NI 43-101 TECHNICAL REPORT

on the

Troitsa Property

Central British Columbia

Latitude: 53° 31' 39"N and Longitude 127° 22' 3" W.

608211 East; 5932213 N, UTM Zone 9, NAD 83

New Energy Metals Corp.

2710-200 Granville Street,

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by

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Effective Date: November 17, 2022

Frontispiece

Looking west from a helicopter along Troitsa Lake into the Coast Range Mountains. The north end of the Blanket Lake chain is visible at the base of the steep slopes in the center of the field of view. Credit: Ken Galambos 2012.

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1. Summary

The Troitsa Property is a property of merit with mineral claims covering an area of mineralization prospective for porphyry copper type deposits in central British Columbia. The center of the Troitsa Property in UTM Zone 9, NAD 83 coordinates is approximately 608211 E and 5932213 N, or Latitude: 53° 31' 39"N and Longitude 127° 22' 3" W. It is located at the west end of Troitsa Lake on the western edge of the Nechako Plateau bordering on the eastern flanks of the Coast Range Mountains of British Columbia. The regional town of Smithers is 140 kilometers north of the Property. The Property is comprised of twenty six (26) mineral claims amounting to 7013.9 hectares in the British Columbia Mineral Title Online cell system, which lists Kenneth D. Galambos and Shawn Albert Turford severally as owners of the claims in the Property.

The Property is the subject of a Property option agreement between New Energy Metals Corporation ("New Energy" or the "Optionee") and Kenneth Galambos, and Shawn Turford, (the Property owners and "Vendors") and David Lefebure and Tom Setterfield, consultants, dated June XX, 2022 (the "Property Option Agreement").

The Property has been explored in two main periods of exploration starting in the late 1960s through the early 1980s and more recently, in the period from 2010 to 2013. It has remained unexplored since 2013. The salient geological feature of the Property is a Late Cretaceous granodioritic stock of the Bulkley Plutonic Suite that intruded volcanic and volcaniclastic strata of the Jurassic Telkwa Formation of the Hazelton Group, and rhyolitic and basaltic tuffs and flows of the Upper Cretaceous Kasalka Group. The stock is mineralized with chalcopyrite-pyrite and lesser molybdenite -bearing quartz veins commonly oriented in a northwest strike with a steep southwest dip, and with disseminated chalcopyrite and pyrite replacement of mafic minerals focused on a series of altered biotite-feldspar porphyritic granodiorite to granite dykes up to 20 meters wide. The Troitsa stock is steep-sided and about 2 kilometers in diameter, with many faulted contacts. A large laccolithic rhyolite body intrudes the stock on its northwest side and is itself intruded by a swarms of northwest striking dykes, mainly of a feldspar porphyritic phase of the pluton, but with several other phases. A dominant northwest trending planar structural fabric appears to control the orientation of the dykes and the veins. The Troitsa stock is comagmatic with the Kasalka volcanics into which it intrudes.

Exploration geochemistry has outlined extensive areas of anomalous copper in soils and talus, reflecting the porphyry style chalcopyrite-pyrite mineralization in several showings including the Main Zone in the core of the stock and the Troitsa Cirque zone on its southern margin. Molybdenum geochemical anomalies are more sporadic perhaps reflecting a separate mineralizing event. Silver geochemistry correlates well with copper indicating a probable substitution of silver for copper in chalcopyrite.

The Main Zone was extensively tested in the 2010 to 2013 period by Callinex Resources, first by a 120 meter long series of channel samples which revealed two 20 meter mineralized intervals that grade 0.57% Cu and then by geophysical surveys and diamond drilling along strike from the Main Zone. The Induced Polarizations revealed significant chargeability anomalies some of which were targeted by the diamond drilling. Diamond drilling included eleven holes along a 500 meter screen to the northwest of the Main Zone. All of the core was sampled and analyzed and nine drill holes intersected significant copper grades in the vicinity of the Main Zone and to the northwest. The author examined the geochemistry of the drill core samples and found that the most consistently high grades were from a broad feldspar porphyritic diorite dyke that is distinctively high in Zr and very low in Ti in the analyses that use an aqua

regia dissolution. This high Zr-low Ti signature of the dyke facilitated tracking it through 4 drill sections and correlating the dyke with the high grade sections of the Main Zone channel sample series. High grades in the main granitoid intruded by the FP dyke may be in a halo around the FP dyke.

A fault observed to offset the series of channel sample strikes 010° and can be traced through steep terrain to the north. The fault appears in drill holes Tr11-01, to 04 which constitute two drill sections, and may offset the feldspar porphyry dyke either east side down or sinistrally by about 30 meters of apparent horizontal offset. The offset of the dyke may also be accommodated by an intrusive bend following fractures orthogonal to the main NW-trending regional fracture set. The dyke is readily tracked to the northwest through drill sections for Tr11-07, Tr12-09 and Tr12-10 and its surface trace approximated, which is on strike with the westerly high grade interval of the channel sample series. The easterly high grade in interval is a repetition of the feldspar porphyry dyke. Beyond the section for Tr12 -10 the dyke does not continue to the northwest into drill sections for Tr11-05 and -06. A fault, of the same orientation as the Main Zone fault may offset the dyke and may be mappable as one of series of outcropping faults in a high ridge to the northeast. Dykes and pyritic zones on the ridge lie along strike fo the Main Zone dyke and are distinctly enriched in copper relative to other granitoids. The mineralized zones in the drill sections and on surface show good correlation with chargeability highs in the inversion of the IP survey data.

Geochemical zoning is evident both in the drill hole dataset of 1786 samples and in 413 field samples from several showings across the Troitsa stock. In the drill core sample copper .silver and copper /iron ratios decrease away from the most mineralized drill holes and in the field the same effect is observed and can be interpreted to as a general decrease in the chalcopyrite and increase in pyrite in mineral assemblages away from the core area in the Main Zone. The relatively unexplored Troitsa Cirque zone shows similar ratios as the Main Zone and should be explored in detail.

The recommended exploration program should focus on mapping the FP dykes, first at the Main Zone using the high Zr-low Ti (by aqua regia extraction only) signature of samples where the primary textural difference is not clear, and then elsewhere at the various showings. The Zr-Ti signature would not be apparent using a handheld XRF, since the low Ti is a function of the difference in solubility of the Ti bearing mineral in fusion or strong acid versus aqua regia. Alteration zoning was previously observed in one major dyke and detailed mapping should coincide with sampling for both lithogeochemical characterization and assessing mineralization in the dykes. IP geophysics appears to correlate well with down hole assays and the survey area should be expanded to cover Troitsa Cirque and other areas south of Main Zone. One area of potential highlighted by comparison to other Bulkley suite porphyry copper deposits in the district, including Huckleberry and Berg, is the common finding of stockwork mineralization in hornfelsed rocks around the periphery of the stocks. Although a hornfels zone has been mapped around the Troitsa stock in volcanic and sedimentary rocks, no mineralization has been found.

Including a geophysical program, the recommended budget for the exploration work is $232,860.

2. Introduction

The Troitsa Property is a 7013.9 hectare mineral claim group in west-central British Columbia located on maps in Figures 2 and 3. The Property is an early stage exploration, copper-molybdenum-gold calc-alkalic porphyry prospect in the Tahtsa Lake district of the Nechako Plateau. Several advanced stage exploration projects are active in the region and the past producing Huckleberry porphyry copper mine is located 20 kilometers northeast on Tahtsa Lake.

The Troitsa Property is subject to the Property Option Agreement, dated June 15, 2022, between New Energy Metals Corporation ("New Energy" or the "Optionee") and Ken Galambos, Shawn Turford, and Ralph Keefe (the "Vendors") with Tom Setterfield and David Lefebure (consultants), whereby New Energy can acquire 100% of the interest in and to certain mineral claims comprising the Property. The author was retained by New Energy to prepare a National Instrument 43-101 *Standards of Disclosure for Mineral Projects* and National Instrument Form 43-101 F1 Technical Report ("NI 43-101" and "Form NI 43-101 F1", respectively) compliant Technical Report on the Troitsa Property (the "Technical Report" or the "Report"). The author is an independent qualified person as defined in Section 1.5 of NI 43-101. This Report has been prepared in the form and content specified in Form NI 43-101 F1.

Figure 1: Diamond drilling rig on the Troitsa Property 2011
Looking southeast across the Main Zone. Drill rig is positioned for diamond drill hole Tr11-06, oriented on an azimuth of 065° and dip of -50°.
Photo by Ken Galambos.

The author was also retained by New Energy in February 2022 to compile and interpret the previous work on the Property and make recommendations for the subsequent, August 2022, exploration program by the company and the property visit by the author. Aspects of that report included modelling the known geology as testable guides to field exploration much of which has been retained in the Item 6: History for comparison with the author's field observations in the

Item 9: Exploration and Item 17: Interpretations and Conclusions.

Regional geological information was sourced from British Columbia Geological Survey reports and maps available from government websites (Mapplace.ca), as well as papers published in refereed international journals. Information was also obtained from the web-based British Columbia government website "Mineral Titles Online" for claim information. Historical information was gathered from the assessment reports on file in the British Columbia Assessment Report Information System (ARIS) describing exploration on the Property and on adjacent properties since about 1968. Material not in the public domain was obtained by the author from Property owner Ken Galamabos, who conducted the 2010 to 2012 exploration and diamond drilling programs.

The author has referred to the work of various geological experts in the preparation of this Technical Report who are authors of geological papers and maps on the region where the Property is situated. While it is not always easy to verify early results or to make representations regarding their accuracy or applicability, based on a review of the data presented in the previous work, involving reprocessing and evaluation, the author is confident that this earlier work was carried out to high industry standards of the time.

The author believes the information in this Technical Report remains accurate and is unaware of any material change in the scientific and technical information prior to the filing date. The author reserves the right to review public releases by New Energy Metals that quote this Technical Report and the work of the author.

All UTM coordinates referred to in the Report are in the North American Datum of 1983 ("NAD 83") and in UTM Zone 9.

Table 1: Abbreviations
Measurement Units, Element Abbreviations and Acronyms used in this report.:

Measurement Units:

C	Celsius
cm	centimeter
g/t	grams per tonne
ha	hectares
Hz	Hertz
km	kilometer
kg	kilogram
m	meter
mm	millimeter
Ma	Million years ago
Mt	Million tonnes
ppb	parts per billion
ppm	parts per million
t	tonnes
wt%	weight percent

Element Abbreviations:

Ag	Silver
As	Arsenic
Au	Gold
Ce	Cerium
Cu	Copper
Eu	Europium
La	Lanthanum
Mo	Molybdenum
Mn	Manganese
Pb	Lead
Sb	Antimony
Ti	Titanium
Zn	Zinc

Minerals:

bn	bornite
cpy	chalcopyrite
py	pyrite
sp	sphalerite

Geological Terms

Fm.	Formation
fm.	informal formation
Gp	Group
SW	southwest
NW	northwest

Acronyms:

AAS	Atomic Absorption Spectroscopy
ARIS	British Columbia Assessment Report Index System
BCGSB	B.C. Geological Survey Branch
EM	Electromagnetic
MEMPR	Ministry of Energy Mines and Petroleum Resources
FA	Fire Assay
GIS	Geographic Information System
GPS	Global Positioning System
Mag	Magnetometer
NTS	National Topographic System
QA	Quality Assurance
QC	Quality Control
REE	Rare Earth Element
TMI	Total Magnetic Intensity
UTM	Universal Transverse Mercator

3. Reliance on Other Experts

The author is not relying on the opinion of any other experts.

4. Property Description and Location

4.1 Troitsa Property

The Troitsa Property is located about 135 km southeast of Terrace, and 140 km south of Smithers in the Omineca Mining Division of central British Columbia (Fig. 3). The Property lies in the SW corner of the NTS 1:50,000 topographic map sheets 93E/11. It constitutes twenty six (26) mineral claims numbered in Table 1 and amounting to 7013.9 hectares in the British Columbia Mineral Title Online cell system, which lists Kenneth D. Galambos and Shawn Albert Turford severally as owners of the claims constituting the Property. The center of the Property in UTM Zone 9, NAD 83 coordinates is 608211 E and 5932213 N, or Latitude: 53° 31' 39" N and

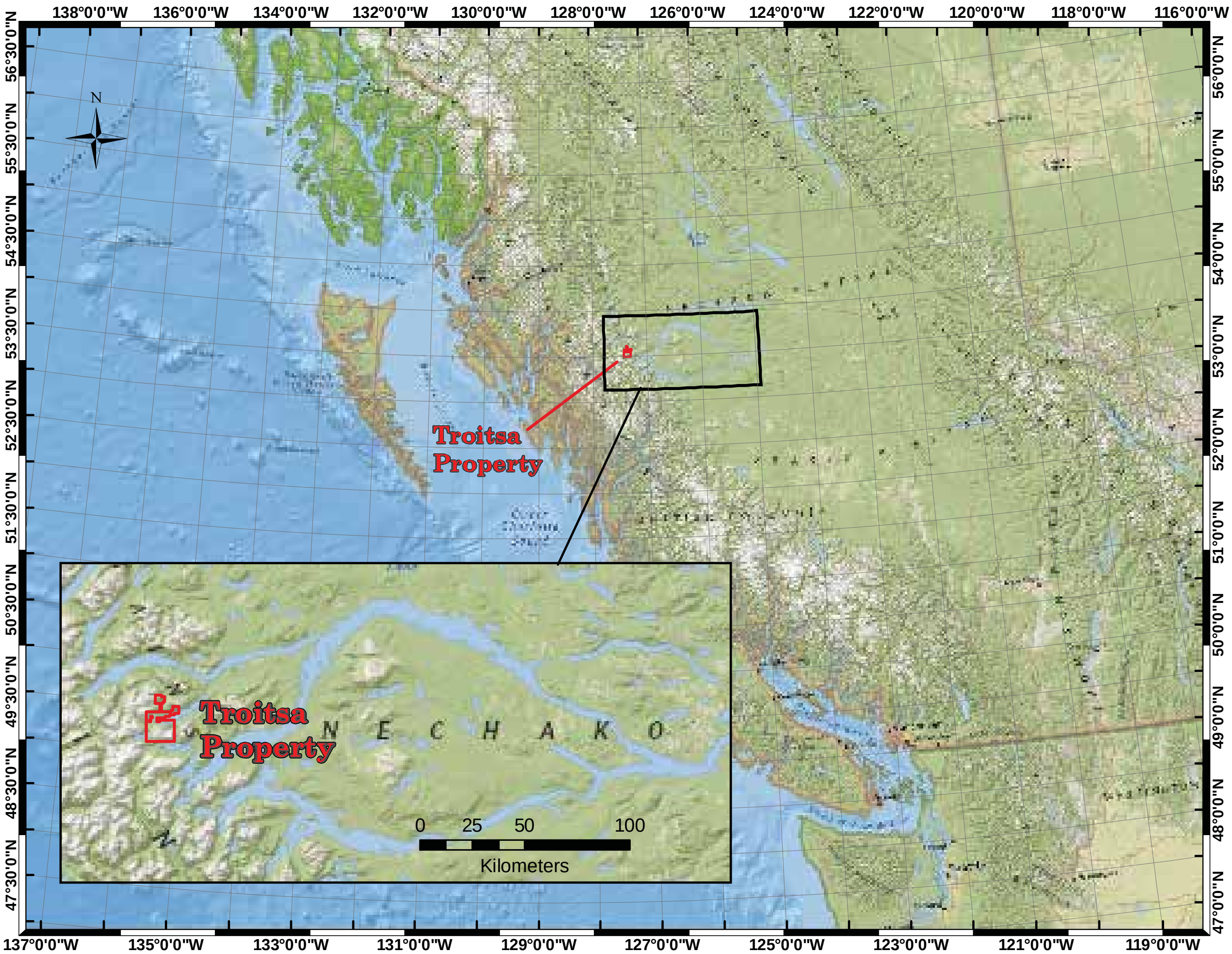


Figure 2: Location of the Troitsa Property in north central British Columbia.
The Property is located at the western edge of the Nechako Plateau in the Coastal Mountain Range.
Map drawn in ArcGIS by the author using National Geographic Topographic base map and current Mineral Titles files for March, 2022.

Longitude 127° 22’ 3” W. The claims are not adjoined by others, but the region to the north is solidly staked for 30 kilometers.

The claims establish subsurface rights to the owner for minerals (base and precious metals) as outlined in the *Mineral Tenure Act* of British Columbia (the “*Mineral Tenure Act*”). The Troitsa Property Claims are listed in the British Columbia Mineral Titles On-line system (http://www.mtonline.gov.bc.ca/), the boundaries of which are predetermined by geographically defined cells conforming to a provincial mineral titles grid system. Neither the claims nor the Property boundary have been surveyed or marked on the ground, nor is this required for resolution of Property issues. The claim boundaries are shown on the physiographic map of the Property in Figure 4.

Tenure No.	Name	Issue Date	Good to Date	Area (ha)	FMC No.	Owner Name
530747	TROITSA	2006 03 28	2024 07 15	19.2	135132	TURFORD, SHAWN ALBERT
562810	TROITSA 1	2007 07 10	2024 07 15	38.5	135132	TURFORD, SHAWN ALBERT
591929	TSA105	2008 09 25	2024 07 15	134.5	135132	TURFORD, SHAWN ALBERT
610463		2009 07 23	2024 07 15	192.2	109109	GALAMBOS, KENNETH D
610466	TROITSA	2009 07 23	2024 07 15	211.5	109109	GALAMBOS, KENNETH D
626523		2009 09 01	2024 07 15	96.1	109109	GALAMBOS, KENNETH D
637152	TROITSA	2009 09 19	2024 07 15	480.5	109109	GALAMBOS, KENNETH D
818105	TSA 202	2010 07 14	2024 07 15	115.3	135132	TURFORD, SHAWN ALBERT
821422	TSA WEST	2010 07 19	2024 07 15	134.5	135132	TURFORD, SHAWN ALBERT
822483	TSA10901	2010 07 21	2024 07 15	19.2	135132	TURFORD, SHAWN ALBERT
829162	TSA NORTH	2010 07 27	2024 07 15	461.0	135132	TURFORD, SHAWN ALBERT
830887		2010 07 30	2024 07 15	480.0	109109	GALAMBOS, KENNETH D
830888		2010 07 30	2024 07 15	480.1	109109	GALAMBOS, KENNETH D
830889		2010 07 30	2024 07 15	480.3	109109	GALAMBOS, KENNETH D
830890		2010 07 30	2024 07 15	480.7	109109	GALAMBOS, KENNETH D
830891		2010 07 30	2024 07 15	480.8	109109	GALAMBOS, KENNETH D
830892		2010 07 30	2024 07 15	442.1	109109	GALAMBOS, KENNETH D
884549	TROITSA FINAL	2011 08 08	2024 07 15	173.0	109109	GALAMBOS, KENNETH D
1059713	KATE	2018 04 01	2024 07 15	76.8	109109	GALAMBOS, KENNETH D
1083737	TROITSA MOLY	2021 08 17	2024 07 15	38.5	109109	GALAMBOS, KENNETH D
1083738	TROGOLD	2021 08 17	2024 07 15	115.4	109109	GALAMBOS, KENNETH D
1083739		2021 08 17	2024 07 15	38.4	109109	GALAMBOS, KENNETH D
1090967		2022 01 24	2024 07 15	153.6	109109	GALAMBOS, KENNETH D
1093554		2022 03 01	2024 07 15	307.7	109109	GALAMBOS, KENNETH D
1093555		2022 03 01	2024 07 15	980.4	109109	GALAMBOS, KENNETH D
1093556	KATE	2022 03 01	2024 07 15	383.7	109109	GALAMBOS, KENNETH D

Table 2: Tenures in the Troitsa Property as of March 2022.
The Troitsa Property consists of 26 tenures owned jointly by Galambos and Turford. The total area of the claims is 7013.87 hectares.

