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Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

BC Geological Survey
Assessment Report
37752

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: GEOPHYSICAL and GEOLOGICAL

TOTAL COST: $33,131

AUTHOR(S): Jack Milton, Ph.D., Derek Turner, Ph.D., P. Geo.

SIGNATURE(S): J. MILTON, D. TURNER

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): not required for high altitude airborne LiDAR survey

YEAR OF WORK: 2018

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5709513 29th August 2018, 5712196 17th September 2018, 5714490 3rd October 2018

PROPERTY NAME: Thor-Marmot

CLAIM NAME(S) (on which the work was done): CN1, CN10, CN2, CN9, CN9, DYKE1, EAST THOR 1, THOR: 1-10.
THOR MARMOT 11; 11; 12; 13; 14; 17; 18; 19; 1B; 1F; 1H; 1J; 1K; 1M; 20. TM 16.

COMMODITIES SOUGHT: Cu, Au, Mo

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 094D 131, 094D 126, 094D 127, 094D 064, 094D 129

MINING DIVISION: Omineca

NTS/BCGS: 094D

LATITUDE: 56 ° 49 ' " **LONGITUDE:** 126 ° 38 ' " **(at centre of work)**

OWNER(S):
1) Electrum Resource Corporation
2)

MAILING ADDRESS:
Electrum Resource Corporation
#912 - 510 West Hastings Street,Vancouver, BC V6B 1L8

OPERATOR(S) [who paid for the work]:
1) Electrum Resource Corporation
2)

MAILING ADDRESS:
Electrum Resource Corporation
#912 - 510 West Hastings Street,Vancouver, BC V6B 1L8

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Triassic Jurassic Porphyry Cu-Au-Mo Takla Group Potassic Propylititc Epithermal

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 29938, 28263, 25620, 25047, 24181, 31339
35276, 35952, 36698

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation	1:20,000	all	6000
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne	LiDAR	all	27131
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	33131

2018 SURFICIAL MAPPING TECHNICAL ASSESSMENT REPORT ON THE THOR-MARMOT PROPERTY

Submitted November 2018

Omineca Mining Division British Columbia

NTS 94D/11E

56° 49' N/126° 38' W

Tenure numbers:

517626, 518727, 518729, 518730, 518731, 518733, 518734, 518736, 518737, 518739, 601033, 953671, 953677, 1016144, 1016425, 1025283, 1025558, 1025812, 1026079, 1026197, 1026427, 1026576, 1026594, 1026697, 1029288, 1034271, 1034272, 1038442, 1042212, 1045175, 1046177, 1046974, 1060966, 1061453, 1062550, 1062551.

Owner of claims: Electrum Resource Corp.

Operator of claims: Electrum Resource Corp.

Prepared by:

Jack Milton, Ph.D. and Derek Turner, Ph.D. P. Geo.

Squamish, BC / Vancouver, BC

October-November 2018

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1. INTRODUCTION AND TERMS OF REFERENCE

The Thor-Marmot or Thor mineral property is located in the Omineca Mining Division of north-central British Columbia (Latitude 56° 49' N, Longitude 126° 38' W; NTS map sheets 94D/11E) (Figure 1). It includes much of Moose Valley, the western slopes of the McConnell Range, and extends northwards for approximately 7 km from the headwaters of Menard Creek to just north of Thorne Lake.

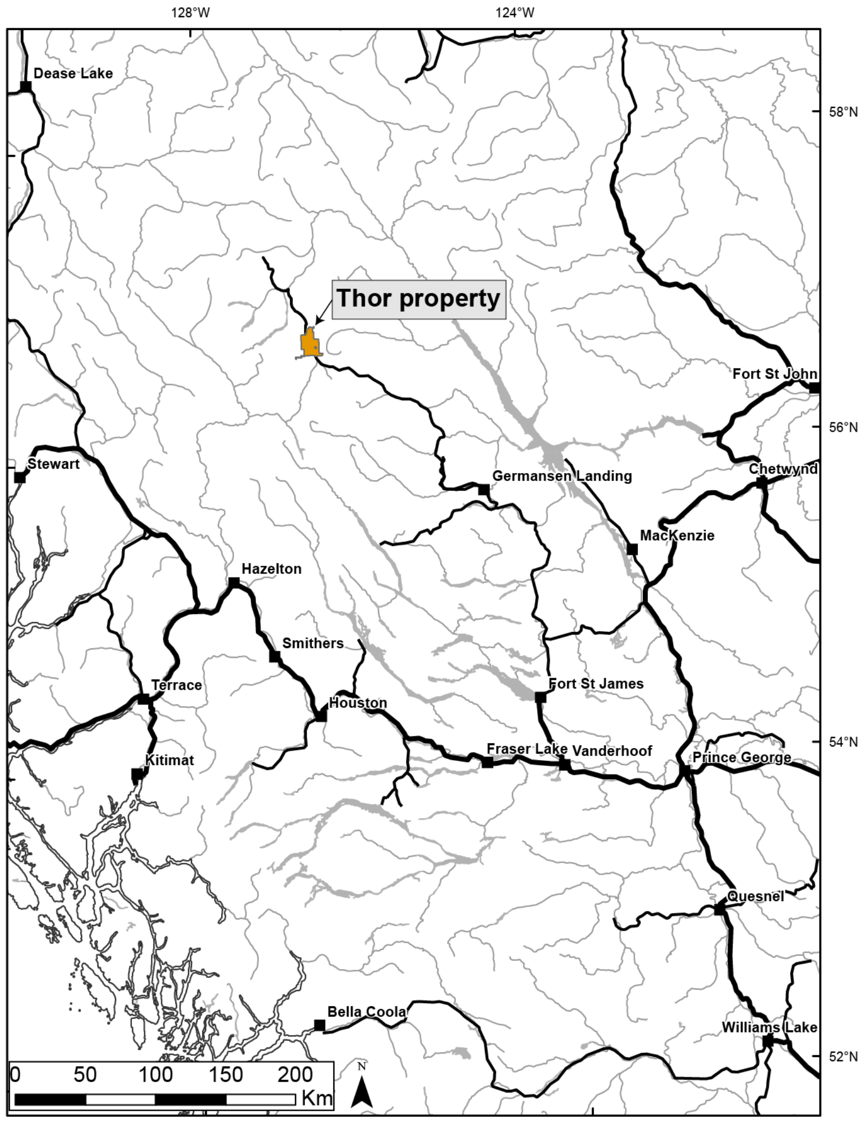

Figure 1 Location of the Thor-Marmot property.

This report quotes from historical assessment reports of the area, as noted in the References section.

The Thor property comprises a series of porphyry copper-gold and gold occurrences and targets. This report details the work of an airborne LiDAR topographic survey and subsequent desktop surficial geological mapping, interpretation and recommendations for geochemical sampling.

2. PROPERTY DESCRIPTION AND LOCATION

The property is located on NTS map sheet 94D/10 and 094/D15 in the Omineca Mining Division, approximately 20 km south of the past-producing Kemess Mine in north-central B.C. The geographic coordinates of the approximate property center are 56° 49' N latitude 126° 38' W longitude or 643,000 mE – 6,296,000 mN NAD83-UTMZ9N (Figures 2 and 3). The property is located to the immediate east and south of Thorne Lake. The western side of the property is within Moose Valley and the eastern side comprises mountains of the McConnell Range.

