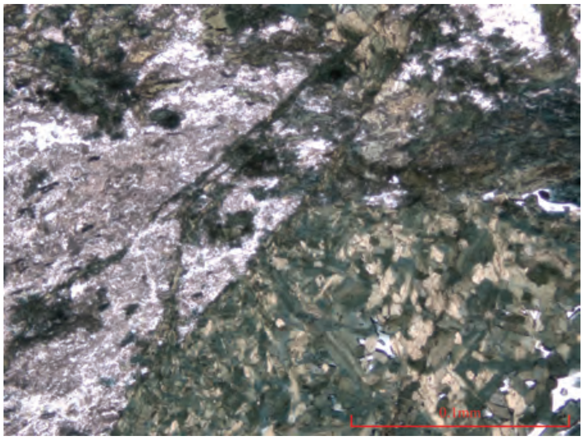
XP: cassiterite (brown) with white mica

ST7 (continued)

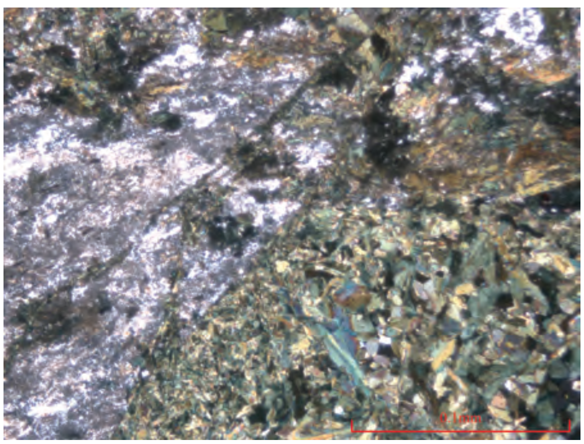


Geniculate twinning in cassiterite with purple fluorite

ST8

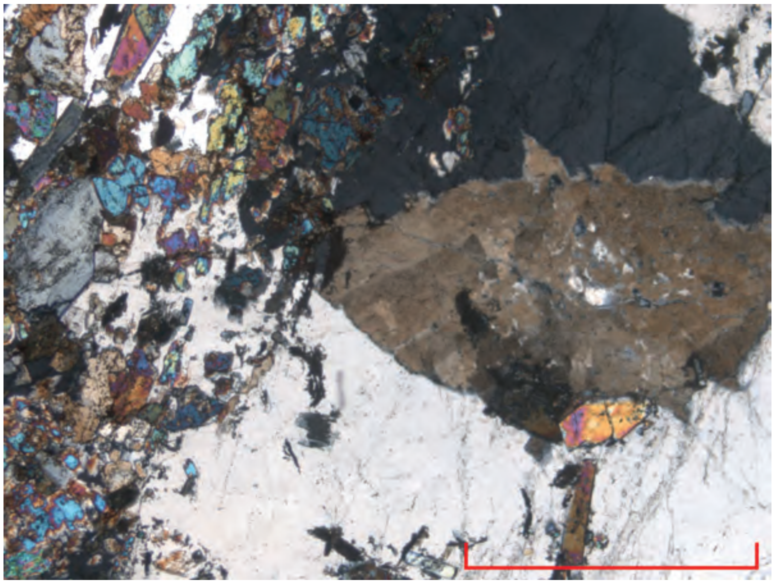


This rock consists of aphanitic first-order grey or yellow birefringent minerals with no discernable crystal shape: presumably quartz and feldspar. A foliation is marked by trails of opaques (elongate, 0.2mm long), presumably magnetite. The rock is heavily relpaced by deep green actinolite - in parts to 40%. One 5mm thick layer contains amphibole in subhedral crystals to 1mm long, without preferred orientation.