Retention of the Property requires filing Statements of Work with the British Columbia Mineral Titles System reflecting expenditures on qualifying exploration and development work. On the basis of the *Mineral Tenure Act* the required work must amount to a minimum of $5/ha/year for the first 2 years the claims are held, and then $10/ha/year for the next 2 years, $15/ha/year for the next 2 years and finally $20/ha/year for each subsequent year. Technical reports (assessment reports) must be filed and accepted after review by the British Columbia Ministry of Mines describing the applicable work with cost statements justifying the exploration expenditures.

For advanced exploration work, Notice of Work (NOWs) applications will be necessary to permit future mechanically assisted exploration (diamond drilling, trenching, etc.) and certain types of geophysical surveys (IP). The Property is underlain by Crown land with no known adverse claims to mineral rights, including by aboriginal groups. However, aboriginal rights and land title are complex and evolving areas of liability for resource projects throughout British Columbia and proponents of projects are advised to consult with and maintain relations with local indigenous groups.

The Property has not been logged and there are no known timber leases within the vicinity. The main forest service road runs only within 20 kilometers to the east of the claims, but is accessible only by an industrial ferry from the north side of the Nechako Reservoir lake system. Although Troitsa Lake lies within the area of the Nechako Reservoir, its natural water level remains above the reservoir level, and the lake was not flooded. The Nechako reservoir and Troitsa Lake are within the Pacific watershed in an area of prolific salmon, and trout fishing lakes and subject to considerable environmental interest and regulatory oversight. Many of the Nechako Reservoir lakes cover flooded forests, which have been the subject of many environmental studies. The Nechako River was dammed at its source on the eastern edge of the Kitimat Ranges in the early 1950s to provide power to the Alcan aluminum smelter in Kitimat. The author is unaware of other liabilities, environmental or otherwise, on the Troitsa Property.

The current and previous mineral tenures were all staked after the expiry of previous claims, and, thus, there are no inherited royalty or Net Smelter Returns attached to the Property except as provided in the Property Option Agreement between New Energy Metals and the Vendors, which is further discussed below. There are no known environmental liabilities, significant factors or risks that affect access, title, or the right or ability to perform work on the Property.

4.2 Troitsa Property Option Agreement

The Property is the subject of an option agreement dated July 15, 2022, between New Energy Metals Corp. (“New Energy”) and Ken Galambos (the “Optionor”), whereby New Energy can acquire 100% of the interest in and to certain mineral claims constituting the Property from the Optionor. The agreement includes a number of financial obligations, but essentially comprises a series of cash payments and stock issuances from New Energy to the Optionor along with other obligations for advancing the exploration status of the Property, its transfer to New Energy and the payment of royalties. The cash payments total $220,000, and begin with a $25,00 payment on the signing date of the agreement and thereafter $45,000, $60,000, and $90,000 at 12 month intervals. Stock issuances follow the same schedule as the cash payments, and constitute a total of 1,200,000 common shares of New Energy in 4 tranches of 300,000 shares each. The Optionor will transfer the Property to New Energy once all these obligations are satisfactorily completed, and New Energy has exercised it option to acquire the Property.

5. Accessibility, Climate, Local Resources, Infrastructure & Physiography

5.1 Accessibility

The Troitsa Property is located in west central British Columbia (Fig. 3) about 140 km south of Smithers. The region is active in industrial forestry and mining as well as tourism activities, hunting and fishing. The Property is mainly accessible by helicopter either directly from Terrace or Smithers or indirectly using staging sites at the Huckleberry Mine site, or other road accessible, currently active exploration camps. The northern part of the Property borders Troitsa Lake, but the lake is only accessible by canoe portage routes from Tahtsa Reach on the Nechako Reservoir, or by float plane. Flights by B2 A-Star helicopters from the Silver King base in Smithers to the Property were typically about one hour.

5.2 Climate and Vegetation

The climate is typical of the central areas of the British Columbia Intermontane region with an extreme range of temperatures from summer highs above 30ºC to winter lows near -30ºC. Precipitation in all seasons in the Intermontane is moderated by mountain ranges on both sides, the Rockies to the east and the Coastal Ranges far to the west.

The Property is subject to variably heavy snowfall from December through April, and the length of the snow free surface exploration season is typically between late June and October. Snowpack is elevation dependent, but typically remains at higher elevations until late June. In the current year, 2022, significant high elevation snowpack remained well into July after an unusually cool and protracted spring throughout British Columbia and many previously exposed outcrops were covered.

Tree line is at about 1400 meters and forested areas are populated by subalpine fir, Mountain Hemlock and Amabalis Fir. Mountain Hemlock persists to tree line elevations in the area of the Property (Fig. 4 & 5). Most of the forested area in the region ranges in age between 130 and 230 years reflecting past recurring fires, and only small areas classified on the BCForestMap.com of "Ancient Forest" are present, apparently in protected wet valleys and along some lake shores. Logging has not taken place in the immediate area and the closest logging blocks planned by Canadian Forest Products are about 20 kilometers east of Troitsa

Figure 3: Troitsa Central Valley
Photo is looking south-west over heavy talus below the north end of Piano Peak across the Troitsa alpine valley towards the South Glacier and a high east-west ridge near the southern Property boundary. Photo by the author, August 5, 2022.

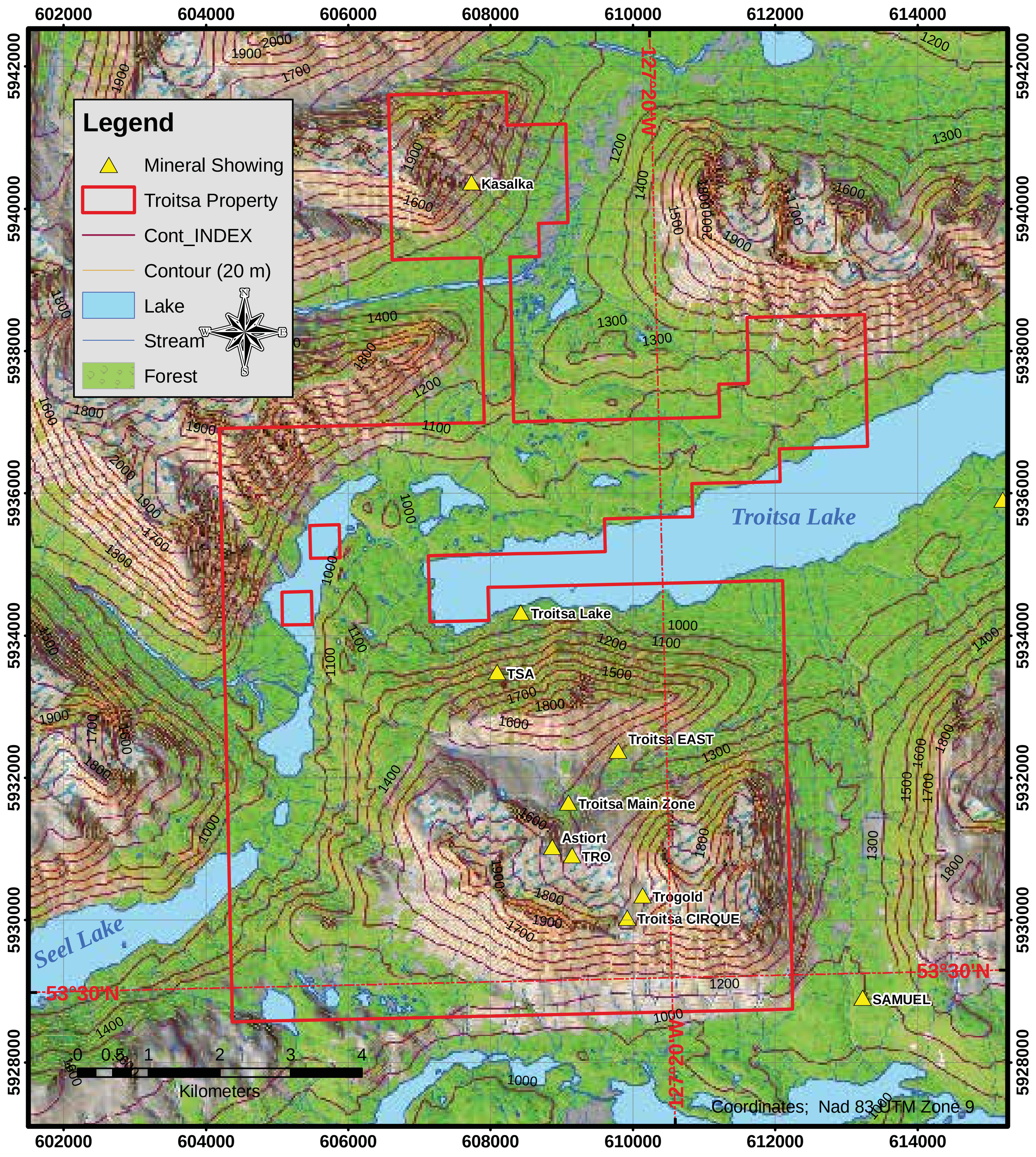


Figure 4: Physiography of the Troitsa Property

The established mineral showings are located on this shaded relief topographic map of the physiography of the Property. Tree line is at 1400 meters. Remnant cirque glaciers are present in several northern aspects including the alpine valley in the center of the southern block of the Troitsa Property. Index contours are at 100 m intervals and intermediate contours are at 20 meter intervals. The Blanket Lakes and Seel Lake on the western margin of the Property drain into Troitsa Lake, which is connected to Tahtsa Lake and other parts of the Nechako Reservoir. The chain of lakes to the south drain east into Coles Lake and thence into Whitesail Lake. Map drawn by the author in ArcGIS 9.3 using files from Natural Resources Canada, March 2022.

Figure 5: View looking south west across Troitsa Lake across the Property
The rusty weathering zone are rhyolites underlying the western end of the North Ridge on the Property. Tree line can be judged by the thick forest at lake level grading up to intermittent zones at middle altitudes. Photo by the author, August 2022.

Lake.

5.3 Local Resources

The Property is in a remote area on the eastern flanks of the Coast Range Mountains. Abundant water and timber resources are available proximal to the Property. The regional town of Smithers is a well-established regional center for mineral exploration and mining.

5.4 Infrastructure

There is no existing infrastructure on the Property apart from a hut at the lower end of a canoe portage between the western end of Troitsa Lake and the Blanket Lakes.

5.5 Physiography and Surficial Geology

The Property is in the Tahtsa Range on the western edge of the Nechako Plateau, a subregion of the northwestern interior plateau, and on the flanks of the Coast Mountains (Fig. 5). From the south shore of Troitsa Lake at an elevation of 898 m asl the ground rises precipitously to a knife edged E-W ridge at 1982 m which borders an alpine valley to the south (Fig. 4). The valley is enclosed to the south by a series of cirques and peaks rising to over 2000 meters. The valley drains eastward into Troitsa Lake

The glacial history of the Tahtsa Lake - Ootsa Lake region was established by Ferbey and Levson (2001) from studies based out of the Huckleberry Mine in the late 1990s. Ice flow directions are generally easterly, parallel to elongate physiographic features like lake shores and alpine valleys. However, during the Fraser glacial maximum, ice flow was west over peaks from a major ice dome in the east producing west to southwest ice flow indicators such as roche moutonee', striae, and "rat tails" preserved in alpine sites above 1500 m and independent of directional topographic features. After the ice dome subsided in central British Columbia during deglaciation by about 12,000 years before present, glacial ice flow returned to easterly directions and ice flow indicators observed at low elevations became much more complicated and topographically–controlled.

5.6 Suitability for Mining

The southern block of the Property area is extremely rugged with steep slopes rising to 2000 meters from lake shore elevations of 1200 meters. Two alpine ridges enclose a central valley that has a significant flat area that might be potentially suitable for mine infrastructure.

The Nechako Plateau logging road system currently extends to about 20 km east of the Property, and there are many active and formerly active mining operations in the region including the past producing Huckleberry Mine.

The Kemano hydro power station is located in the mountains about 40 kilometers to the west. A 16 kilometer long penstock tunnel was built in the 1950s from the western end of Tahtsa Lake, which is about 20 km northwest of the Property, to the generating stations at Kemano to supply power lines for aluminum smelters in Kitimat. The Huckleberry mine used grid power for its past production phase and current reclamation activities.

Figure 6: Outcrops in the Blanket Lake Fault zone
Looking west from a north sloping ravine above Troitsa Lake. Blanket Lake in the right background, Ken Galambos, property owner photographing rock textures Photo by the author, August 4, 2022.

6. History

6.1 Introduction

The Troitsa Property comprises two separate geological entities within the claim boundaries (Fig. 4): The main geological entity is the granodioritic Troitsa stock and its immediate host rocks south of Troitsa Lake that constitute a calc-alkaline porphyry copper-molybdenum system or complex. Included in the Property is a second entity known as the Price showing and formerly on the Kate property north of Troitsa Lake. The Price is potentially a porphyry copper system, but the present erosional level may represent altered and mineralized country rock above an unexposed intrusion. For the purposes of historical review these entities will be treated separately, with the main focus being on the Troitsa stock in the following sections, and the relatively unexplored Price showing described after.

The main sources of information on the Troitsa Property relate to two distinct periods of exploration work on the Property. The first period was from about 1967 through 1987 when a series of claims (the OVP and MK groups) were staked and various parties conducted exploration programs resulting in assessment reports published in the BC Assessment Report Information System (ARIS). The second period was from 2006 to 2013 when parts of the present Property were staked and explored. Within the region concurrent history included initial discoveries of the Huckleberry Mine in 1962 followed eventually by mine development in 1996 and mining operations until 2016.

In the first period, the main program accomplishments were geological mapping, soil and rock sample geochemical surveys on grids within the present Property. Associated with these were ground and airborne magnetometer surveys and minor induced polarization surveys. A few diamond drill holes were completed during this period, but no reports are available. Six assessment reports and a master's thesis were filed during this period. Other sources include a Property File, an internal company report written by Cawthorn in 1971 for Aston Resources, which is available in the BCGS archives. Parts of the Property were geologically mapped at varying scales and the district was subject of a Ph.D. dissertation by Don MacIntyre (1976) that was published as BCGS Bulletin No. 75 in 1985.

The first showings were discovered by G. Bleiler and F. Giague in the western edge of the present Property, resulting in the staking of the OVP claims group and optioning to Silver Standard Mines. Trenching and sampling ensued in 1966 and 1967 along with diamond drilling in three holes totalling 370 meters. The staked ground was then expanded to the southeast with the MK group in the upland valley due to the discovery of new mineralization. Induced polarization surveys, trenching and 361 meters of small diameter diamond drilling followed in 1968, but Silver Standard dropped the option. Aston Resources re-optioned the OVP and MK groups in 1969 and completed geological mapping, soil and rock geochemical surveys, and a helicopter airborne magnetometer and EM surveys. Cerro Mining Company of Canada Limited optioned the claims from Aston in 1971 and completed a greatly expanded soil and rock geochemical survey covering much of the area hosting currently known mineralization. A single diamond drill hole was completed the following year by Quintana Minerals, but subsequently the claims lapsed. In 1983 Payday Resources staked the Core Lode and Nuswat claims in the NW part of the Property, completed an extensive geochemical surveys with a changing focus to precious metals.

Through the early history of the Property, over a 20 year period, many exploration techniques advanced; geochemical assaying was initially done by Atomic Absorption Spectroscopy which involved manual measurement of single elements, but by the mid-80s more rapid multi-element ICP methods that measured spectra from dozens of elements simultaneously became available. Geophysical methods also improved with the advent of microcomputers to take more rapid time series of measurements. However, during the same period the economics of mining became less favourable as costs rose with rampant inflation, and high interest rates discouraged mine development. Gold became a more sought-after commodity by the late 1980s, and exploration and development of porphyry copper deposits was inhibited.

With renewed economic energy and higher copper prices, a second exploration period took place on the Property spanning 3 years from 2009 to 2012 with a significant diamond drilling program coinciding with ground and airborne geophysical surveys and widespread rock sampling. One of the current owners, Shawn Turford, had previously prospected the Property in 2001 as part of a BC Prospectors assistance program, but did not retain any claims or file assessment reports. The Property was then restaked in the current cell claim system by Turford, Ken Galambos, and Ralph Keefe in 2006. Exploration was resumed under an option agreement in 2009 resulting in five assessment reports recording the exploration work through 2013.

Compared to the late 1980s exploration technology had advanced significantly in speed and capacity of computers used in geophysics, more precise and cheaper multi-elemental ICP analysis and access to GPS satellite navigation. Copper prices were also effectively higher than in the 80s. Another significant change was the melt-back of ice in the small cirque glaciers in the core of the Property revealing new outcrops. Throughout the history of the Troitsa Property, it has remained relatively remote requiring helicopter access for effective exploration logistics despite extension of logging and mining roads to within 20 kilometers to the east.

6.2 Early Exploration Programs

6.2.1 Silver Standard Mines Ltd: OVP Claims 49-60.

The earliest assessment report filed in the area of the Property described a 10 day mapping and sampling project in 1967 on the OVP claims by Silver Standard Mines Ltd, (Neugebaur and Olson, 1967; in AR 1091).

The OVP claims were in the western part of the present Property covering part of the isthmus between the western end of Troitsa Lake and the Blanket Lakes chain in the west (Fig. 7). Hazelton Group volcanic rocks including minor rhyolites were described and it was noted that rhyolites were more common to the east of the claims as well as a granitic dyke mineralized with chalcopyrite and molybdenite. Flows were observed to strike NW and dip steeply to the SW. No data was provided other than a geological sketch map. The area examined lies west of the main areas of historical exploration.

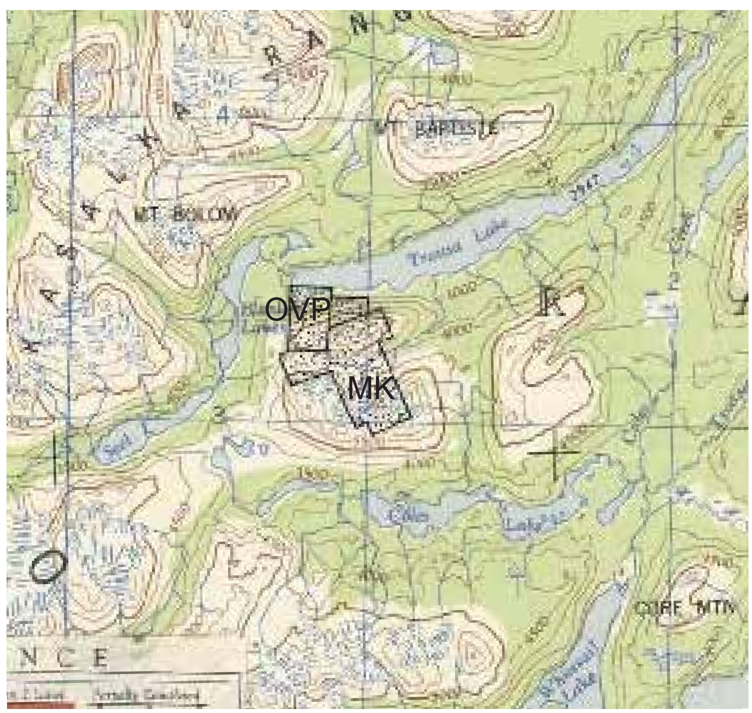


Figure 7: Aston Resources OVP and MK claim group 1971
From Mustard and Cawthorn, (1971)

The report by Davidson and Woolverton (1969) describes 1215 feet of diamond drilling in three holes in 1967 and another 1187 feet in two holes in 1968, presumably by Silver Standard, the results of which are not available in the public domain. Silver Standard conducted an IP survey near showings, which was presumably the impetus for the drilling. None of the results of geological mapping were included in Silver Standards reporting, but their map was included in a later report by Aston Resources.

6.2.2 Aston Resources Ltd ; OVP 1-36 and MK 1-60 claims,

After Silver Standard dropped their option on the OVP claims (Fig. 5) and several new sets of claims had been staked covering some prominent gossans, Aston Resources optioned the property in 1969 (Davidson and Woolverton, 1969 in AR2026).