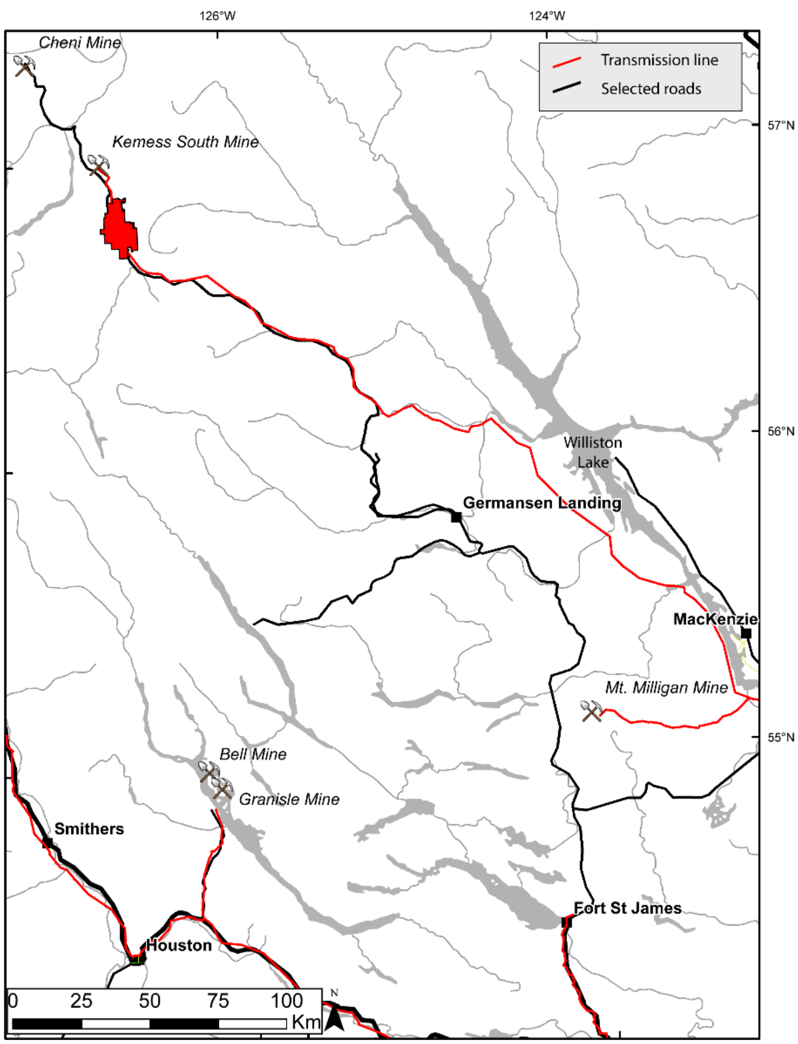

Figure 2 Location of Electrum Resource Corporation's Thor-Marmot property (red polygon) and close proximity to the Kemess South mine that went on care and maintenance in 2011 after exhausting ore in the open pit.

3. ACCESSIBILITY AND INFRASTRUCTURE

Access to the property is via highway 97, north from Prince George to the Mackenzie turn-off, then approximately 30 km north to Mackenzie and then by the Omineca Resource Access Road for approximately 350 kilometres. An alternate route from near Fort St James and thru Germansen Landing up to the claim group also exists; however, road conditions here are not as good. The Omineca Resource Access Road passes through the entire length of the property, providing excellent access to the targets in Moose Valley.

4. MINERAL TENURE INFORMATION

The Thor property consists of thirty-six (36) mineral claims totaling 11053.9 ha (Figure 3 and Table 1).

Tenure Number	Area (ha)	Percent owned	Owner Name	Client Number	Claim Name
953671	70.7752	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 1H
1045175	53.0358	100	ELECTRUM RESOURCE CORPORATION	107591	
1026576	70.8835	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 1F
1026594	35.4319	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 1M
1026427	177.069	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 1J
1046974	389.6001	100	ELECTRUM RESOURCE CORPORATION	107591	DYKE1
1042212	17.6766	100	ELECTRUM RESOURCE CORPORATION	107591	TM 16
953677	35.4299	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 1K
1025812	620.2667	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 14
518734	425.241	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 6
1061453	159.4492	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 20
1025558	495.9657	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 13
518733	425.098	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 5
1016144	478.0432	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 11
1016425	354.0892	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 11
518731	354.092	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 4
517626	17.7022	100	ELECTRUM RESOURCE CORPORATION	107591	
1025283	495.5279	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 12
518730	371.635	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 3
1026079	318.377	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 1B
518727	424.508	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 1
518729	424.515	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 2
1038442	265.1841	100	ELECTRUM RESOURCE CORPORATION	107591	CN 9
1026697	53.0388	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 18
601033	17.681	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 10
1060966	177.2945	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 19

518736	425.384	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 7
518739	354.735	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 9
518737	425.542	100	ELECTRUM RESOURCE CORPORATION	107591	THOR 8
1062550	532.4212	100	ELECTRUM RESOURCE CORPORATION	107591	
1062551	177.3839	100	ELECTRUM RESOURCE CORPORATION	107591	CN 1
1026197	372.3403	100	ELECTRUM RESOURCE CORPORATION	107591	THOR MARMOT 17
1029288	531.8568	100	ELECTRUM RESOURCE CORPORATION	107591	CN 2
1046177	1364.7452	100	ELECTRUM RESOURCE CORPORATION	107591	EAST THOR 1
1034271	17.7395	100	ELECTRUM RESOURCE CORPORATION	107591	CN 9
1034272	124.1606	100	ELECTRUM RESOURCE CORPORATION	107591	CN 10

Table 1 Mineral tenure information for the Thor property.

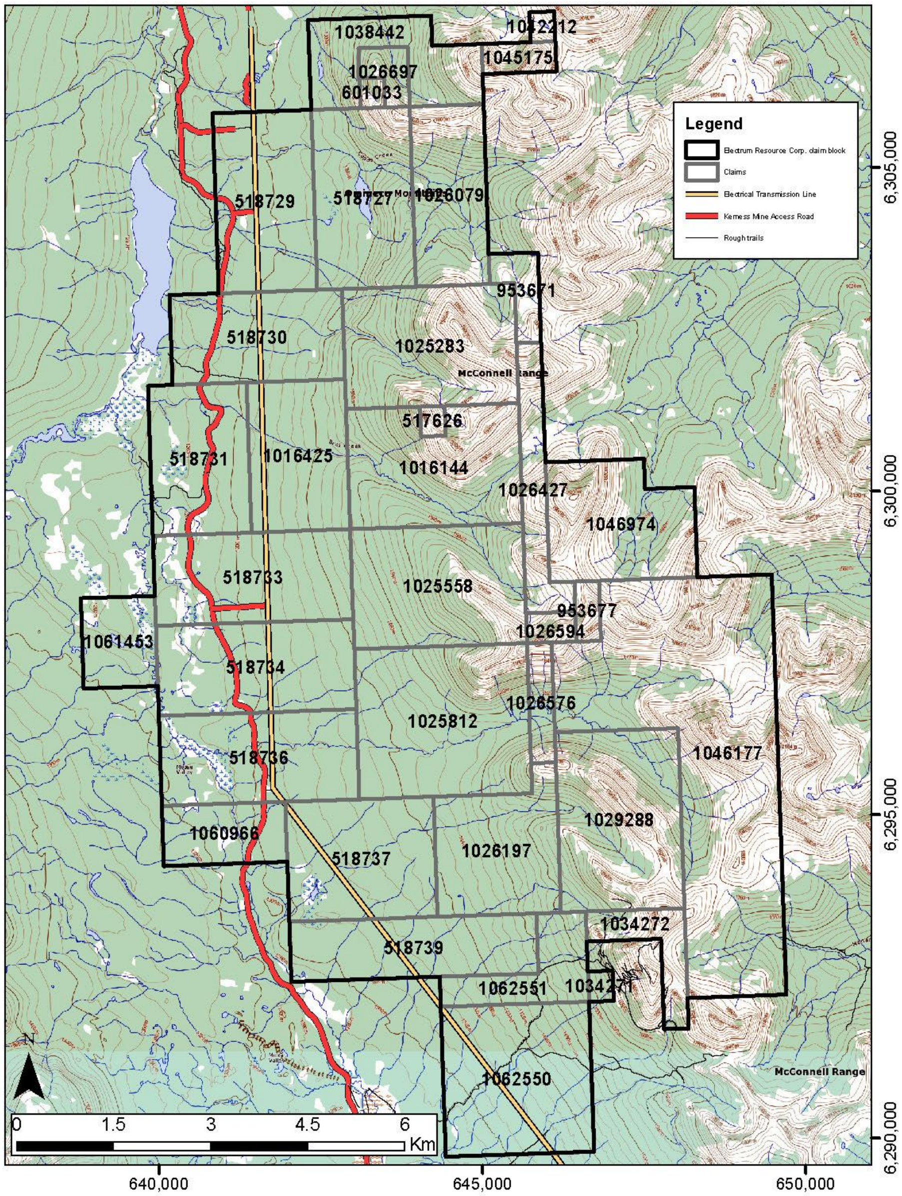

Figure 3 Topography, access road (red), power transmission line (yellow) and claims (grey with tenure ID number).

5. PHYSIOGRAPHY AND CLIMATE

The grassy, lightly timbered Moose Valley is at an elevation of about 1200 metres and the highest point on the claims is 2,080 metres, well above timberline. Mountains in the McConnell Range are fairly rugged. The climate is typical of the northern interior with moderate (+/- 100 centimetres) precipitation, much of it falling as snow that lasts from early November to late May. Winter temperatures can range down to –40 °C.