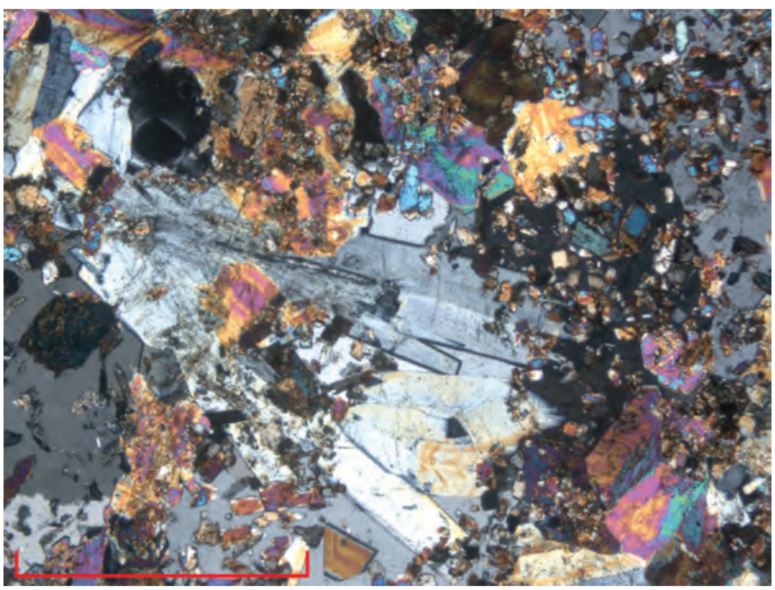
Detail of actinolite

8K1



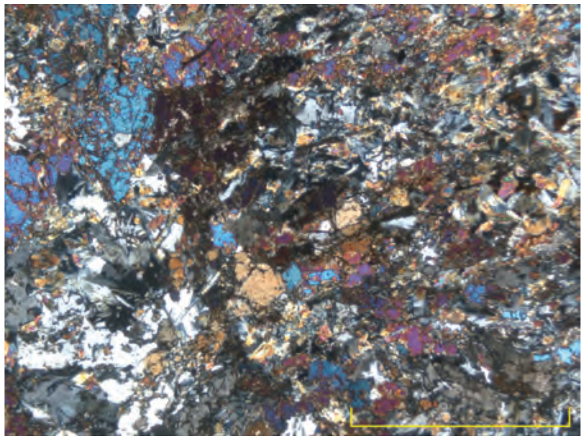
An epidote-quartz skarn with rare carbonate. The epidote crystals are often subhedral and up to 2mm long. The finer-grained crystals of this rock preserve a stron foliation. Some irregular-shaped fields of quartz include the coarser, euhedral crystals.

Quartz field.

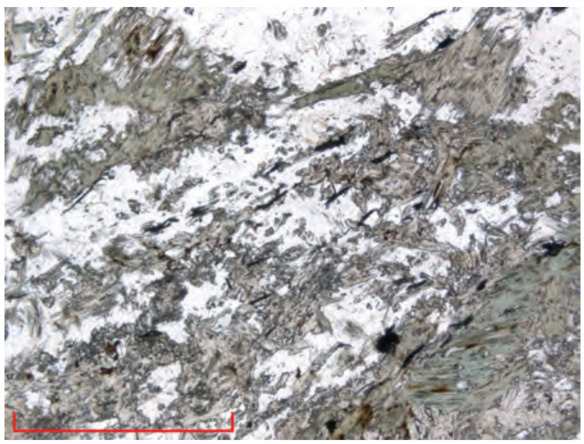


Epidote crystals.

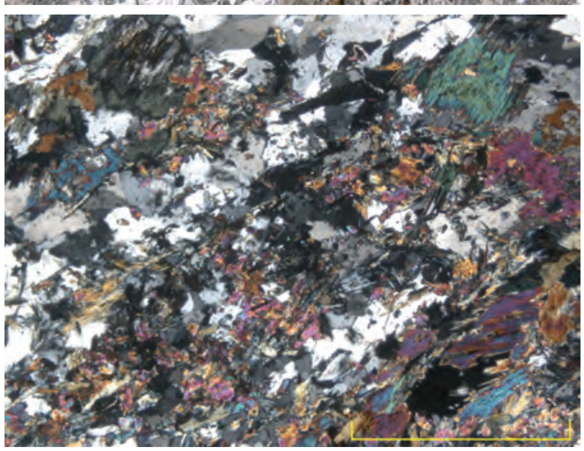
8K2



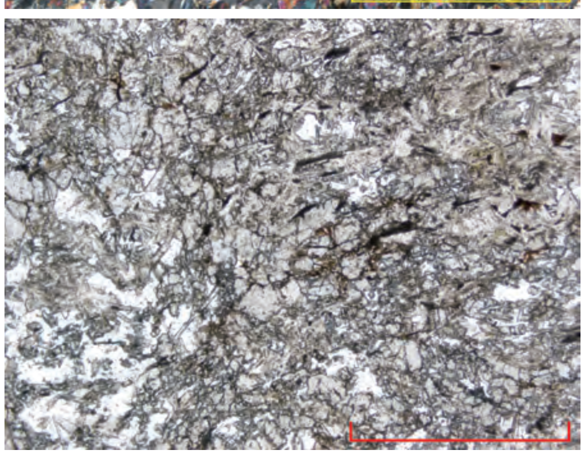
This is a diopside-epidote-quartz skarn with zones of tremolite-actinolite. The diopside is fine-grained (0.4mm) and anhedral, often with a little interstitial quartz. The amphibole (pleichroic from pale green to colourless) is also anhedral and in 1mm ‘ragged’ crystals. Occasional 0.1 - 0.2mm pyrite grains (now oxidized) are found predominantly with the amphibole (< 1%).



Same field as above in pp light. The amphibole is distinctly green, the pyroxene very faintly green.