The expanded property (Fig. 5) covered most of the presently known extent of the granodioritic stock at the core of the present Property. Airborne magnetometer and EM surveys by helicopter over an area including the Blanket Lakes to the west, the west end of Troitsa Lake and north of Coles Lake in the south revealed significant magnetic highs and some coincident EM conductors about 2 kilometers south of Troitsa Lake. A rock sample geochemical grid confirmed anomalous copper highs in the area of the magnetic high as well as more sporadic molybdenum highs. Geological maps in the report show the anomalous area to be underlain by rhyolitic volcanic strata intruded by a swarm of northwest trending, intermediate to felsic porphyry dykes and intruded by a granodioritic stock to the southeast. Structural features,

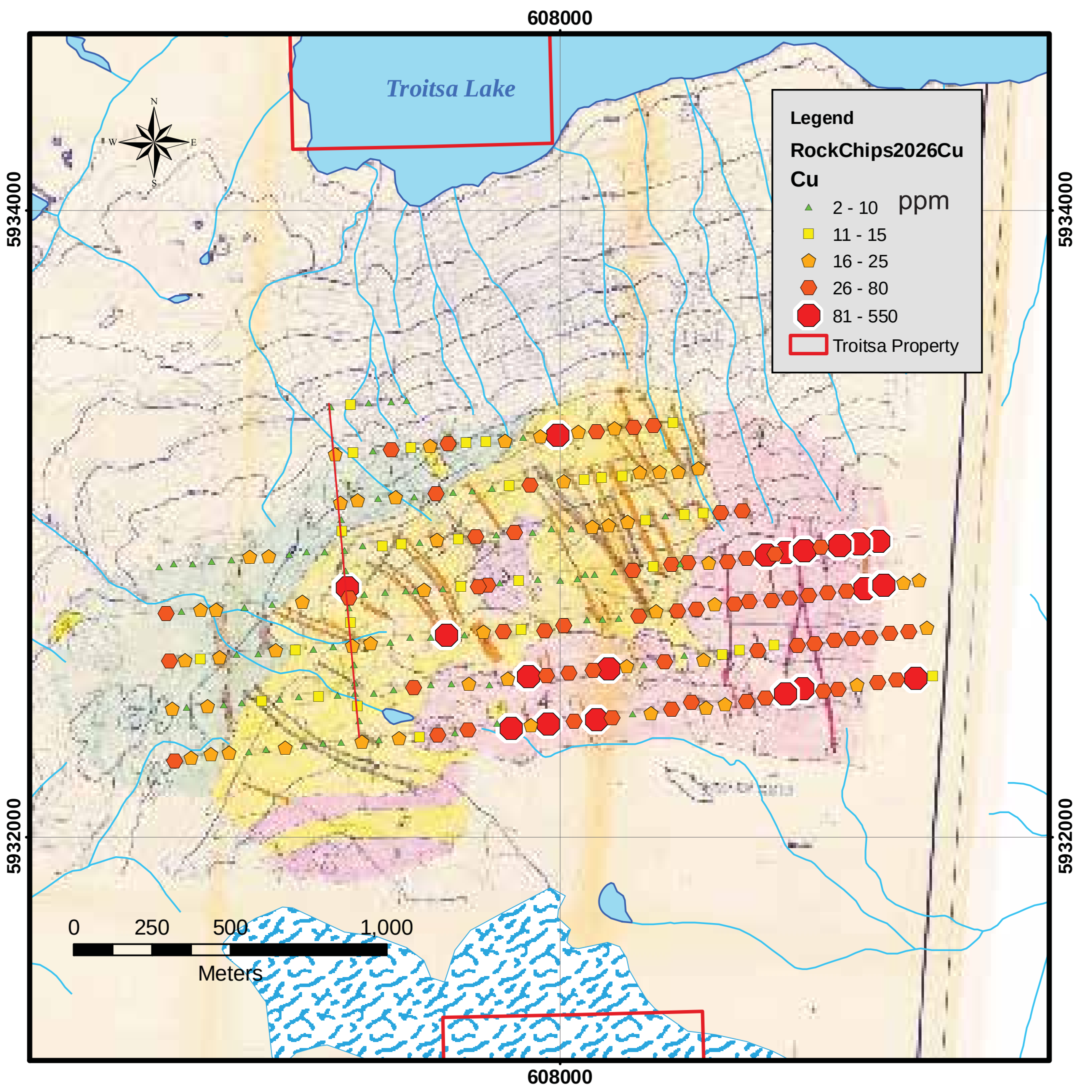


Figure 8: Geological map of the dyke swarm and copper geochemistry. The map from the report by Davidson and Woolverton (1969) was georeferenced and overlain by digitized copper concentrations from rock chips and talus fines. The yellow area is a rhyolite porphyry cut by dioritic dykes, the pink is a granodioritic stock which is also cut by dykes and intruded by the porphyry. The heading RockChips2026Cu refers to assessment report 2026 and an ArcGIS layer file.

including primary flow structures in Hazelton Group rocks, foliations and shear planes trend north-northwest parallel to regional trends formed during emplacement of the Eocene Coast range batholith. The dyke swarm generally runs parallel to this structural fabric, but exhibits a radial structure near the rhyolite.

The work by Aston focused on the area of the dyke swarm and the contact with the granodioritic stock. A grid, 2.5 km E-W by 1 km N-S was located about 1 km south of Troitsa Lake aligned along a sharp E-W ridge line and was used to produce a geological map and overlying geochemical maps of copper and molybdenum. These maps were georeferenced by the author and the geochemical data digitized to produce geochemical overlays of the geology map shown in Figure 6. The geochemical samples collected were either talus fines from talus fans or rock chips from outcrops. These were treated as rock material by crushing and pulverizing. A one gram portion was digested in a hot perchloric – nitric acid solution and analysed by atomic absorption spectrophotometry and molybdenum by a colourimetric thiocyanate method.

The most consistently copper anomalous area of the map is seen to be within the area of the granodiorite intrusion in the southern and eastern part of the grid rather than in the rhyolite and dyke swarm complex. Molybdenum in talus is more sporadic in distribution, but also

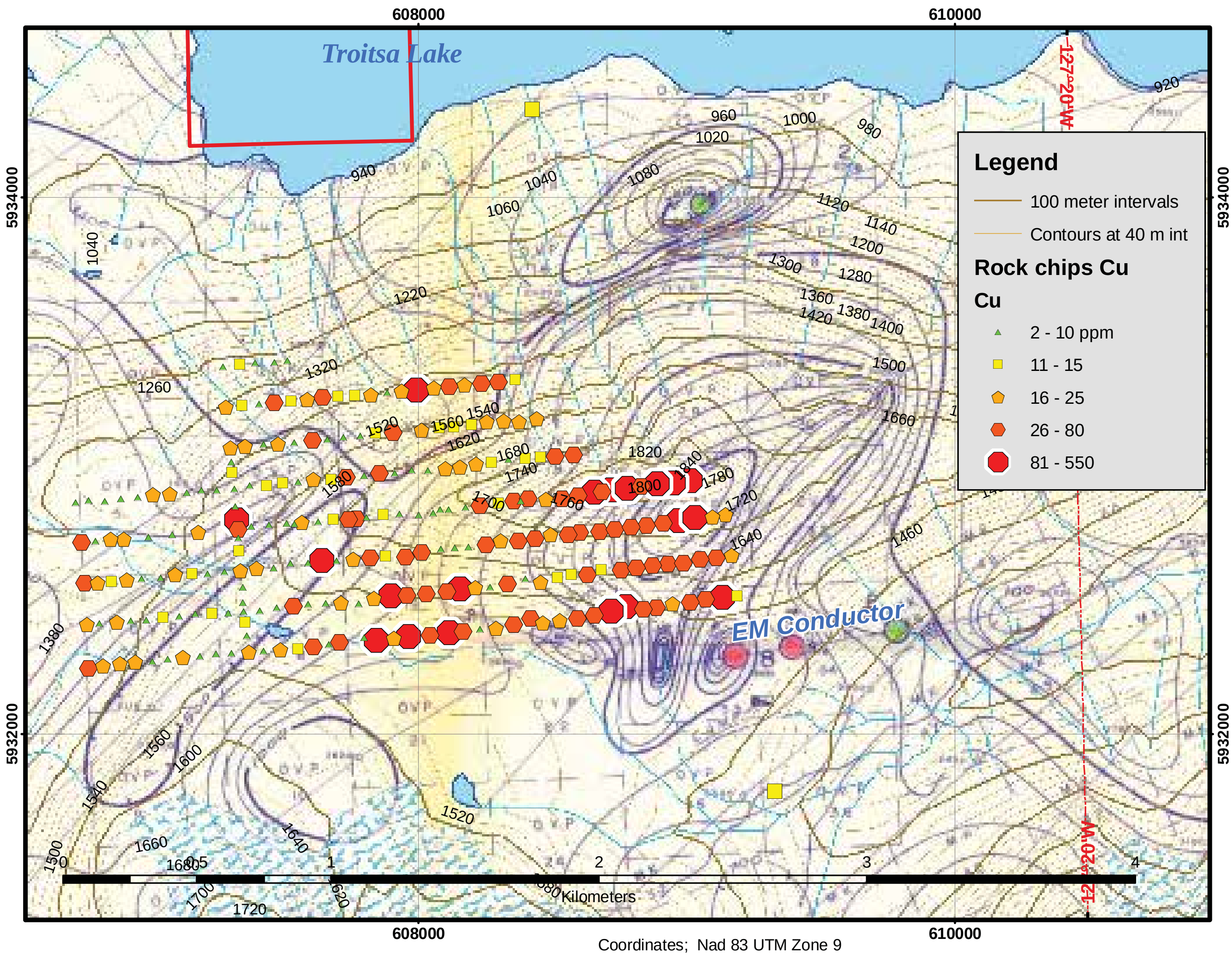


Figure 9: Contoured TMI map and EM anomaly map from 1969 survey
Copper geochemical data are plotted over contours of magnetic intensity (dark blue lines) and topographic contours (brown; labelled in meters on index contours). An EM conductor, marked by red and green circles is labelled in blue.

appears more anomalous in the granodiorite. In their interpretation, Davidson and Woolverton (1969) used frequency distribution curves of the dataset for Cu and Mo to determine background, threshold values of 20 ppm for Cu and 4 ppm for Mo, and strongly anomalous above 80 ppm Cu and 16 ppm Mo. Similar values are symbolized in Figures 8 and 9 for copper.

The geophysical surveys were conducted by a G3 helicopter which was not always capable of climbing continuously over steep ridges and maintaining a constant ground clearance with the suspended measurement instrument. The flight lines were plotted by the photogrammetric method of picking points from timed exposures of 35 mm film against an orthorectified photo mosaic. Several conductive anomalies were determined by the survey some of which coincided with magnetic anomalies and were concluded to indicate conductive magnetite concentrations. The contoured total magnetic intensity map of the grid area of the survey is shown in Figure 7. Conductive anomalies that are plotted on the map coincide with areas of the copper anomalies.

6.2.3 Aston Resources 1971

In 1971 Aston Resources expanded its survey area with a geochemical program by sampling silt, soil, talus and rocks chips to reveal areas of overburden-covered mineralization (Mustard and Cawthorn, 1971 in AR3253). The survey grid was extended to cover most of the area of the west facing cirque that is centred about 2.5 kilometers south of Troitsa Lake (Figure 8). The OVP-MK property (Fig. 7) was optioned from Aston Resources by Cerro Canada Mining Corp. in 1971.

The geochemical grid used 500 foot centres and covered most of the claim area. Soil was primarily sampled and where unavailable, talus fines were selected. As an alternative to soils and talus, rock chips were taken from outcrops. The results were evaluated by breaking the grid into domains to consider the effects of underlying rock type, which in the case of granodiorite had significantly higher observed threshold values for copper in soil, till, and talus than for areas with Hazelton Group volcanics and sediments. Molybdenum threshold values appeared to be consistent across all rock types.

As was done for the earlier Aston Resources rock chip and talus data set the author georeferenced the plotted geochemical maps and digitized the copper and molybdenum data. The differences in threshold values considered by Mustard and Cawthorn (1971) are notable, but not significant compared to large number of highly anomalous copper values observed in the full dataset of 545 samples. A map of the digitized copper data is shown in Figure 10 from which it can be seen that a significantly anomalous area lies in the southeastern sector of the cirque. A copper value of 100 ppm was considered threshold by the author and values above 500 ppm highly anomalous. Gaps in the survey area are snowfields on northern aspects of the cirque. Molybdenum distribution is more sporadic but shows anomalies in the upper cirque and on the lower slopes of the ridge above Troitsa Lake with threshold set at 20 ppm and highly anomalous above 35 ppm Mo.

6.2.4 Payday Resources Ltd, Nuswat and Core Lode claims 1983 to 1986

The Troitsa ground was restaked in 1983 as the Nuswat and Core Lode claims by Payday Resources (Kollock and Goldsmith,1984; in AR12278). Initial work included a soil survey of 420 samples overlying the northern part of the granodioritic stock. Soil samples were analysed by AAS for Cu, Mo, Zn, Au, Ag, and As. A map of the sample grid with samples symbolized for ranges of copper is shown in Figure 11. The original statistically derived threshold and anomalous ranges are lower than more recent ranges because of the dynamic range of AAS analysis. The upper anomalous range shown in the map was selected by the author based on known anomalous areas from other surveys.

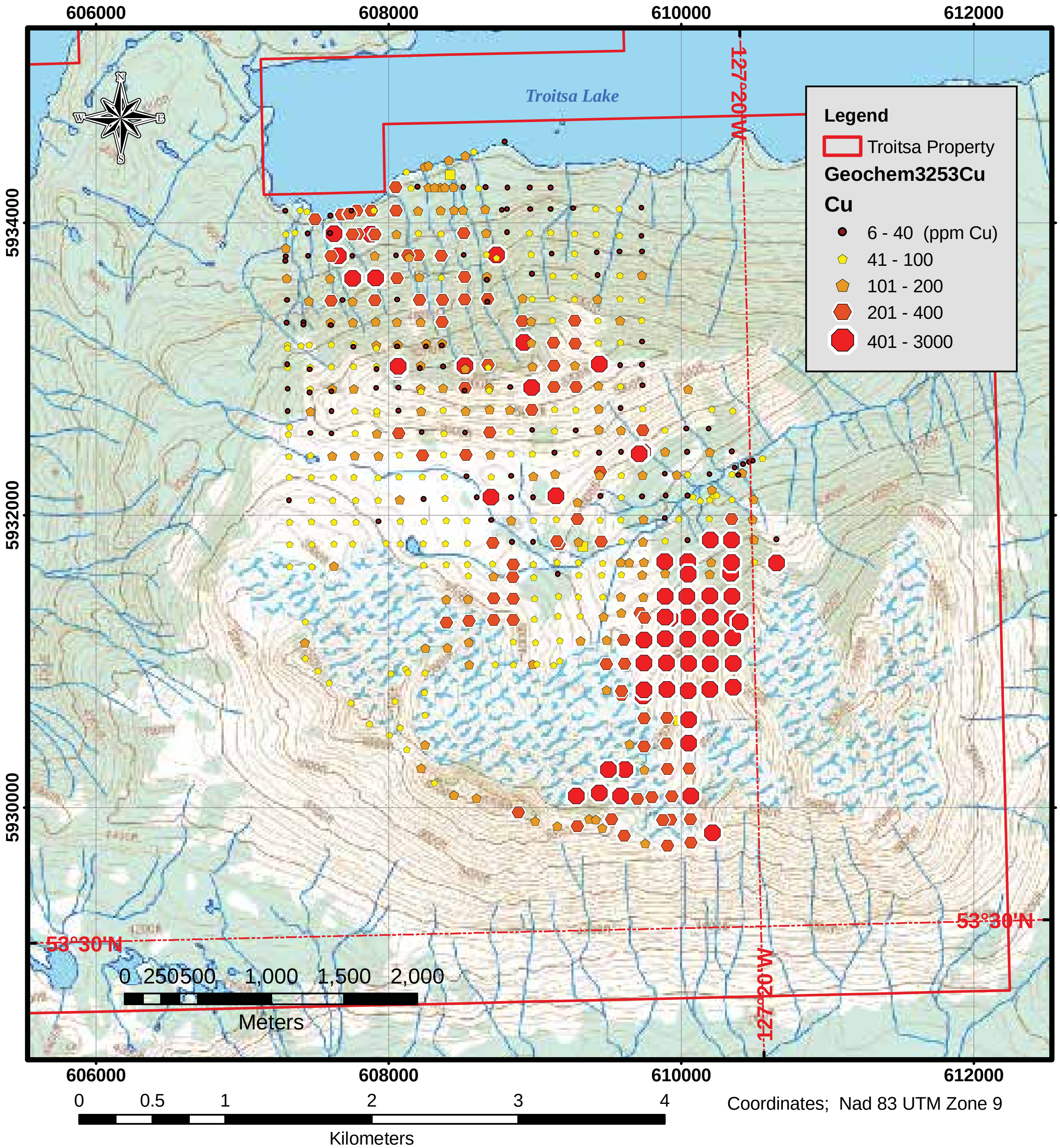


Figure 10: Geochemical map of copper data from soils, talus and rock chips OVP-MK claims The plotted symbols were digitized in ArcGIS 9.3 by the author by georeferencing a map from assessment report 3253 by Mustard and Cawthorn (1971). Numeric copper values labelled on the original maps were entered in a GIS file and symbolized as seen in the legend. Drawn by the author, March 2022 using Toporama base maps NTS 93 E/12 and 5. UTM coordinates are in UTM Zone 9, NAD83. .

In 1986 a minor survey focused on gold targets and collected 35 samples in a line near the lake, which were only analyzed for gold. Most were below detection limit of 5 ppb by FA.

Later in 1986, an area of the Core Lode claims near the lake was geologically mapped, by grid and mainly along streams running into the Blanket Lakes in the west (Goldsmith and Kallock, 1986b). The area lies mainly with the mafic Kasalka Group volcanics in the NW corner of the Troitsa Property, but some areas of dykes and breccias were noted with possible porphyry type mineralization. Additional samples were analyzed by fire assay for gold in an area of a gold anomaly in the northern lines of the grid where a multi sample gold, silver and arsenic anomaly was located by the 1986 surveys (Fig. 12). However, gold had only been analyzed on parts of the first three lines, possibly as a result of an arsenic anomaly in the same location. The samples were collected at spacings as tight as 25 meters. Results were combined with the earlier results and contoured, but no follow-up work was done in the following years.