6. HISTORY

The following account of the exploration history of the Thor-Marmot property area was modified from reports by McDougall (1997) and Beck and Ledwon (2013).

Early exploration in the region centered on small placer gold operations, particularly in the Germansen Landing-Manson Creek area, although even smaller operations were in production in the Toodoggone River area and elsewhere. Several lead-zinc showings were discovered in the first part of the 1900s. In the late 1960s and 1970s the region was explored for porphyry type copper and molybdenum mineralization. It was during this period that the Chappelle Creek (Baker mine) precious metal vein, Lawyers (Cheni mine) amethystine epithermal gold, and the Kemess-north porphyry copper-gold deposits were initially discovered. Considerable interest was generated by the Falconbridge discovery of several volcanic/sediment-hosted copper deposits (Sustut deposit) and intrusive associated gold-copper deposits within rocks along the Sustut River valley. In the 1980s, most interest was centered on the Toodoggone area gold discoveries (Baker and Cheni mines).

In 1996, Royal Oak Mines announced that it was proceeding with development of the Kemess-south deposit, located approximately 16 kilometers north of the Thor property. This project created renewed interest in the area, since the existence of an electric power line and good road access would make development of additional deposits relatively inexpensive.

The Omineca Resource Access Road heading north from Fort St. James was started in the late 1940s. It was built in stages and reached Moose Valley in the early 1970s. It was later extended north as far as the Toodoggone River to service the short-lived Baker and Cheni gold mines. This road used to service the past-producing Kemess mine and passes through the Thor claims.

Within the Moose Valley-Marmot area, mineralization of interest was first reported during a regional mapping program of the Geological Survey of Canada in the early 1940s (Lord, 1948). A sample from a 1.5 m wide silicified shear zone assayed 4.4 g/tonne gold, 5.1% copper and 123 g/tonne silver. The first claims were staked in the early 1960s by W. D. Savage, and optioned in 1966 to New Wellington Resources Ltd. In 1966, New Wellington completed a program consisting of geological mapping, IP surveying (two (2) lines across the Marmot showing), and bulldozer trenching. A total of 767 m of trenching was completed, and about 20 acres of bedrock was stripped (Mouritsen, 1966). In 1967, a further 1.6 km of bulldozer stripping was completed, and one short hole was drilled (Campbell, 1968). In 1969, the property was optioned by Texada Mines Ltd, who carried out a 14-week program of soil sampling and geological mapping (Church, 1973). Five diamond drill holes totaling about 238 metres were drilled, three of which were on the main Marmot showing and the other two on the slope immediately to the west. Due to reported technical difficulties, none of the holes reached their target depth. A total of 2,066 soil samples were taken.

In the early 1970s, BP Minerals, after a regional stream sediment survey, staked several claims in the central Thor area north of the present Marmot claims.

In 1973, Wesfrob Mines Ltd (a Falconbridge subsidiary under the overall direction of J. McDougall) optioned the Marmot property and in 1973 carried out a 300 line-kilometer airborne magnetic EM survey (Lockwood Surveys), and a 275 metre, 5-hole diamond drill program. Two of the drill holes were drilled to determine depth to bedrock, and two other holes tested weak VLF-EM conductors in readily accessible areas. No mineralization of interest was encountered. The fifth hole, drilled below one of the known Marmot mineralized zones, showed no values of interest although core recovery was very poor. The airborne survey, consisting of magnetics and electromagnetics, did outline a possible buried porphyry or semi-massive sulphide target within rocks of unknown derivation, as well as generating many EM anomalies believed caused by carbonaceous beds (Brown 1973). No drill testing of anomalies was carried out, as Wesfrob postponed further work on its main priority, the “Sustut” copper property, leaving the area late in the season.

In 1984, B.P. Resources carried out a program of silt and rock chip sampling as a follow up to their earlier program in the central claim area (Heberlein, 1984).

Also in 1984, Falconbridge carried out an exploration program in the Moose Valley area (including the north part of the current Thor claims) targeting palaeoplacer gold deposits in the clastic sediments of the Sustut Group (Lehtinen, 1984). Copper and gold bearing shears hosted in volcanic rocks on the Thor 3 claim were also investigated.

In 1987, Mingold Resources Ltd. resampled the known occurrences in the area and staked the KMA claims. In 1988, a program of rock sampling, prospecting and soil sampling was carried out on the more northerly “Thorne” claims by Asamera Minerals Inc. Additional claims were staked in 1989 and further soil and rock sampling completed, but further test recommendations submitted to Asamera were not followed through on.

In 1990, Mingold (Reynolds 1990) carried out further exploration consisting of rock and soil sampling near the Marmot prospect, extending the copper and gold anomalies to the north, and to the south. An altered andesitic float sample (source not discovered) reportedly assayed 28.80 g/tonne (0.84 oz/ton) gold, and 1% copper.

In 1992, Electrum Resources Corporation staked the Thor 1-7 group of claims several kilometers to the north, covering much of the abandoned Thorne ground, and eventually consolidated a new Thor group in 1995 contiguous with the Marmot (1992) property to the south. Work by Electrum (Staarguard, 1992-93) consisted of geochemical and VLF-EM surveys, largely designed to trace important fault structures southward from the Kemess copper-gold porphyry deposit.

In 1995, on behalf of Electrum Resource Corp, S. Zastavnikovich, geochemist and the author of the 1995 report, conducted soil and rock samplings as well as a VLF-EM survey in an attempt to better locate the Moose Valley fault zone which traverses the length of the claims.

In early 1997, San Telmo Resources Ltd. optioned the Thor 2, 3, 8, 9, and Marmot claims from Electrum and staked the Thor 11, Thor 12, and Marmot 2 claims. In March of 1997, San Telmo completed an airborne geophysical survey (EM and Mag) over the area. Field expenditures on the Thor-Marmot Group by Electrum to 1995 totaled approximately $40,000. Total "pre-1996" expenses on portions of the property are estimated to exceed $100,000 (in 1970 +/- dollars). Only a small portion of this, however, was spent on drilling, restricted to only a few short poor-recovery holes on the Marmot property.

Expenditures by San Telmo prior to the commencement of the current program exceed $100,000, the largest item being the 1997 airborne geophysical program, which cost approximately $88,000.

In 1998, San Telmo contracted Gordon J. Allen, P.Geo., to conduct a small amount of geological mapping and rock sampling as well as 692.21 m of diamond drilling.

In 2005, Electrum Resource Corp conducted geochemical rock, soil and drainage sampling on the Thor property in order to identify geochemical anomalies for porphyry type copper-gold mineralization. As well, drill core from the 1998 program was resampled and reanalyzed. Three lines of Induced Polarization (I.P.) and ground magnetic surveys were carried out by Peter E Walcott and Associates Limited in the central part of the Thor claims, from the Kemess mine road to the alpine slopes to the east. Total costs for the 2005 program were $62,045.76.

In 2007 Peter E. Walcott and Associated Limited carried out three additional lines of induced polarization (I.P.) and ground magnetic surveys at a total cost of $103,180.86.

In 2009, Quantec Geoscience Ltd conducted a Titan-24 survey over the two of the 2007 IP lines, with a total expenditure of $140,000 from July 25th to August 2nd and August 15th to August 18th 2009.

In 2013, Electrum Resource Corp. contracted UTM Exploration Services Ltd to conduct a ten day soil sampling program on the Thor claims, sampling a total of 216 sites for a total cost of $25,193.80.

In 2014, Copper North Mining Corp., signed an agreement to acquire a 100% interest in the Thor property from Electrum Resource Corporation.

In 2014, Copper North Mining Corp contracted Scott Geophysics to conduct 39.8 line kilometres of IP and magnetic surveys on the Thor property, expending $211,602.23 in total.

In 2016 Copper North engaged Condor Consulting to perform 3D magnetic inversions, integrating several historic magnetic datasets. In Summer-Fall 2016, Copper North carried out reconnaissance geological mapping and prospecting. Three diamond drill holes were drilled on the Thor property. The first hole intersected low grade copper-gold porphyry style mineralization with disseminated and vein-hosted chalcopyrite-pyrite with 157.5 m of 0.11% Cu, 0.037 g/t Au including 23.85 m of 0.28% Cu and 0.087 g/t Au. The second hole was lost in overburden. The third hole intersected 228.9 m of brick-red tuff breccias tentatively correlated with the Toodoggone Formation of the lower Hazelton Group and no copper mineralization was encountered.