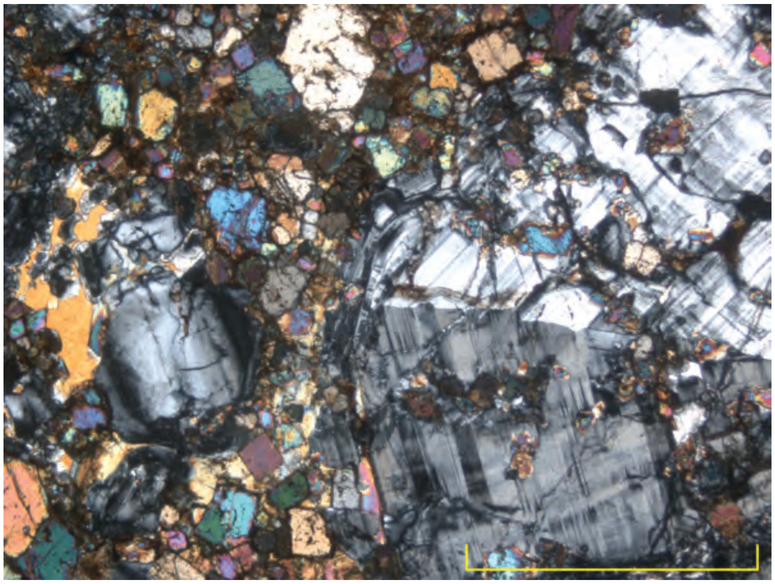


Anhedral ampibole.



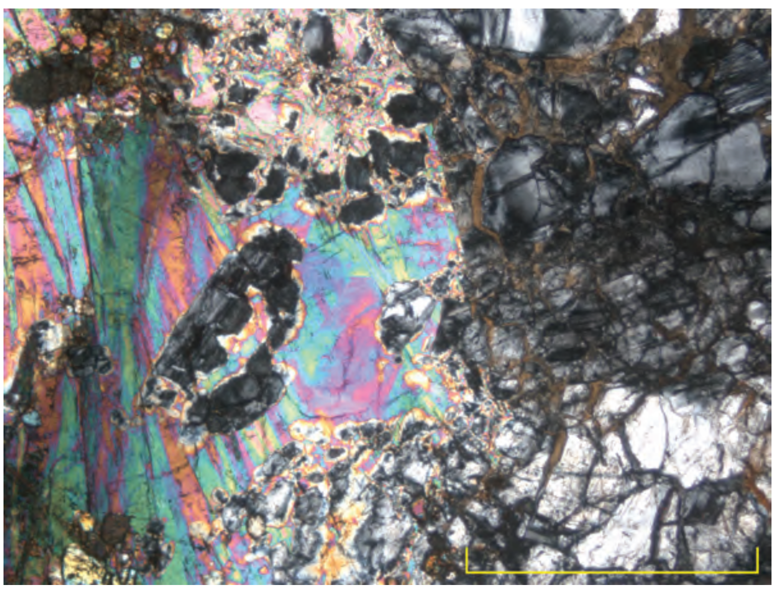
Same field as above in pp light.

8K3



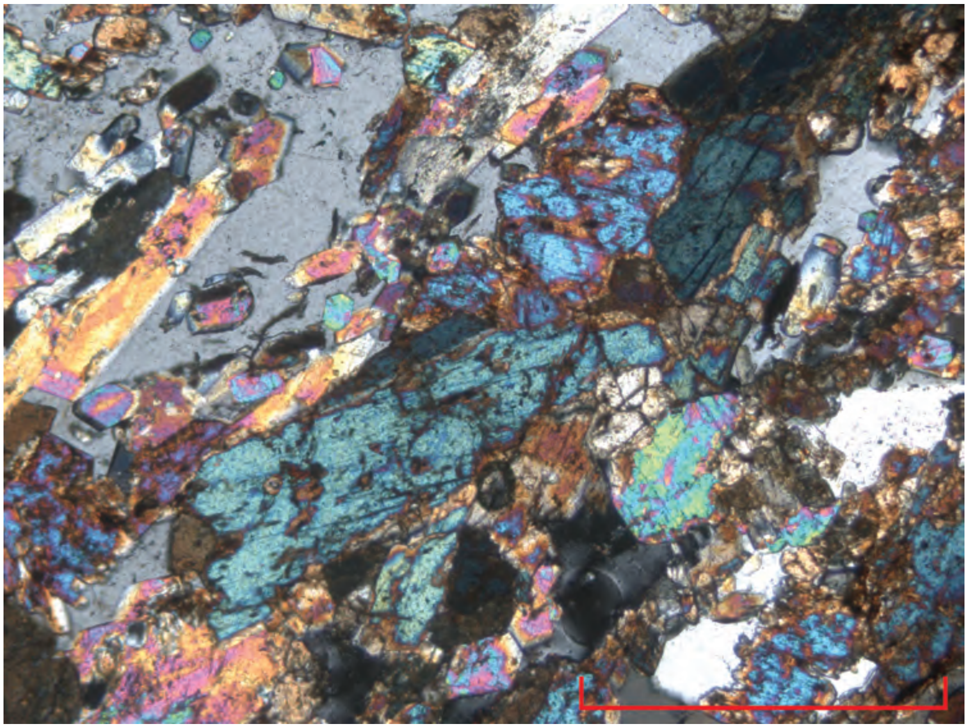
This skarn has garnet-dioside/hedenbergite-quartz mineralogy. The grossular-andradite garnet is pink, anisotropic, zoned and sector-twinned. It is extensively fractured with some chlorite alteration along the fractures. The garnet includes small (0.5mm) anhedral pyroxenes. Epidote forms anhedral masses to 4mm across. No sulphides were noted.