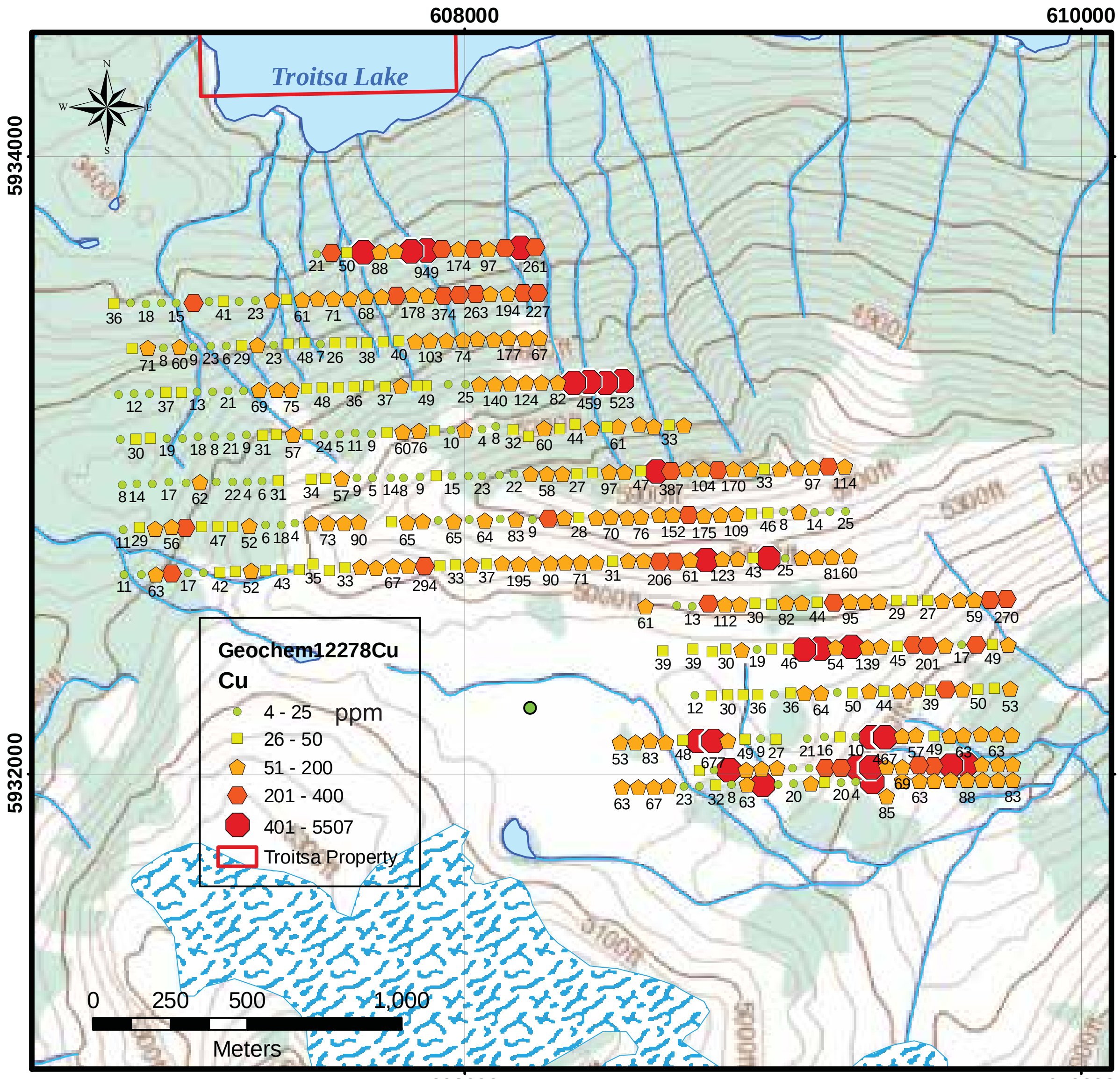


Figure 11: Soil Geochemical Survey by Payday Resources: Copper
Copper concentrations are symbolized in the legend and labelled below points (in ppm) where space permits. The southern cluster of anomalous samples is approximately on the north side of the Main Zone. The data were digitized by the author by geoferencing geochemical maps in assessment report 12278 by Kolloch and Goldsmith (1984) showing copper values plotted at sample sites and entering the numeric values in a GIS file.

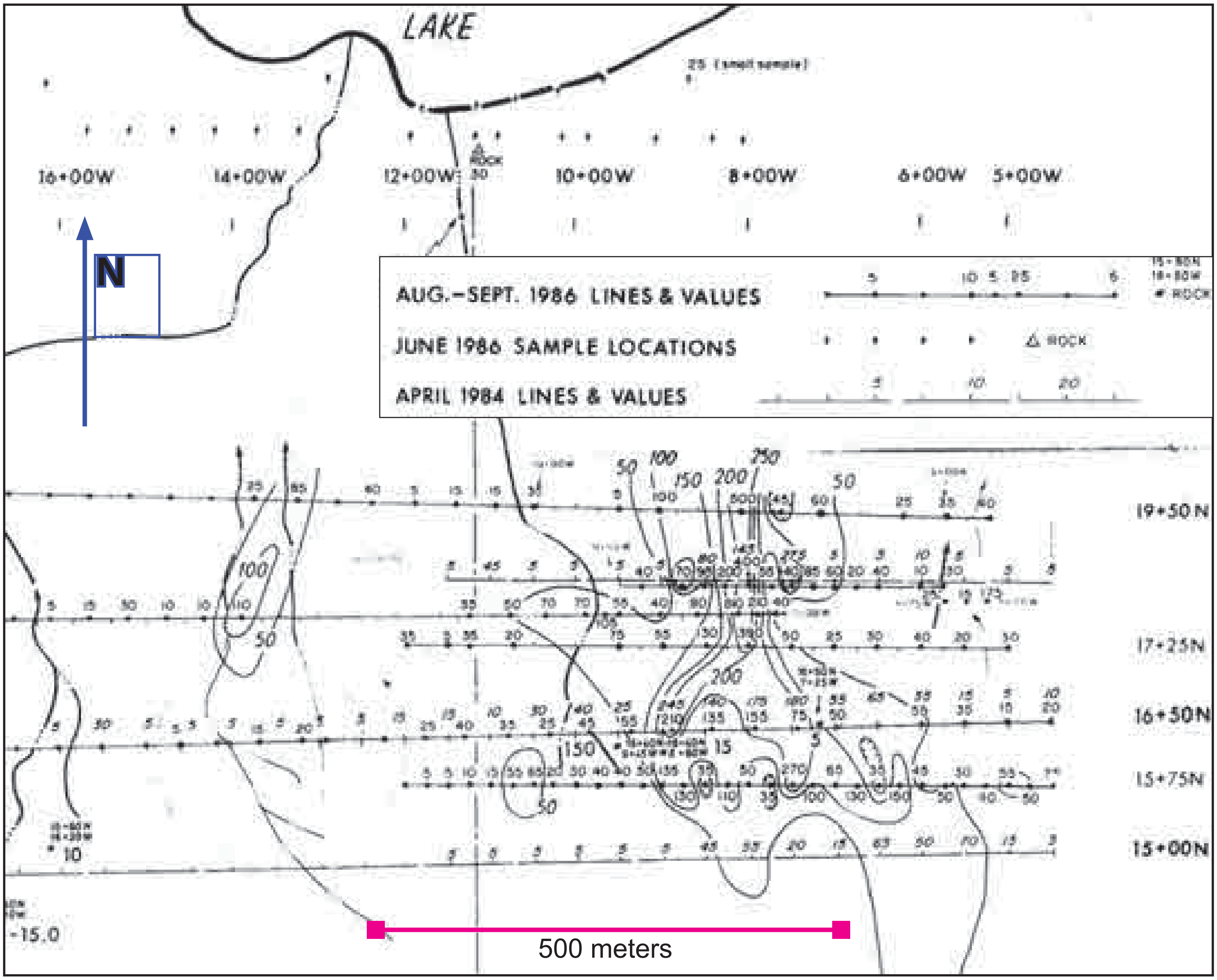


Figure 12: Gold anomaly on the Core Lode geochemistry grid
Part of a soil geochemical map from Goldsmith and Kollock (1986b) showing plotted gold values from overlapping surveys in 1984 (italicized labels) and 1986 and contours of the combined values. The anomalous area is 500 to 900 meters south of the west end of Troitsa Lake. The additional soils lines overlap the northern part of the grid in Figure 9.

6.3 Recent Exploration Programs: Callinex Resources

6.3.1 Introduction

After the exploration work by Payday Resources in the 1980s, the Property area lay mainly dormant, apart from prospecting work by Turford in 1999 through 2001, until parts of it were restaked in 2006 by the current owners. Renewed exploration took place from 2010 until 2012 and generated five assessment reports beginning with a prospecting report for 5 samples taken in 2010 when Shawn Turford visited the Property from the shoreline in June and filed AR31748. In the fall of 2010 another exploration program (reported in AR32205) was completed involving rock sampling, including a 121 meter long channel sample, numerous grab and chip samples from several showings, and a grid of soil geochemical samples with a sub-grid of MMI® samples.

The following year through an option agreement, Callinan Mines Ltd funded a major program of diamond drilling, grid based IP, and magnetometer surveying, which was reported by Galambos (2012) in AR 32205. Eight holes amounting to 2770.9 meters of core were drilled along a fence of sites running NW from the Main Zone Showing. Most drill holes encountered mineralization with significant intersections of moderate grade copper and sporadic molybdenum. Inversions of the IP – Resistivity survey outlined anomalous zones of chargeability and corresponding resistivity compatible with models for block faulted zones of disseminated mineralization. A ground magnetometer survey outlined a wide linear magnetic high running ENE through the area drilled. The 2011 drilling was partially guided by the concurrent geophysical surveys.

The following year, 2012, reported in Galambos (2013) in AR 33984, three new diamond drill holes were targeted using interpretations of the previous drilling, IP and geochemical surveys. The holes were completed in the same Troitsa Main showing area as the previous eight holes and amounted to 1005.4 m of core from which good intercepts were discovered in two holes. A broad context for the geophysical features was investigated through an airborne ZTEM - mag survey over the Troitsa Property and the adjacent Coles Creek property, which was owned by Callinex. The airborne mag survey showed the linear features defined by ground work in 2011 to be part of a larger 4 km diameter mag high feature, while the EM component showed a NW trending conductor through the drilled zone .

6.3.2 Surface Rock Sampling

During three seasons of exploration work on the Troitsa Property, Callinan (later Callinex) collected and analyzed a total of 400 rock samples classified as grab samples, rock chips over defined distances, including a series of 59 continuous channel samples cut along a 121 meter path in the Troitsa Main Zone. The majority of the rock samples were obtained by prospecting in 2010 and 2011 and were focused around several showings that may define the style of mineralization on the Property. A broad representation of the rocks sampling is shown by plotting the locations of samples symbolized to show copper grade on a geology map in Figure 13. The pattern of clusters of higher grade samples does not account for the extent of overburden including till, colluvium, ice, and forest cover that may hide mineralization. The samples attributed to the various showings are reviewed below.

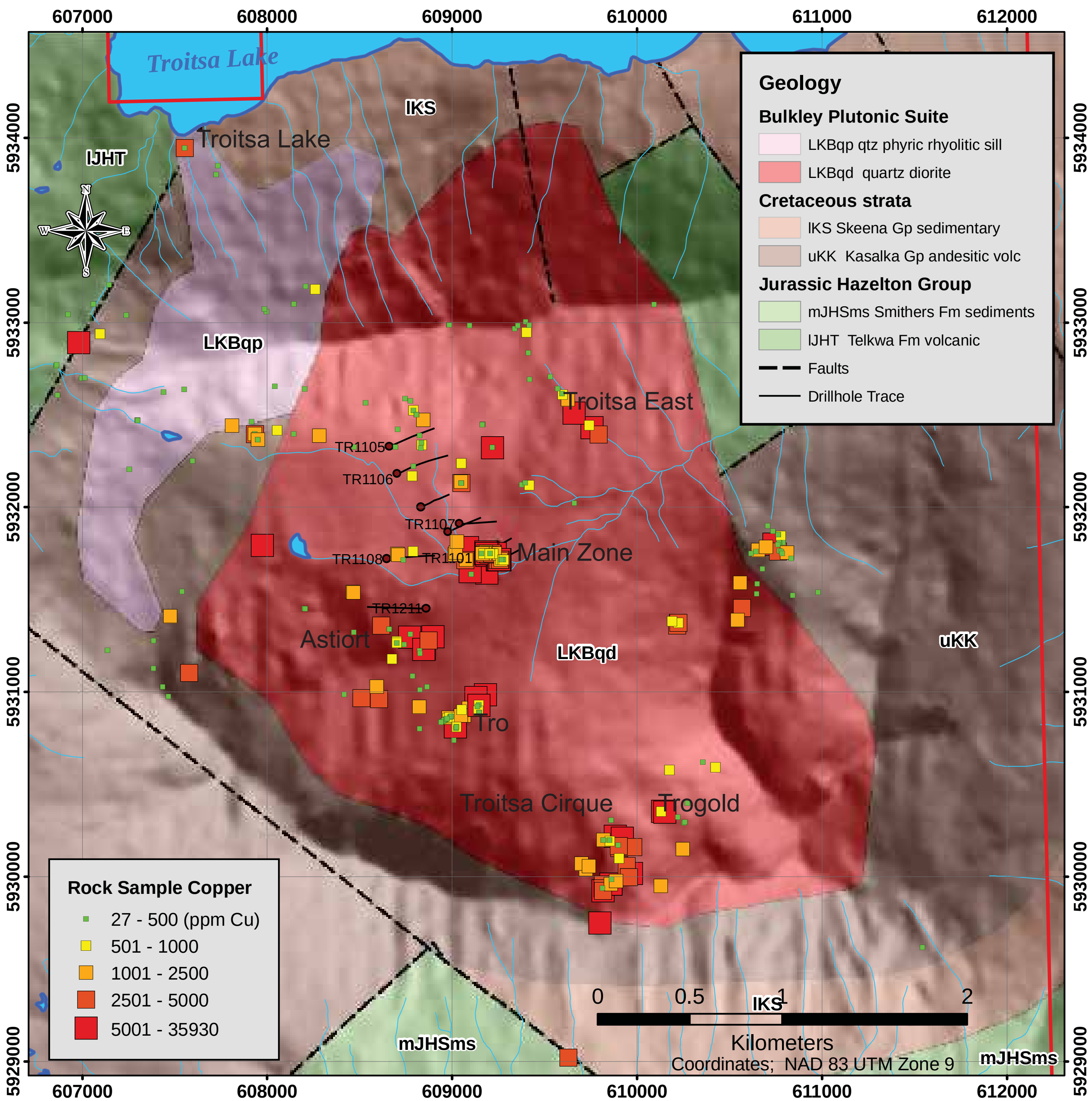


Figure 13: Rock Sampling in the period 2010 to 2013.
The map shows rock sample locations symbolized for levels of copper indicated in the legend on the lower left. The total sample set for which analyses are available is 413 rocks analyzed including 59 channel sample from the Main Zone, plus field replicates. Main Zone drill traces and hole identifiers (e.g. Tr1211) are shown left of center. Segments of the Troitsa Property boundary are on the right and in the bay on Troista Lake. Labels in black name some of the showings discussed below.
Map drawn by the author in ArcGIS 9.3, April, 2022 using BCGS datafiles for geological units, underlying shaded relief, and togographic features.

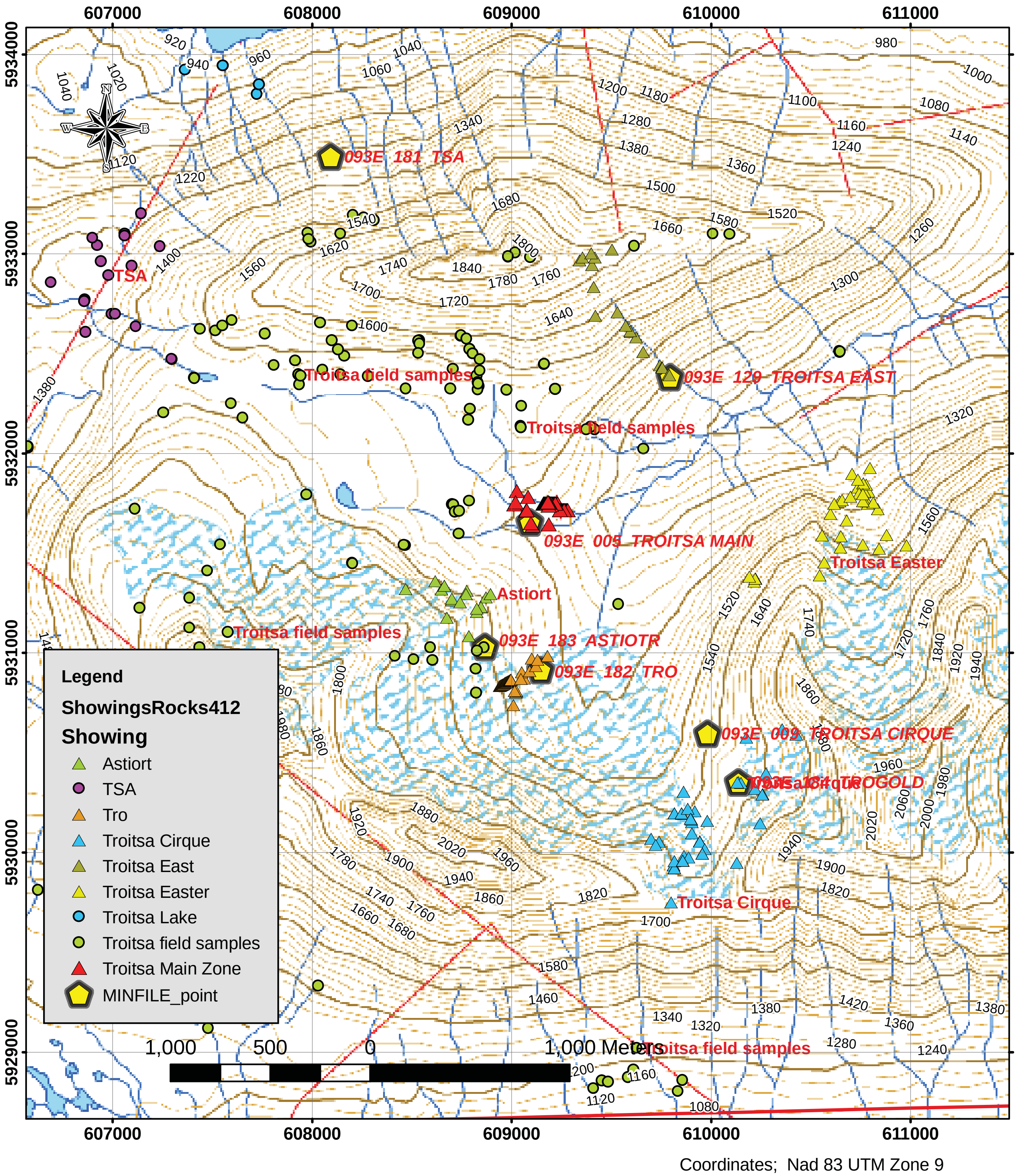


Figure 14: Troitsa surface rock sample site and showings
Seven Minfile showings are recognized on the Property labelled by number and usual name from the BCGS database. Rock samples analyzed by the Callinex exploration programs were categorized by the author by proximity to recognized showings and symbolized as indicated in the legend. The Troitsa field sample category groups samples not attributed directly to any known showing. The cluster of samples classified as Troitsa Cirque south of the marked Minfile sites may represent misplacement of the original Troitsa Cirque showing.

6.3.3 Soil and Talus Geochemistry

In September of 2010 Callinex Resources conducted a soil geochemistry program in the area of the Troitsa Main showing. Soil samples were collected at 50 meter intervals from "B" horizons for conventional aqua regia dissolution, and from specified depth intervals for MMI® partial leach treatment by SGS in Toronto on the same grid, but at 100 meter spacings in a smaller area. For conventional soil geochemistry, 217 samples were collected and analyzed, while only 61 were done by MMI.

"B" horizon soils were observed to be not consistently developed, confirming previous surveys, and talus fines were substituted at some stations without distinction in the survey. Morainal deposits also inhibited soil collection in the southeastern part of the grid. Contoured results of the "B" horizon soils for copper, shown in Figure 15 compared to previous survey by overlapping symbols, confirm the anomalies found by the previous work, which also covered a much larger area. Copper and other elements were analysed by ICP-MS and gold by Fire Assay. Copper results outline an anomaly characterized by values greater than 400 ppm and up to 1106 ppm trending on 160 degrees near the Troitsa Main showing. Anomalous molybdenum values as in the previous surveys were more sporadic than copper.

The results from the MMI survey are more difficult to interpret since soil sample profiles were not typical of the optimum use of MMI, and only 61 samples were collected, which is probably insufficient for determining the background values used for the "Response Ratios" used in analysis of the partial leach values. A contour plot of the Response Ratios for copper, shown in Figure 16, is compatible with the B horizon soils from the coincident B-horizon survey and previous surveys, but does not add to the understanding of the soil geochemistry of the Property in that it shows a very broadly anomalous zone with no specific definition. No additional soil geochemical surveys were conducted in the 2011 and 2012 exploration programs.