7. GEOLOGICAL SETTING

The Toodoggone district is a ~100 x 30 km belt of calc-alkalic Cu-Au-Mo porphyry and epithermal Au-Ag deposits in north-central BC (Duuring et al 2009). The Toodoggone is located within the Stikine Terrane and is part of the Intermontane Belt. Porphyry mineralization is associated with the emplacement of Early Jurassic quartz monzonite to granodiorite intrusions within a basement of Permo-Triassic volcanic and sedimentary rocks. Post-mineralization Jurassic and Cretaceous sedimentary-volcanic rocks unconformably overlie the basement and form a cover to the deposits. The region has been affected by valley glaciers and valley bottoms are scoured and covered in glaciogenic sediments. Deep oxidation has caused the formation of leached cap and brightly coloured gossans in areas of sulphide mineralization.

8. REGIONAL GEOLOGY

Takla Group

The Takla Group comprises basaltic and andesitic volcanic rocks, with a preponderance of augite porphyry, pelitic sedimentary rocks, and minor carbonate rocks. Its age is Late Triassic (Late Carnian to early Norian; Monger and Church, 1977). The type area, as defined by Armstrong (1949, p.51), was originally in the vicinity of Takla Lake, although it is much better exposed to the north in the McConnell Creek area and the type area was relocated to this mapsheet (Monger and Church, 1977). The Takla Group occurs in both Quesnllia and Stikinia and is correlative with part of the Nicola Group of Quesnellia and the Stuhini Group of Stikinia (Dosdal et al., 1999). The Takla Group is subdivided into the Savage Mountain, Dewar, and Moosevale formations. The Dewar Formation comprises volcanic sandstone, bedded tuff, siltstone and argillite. The Dewar Formation is largely time-equivalent with the Savage Mountain Formation. The Savage Mountain Formation comprises volcanic flows of typically augite-phyric basalts that may be pillowed and submarine or subaerial. In the McConnell Range, plagioclase-phyric basalts are common, some with platy feldspars up to 3 cm (Monger and Church, 1977). The Savage Mountain Formation is lithologically variable: aphyric basalt, volcanic breccia and tuffs are common. The contact between the Savage Mountain Formation and the overlying Moosevale Formation is locally gradational or sharp. The Moosevale Formation is a dominantly reddish volcaniclastic unit, recording both basic and intermediate volcanism, consequently it can be difficult to distinguish from the lower part of the Hazelton Group, the Toodoggone Formation (Monger and Church, 1977). The formation comprises: massive red and green breccia with interbedded sandstone and mudstone layers; conglomerates and lahar deposits with blocks up to 2-3 metres; red and green tuff. The breccias contain clasts of Savage Mountain Formation basalts but also fine-grained, intermediate feldspar porphyry that becomes more dominant towards the top of the formation.

Toodoggone Formation, Hazelton Group

The Hazelton Group of Stikinia comprises a lower, arc-volcanic dominated succession and an upper, clastic-dominated succession divided by a regional unconformity (Gagnon et al., 2012). Regional variations in the stratigraphy have resulted in a complex group comprising many different but time-equivalent formations that occur locally. In the McConnell Creek area, the Toodoggone Formation of the lower Hazelton Group is dominated by interstratified red and maroon flow and pyroclastic rocks (Diakow et al., 1993). The Lower Jurassic Toodoggone

Formation rests unconformably upon the Takla Group and is unconformably overlain by mid-Upper Cretaceous clastic rocks of the Sustut Group. It is subdivided into the lower volcanic cycle that contains the Adoogacho, Moyez, Metsantan and McClair members and the upper volcanic cycle that contains the Attycelley and Saunders members. Lithologies are varied and include: dacitic to andesitic tuffs, tuff-breccia, lapilli tuff; lahar; trachyandesite flows; subvolcanic plugs; volcanic sandstone and conglomerate (Diakow et al., 1993). At the Kemess Mine, friable tuffs and epiclastic rocks overlie the oxide and supergene zone, similar to reddish brown to maroon epiclastic rocks along Kemess Creek (Rogers and Houle, 1998).

Sustut Group

Lord (1948, p.34) defined the Sustut Group as "a thick assemblage of conspicuously embedded and banded continental strata of relatively simple structure." It includes conglomerate, sandstone, shale, and bands of tuff. Eisbacher (1974a, p.8-11) subdivided the group into two formations: a lower, Tango Creek, and an upper, Brothers Peak, and these, in turn, were subdivided into several members, the Niven and Tatlatui for the former, and the Laslui and Spatsiszi for the latter. The age is believed to be Late Cretaceous (Cenomanian) to Tertiary (Eocene) and the group was largely deposited in alluvial conditions.

Intrusive phases

Late Triassic to Early Jurassic granitoid, felsic to intermediate intrusions occur across the region. The magmatism occurred in episodes between ~218 to 191 Ma, with the majority of the intrusions forming after uplift and erosion between ~202 to 197 Ma (Diakow et al., 1993; Duuring et al 2009). Porphyry style Cu-Au-Ag-Mo mineralization occurs in association with the Late Triassic to Early Jurassic intrusions, such as the calc-alkalic porphyry deposits at the Kemess Mine (Rogers and Houle, 1998; Duuring et al., 2009).

Alaskan-type ultramafic intrusions intrude Takla Group basalt in the region, including clinopyroxenite, olivine gabbro, pyroxenite and basalt (Legun, 1997).

9. LOCAL GEOLOGY

Volcanic rocks of the Upper Triassic Takla Group predominantly underlie the eastern parts of the property. Where observed, they generally consisted of coarse grained plagioclase augite phyric basalt or andesite flows and minor amounts of intercalated volcaniclastic rocks, probably of the Savage Mountain Formation. Medium-grained granodiorite to monzodiorite plugs have intruded Takla Group volcanic rocks across the property. Equigranular granodiorite plutons intrude parts of the McConnell Range in addition to a variety of smaller intrusive porphyritic bodies and dykes including: quartz-eye porphyry; quartz-plagioclase-biotite porphyry; and plagioclase porphyry. A significant NNW trending structure: the Moose Valley Fault dissects the property and rocks to the west of this fault are very poorly exposed or covered by glaciofluvial, glaciolacustrine, till and alluvial sediments.

The Takla Group volcanic rocks are sporadically gossanous in zones up to one kilometre wide. These zones contain disseminated pyrite, are highly fractured, and appear to be related to fault zones. A few of these gossanous zones were investigated but to date, copper and gold grades have been found to be very low.

Takla Group rocks also host north to north-northeast trending gossanous shear zones up to 10 metres wide, commonly with quartz or quartz carbonate vein cores. These veins range in width from a few centimetres to over two metres, and generally carry pyrite, chalcopyrite and varying amounts of gold up to over 100 grams per tonne. One of these structures has been traced for over a kilometre and was the target of much of the drilling in 1998. Several of these northerly-trending veins/shears were investigated and sampled during this 1998 program.

One occurrence of copper-gold porphyry-type mineralization was discovered during the 1998 program in an altered granitic intrusion. Drill hole MAR98-06 intersected 60.24 m of 0.112% Cu and 0.041 g/t Au starting from a depth of 86.6 m. This 233.78 m long drill hole was the last hole of the season, and ended in weak (0.08% Cu) copper mineralization of sporadic occurrence of disseminated, shear-hosted or stringer chalcopyrite-chalcocite in a zone of propylitic alteration. Drilling was terminated in hole MAR98-06 owing to a lack of drill rods (Allen, 1998).

Sustut Group clastic sedimentary rocks probably underlie the western part of the property, although exposure is poor and contacts are not well defined. Sustut Group rocks are exposed at the west of the property, at the north of the property approximately 3 km east of Thorne Lake, on surface near the Marmot 2 claim, and possibly in drill hole Mar 98-01. At these locations the rock consists of poorly consolidated pebble to cobble conglomerate with abundant rounded clasts of Takla Group volcanic rock, lesser amounts of granitic material, and vein quartz. Falconbridge Ltd. obtained up to one (1) gram of gold per tonne in Sustut Group conglomerates well west of the claim group. During their exploration for palaeoplacer deposits in the area they located conglomerate outcrops along the western side of the property.

10. GLACIAL HISTORY

The project area was an accumulation zone during the growth of the Cordilleran Ice Sheet in the late Wisconsinan (Clague and James, 2002). The dominant regional ice flow direction at glacial maximum was to the east (Mathews et al., 1975). Evidence for ice flow in this direction across the property includes drumlins preserved in both thick and thin till on valley flanks and at higher elevations, and striations measured in neighbouring valleys (Mathews et al., 1975). This ice flow to the east is likely the most significant for geochemical dispersion in these mid-slope areas and for till at higher elevations.