Garnet and pyroxene.



Epidote, garnet and carbonate.

8K4



This is an epidote-diopside-quartz skarn. The rock is foliated: this is defined by prismatic epidote crystals that are < 0.5mm long. Most are euhedral. Irregular masses of quartz form a matrix. Some 0.7 - 1.0mm anhedral diopside-hedenbergite crystals are present.

DISCUSSION and RECOMMENDATIONS

TBMB

The results of the rock sampling at trench “C” indicate significant Zn-Pb-Ag values. The horizon has not been traced uphill in the historical trenching: there is possibly a fault displacement. Close-spaced soil samples should be taken to attempt to find strike extension.
Soil geochemical anomalies presumably within the volcanic unit are enigmatic. A regular-spaced sampling programme might trace mineralization (but care is needed in selecting soil locations as there is possibly some solufluction and glacial material). Consideration of the trace of the postulated fault down Munson Creek is necessary. Although the work of D’El-Rey Silva et al. 2000 gave a large-scale picture of structure a complete re-mapping of the property in detail would be beneficial. Detailed mapping of the trend of the marble (and skarn) unit to the south including the “8K” area will also be useful. The 8K skarn has considerable width but does not appear to be mineralized. However, this marble and skarn unit has not been thoroughly sampled or analyzed, and the trend where covered should be evaluated with soil geochemistry.

STQ

The STQ property offers prospective ground for stockwork tin, tungsten and molybdenum mineralization. To the east of the cirque, much of the ground is felsenmeer, but lithogeochemistry is still possible on the gentler slopes. Much more prospecting and mapping is needed. The fine-grained, presumably acid tuff, is of interest due to its cassiterite content. Mapping of alteration veins may be difficult as in hand specimen some black veins are tourmaline, others are actinolite (c.f. ST8). Both vein stockwork and greisen tin mineralization have been identified. Wolframite mineralization in stockworks may be present. Possibilities for gold in the stockworks and skarns has not been thoroughly investigated, but analysis of six arsenopyrite-rich veins in 1978 returned between 20 and 180 ppb Au. Obviously the larger region and other granite apophyses need to be prospected. Much of the ground on the high ridge and its NE slope is felsenmeer. Sampling for lithogeochemistry may prove to be difficult.
It will be important to select an analytical package suited for complete measurement of W, Sn and Ta. Usually XRF technique is preferable.

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Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 115-125.

Roots, C., Nelson, J., and Stevens, R., 2004. Bedrock Geology, Seagull Creek, Yukon

Territory; Geological Survey of Canada, Open File 4632; Yukon Geological Survey, Open File

2004-1, scale 1:50,000.

ACME LABS

9050 Shaughnessy St. Vancouver BC V6P 6E5
T: 604-253-3158 F: 778-329-9729 ***WWW.Acmelab.Com***

TRANSACTION RECORD

TRANSACTION APPROVED - THANK YOU

Payment Details

Transaction Type: PURCHASE

Transaction Amount: $454.65 (CAD)

Order ID: VANI338078
Card Num: **** **** **** 2069
Card Type: VISA
Resp Code - ISO Code: 027 - 01
Auth Code: 02798I
Reference Num: 661383650017490040 M
Date/Time: Aug 13 2019 02:44PM

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SIGNATURE
Cardholder will pay card issuer above amount pursuant to Cardholder Agreement

Item Details

Description	Product Code	Quantity	Price
		Total CAD:	$454.65

Customer Details

Customer ID: 363797

Address Details

Billing

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

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

Submitted By: Bill Mann
Receiving Lab: Canada-Whitehorse
Received: July 22, 2019
Report Date: August 13, 2019

CERTIFICATE OF ANALYSIS WHI19000242.1

CLIENT JOB INFORMATION

Project: TBMB
Shipment ID:
P.O. Number
Number of Samples: 8

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
RTRN-RJT Return After 60 days