6.3.4 Main Zone IP Survey

During the 2011 exploration program, Callinex contracted SJ Geophysics of Vancouver to complete geophysical surveys over the Troitsa and Coles Creek grids. On the Troitsa Property, a cut and picket grid was re-established over a flagged grid placed in 2010 for the purpose of geochemical surveys. The IP survey completed 22.25 kilometers on 9 lines from which 3-D inversions were produced for both sections along the lines and depth plans down to 400 meters. The IP survey used an interlaced offset pole-dipole array with a dipole length of 100 meters to measure 16 dipole positions at 50 meter current electrode intervals on an 800 meter long array. Depths of up to 400 meters could be theoretically resolved with such an array. The interlaced array method involved moving the dipole half of its length for a second set of readings, which was used in order to obtain a good signal in ground that was relatively non-conductive. Much of the area of the survey is covered with till that was difficult to penetrate with the stainless steel electrodes, and commonly resulted in poor conductivity. A concurrent magnetometer survey was run on the same grid with magnetometer readings taken at 12.5 meter intervals. The details of the survey parameters were reviewed by the author from the SJ Geophysics logistics report for the project included in Galambos (2012). The logistics report judged the data obtained from the survey to be of fair quality as a result of poor surface conductivity, and occasional GPS location uncertainty.

Inverted chargeability and resistivity plans for 50 meter depth intervals are shown in Figures 17 and 18 georeferenced and overlain with traces of the eight drill holes and rock samples from the 2010 to 2012 exploration programs. Four Induced-Polarization - Resistivity features are labelled in the maps. Feature "A" is a chargeability high in the center of the survey

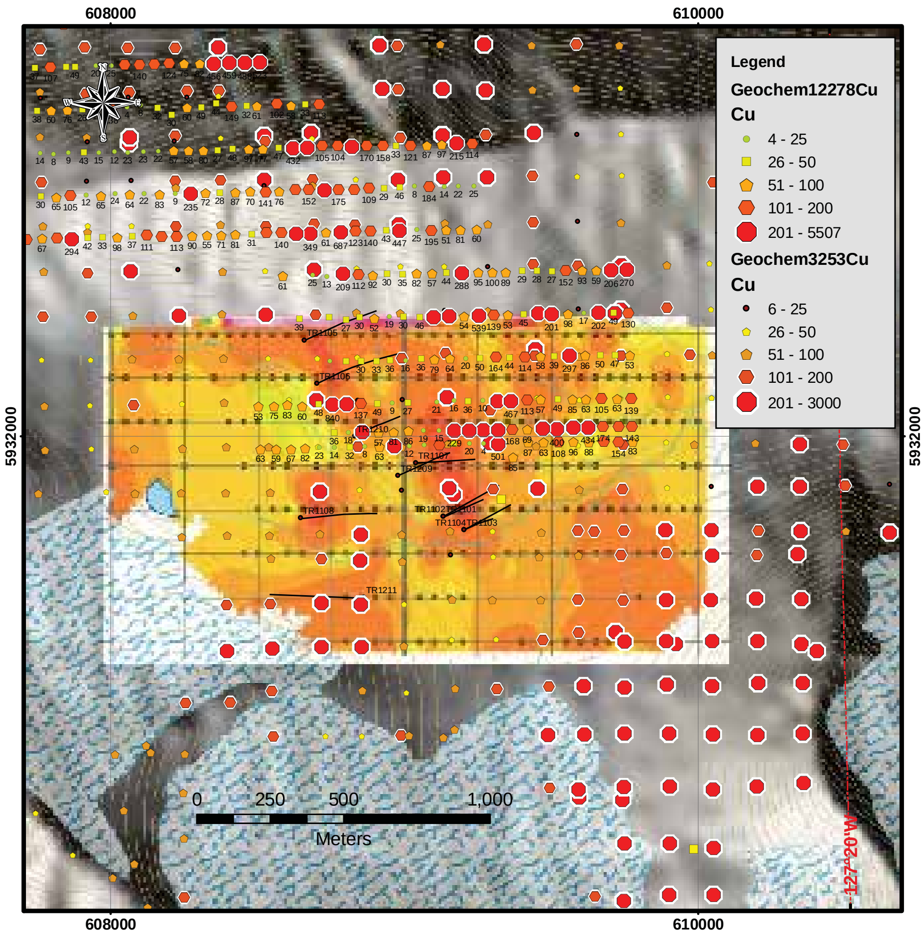


Figure 15: Contoured map of copper in soils from Callinan 2010 program
The coloured map represents copper in "B" horizon soils or talus fines at stations on the grid within the map. The overprinted symbols are from the earlier exploration programs by Aston Resources in 1969 (Geochem3253Cu) on a 200 meter grid spacing and Cerro Mining in 1971 (Geochem12278Cu) on a tighter 50 meter sample spacing with 200 m line spacing. The Callinan survey results corroborate the anomalous copper zone from the Aston Resources soil geochemistry.

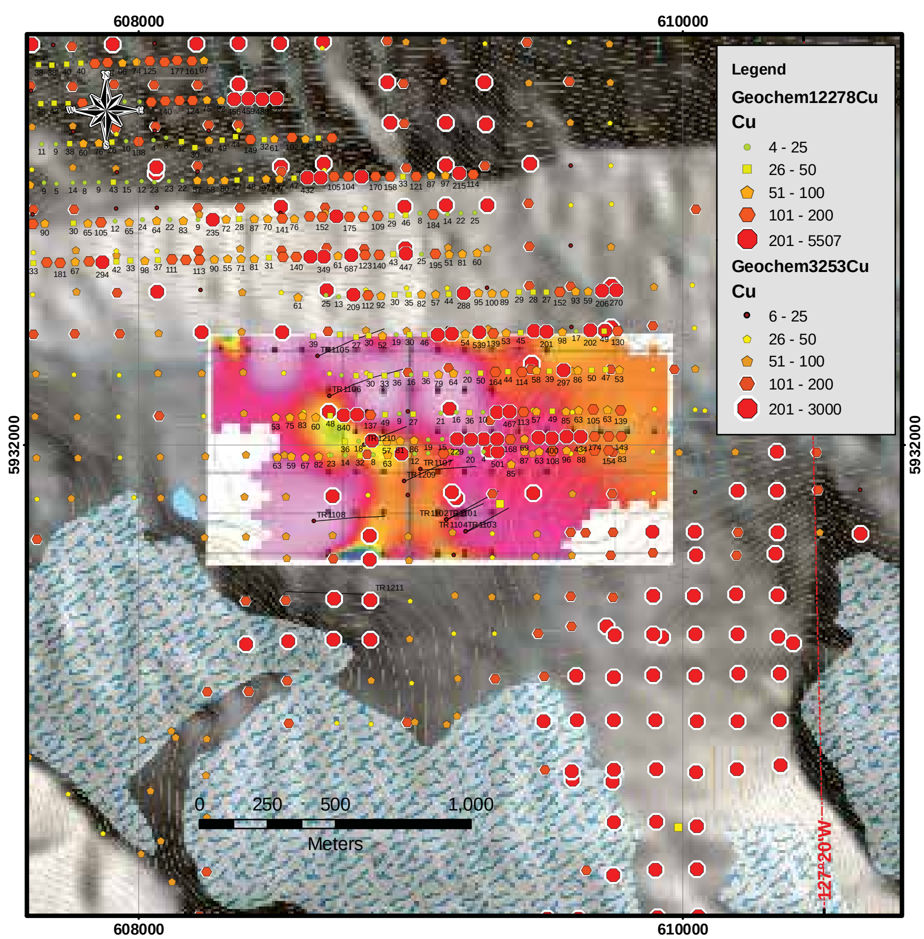


Figure 16: MMI survey copper contoured results
The MMI survey collected 61 samples in a part of the larger B-soil grid. The coloured inset map represents contouring of the Response Ratios of the measured copper in a partial leach solution relative to the calculated background in the sample set. The orange area in the east side of the inset map is derived from only one line of samples.
Overlying symbols are from the Aston Resources and Cerro Mining surveys in 1969 and 1971, respectively mentioned above.

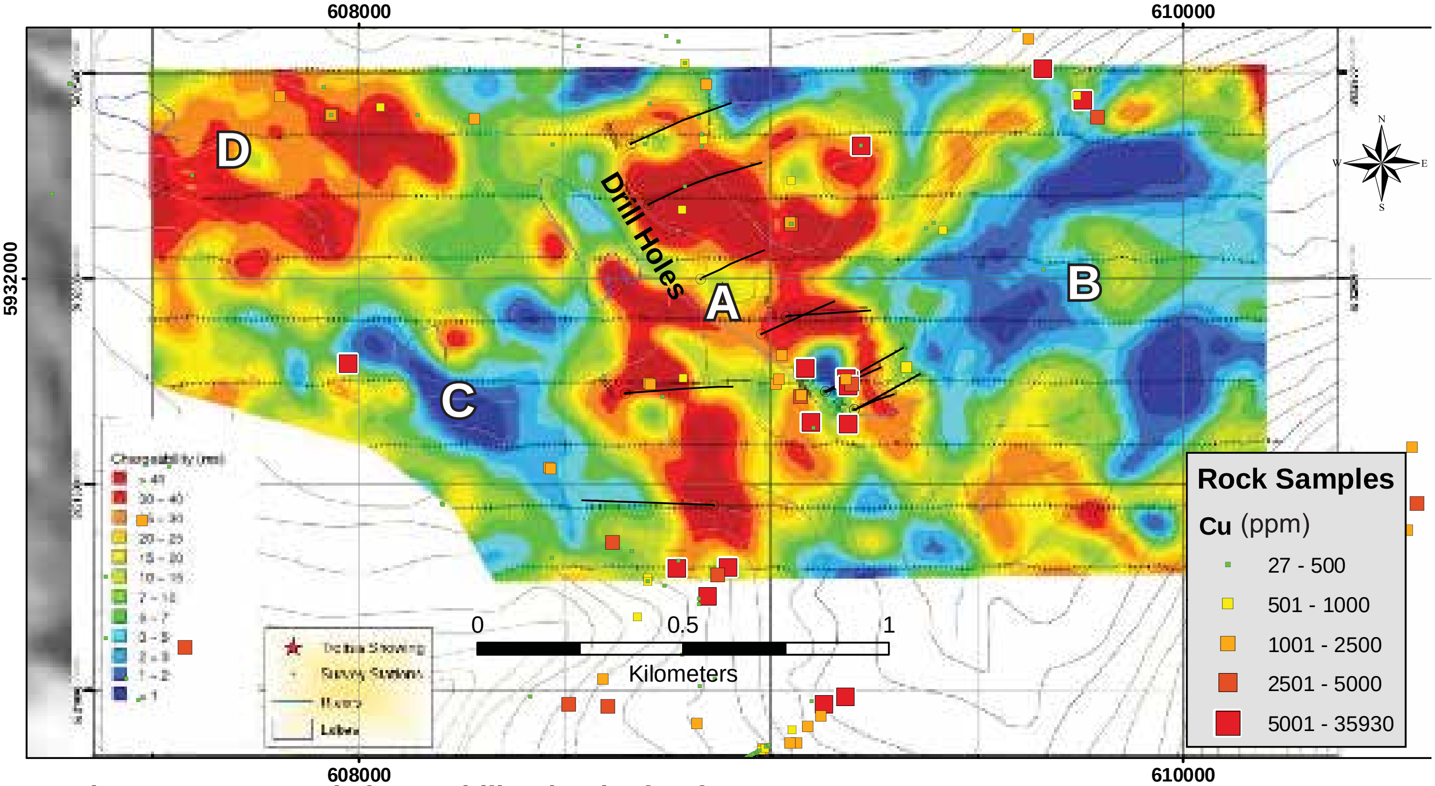


Figure 17: Inverted chargeability depth plan for 50 m; 2011 IP survey
Scale for the chargeability is on the left of the map. Rock samples from the 2010 to 2012 programs are symbolized for copper. Drill hole traces and collars are in the center of the map. Features A to D are discussed in the text. Drawn in ArcGIS 9.3 using geoferenced IP plan by the author, April 2022.

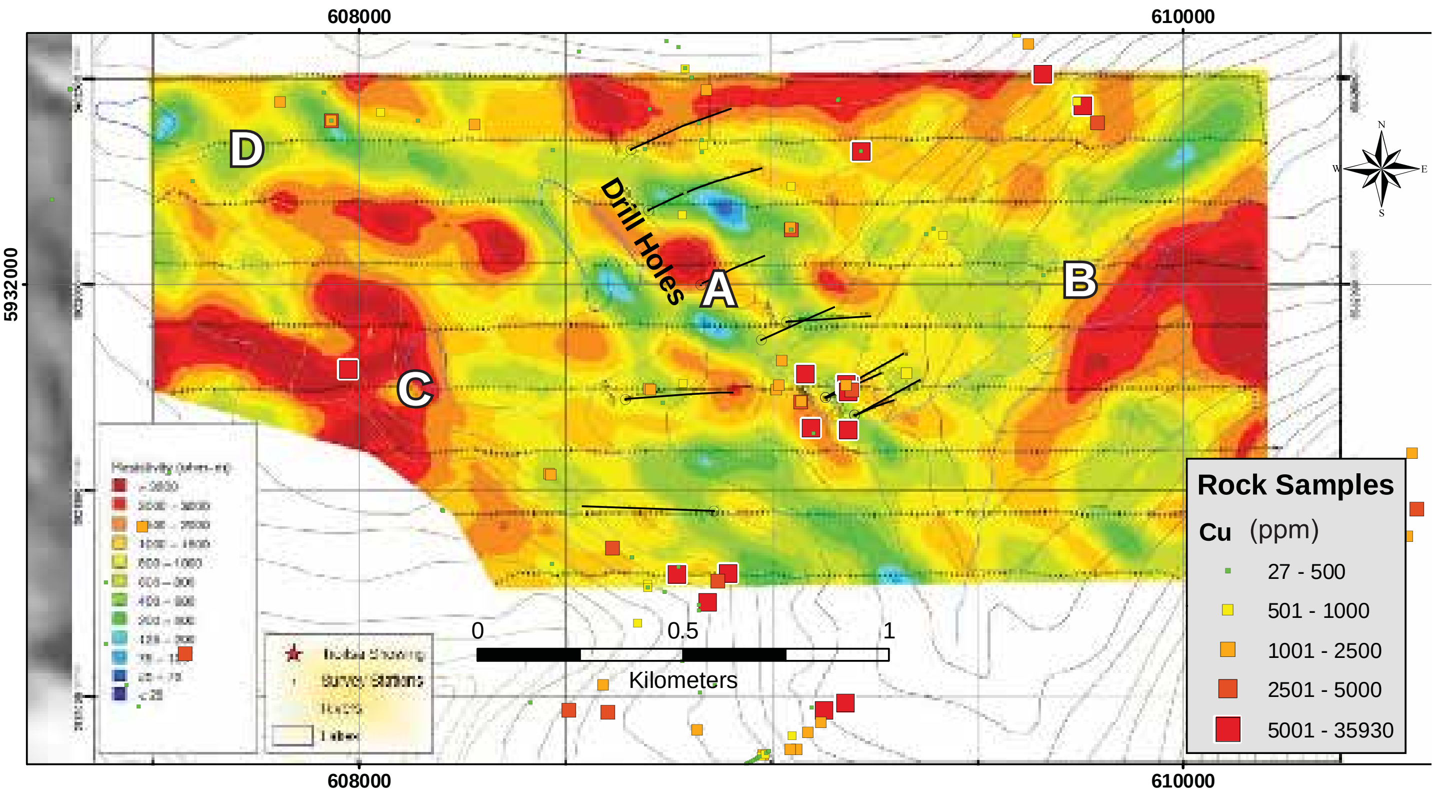


Figure 18: Inverted Resistivity plan for 50 m; 2011 IP survey
Scale for the resistivity in ohm-m is on the left of the map. Samples from the 2010 to 2012 programs are symbolized for copper. Drill holes traces and collars are in the center of the map oriented on azimuth of 065. Features A to D are discussed in the text.

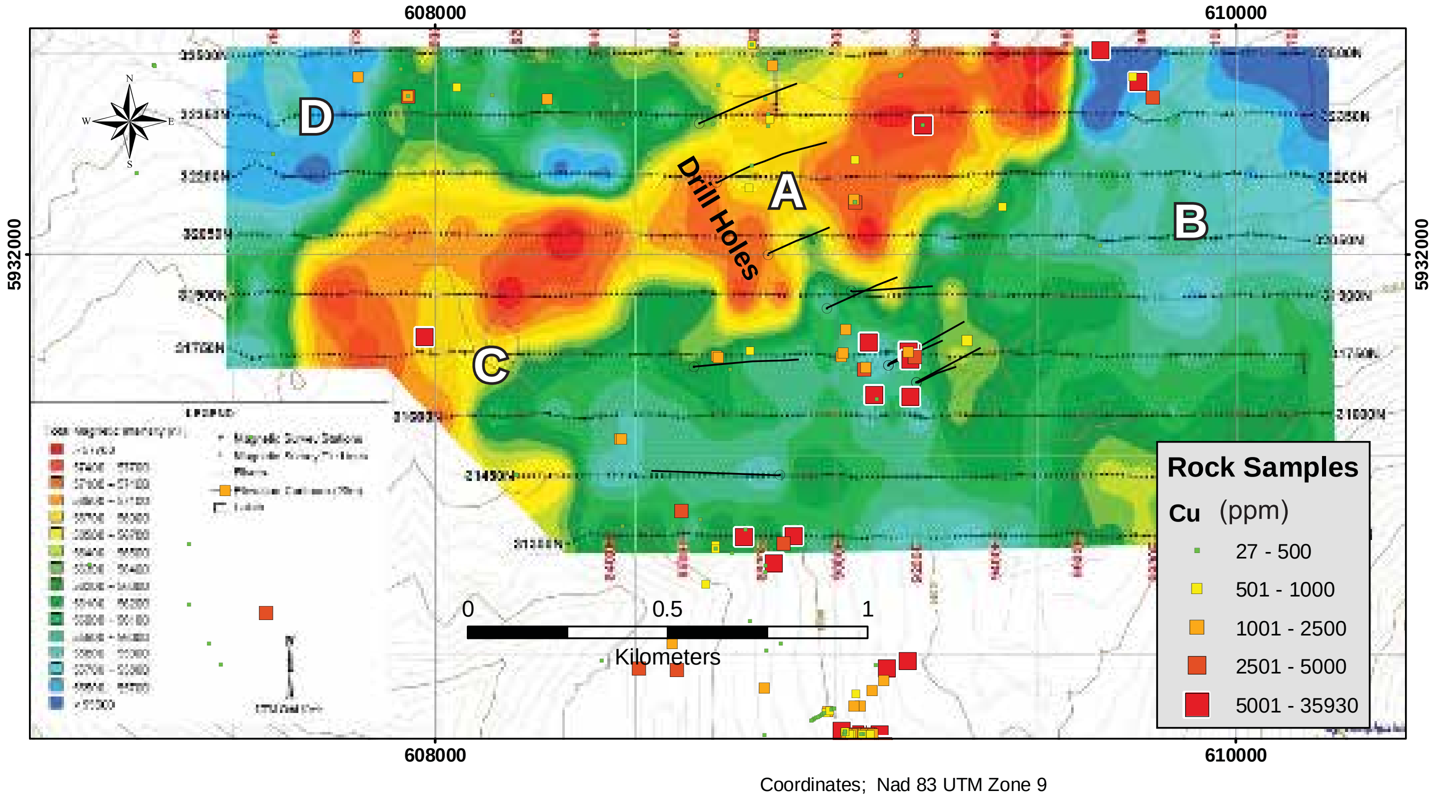


Figure 19: Total Magnetic Intensity Map: ground magnetic survey IP grid
The contour map of TMI is georeferenced with rock samples and drill holes from the 2010 to 2012 surveys. The red and yellow feature is interpreted as a broad magnetic high that tracks north east through the drill fence line. The position of features identified in the Inverted chargeability and resistivity plans in Figures 15 and 16 are labelled A through D .

grid and drill fence. It corresponds on the resistivity inversion to a broad area of intermediate resistivity which is compatible with disseminated or stockwork porphyry type mineralization. Feature "B" is a chargeability low that corresponds to a resistivity high indicative of a lack of chargeable metallic minerals, and a lack of conductive interconnected material and likely would be interpreted as unaltered granitoid rock. Feature "C" is similar to "B" in characteristics and interpretation. Feature "D" in the NW corner of the survey grid may be like feature "A", consistent with potentially mineralized rock. The location of these features is indicated on a Total Magnetic Intensity map in Figure 19 of the ground magnetic survey that was conducted in conjunction with the IP survey. It shows a magnetic high running through features C and A, whereas features B and D are in areas of magnetic lows. These magnetic characteristics show differences between the apparent pairs of IP-resistivity features: The magnetic highs include contrasting features A and C: A is high chargeability with moderate resistivity and high magnetic intensity, and C a low chargeability, highly resistive rock also with high magnetic intensity. Low magnetic intensity is shown in areas B and D, which are respectively low and high chargeability, and high and moderate resistivity.