During deglaciation, large portions of the Cordilleran Ice Sheet stagnated as equilibrium lines rapidly rose above the ice sheet surface (Clague, 1989; Fulton, 1991). Evidence for this in the project area includes thick accumulations of hummocky glaciofluvial material, typical of stagnation topography, in the valley bottom and in neighbouring valleys, and high elevation glaciofluvial kame terraces in cirques, indicative of ice free conditions at higher elevations. Extensive sets of successively-lower meltwater channeling suggest a lowering ice surface in the main valley, further supporting stagnant ice. Eskers and other subglacial landforms indicate that meltwater drained into and through this stagnating ice as it melted. Late in deglaciation, a lake was dammed in the northwestern portion of the project area by ice or thick valley fill. Shorelines in multiple locations and the distribution of glaciolacustrine sediment indicate the extent and elevation of this lake.

There is strong evidence to support a late-stage re-advance of alpine glaciers from local cirques in the property. Lateral moraines on valley sides and end moraines emanating from the larger tributary valleys on the east side of the area mark the extent of ice advance into the main valley. Valley-parallel ice flow is likely the most significant direction for geochemical dispersion in these areas. Drumlinized glaciolacustrine sediment in the north part of the project area suggests that this re-advance occurred after initial deglaciation and the formation of the glacial lake. It also suggests that ice may have flowed across the main valley floor in some locations during this time.

11. LiDAR SURVEYING

A Piper Navajo equipped with a Riegl 1560 LiDAR sensor flew a block of approximately 110 km^2 over the Thor-Marmot property in the Summer of 2018. The data were acquired at a density of 8 ppm (8 pulses / m^2). The accuracy was ±15 cm vertically and ±30 cm horizontally. Eagle Mapping (Port Coquitlam, BC) were contracted for the survey and data delivered included a 1 m grid Digital Elevation Model (DEM), a 1 m grid Digital Surface Model (DSM), 1 m contours, and intensity imagery at 0.2 m resolution.

12. SURFICIAL MAPPING

Desktop surficial mapping was carried out at 1:20,000 scale by Dr. Derek Turner using the LiDAR data in combination with previously acquired high resolution GeoEye satellite imagery. No field checking of the mapping or ground truthing was carried out. Terrain polygons were classified following the Terrain Classification System for British Columbia (Howes and Kenk, 1997).

13. DISTRIBUTION OF SURFICIAL MATERIALS

Maps of surficial geology are presented in Appendix 1. A simplified surficial geology map is shown in Figure 4.

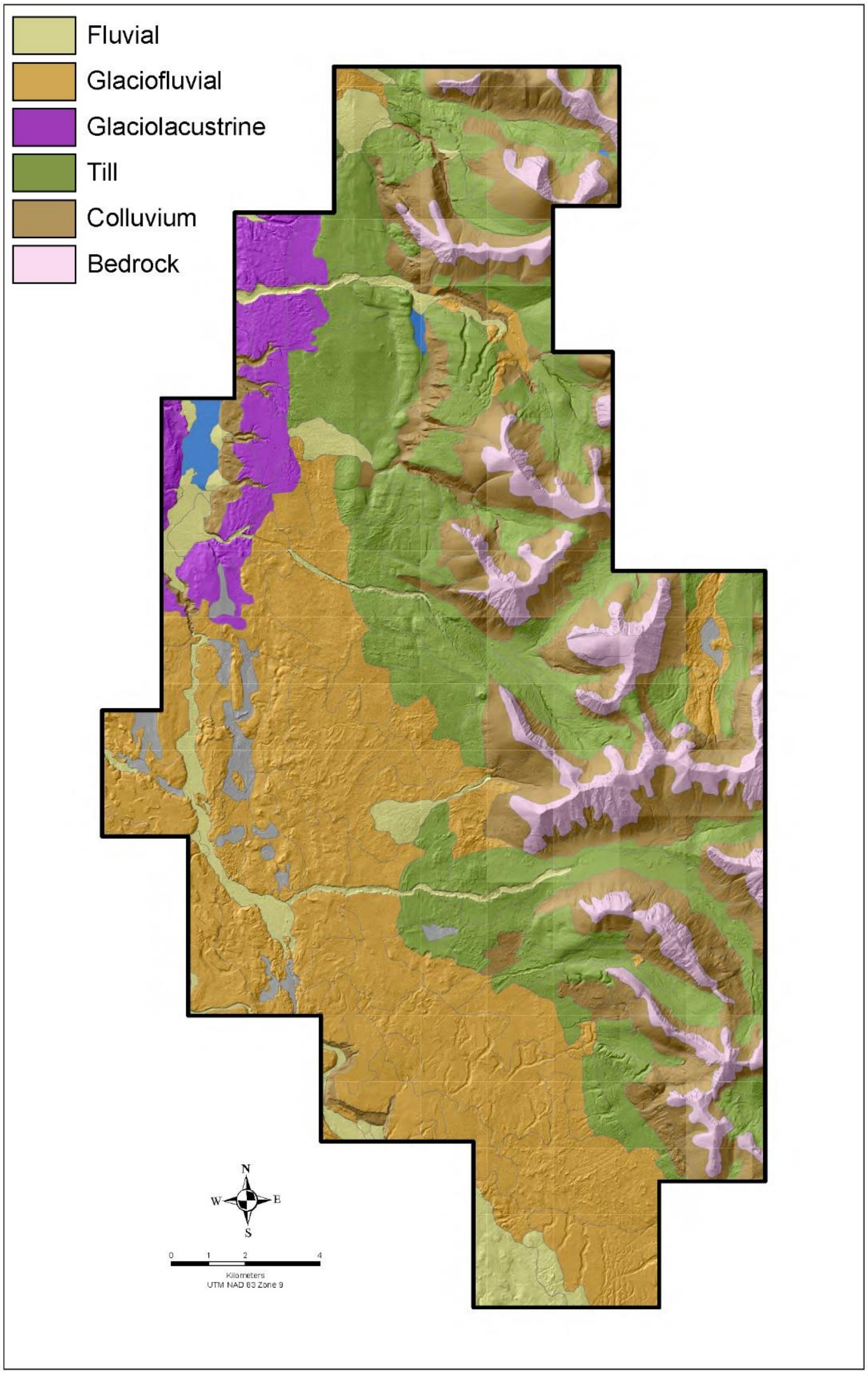

Figure 4 Simplified surficial geology of the Thor property overlain on LiDAR topography.

The distribution of surficial materials in the valley bottoms of the Thor property is complex, controlled by late glacial and deglacial events. The southern portion of the property comprises thick undulating and hummocky glaciofluvial sediment deposited during deglaciation. These extensive sand and gravel deposits extend to the southwest, outside of the property. There are also abundant ridges made of this material, likely formed as eskers and crevasse fill sub- and supra-glacially during deglaciation. Much of the glaciofluvial sediment has been heavily incised by both large and small meltwater channels, possibly after drainage of the lake to the north.

Extensive fine-grained glaciolacustrine sediment covers the lower elevations in the northern portion of the project area. This finer-grained sediment is marked by extensive gullying and erosion and flatter topography than the glaciofluvial sediment. Subsequent Holocene incision of this material has caused it to fail along freshly steepened slopes. There is also possible lateral spreading close to the edge of some of these deposits. This and the possibility of glaciofluvial sediment or till stratigraphically below the glaciolacustrine material should be confirmed in the field.

Till is common on valley sides and in valley bottoms in the more mountainous area to the east. On valley flanks, till typically follows the underlying bedrock expression, either as a thin veneer or as a thicker blanket, although thicker accumulations of till were mapped in the north of the property. Thicker deposits of till are more typical within the limit of the late-stage glacial re-advance moraines, with hummocky and undulating topography.

Colluvium and bedrock are the dominant material types in areas of steeper terrain. Debris flows and rock slides are active processes on steeper slopes and in gullies, depositing colluvial cones and blankets at the base of the slope. Higher on the slope are thinner colluvial veneers, created by gradual rock and soil creep. At higher elevations along ridges and isolated peaks, steep bedrock slopes are initiation zones for different types of rapid mass movement processes, including rock fall. In one location, several large tension cracks suggest large-scale slope instability. Avalanches were not mapped but are also common features on steeper slopes.

Fluvial sediment and organics are common along Holocene river and stream channels in valley bottoms. Fluvial material is also deposited in active and inactive fans at the base of some slopes. Some fans were mapped as being fluvial if water is interpreted to be the primary depositional medium, compared to colluvial fans that are dominated by mass wasting processes. Organics were interpreted to be thicker in valley bottoms, but some organic veneers and blankets also exist on poorly drained, lower elevation till slopes.