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	8	Crush, split and pulverize 250 g rock to 200 mesh			WHI
FA430	8	Lead Collection Fire Assay Fusion - AAS Finish	30	Completed	VAN
EN002	8	Environmental disposal charge-Fire assay lead waste			VAN
MA370	8	4-Acid Digestion ICP-ES Finish	0.5	Completed	VAN
EN001-MA	8	Environmental disposal fee - Multi-acid neutralization			VAN
SLBHP	0	Sort, label and box pulps			WHI
SHP01	8	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

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

CC:

SOFIA DEVOTA
XRF Manager

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

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

Project: TBMB
Report Date: August 13, 2019

CERTIFICATE OF ANALYSIS WHI19000242.1

Method		WGHT	FA430	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg
Unit		kg	ppm	%	%	%	%	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
MDL		0.01	0.005	0.001	0.001	0.02	0.01	2	0.001	0.001	0.01	0.01	0.02	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01
71531	Rock	2.34	0.024	<0.001	0.041	3.33	9.62	48	0.006	0.002	0.83	22.10	<0.02	<0.01	0.051	<0.01	<0.01	1.14	0.10	0.007	1.18
71532	Rock	2.18	0.022	<0.001	0.131	3.01	2.35	48	0.004	0.001	0.56	31.03	<0.02	<0.01	0.008	<0.01	<0.01	0.62	0.17	0.004	0.73
71533	Rock	1.88	0.007	0.001	0.063	1.51	3.05	52	0.008	0.002	1.26	22.31	<0.02	<0.01	0.015	<0.01	<0.01	0.62	0.18	0.009	1.55
71534	Rock	2.61	0.006	<0.001	0.065	0.83	4.31	31	0.012	0.003	1.30	19.81	<0.02	0.01	0.023	<0.01	<0.01	1.23	0.46	0.010	1.52
71535	Rock	2.12	0.005	<0.001	0.009	0.06	0.54	3	0.010	0.002	0.35	8.30	<0.02	<0.01	0.002	<0.01	<0.01	0.63	0.25	0.011	1.09
71536	Rock	2.17	<0.005	<0.001	0.109	1.02	2.62	26	0.011	0.002	1.53	20.07	<0.02	<0.01	0.013	<0.01	<0.01	0.80	0.25	0.011	1.20
71537	Rock	2.07	0.006	<0.001	0.077	0.53	1.58	12	0.014	0.002	0.50	12.15	<0.02	<0.01	0.008	<0.01	<0.01	1.01	0.41	0.015	0.82
71538	Rock	2.29	0.008	0.002	0.007	0.17	0.59	4	0.021	0.002	0.31	9.66	<0.02	<0.01	0.003	<0.01	<0.01	1.04	0.40	0.015	1.03

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

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

Project: TBMB
Report Date: August 13, 2019

CERTIFICATE OF ANALYSIS WHI19000242.1

	Method	MA370	MA370	MA370	MA370	MA370
	Analyte	Al	Na	K	W	S
	Unit	%	%	%	%	%
	MDL	0.01	0.01	0.01	0.01	0.05
71531	Rock	5.56	0.02	0.29	<0.01	7.58
71532	Rock	5.62	0.01	0.02	<0.01	8.17
71533	Rock	8.70	<0.01	0.02	<0.01	1.59
71534	Rock	8.83	0.01	0.03	<0.01	1.95
71535	Rock	7.14	0.01	1.42	<0.01	0.06
71536	Rock	8.51	<0.01	0.23	<0.01	1.13
71537	Rock	8.03	0.01	1.11	<0.01	0.92
71538	Rock	7.39	0.01	0.99	<0.01	<0.05

Client: **Bill Mann**
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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Project: TBMB
Report Date: August 13, 2019

QUALITY CONTROL REPORT WHI19000242.1

	Method	WGHT	FA430	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370	MA370
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg
	Unit	kg	ppm	%	%	%	%	ppm	%	%	%	%	%	%	%	%	%	%	%	%	%
	MDL	0.01	0.005	0.001	0.001	0.02	0.01	2	0.001	0.001	0.01	0.01	0.02	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01
Pulp Duplicates																					
REP 71533	QC		0.005																		
Core Reject Duplicates																					
71533	Rock	1.88	0.007	0.001	0.063	1.51	3.05	52	0.008	0.002	1.26	22.31	<0.02	<0.01	0.015	<0.01	<0.01	0.62	0.18	0.009	1.55
DUP 71533	QC		0.007	0.002	0.057	1.41	2.82	49	0.009	0.002	1.26	21.94	<0.02	<0.01	0.014	<0.01	<0.01	0.62	0.18	0.008	1.53
Reference Materials																					
STD CDN-ME-14	Standard			0.002	1.227	0.53	3.20	44	0.002	0.019	0.09	17.96	<0.02	<0.01	0.010	<0.01	0.01	0.79	0.02	0.001	1.27
STD CDN-ME-9	Standard			<0.001	0.669	<0.02	0.01	4	0.931	0.019	0.13	14.16	<0.02	0.03	<0.001	<0.01	<0.01	4.39	0.07	0.030	3.99
STD OXC145	Standard		0.208																		
STD OXH139	Standard		1.275																		
STD OXN134	Standard		7.411																		
STD CDN-ME-14 Expected					1.221	0.495	3.17	43.5	0.002	0.0172	0.0883	18.04	0.0088		0.0088		0.0094	0.747	0.0147	0.0014	1.28
STD CDN-ME-9 Expected					0.654		0.012		0.93	0.0169	0.121	13.84		0.03				4.21	0.06	0.0284	4.05
STD OXC145 Expected			0.212																		
STD OXH139 Expected			1.312																		
STD OXN134 Expected			7.667																		
BLK	Blank			<0.001	<0.001	<0.02	<0.01	<2	<0.001	<0.001	<0.01	<0.01	<0.02	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01	<0.001	<0.01
BLK	Blank		0.006																		
BLK	Blank		0.006																		
Prep Wash																					
ROCK-WHI	Prep Blank		0.008	<0.001	<0.001	<0.02	<0.01	<2	<0.001	<0.001	0.07	2.31	<0.02	0.02	<0.001	<0.01	<0.01	1.73	0.04	<0.001	0.52