Other depth plan inversions of resistivity and chargeability for the survey were reviewed by the author after georeferencing. They are available at depths of 50, 75, 100, 150, 200, 250, 300 and 400 meters. Inverted sections were produced along each line with the interpretation model extending to 800 meters depth, but with low model confidence below about 250 meters at the line ends and 400 meters in the middle. Later stages of the diamond drilling program were guided by the inversions, and targeted chargeability highs.

6.3.5 Channel Sampling of the Main Zone

The Main Zone is the most intensively explored showing or zone on the Property. In 2010 a grid was laid out around the zone to attempt to determine its extent by soil geochemistry. Concurrently, a series of channel samples (Figs. 21 & 22) were cut across the apparent 120 meter width of the mineralized zone in a well-exposed creek bed. Since the channel samples were not previously plotted on a map or assigned individual coordinates, the author estimated their positions using the GPS coordinates of a few end points and distributed the measured distance of sample intervals along a common UTM Northing. At the point where the line was offset at the 80 meter mark along a presumed fault, the line of sample locations was continued from a point 30 meters to the south to a known GPS at the end of the line. A satellite image of the Main Zone channel sampling traverse is shown in Figure 22. A map plot of the channel samples in Figure 22 shows that grades can be consistent over a few tens of meters in both relatively high and low grade intervals. The rock type of the zone through which the channel was cut, named the Troitsa Main Showing, is described by Galambos (2011a) as "*a wide zone of disseminated and fracture controlled chalcopyrite with minor molybdenite in strongly altered granodiorite. Most of the mineralization was related to a sheeting of veins up to 12.7cm wide and mineralized jointing that trended 150° AZ and dipped steeply to the west. Disseminated chalcopyrite occurred peripheral to the mineralized jointing and veining. Mineralization was noted both east and west of the Main showing but in lower concentrations.*" The zone was estimated to be 120 meters wide including low grade margins on the east and west sides. Textures from the zone are depicted in Figure 20 showing large clots of disseminated chalcopyrite in quartz feldspar porphyritic granodiorite and quartz monzonite.

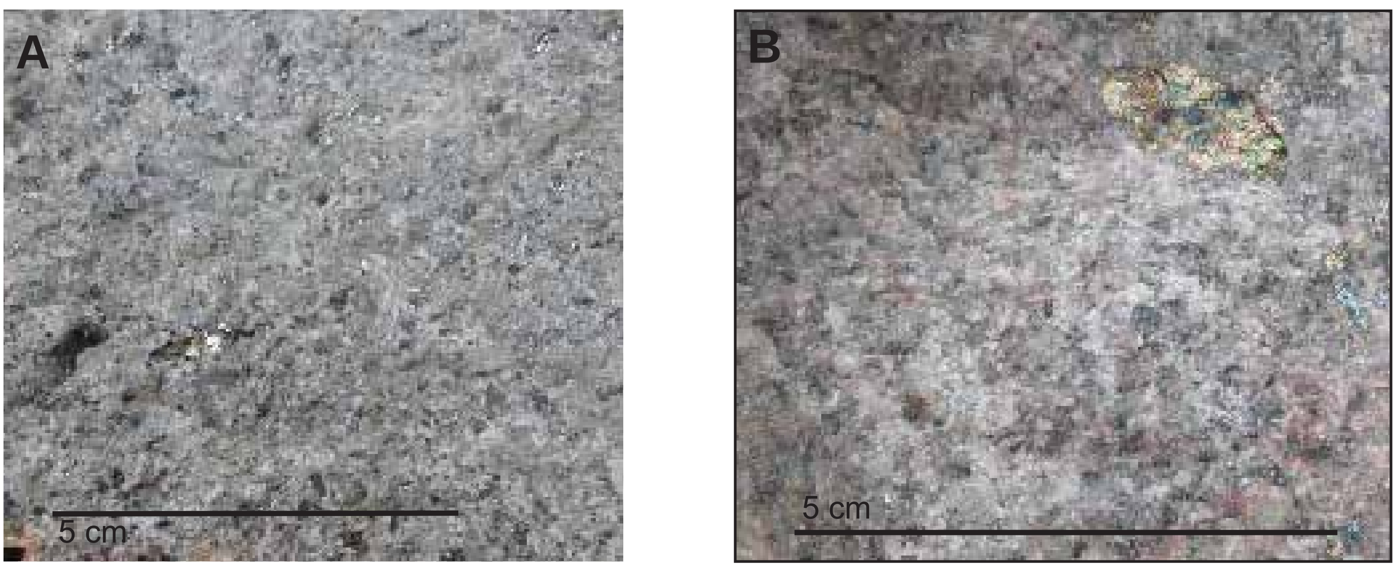


Figure 20: Textures of disseminated mineralization in the Main Zone channel sample section
A. Quartz feldspar porphyry with small patches of chalcopyrite replacing mafic minerals.
B. 1 centimetre patch of chalcopyrite in massive coarse grained quartz monzonite.
(photos by Ken Galambos, 2011)

One high grade interval, plotted in Figure 23, runs from 26 to 44 meters along the channel sample series, comprising 10 samples ranging from 2578 to 9391 ppm Cu with a mean of 5781 ppm Cu or 0.58 %. In the same sample interval Mo ranges from 18 to 104 ppm with a mean of 46 ppm. Another relatively high grade interval on a 45 meter long eastern segment offset to the south, runs from 80 to 102 meters as measured along the channel and consists of 11 samples that range from 4209 ppm Cu to 7526 ppm Cu with a mean of 5692 ppm Cu, or 0.57%. In the same set of samples Mo averages 48 ppm, Ag 5.3, and Zn 56 ppm. These two relatively high grade intervals are remarkably similar in grade, but separated by a gap of 35 meters that includes an offset of the sample line to the south across a fault that had diverted the creek bed outcrop exposure. A mixed interval between 62 and 80 meters at the eastern end of the northern line ranges from 788 to 7567 ppm Cu with a mean of 2647 ppm.

Low grade intervals in the channel sample set include the zero to 26 meter interval of 13 samples where the range in copper is from 344 ppm to 2218 with a mean of 1222 ppm, an interval from 44 to 62 meters (12 samples) that ranges 478 to 2554 ppm Cu with a mean of 1128 ppm, and the interval at the eastern end of the channel with 9 samples that ranges from 204 to 872 ppm with a mean of 444 ppm. The latter interval was classified as being below the "footwall" of the mineralization, though generally the term "footwall" is confined to stratigraphic and structural situations. Similarly, the low grade interval at the west end of the channel sample was classified as low grade in the hanging wall of the mineralized zone. Molybdenum, lead and zinc grades are also lower than in the high grade intervals.

Figure 21: Troitsa Main Zone channel sample
Looking east along the ravine through the mineralized zone being marked for a channel sample with orange stripes at 2 meter intervals. The Main Zone is visible as the rusty slope to the left of the two men. In the foreground is weakly mineralized granodiorite and samples in plastic bags from a saw-cut channel. Photo from Galambos (2011a).

Overall the 59 samples range from 204 to 9391 ppm Cu with a mean of 2810 ppm Cu, although to this are added 5 field replicates which are separate channel samples cut parallel to the original. The replicates generally assayed a few hundred ppm higher than the originals in copper, and displayed a rather nuggety inconsistency in Mo and Au grades, but very consistent grades for rock forming elements such as Ni, and Mg, which confirmed their lithological correlation with the original channel samples.

The extent and shape of the Main Zone mineralization was tested by the 2011 and 2012 drilling program, which was designed to intersect an assumed tabular zone with a strike of 155° that dips steeply southwest along its northwest extension. At the site of the channel sample the zone is apparently 120 meters wide including a fault zone that is characterized by a 5 meter aureole of intense potassic alteration. The fault was not interpreted, initially, to have offset or repeated the mineralized zone, but only to have affected the track of the creek outcropping that was exposed enough to cut the channel samples. The 30 meter break between the segments was to maintain a roughly easterly line across the width of the zone.

Lateral continuity of the Main

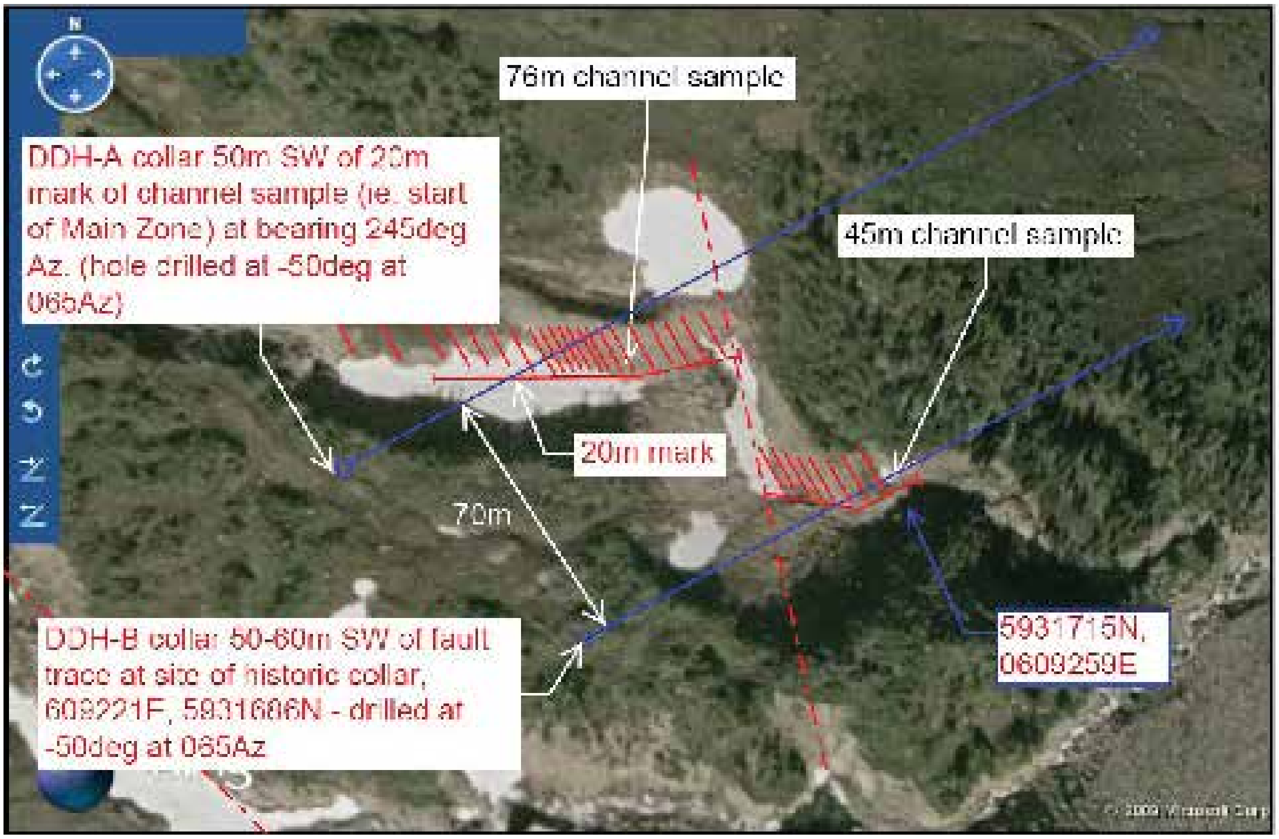


Figure 22: Satellite image of Main Zone channel sample and drilling layout
Image is from Bing Maps 2009 and marked up by Ken Galambos in an unpublished proposal to Callinex to show the channel sample track, and relative position of proposed drill holes, which were drilled in 2011. (pers. comm, Galambos, 2022)

Zone was interpreted by Galambos (2012 in AR33115) using the combined results from the 2011 drilling program, and the grid-based soil geochemistry and geophysics. Northwest- and northeast-trending block faults were inferred from the total intensity magnetic maps and plan and section inversions of the resistivity data. In some cases these faults could be correlated with observed structural features in the drill core. The apparent offset of inverted IP chargeability highs was also interpreted to be controlled by the interpreted fault pattern and to represent the potential distribution of the Main Zone mineralization. The northwest faults were inferred to be related to a dominant structural fabric observed in regional jointing patterns that strikes between 150° and 160° degrees with a steep westerly dip. The dominant trend of known chalcopyrite veinlet mineralization is apparently controlled by this northwest trending fabric. The geophysical and drilling results are reviewed below.

6.3.6 Main Zone Diamond Drilling

The significant intervals defined by the channel sampling of the Main Zone prompted further exploration of the Main Zone by a screen of eleven diamond drill holes over a 900 meter strike length. The holes were drilled by Callinex in their 2011 and 2012 exploration programs on the Property (Galambos, 2011, 2012). Two fans of holes were drilled to cut the assumed NW striking and SW dipping tabular orientation of the zone, with six more along strike to the NW and one aimed to the SW. All of the core from the holes was logged, divided into sample intervals, split by sawing, and analyzed. The Coles Creek camp, where all of the Troitsa core is stored is located at 619782.00 m E, 5933779.00 m N, zone 9U NAD 83.

Several significant intervals of mineralization were encountered by the drilling as reported in Table 3. Drill holes with intervals greater than 100 meters above 0.1% Cu included

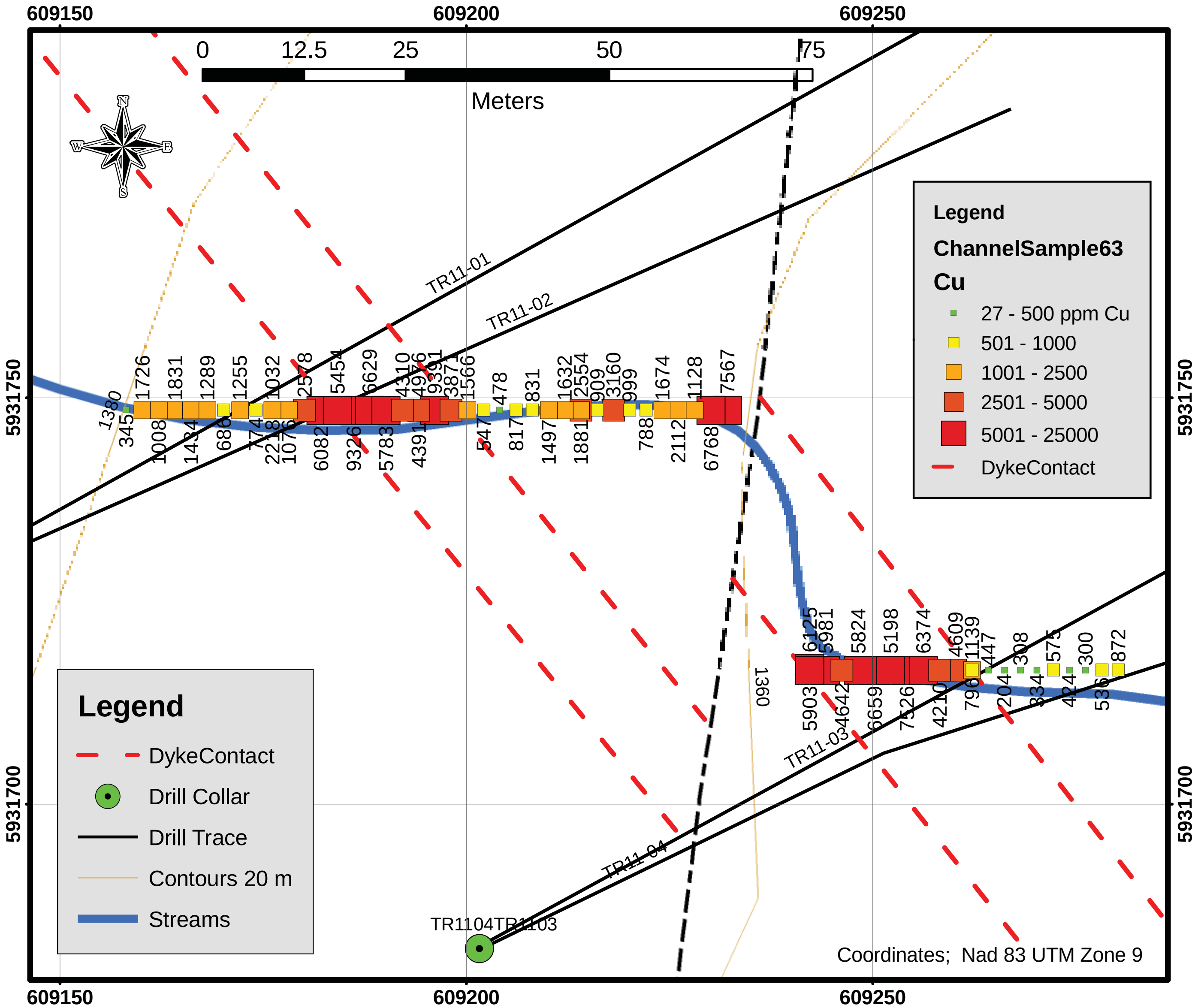


Figure 23: Channel samples at the Main Zone from 2010 exploration

Locations of samples are extrapolated from GPS coordinates where the creek cuts across the western edge of the Main Zone (the higher grade interval in the 76 meter section intersected by Tr11-01 and -02) by adding precise measurements of the length of the channel sample. The eastern section was estimated from a GPS coordinate for the eastern end of the channel and the amount of offset measured along a fault that is followed by the creek. The actual track of the samples plotted on a satellite image is shown in Figure 20. The error in the coordinates of the samples is estimated by the author at ± 5 meters in Easting and Northing. The copper grade of individual samples is symbolized for ranges shown in the legend, and actual assays labelled on the map in ppm Cu. A possible structural solution, discussed below, is shown for the difference in dyke intercepts in the two drill sections involving a mapped fault and contacts of dykes inferred by the projected surface contacts of a mineralized FP dykes from the drill sections, and the similarity in composition of rocks in the high grade intervals of the channel sample series.

Map drawn by the author in ArcGIS 9.3, April, 2022.

Addendum Note: Precise GPS locations of the channel samples obtained in August 2022 corroborate the estimated sample positions in the above map within 5 meters. The eastern contact of the eastern section of the dyke has also been shown to curve west just north of the lower creek and may not be fault offset, but follow left lateral jogs, or en echelon jumps.

Figure 24: Photo from collar of Tr11-03, 04 towards Main Zone Photo is looking northeast down a steep slope towards bare rock in a ravine that is the site of the lower main zone channel sample. The rusty weathering zone on the left is bordered on its right side by a fault zone. To the right of the fault is a grey granitoid that is probably a dyke.

all of the holes within 500 meters along strike of the channel sample Tr11-1 to 4, 7, and Tr12-9, and 10. Sectional plots of the 2011 holes are arrayed in Figure 26 and 27 showing bar graphs of copper and molybdenum grades along the drill trace. Drill holes Tr11-05 and -06 appeared to be generally low grade with only some short intervals such as 12 m of 0.215% Cu in Tr11-6, and it appears that they were beyond a fault interpreted by Galambos (2011) to offset the mineralized Main Zone. Two other holes Tr11-08 and Tr12-11 were drilled to the southwest of the strike of the main zone, and encountered no long intervals with grades above 0.1% Cu. Tr12-11 shallowed to -25 °, an excessive amount relative the planned -45°, and overshot the IP chargeability target.