14. GEOCHEMICAL DISPERSION AND SAMPLING

Areas covered by glaciofluvial, fluvial, and glaciolacustrine sediment are not suitable for soil sampling using traditional geochemical digestions such as aqua regia. The sediment that covers these areas may have been derived from bedrock sources that are tens of kilometers or more distant from the site of deposition. The detection of mineralization buried by these surficial materials using aqua regia soil sampling is considered unlikely, and therefore sampling in these areas is not recommended.

Areas of exposed bedrock or areas covered by colluvium or morainal surficial materials are suitable for soil sampling using traditional aqua regia digestion methods. Where residual soils are developed on bedrock, the sampling will detect mineralization at surface. Where colluvial soils are developed on colluvium, anomalies can be traced uphill towards the source area for the colluvial material. Where soils are developed in till, anomalies can be traced in the up-ice direction to source.

The results of the surficial mapping described in this report have been used to produce a map to guide future soil sampling programs (Figure 5). The areas recommended for sampling are dominated by bedrock, colluvium and morainal materials. The areas not recommended for sampling are dominantly covered by glaciofluvial, glaciolacustrine, fluvial, and organic surficial materials, including where thin colluvial deposits have formed by reworking glaciofluvial, glaciolacustrine or fluvial deposits.

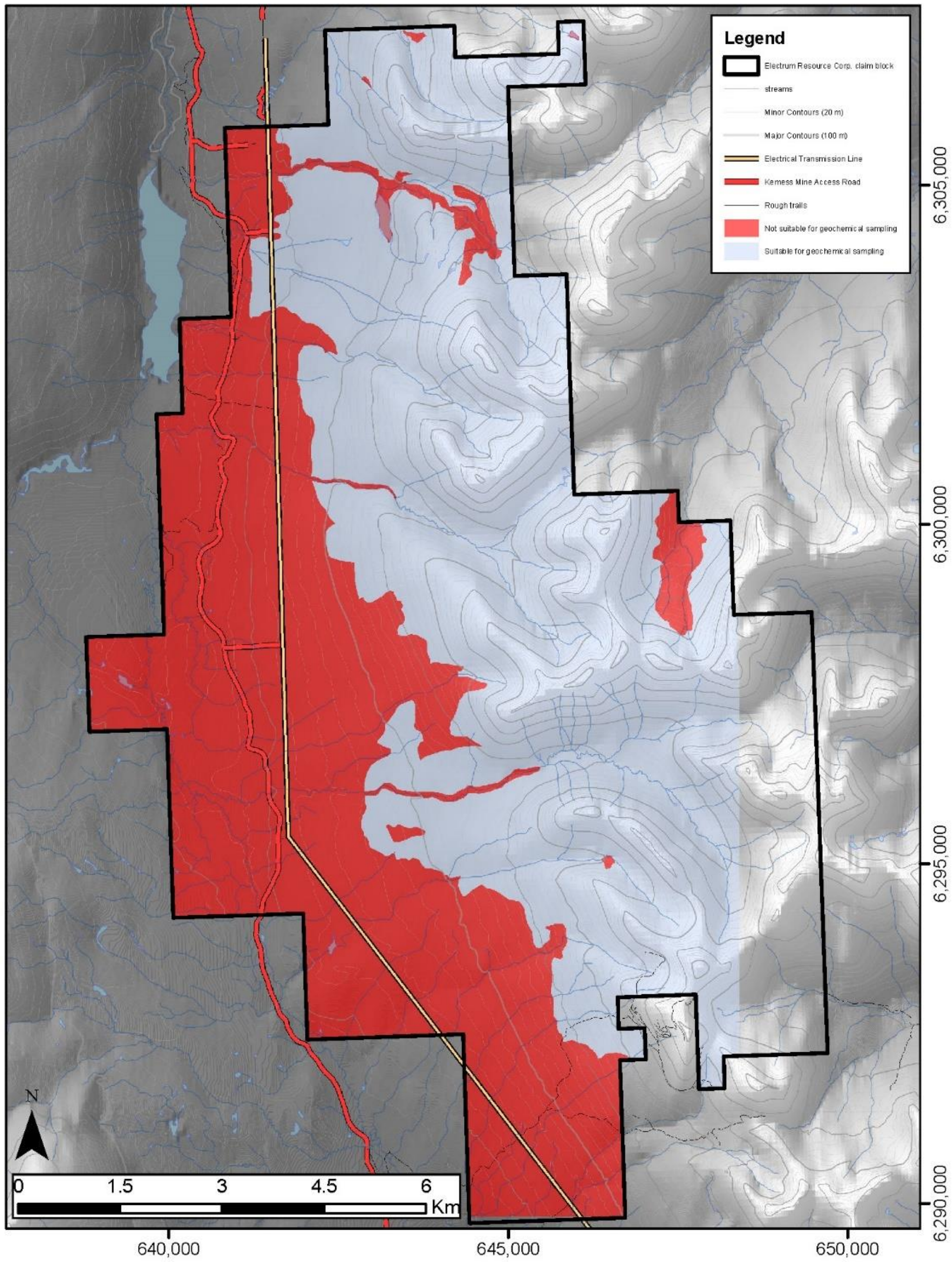

Figure 5 Map showing areas that are suitable and unsuitable for soil sampling programs using traditional aqua regia digestions.

15. RECOMMENDATIONS FOR FURTHER WORK

To supplement the desktop surficial mapping, a week of ground truthing and surficial geological mapping should be carried out on the property. Particular attention should be given to the possibility of till underlying the glaciofluvial or glaciolacustrine material in Moose Valley. A 34 metre intersection of surficial material encountered in hole TH16-03 demonstrates that the surficial material can be very thick in the valley-bottom, and a complex stratigraphy may be present. If tills are present under the glaciofluvial material, a rotary drill basal till sampling, and top of bedrock sampling program can be considered to explore under the surficial cover.

Following the surficial mapping, the surficial maps should be updated and used to inform a soil sampling program across the property. The program should focus on contour sampling in areas of colluvium, sampling the material just above the contact with the till. A 100 metre sample spacing along contour traverses should be used. The till covered areas should be sampled on lines spaced 500 metres apart, oriented perpendicular to the ice flow direction, with a sample spacing of 100 metres along the lines. These sample spacings have been chosen with the objective of detecting anomalies that may be related to porphyry style Cu-Au mineralization. Tighter spaced, gridded soil sampling can then be used to follow up on anomalous areas in an effort to trace anomalies back to source.

The surficial mapping and soil sampling programs should run concurrently with a prospecting and geological mapping program, focusing on the historic anomalies. In particular, the gossanous areas with high copper in soil should be followed up on the eastern part of the property, 4.8 km SE of hole TH16-01. Systematic mineral alteration assemblages should be mapped in the bedrock exposures in the eastern half of the property.

If budget allows, a VTEM-mag survey should be considered across the whole property with the objective of defining structures and intrusions in areas that are covered by surficial materials.

Additional drilling is recommended in the area around TH16-01. Three diamond-drill holes, each 200 to 300 m deep, angled to the north-east at ~65° should be drilled 150 m downslope, 225 m to the west and 190 m to the north-west of hole TH16-01. A track-mounted RC drill should be brought in to test the Thor West target by drilling ~150 metre holes on a ~400 metre spacing in the chargeability anomalies along the IP lines. Drilling of compelling anomalies generated from the soil sampling program should be considered.

16. STATEMENT OF COSTS

Item	Cost	
LiDAR survey	$	27,131
Surficial mapping, interpretation and report writing	$	6,000
TOTAL	**$**	**33,131**

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18. STATEMENT OF QUALIFICATIONS

I, Jack Edward Milton, do hereby state that:

I reside BSMT-1022 Pennylane Place.

I am not a Professional Geologist.

I graduated from the Camborne School of Mines, University of Exeter, UK, in 2008 with a first class honours Bachelor of Science degree in Applied Geology.

I graduated from the Camborne School of Mines, University of Exeter, UK, in 2009 with a Master of Science degree in Mining Geology.

I graduated from the University of British Columbia in 2015 with a Ph.D. in Geological Sciences.

I supervised the field program and logged all of the drill core at the Thor property in 2016.

This statement refers to the 2018 Surficial Mapping Technical Assessment Report on the Thor-Marmot property.

Jack Milton [signed]

I, Derek Glen Turner, do hereby state that:

I reside at 505-1200 Alberni St., Vancouver BC.