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

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

Project: TBMB

Report Date: August 13, 2019

QUALITY CONTROL REPORT WHI19000242.1

	Method	MA370	MA370	MA370	MA370	MA370
	Analyte	Al	Na	K	W	S
	Unit	%	%	%	%	%
	MDL	0.01	0.01	0.01	0.01	0.05
Pulp Duplicates						
REP 71533	QC					
Core Reject Duplicates						
71533	Rock	8.70	<0.01	0.02	<0.01	1.59
DUP 71533	QC	8.74	<0.01	0.02	<0.01	1.43
Reference Materials						
STD CDN-ME-14	Standard	4.50	0.54	1.66	<0.01	16.03
STD CDN-ME-9	Standard	6.91	1.87	0.64	<0.01	2.76
STD OXC145	Standard					
STD OXH139	Standard					
STD OXN134	Standard					
STD CDN-ME-14 Expected		4.47	0.53	1.7		16.14
STD CDN-ME-9 Expected		6.74	1.86	0.616		2.58
STD OXC145 Expected						
STD OXH139 Expected						
STD OXN134 Expected						
BLK	Blank	<0.01	<0.01	<0.01	<0.01	<0.05
BLK	Blank					
BLK	Blank					
Prep Wash						
ROCK-WHI	Prep Blank	7.66	3.60	1.68	<0.01	<0.05

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

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

Submitted By: Bill Mann
Receiving Lab: Canada-Whitehorse
Received: July 22, 2019
Report Date: August 13, 2019

CERTIFICATE OF ANALYSIS   WHI19000241.1

CLIENT JOB INFORMATION

Project: TBMB
Shipment ID:
P.O. Number
Number of Samples: 20

SAMPLE DISPOSAL

DISP-PLP   Dispose of Pulp After 90 days
STOR-RJT-SOIL   Store Soil Reject - RJSV Charges Apply

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	20	Dry at 60C			WHI
SS80	20	Dry at 60C sieve 100g to -80 mesh			WHI
AQ201	20	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SVRJT	20	Save all or part of Soil Reject			WHI
SHP01	20	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

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

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Production Manager

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

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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