Examining the Main Zone better-mineralized drill holes in more detail, it appears that there are intervals of continuous moderate copper grades similar in length to the higher grade intervals in the channel sample series. The author evaluated these intervals by reading the drill logs from the 2011 and 2012 reports and observed that many of the higher grade intervals corresponded to feldspar porphyry (FP) or quartz feldspar porphyry (QFP) dykes cutting the quartz monzonite. Higher grades in the quartz monzonite in most cases also appeared to be focused around the FP and QFP dykes and some of the dykes were interpreted to continue between drill holes from the sections for Tr11-01, 02, 03 and 04 in Figure 26. Downhole sections for drill holes Tr12-09, 10 and 11 were not available in the same detailed type of plot (See Fig. 28 for Tr12-09).

To quantify the relationship between the dykes and the mineralization the author plotted assays of various elements against drill depth and found that the dykes could be characterized by the high field strength immobile elements Zr and Ti, which were typically high, and low respectively, relative to the host quartz monzonite. The same dyke intervals also generally showed sharp contrast in copper content, which in some cases reflected disseminated chalcopyrite observed as replacement of mafic minerals exemplified by Figure 29 from Tr12-09 at 110 m depth. Using the rough alignment of the drill sections the author was able to track mineralized dykes between drill holes and the channel sample series.

Six of the drill holes were selected from the well-mineralized section of the drill array

Table 3: Significant intervals in the Callinex Drilling Program of 2011-2012

Hole	From	To	Interval	Cu (%)	Mo(%)	Ag(g/t)	Au(g/t)
Tr11-01	4.66	230.08	225.42	0.124			
including	18.66	131.28	112.62	0.176			
including	107.28	117.28	10.00	0.205	0.018		
Tr11-02	7.33	362.46	355.13	0.117			
including	118.38	169.29	50.91	0.253			
including	161.29	169.29	8.00	0.202	0.022		
including	209.29	215.29	6.00	0.175	0.045		
including	338.18	351.55	13.37	0.101	0.033		
Tr11-03	20.9	200.39	179.49	0.132			
including	75.25	88.82	13.57	0.630			
including	73.25	79.93	6.68	0.524	0.023		
and	157	180.33	23.33	0.051	0.019		
and	247.04	251.04	4.00	0.113	0.042		
Tr11-04	17.37	262.16	244.79	0.135			
including	30.04	56.04	26.00	0.255			
and	52.04	70.24	18.20	0.184	0.016		
and	120.02	132.02	12.00	0.491			
and	232.26	240.00	7.74	0.083	0.041		
Tr11-05	3.15	361.75	358.63	0.019			
Tr11-06	7.90	403.43	395.53	0.076			
including	213.91	223.45	9.54	0.284			
and	388.84	400.43	12.00	0.215			
Tr11-07	8.92	173.36	164.44	0.204			
including	8.92	95.63	86.71	0.317			
and	162.44	168.26	5.82	0.212			
Tr11-08	6.60	375.51	368.91	0.039			
including	159.9	165.87	5.97	0.337			
and	219.92	230.33	10.41	0.073	0.021		
including	219.92	221.4	1.48	0.014	0.104		
and	364.31	374.31	10.00	0.040			
Tr12-09	15.85	280.80	264.95	0.169	0.004		
including	15.85	44.54	28.69	0.191	0.004		
and	55.58	224.35	168.77	0.203	0.004		
including	110.47	129.89	19.42	0.651	0.004	4.84	
and	179.65	183.65	4.00	0.093	0.273		
and	260.88	263.37	2.85	0.583	0.05		2.73
and	271.73	276.52	4.79	0.336	0.019	1.72	

Hole	From	To	Interval	Cu (%)	Mo(%)	Ag(g/t)	Au(g/t)
Tr12-10	3.02	313.01	309.99	0.176	0.003		
including	3.02	122.10	119.08	0.134	0.004		
including	117.79	122.10	4.40	0.408	0.021	8.84	
and	132.25	302.12	169.87	0.224	0.003		
including	150.63	175.81	25.18	0.807	0.001	4.57	
and	193.81	195.81	2.00	1.793	8.159		
and	223.81	225.81	2.00	1.291	0.039	5.17	
Tr12-11	10.97	16.97	6.00	0.127	1.152		
and	60.9	68.90	8.00	0.107			
and	94.9	96.90	2.00	0.271	2.137		
and	166.9	167.95	1.05	0.145	2.891		
and	285.6	287.60	2.00	0.175	2.505		

Figure 25: Tr11-07 @ 152.56 m
A. Coarse chalcopyrite veinlet in quartz monzonite.
Scale bars in cms. The 2 m interval from 151.63 to 153.63 m grades 0.22 Cu, 40 ppm Mo, and 1.6 g/t Ag
B. Potassically altered biotite Feldspar Porphyry

Scale bar in cm.
Photos from Callinex core logging files; courtesy of K. Galambos (2022) from 2011 diamond drilling program.

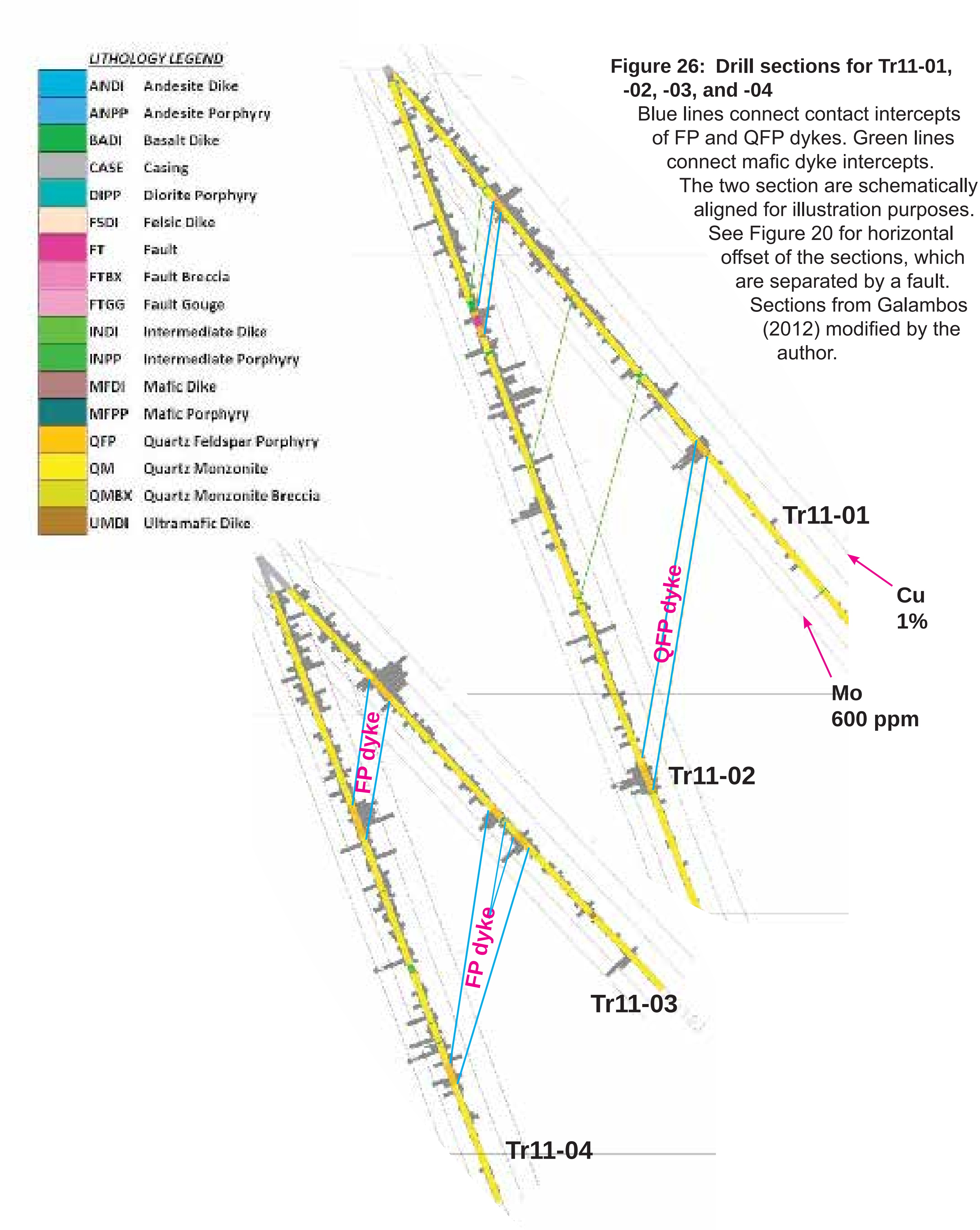


Figure 26: Drill sections for Tr11-01, -02, -03, and -04
Blue lines connect contact intercepts of FP and QFP dykes. Green lines connect mafic dyke intercepts. The two section are schematically aligned for illustration purposes. See Figure 20 for horizontal offset of the sections, which are separated by a fault. Sections from Galambos (2012) modified by the author.

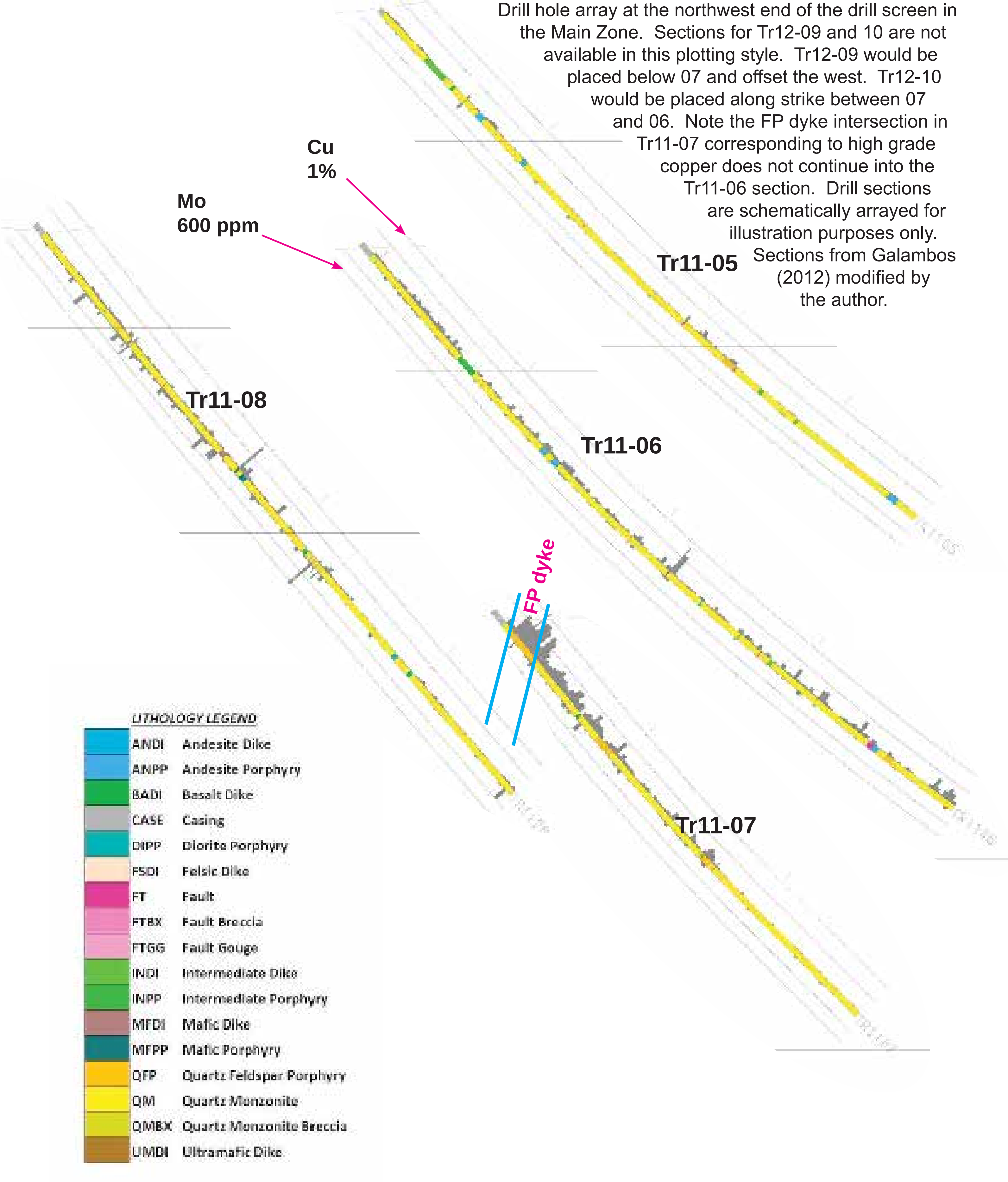


Figure 27: Drill Sections for Tr11-05, -06, -07, and -08
Drill hole array at the northwest end of the drill screen in the Main Zone. Sections for Tr12-09 and 10 are not available in this plotting style. Tr12-09 would be placed below 07 and offset the west. Tr12-10 would be placed along strike between 07 and 06. Note the FP dyke intersection in Tr11-07 corresponding to high grade copper does not continue into the Tr11-06 section. Drill sections are schematically arrayed for illustration purposes only. Sections from Galambos (2012) modified by the author.

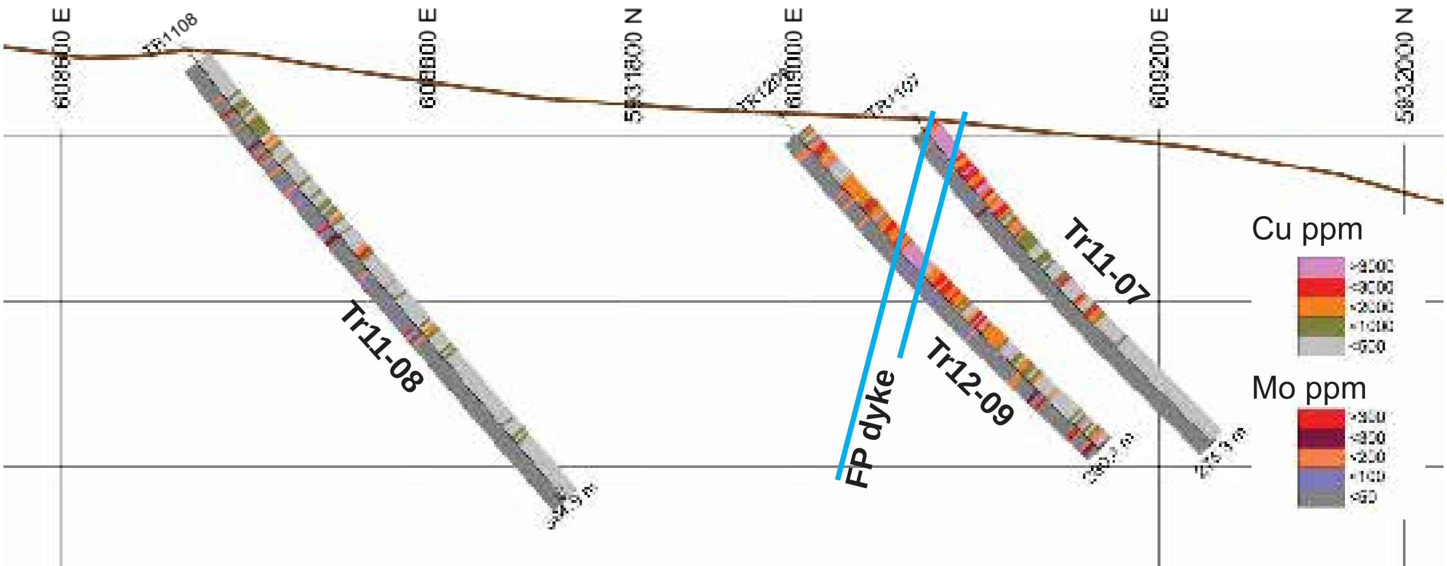


Figure 28: Projected Drill section through Tr11-08, 09 and 07
The high grade section in hole Tr11-07 and Tr12-09 marked by blue lines corresponds to an FP dyke containing disseminated chalcopyrite. Section from Galambos, 2012, modified by the author.

Figure 29: Tr12-09 @ 110.90 m
Logged as a Feldspar porphyry with sericitic alteration of feldspar phenocrysts and ground mass. Chalcopyrite occurs as 5mm disseminated clots, and in veins with pyrite. The interval from 110.47 to 129.89 has a weighted average Cu of 0.65%, and Mo of 43 ppm, Ag 4.8 g/t, Au 0.05 g/t. scale bar in cm and mm. Photo: Ken Galambos; drill log files.

Figure 30: Tr12-09 @ 262.8 m
Feldspar porphyry with weak potassic alteration containing disseminated very fine chalcopyrite . The FP dyke interval from 260.88 to 263.73 has weighted averages of 0.58% Cu, 462 ppm Mo, 2.8 g/t Ag and 0.03 g/t Au. Scale bar in cm and mm. Photo: Ken Galambos; drill log files.

for which linear plots of depth against Cu, Ti, Zr, K and some other elements were constructed. The graphs were stretched as pseudo sections of the drill hole and stacked to correlate the concentrations of the characterizing elements with lithology. The sections are shown in Figure 31 for Tr12-10, Figure 32 for Tr11-09, Figure 33 for Tr11-07, Figure 34 for Tr11-03, Figure 37 for Tr11-04 and Figure 38 for Tr11-02. For contrast drill hole graphs for relatively unmineralized hole Tr11-05 are shown in Figure 41. The stacked plots show that the FP or QFP dykes all have distinctly high but variable Zr relative to the quartz monzonite. However, not all dyke intersections also have significantly higher copper than the host quartz monzonite and only one dyke in particular can be seen to have distinctly high copper in Tr11-03, 07 and Tr12-09 and 10 and it is additionally contrasted by having very low Ti compared both to the quartz monzonite and to the other FP dykes.

It is not clear what part of the total Zr and Ti in the rocks is represented by the aqua regia dissolution used for the analysis. Zr mainly resides in zircon, which is resistant to complete dissolution except in hot hydrofluoric and nitric acid, which also attacks silicate minerals, and is used in strong 4 acid analytical methods. Titanium resides in ilmenite lamellae in magnetite, and as sphene, or rutile. Magnetite is generally soluble in aqua regia, ilmenite is less so, and Ti in some silicates may be less easily liberated. Sphene, which commonly occurs as a result of propylitic alteration is readily soluble in hot aqua regia. A stronger acid digestion of the samples would liberate more of the Zr and Ti in the rocks, but the concentration contrast between the quartz monzonites and the feldspar porphyries might be reduced or expanded depending on solubility of the Zr and Ti bearing minerals in the chosen acid combination. This issue was resolved in the 2022 program by redundant analysis of the author's 14 check samples by whole rock fusion, strong 4-acid, and aqua regia digestions prior to ICP analysis.

In addition to the compositional correlations the FP and QFP dykes can be readily linked in a structural interpretation of the drill sections where two holes were drilled in a fan (Tr11-01 and 02; Tr11-03 and 04), and where drill holes intersected roughly the same section as in Tr11-07 and Tr12-09 and assuming an approximate dip of 65 degrees southwest. The broad high Zr, low Ti, high copper FP dyke intersected at depth in Tr12-09 appears to be of the same width and composition as one intersected near the surface in Tr11-07. The surface trace of this wide dyke fits with the surface projection of the large dykes in the two sections to the southeast as well as in Tr12-09 to the northwest as shown in Figure 39. Fortuitously, the surface trace of this one dyke matches the 20 meter interval in the channel sample. The high grade portion of the channel sample also has low Ti and high Zr (see Fig. 42) and the author concludes that it is continuous with the mineralized FP dyke. However, textures in the outcrops along the channel sample were not distinctly porphyritic (see Figure 20), but this should be investigated further.