I am a Professional Geologist.

I graduated from the University of Victoria in 2005 with a Bachelor of Science degree in Geoscience.

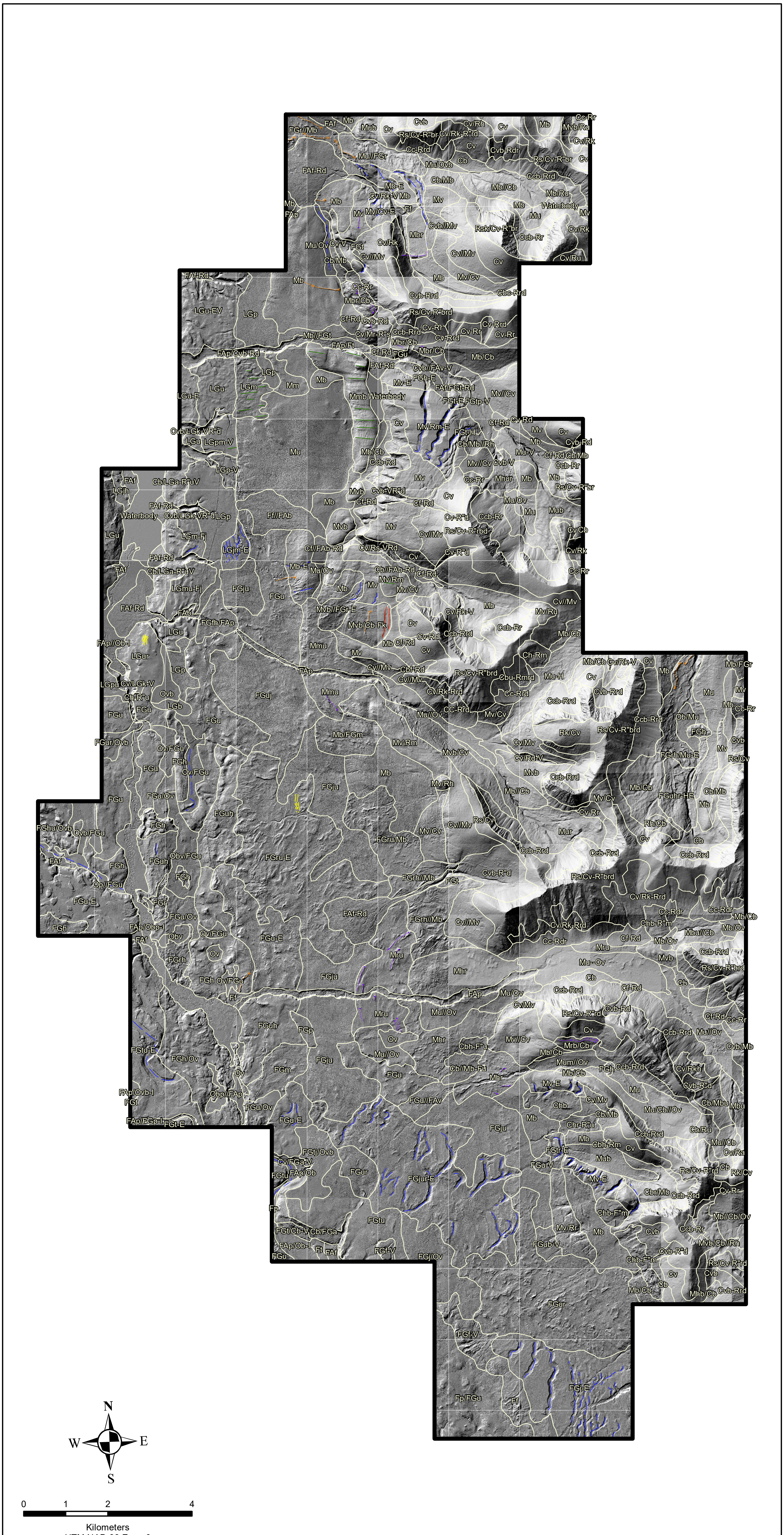
I graduated from Simon Fraser University in 2008 with a Master of Earth Science degree in Quaternary Geology.

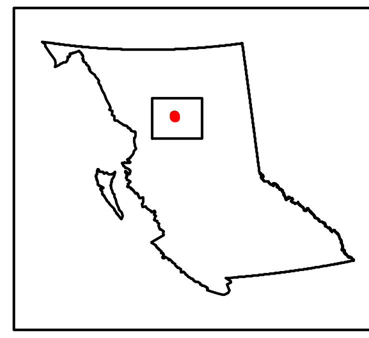
I graduated from Simon Fraser University in 2014 with a Ph.D. in Quaternary Geology.

This statement refers to the 2018 Surficial Mapping Technical Assessment Report on the Thor-Marmot property.

Derek Turner [signed]

19. APPENDIX I: Surficial Geological Maps





Legend

Property Boundary

Terrain Polygon

Drumlin

Esker

Meltwater Channel

Moraine

Shoreline

Tension Crack

Terrain Label

Cb / Mb // Rh – R"bd

- Delimiters for proportions of aerial coverage
- Geomorphological process and subclass
- Surficial Material 1 and Expression (colluvial blanket)
- Surficial Material 2 and expression (till blanket)
- Surficial Material 3 and expression (hummocky bedrock)

Surficial Materials	
Symbol	**Name**
C	colluvial
F	inactive fluvial
FA	active fluvial
FG	glaciofluvial
LG	glaciolacustrine
M	till
R	bedrock

Delimiters	
Symbol	**Name**
/	component on left more extensive than component on right
//	component on left considerably more extensive than component on right
\	component on left stratigraphically above component on right

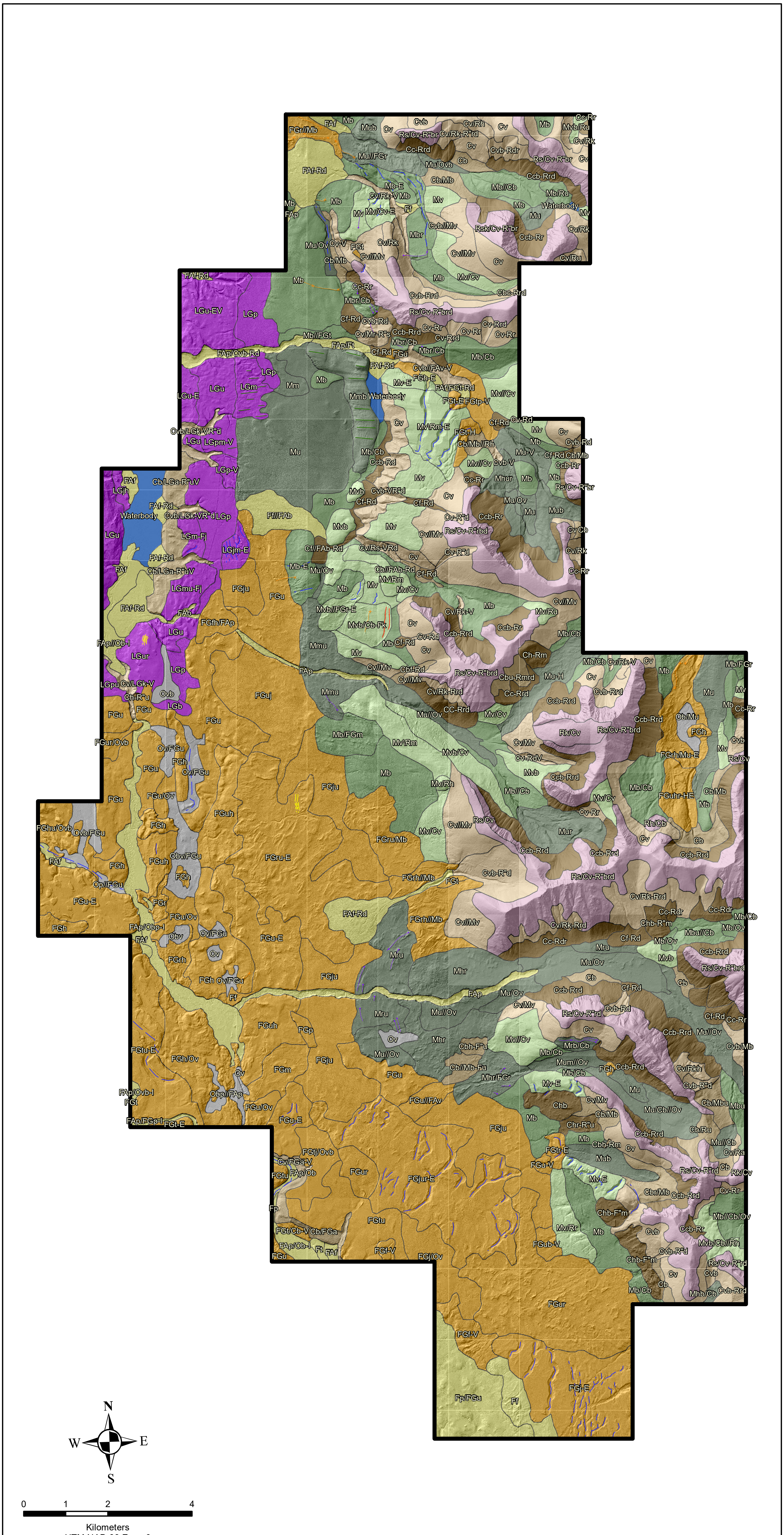
Surface Expressions	
Symbol	**Name**
a	moderate slope
b	blanket
c	cone
f	fan
h	hummocky
j	gentle slope
k	moderately steep slope
m	rolling
p	plain
r	ridge
s	steep slope
t	terrace
u	undulating topography
v	veneer