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

Project: TBMB
Report Date: August 13, 2019

CERTIFICATE OF ANALYSIS WHI19000241.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
71510	Soil	2.3	34.6	40.9	408	0.2	32.0	10.3	377	2.68	42.6	9.3	6.0	20	0.6	0.6	2.4	56	0.32	0.068	16
71511	Soil	1.7	34.5	41.2	496	0.2	39.9	15.0	538	3.00	47.6	2.3	5.2	21	0.8	0.6	4.9	71	0.52	0.090	14
71512	Soil	1.8	42.3	40.2	451	0.7	33.6	11.6	506	2.75	49.6	4.6	5.3	19	0.8	0.6	3.7	58	0.29	0.080	15
71513	Soil	1.9	72.2	74.9	666	0.4	51.8	17.2	863	3.13	61.1	6.3	7.3	20	1.2	1.1	3.3	81	0.26	0.024	18
71514	Soil	2.0	68.3	215.4	1284	0.8	46.4	16.3	905	3.45	64.2	8.0	5.4	14	2.5	0.9	4.6	81	0.25	0.068	17
71515	Soil	3.3	82.2	43.9	501	0.3	50.8	16.1	497	3.68	103.6	7.0	5.5	16	0.9	0.9	5.1	94	0.22	0.056	20
71516	Soil	4.7	146.0	42.1	551	0.6	59.2	12.2	450	3.66	149.4	10.7	5.3	16	0.8	1.2	5.4	90	0.26	0.050	20
71517	Soil	3.2	89.9	84.1	661	0.6	53.3	16.1	596	4.44	101.3	4.7	3.2	46	1.4	1.5	3.8	100	0.43	0.092	20
71518	Soil	3.3	114.8	57.0	598	0.9	56.3	20.5	611	4.04	89.3	5.3	5.1	54	1.4	1.6	3.2	95	0.39	0.082	18
71519	Soil	6.3	98.0	80.5	588	1.2	59.5	16.2	517	4.10	121.3	7.7	3.2	58	0.9	1.4	5.2	100	0.65	0.088	25
71520	Soil	2.6	146.6	58.3	448	0.5	59.2	18.7	807	3.77	261.3	12.7	7.8	29	0.8	1.2	6.6	81	0.36	0.046	23
71521	Soil	3.0	148.0	143.6	709	0.5	50.5	19.3	777	4.52	391.1	23.5	5.6	15	0.7	1.6	21.9	92	0.25	0.032	18
71522	Soil	4.3	59.9	50.6	283	<0.1	33.1	19.3	973	3.41	255.8	11.5	4.3	7	0.5	1.3	9.4	89	0.11	0.055	11
71523	Soil	2.7	218.1	52.5	414	0.6	55.4	18.1	501	3.59	220.6	15.4	7.4	17	0.7	1.0	9.4	71	0.20	0.050	16
71524	Soil	3.4	246.9	63.4	434	0.6	57.7	20.5	891	3.67	298.3	13.3	7.8	18	1.0	1.3	7.9	77	0.18	0.033	17
71525	Soil	5.9	258.9	159.1	511	1.9	39.0	11.6	726	5.92	317.0	54.8	7.6	29	1.0	1.9	27.8	76	0.27	0.100	12
71526	Soil	4.6	80.2	46.9	195	0.4	26.0	10.6	611	3.78	94.7	9.8	2.8	13	0.4	0.9	6.1	69	0.08	0.065	12
71527	Soil	9.5	616.0	72.3	365	1.5	39.1	8.0	413	5.07	878.7	43.5	4.7	13	0.8	2.7	31.2	87	0.14	0.083	20
71528	Soil	3.1	41.5	36.3	120	0.3	17.6	5.7	396	4.08	83.7	6.8	1.4	8	0.3	0.7	3.5	70	0.06	0.075	8
71529	Soil	1.9	89.5	117.6	404	0.2	26.3	13.8	755	2.63	105.4	7.3	4.0	14	2.5	1.1	4.5	37	0.15	0.054	10

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PHONE (604) 253-3158

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

Project: TBMB
Report Date: August 13, 2019

CERTIFICATE OF ANALYSIS WHI19000241.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	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
	MDL	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
71510	Soil	42	0.65	88	0.074	<1	3.31	0.012	0.11	3.1	0.02	3.7	0.3	<0.05	7	0.9	<0.2
71511	Soil	45	0.61	98	0.070	<1	2.60	0.010	0.11	1.9	0.03	3.9	0.2	<0.05	8	0.7	0.2
71512	Soil	42	0.63	93	0.068	<1	3.81	0.012	0.11	2.9	0.05	3.9	0.3	<0.05	8	1.0	<0.2
71513	Soil	55	0.76	125	0.089	<1	2.44	0.014	0.12	2.9	0.01	5.4	0.4	<0.05	8	0.7	<0.2
71514	Soil	55	0.86	109	0.087	2	3.24	0.009	0.12	4.0	0.02	5.2	0.5	<0.05	8	0.8	<0.2
71515	Soil	66	1.02	152	0.115	1	3.37	0.012	0.18	7.8	0.01	6.0	0.7	<0.05	10	0.9	<0.2
71516	Soil	60	0.92	108	0.107	1	2.64	0.010	0.13	12.8	0.02	5.8	0.5	<0.05	9	0.9	<0.2
71517	Soil	69	1.03	179	0.081	<1	2.97	0.020	0.25	5.4	0.02	4.3	0.7	0.05	10	1.0	<0.2
71518	Soil	65	0.94	187	0.090	<1	2.85	0.021	0.34	3.6	0.01	5.0	0.8	<0.05	9	1.2	<0.2
71519	Soil	70	0.98	172	0.068	1	3.85	0.029	0.27	7.4	0.02	4.4	0.9	0.05	12	1.4	<0.2
71520	Soil	58	0.93	108	0.105	2	2.83	0.014	0.26	24.3	<0.01	5.5	0.8	<0.05	9	0.8	0.2
71521	Soil	58	1.20	115	0.096	1	2.52	0.008	0.29	43.0	<0.01	5.8	1.1	<0.05	10	1.1	0.5
71522	Soil	50	0.90	106	0.108	<1	2.08	0.005	0.23	12.1	<0.01	4.6	0.8	<0.05	9	<0.5	0.2
71523	Soil	48	0.85	119	0.096	<1	2.60	0.009	0.21	22.0	0.01	4.8	0.8	<0.05	8	0.8	0.3
71524	Soil	49	0.87	105	0.101	1	2.46	0.007	0.20	24.4	0.01	6.0	0.7	<0.05	9	0.8	0.2
71525	Soil	44	1.15	192	0.092	3	2.42	0.012	0.41	44.9	<0.01	7.0	1.4	0.13	10	2.0	0.6
71526	Soil	42	0.63	109	0.073	<1	1.88	0.006	0.26	4.3	0.02	3.4	0.6	<0.05	8	0.7	<0.2
71527	Soil	60	0.97	176	0.085	<1	2.56	0.008	0.42	7.2	0.02	6.6	2.3	0.07	11	2.5	0.6
71528	Soil	46	0.36	77	0.064	<1	1.68	0.003	0.14	2.2	0.05	2.3	0.4	<0.05	8	0.5	<0.2
71529	Soil	20	0.46	71	0.034	<1	1.61	0.003	0.19	2.6	<0.01	3.3	0.5	<0.05	4	<0.5	<0.2

BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Bill Mann**
19 Hayes Cres.
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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

Project: TBMB

Report Date: August 13, 2019

QUALITY CONTROL REPORT WHI19000241.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
71527	Soil	9.5	616.0	72.3	365	1.5	39.1	8.0	413	5.07	878.7	43.5	4.7	13	0.8	2.7	31.2	87	0.14	0.083	20
REP 71527	QC	8.7	624.3	70.9	367	1.5	37.3	8.2	450	5.22	863.0	40.2	4.6	14	0.7	2.6	29.9	83	0.14	0.075	19
Reference Materials																					
STD DS11	Standard	14.1	149.4	140.8	349	1.7	84.0	14.0	1032	3.19	43.0	68.3	7.5	60	2.2	8.9	11.2	51	1.08	0.074	17
STD OREAS262	Standard	0.9	119.7	57.2	153	0.5	65.0	28.8	518	3.54	35.9	74.0	9.4	34	0.7	6.1	1.0	20	3.08	0.042	14
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701	18.6
STD OREAS262 Expected		0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	65	9.33	36	0.61	5.06	1.03	22.5	2.98	0.04	15.9
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	3	<0.01	<0.001	<1

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QUALITY CONTROL REPORT WHI19000241.1

Method		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte		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
MDL		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
Pulp Duplicates																	
71527	Soil	60	0.97	176	0.085	<1	2.56	0.008	0.42	7.2	0.02	6.6	2.3	0.07	11	2.5	0.6
REP 71527	QC	62	1.02	174	0.082	1	2.54	0.009	0.43	7.2	0.02	5.7	2.3	0.07	11	2.2	0.6
Reference Materials																	
STD DS11	Standard	61	0.88	334	0.086	7	1.11	0.058	0.37	3.2	0.25	2.8	4.9	0.28	5	2.2	4.5
STD OREAS262	Standard	46	1.16	247	0.003	4	1.19	0.065	0.27	0.3	0.15	3.0	0.5	0.29	4	<0.5	0.2
STD DS11 Expected		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		41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	3.73	0.4	0.23
BLK	Blank	<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

STATEMENT OF QUALIFICATIONS

Timothy Liverton

Academic qualifications:

BSc degree in geology & geophysics, University of Sydney:

Conferred 1965

BSc (Hons) degree in economic geology, University of Adelaide:

Conferred 1968

PhD degree in mineralogy, petrology & metallogeny

Royal Holloway, University of London, 1992

Professional experience:

I have worked in engineering geology, mineral exploration, mining and academia since 1964. This includes two years as a visiting professor in economic geology at the University of Brasília. Exploration projects have included hard-rock and placer tin, porphyry copper and tungsten, base metals, skarn tungsten, lode gold, manganese, pegmatites and beach placers in Australia, Canada, U.S.A., Norway, Portugal, Brazil and Egypt.

I am a Fellow of the Geological Society of London and have membership in the Geological Society of America, the Society of Economic Geologists and the Geological Association of Canada.

Timothy Liverton

COST STATEMENT: TBMB

T. Liverton, 2 days fieldwork	@ $500-	$	1000.00
W.D. Mann, 1day fieldwork	@ $500-	$	500.00
Petrography, 2 days	@ $500-	$	1000.00
Report preparation, 4 days	@ $500-	$	2000.00
Thin section preparation (Vanpetro)		$	212.63
Assays & geochemical analyses (for TBMB 1, 3, 7 & 8 claims)		$	454.65
Field costs: 3 man-days	@ $100-	$	300.00
Travel, 644 km	@ $ 0.62	$	399.28
TOTAL		**$**	**5866.56**

COST STATEMENT: STQ

T. Liverton, petrography 3 days	@ $500-	$	1500.00
Report preparation, 1 day	@ $500-	$	500.00
Thin section preparation		$	283.50
TOTAL		**$**	**2283.50**