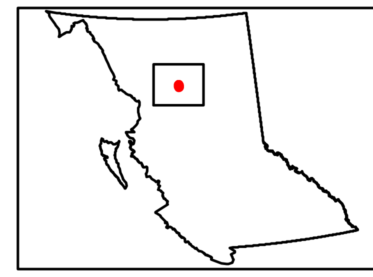
Geomorphological Processes	
Symbol	**Name**
E	channeled by meltw ater
F	slow mass movements
H	kettled
I	irregularly sinuous channels
R	rapid mass movement
R"	irregularly sinuous channels
V	gully erosion

Subclasses	
Rapid Mass Movement Processes	
Symbol	**Name**
b	rockfall
d	debris flow
m	slump in bedrock
r	rockslide
s	debris slide
u	slump in surficial material
Slow Mass Movement Processes	
Symbol	**Name**
k	tension cracks
j	lateral spread
m	slump in bedrock
u	slump in surficial material

Surficial Geology of the Thor-Marmot Property

Mapping: D. Turner
Date: 15 October 2018
Scale: 1:20,000





Legend

Property Boundary

Terrain Polygon

Drumlin

Esker

Meltwater Channel

Moraine

Shoreline

Tension Crack

Dominant Surficial Materials

Waterbody

Organics

Fluvial

Colluvial Veneer

Colluvial Blanket

Thick Colluvium

Glaciofluvial

Glaciolacustrine

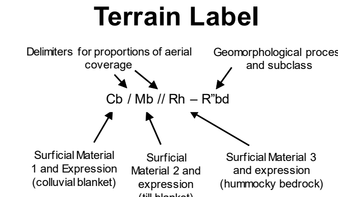
Till Veneer

Till Blanket

Thick Till

Bedrock

Terrain Label



Surficial Materials

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Surface Expressions

Symbol	Name
a	moderate slope
b	blanket
c	cone
f	fan
h	hummocky
j	gentle slope
k	moderately steep slope
m	rolling
p	plain
r	ridge
s	steep slope
t	terrace
u	undulating topography
v	veneer

Geomorphological Processes

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Subclasses

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Symbol	Name
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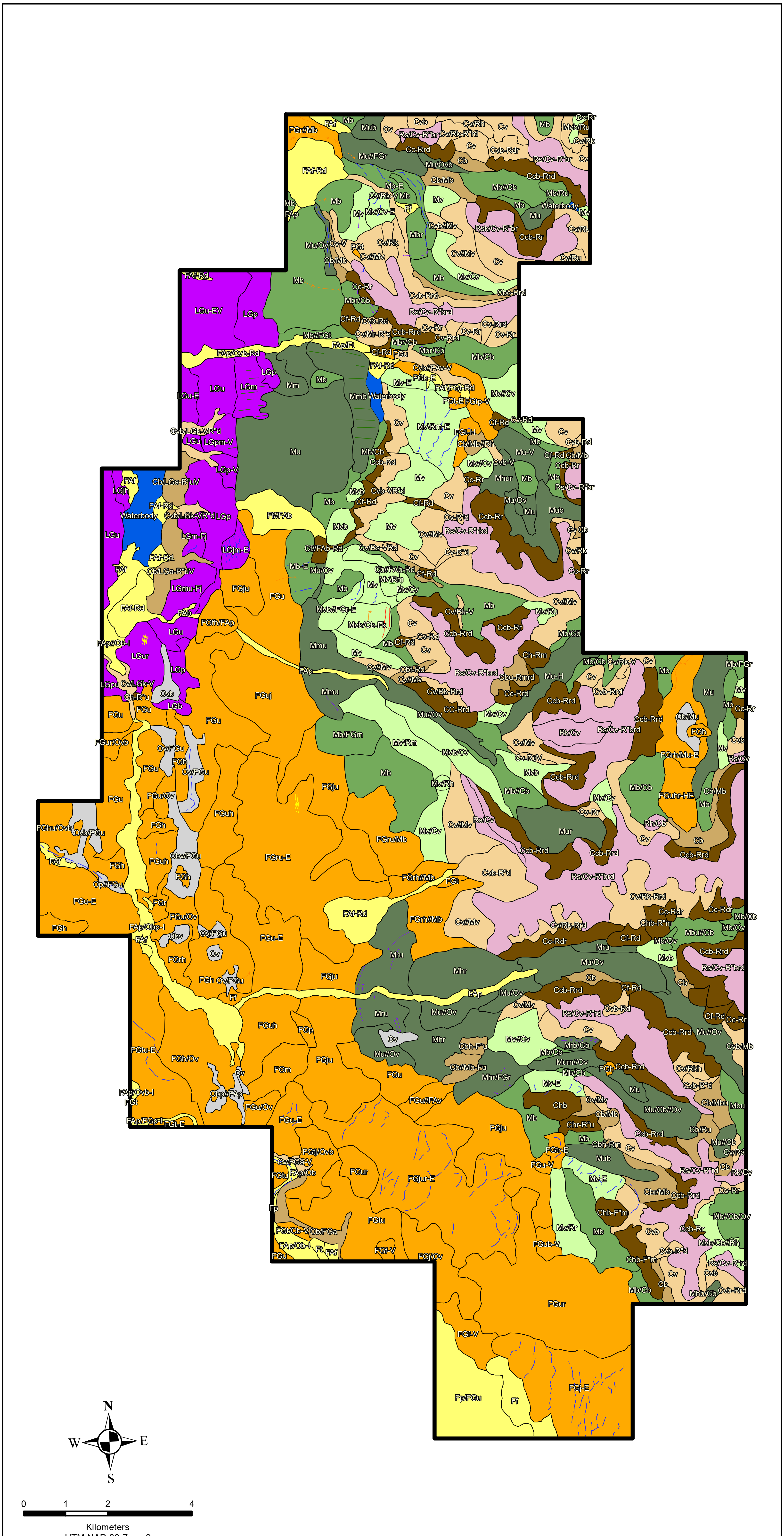
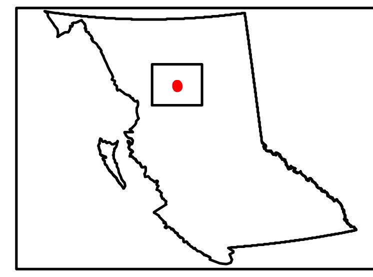
Surficial Geology of the Thor-Marmot Property

Mapping: D. Turner
Date: 15 October 2018
Scale: 1:20,000





Legend

- Property Boundary
- Terrain Polygon
- Drumlin
- Esker
- Meltwater Channel
- Moraine
- Shoreline
- Tension Crack

Dominant Surficial Materials

- Waterbody
- Organics
- Fluvial
- Colluvial Veneer
- Colluvial Blanket
- Thick Colluvium
- Glaciofluvial
- Glaciolacustrine
- Till Veneer
- Till Blanket
- Thick Till
- Bedrock

Terrain Label

Delimiters for proportions of aerial coverage

Geomorphological process and subclass

Cb / Mb // Rh – R"bd

Surficial Material 1 and Expression (colluvial blanket)

Surficial Material 2 and expression (till blanket)

Surficial Material 3 and expression (hummocky bedrock)

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Surficial Geology of the Thor-Marmot Property

Mapping: D. Turner
Date: 15 October 2018
Scale: 1:20,000