Drill holes, almost on section with the channel sample are Tr11-01 and 02. A narrower QFP dyke appears below 110 m in Tr11-02 and between 80 and 83.5 meters in Tr11-01 as shown in the drill section in Figure 26. Projection to surface matches the position of the western high grade section of the channel sample, but the width is narrower. The plots of depth vs chemistry for Tr11-02 in Figure 40, show the characteristic low Ti, high Zr of the other FP dykes. Samples from the upper part of drill hole Tr11-01 were analyzed using strong 4 acid digestion, and results for Zr and Ti values not comparable to the aqua regia-derived values for the QFP.

The drill section for Tr11-03 and 04 shows a clear intersection with an FP dyke in Figure 26 that projects to surface in the position of the more easterly high grade section of the channel sample (Figs. 23 and 39). Like the depth vs plots for the more northerly holes Tr11-07, Tr12-09 and Tr12-10, plots for Tr11-03 and 04 show the same profile in the FP dyke of high Zr and low Ti correlating with high copper contents. Compositionally, and in width this matches the northerly segment of an FP dyke, but is not on strike with the dyke trace through Tr-11-01 and

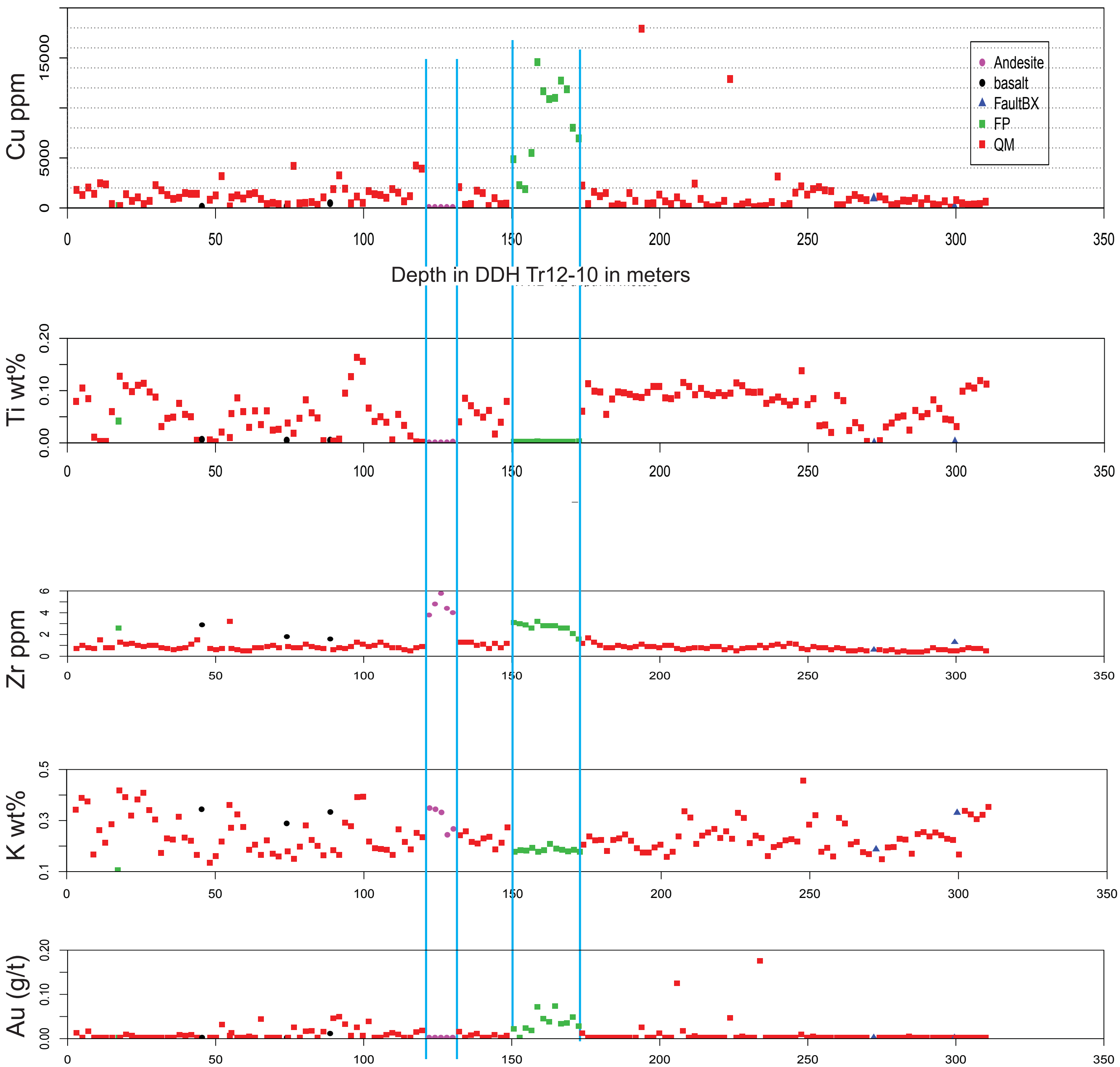


Figure 31: Diamond Drill Hole Tr12-10 Main Zone chemical plots
This lay-up of drill intersection vs Cu, Ti, Zr, K, and Au shows interesting strong correlations with the core logged lithology. The high copper interval between 150 and 170 meters, also has very low Ti, high Zr and is enriched in gold. Potassium is less erratic, and somewhat lower than in surrounding quartz monzonites. The FP dyke interval from 150.63 to 173.8 meters assays at 8576 ppm Cu and 34 g/t Ag over 23 meters. The adjacent interval from 173.8 to 272.3 assays 741 ppm Cu and 0.4 g/t Ag.

02 from the north. However, a NNE trending fault zone, visible on the ground in the helicopter photo in Figure 40, separates the two high grade sections of the channel sample and apparently offsets the mineralized dyke. A possible solution for the apparent offsets is shown in Figure 23 and 39. On the surface the fault strikes NNE at about 010° and dips nearly vertically. It may be either strike slip or dip slip, and apparently offsets the dyke by a combination of east side

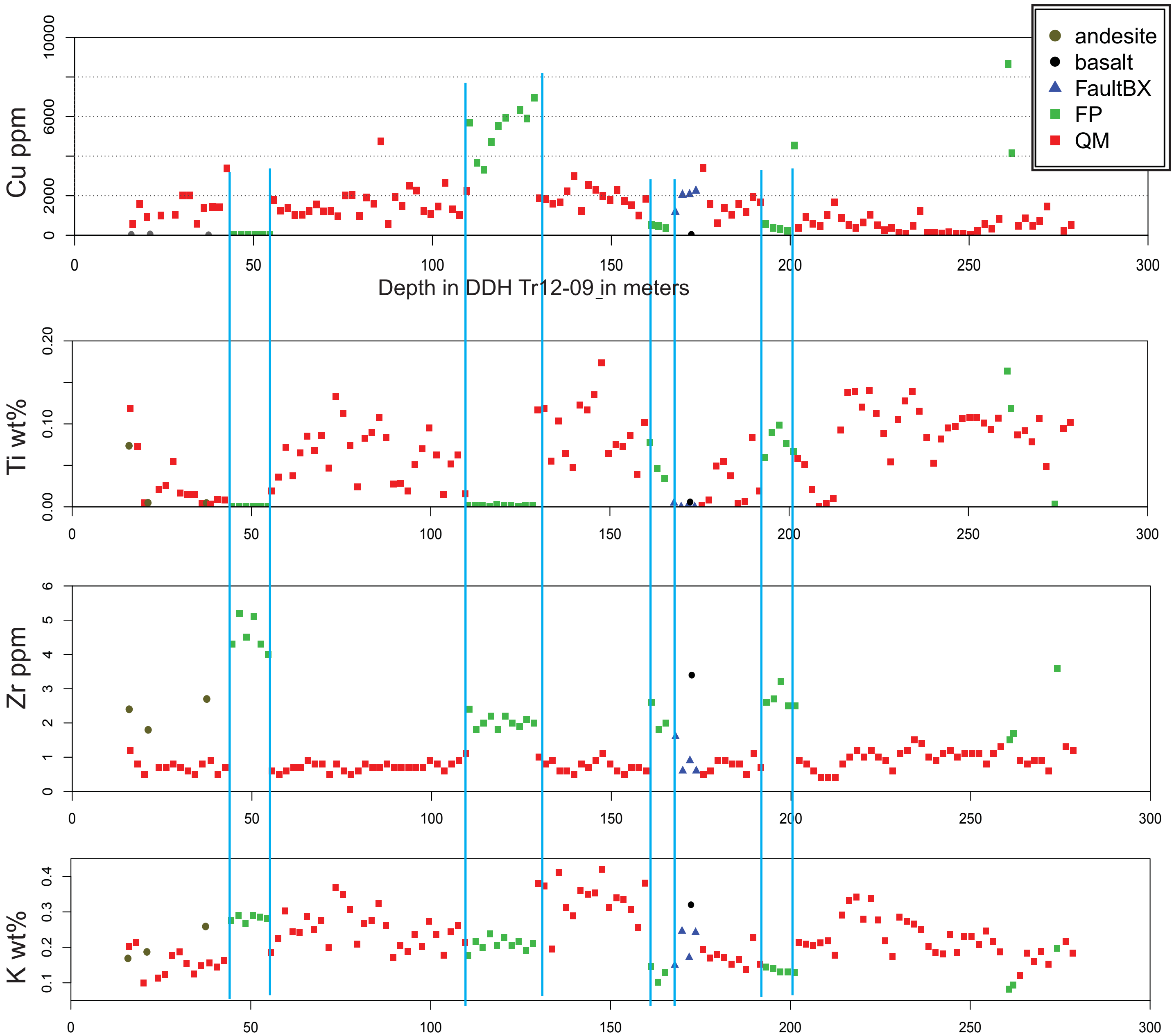


Figure 32: Diamond Drill Hole Tr12-09 chemical plots
This lay-up of drill intersection vs Cu, Ti, Zr and K, highlights FP dykes logged in drill core by distinct chemical characteristics in some major and trace rock forming elements. The contacts of the FP dykes are marked by blue lines across the profiles at 4 significant intervals correspond to the drill log near 50 meters, 120, 165 and 200 meters (logged at 44.54 to 55.58 m; 110.47 to 129.89 m. 161.20 to 167.88; and 193.21 to 202.35 m). All four FP dykes show high Zr relative to the quartz monzonite host rock (QM), but only the upper two show very low Ti. The profile for copper shows that Cu is distinctly low relative to the QM in the upper dyke, but higher that average in the one at 120 meters and lower than surrounding QM in the lower two. The FP dyke interval from 110.47 to 129.89 m assays 6713 ppm Cu and 5.1 g/t Ag. An adjacent interval in the quartz monzonite from 131.65 to 159.65 (28 m) assays 1906 ppm Cu and 1.1 g/t Ag

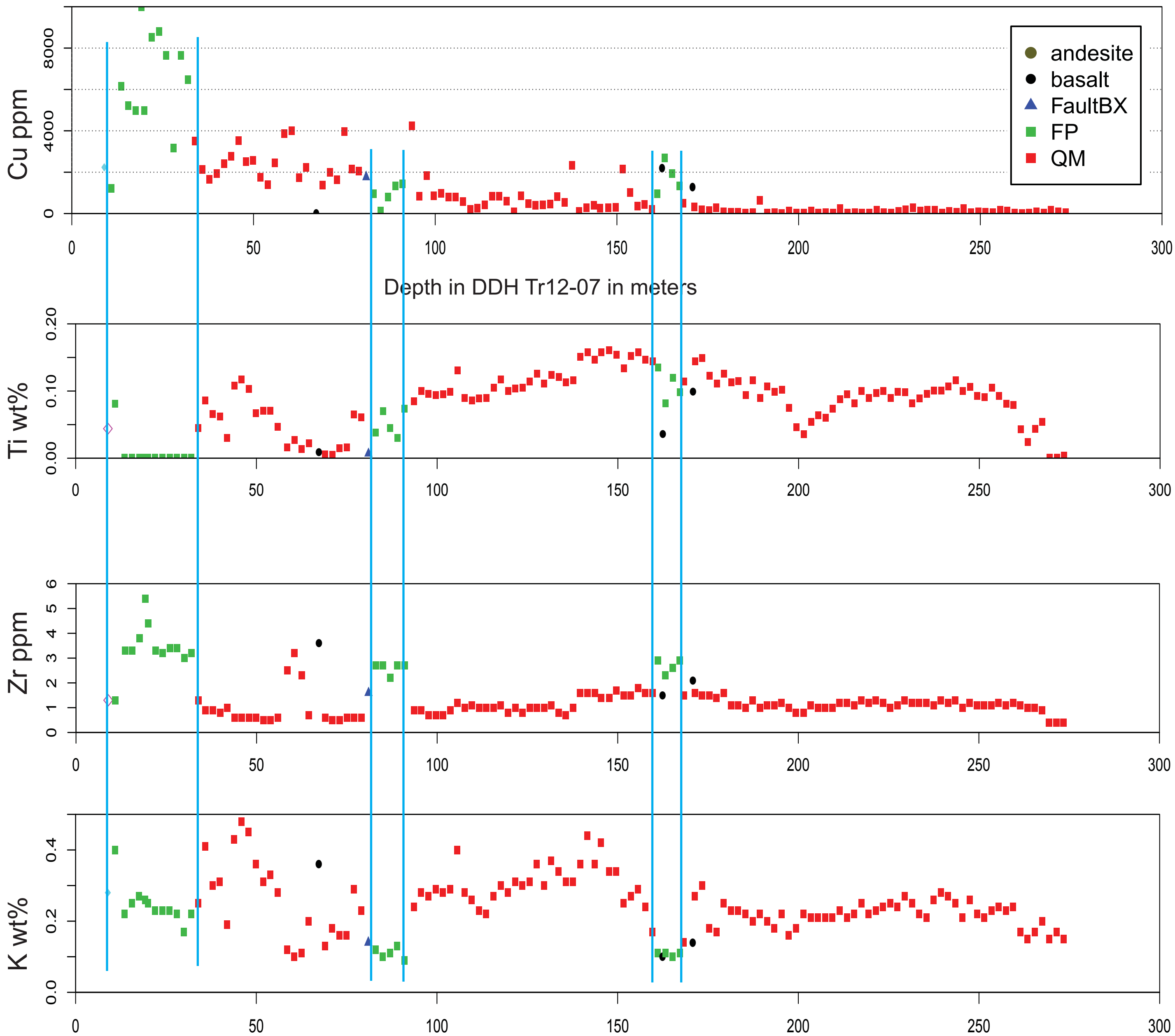


Figure 33: Multiple plots of elements vs depth in Tr11-07
DDH Tr11-07 is located up section of Tr12-09 and appears to intersect the same set of three lower dykes seen in Tr11-09, but higher in the drill hole. The same chemical characteristics identify the three FP dykes in drill intersection plotted against Cu, Ti, Zr and K. The contacts of the FP dykes are marked by blue lines across the profiles at 3 significant intervals corresponding to the drill log near the top of the hole between 13.57 and 33.89 meters, at about 85 m downhole (83.0 to 93.63 m) and 162 m (at 161.1 to 168.26 m). All three FP dykes show high Zr relative to the quartz monzonite host rock (QM). The upper one shows high copper and very low Ti, while the lower two have Ti indistinct from the surrounding quartz monzonite and only slight copper enrichment. The dyke at the top of the hole from 10.92 to 33.89 assays 6407 ppm Cu and 4.3 g/t Ag. The adjacent interval from 33.89 to 67.29 assays 2521 ppm and 1.38 g/t Ag.
Diagram drawn by the author in GCDkit41. and InDesign, April 2022.

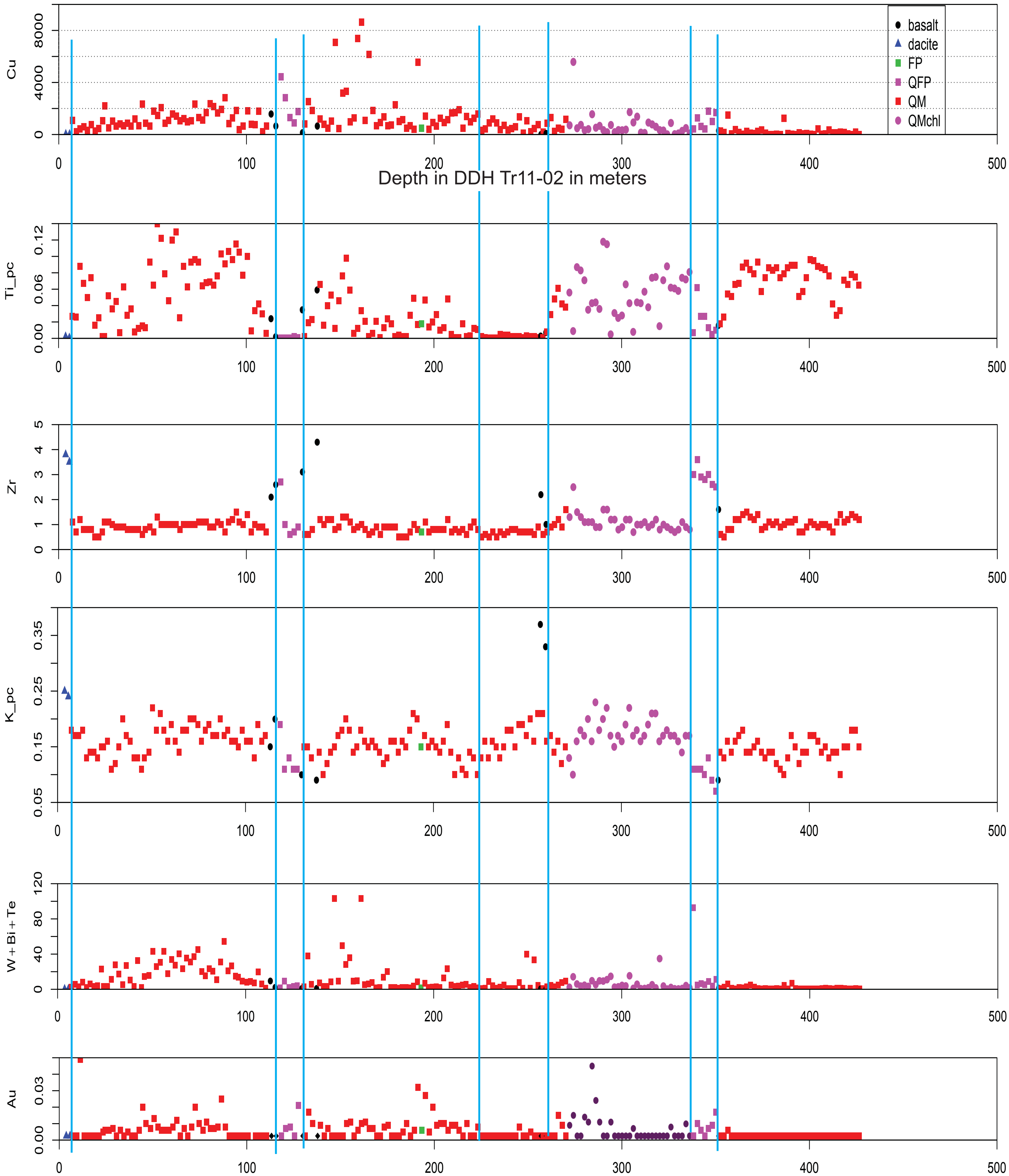


Figure 34: Diamond Drill Hole Tr11-02 chemical plots

The dyke logged as QFP below 110 m depth, appears to correlate with the western high grade channel sample and FP dykes in sections extrapolated from the northern drill holes.

Figure 35: Tr11-03 @ 87.47 m interval
Top rows in photo are from the QFP logged between 75.93 and 88.82 m. Quartz monzonite resumes in the bottom row where the grade is lower, but a few fine veinlets have been marked in yellow. Interval resides in Tr11-03, boxes 16 to 18 (75.47 to 92.79m). Photo from core logging files courtesy of Ken Galambos.
The QFP interval from 75.93 to 88.82 m grades 0.66% Cu, 91 ppm Mo, 6.5 g/t Ag, and 0.03 g/t Au.

Figure 36: Core photo QFP Tr11-03 @ 174.90 m
Biotite-altered QFP unit cutting quartz monzonite at 70° angle to core axis. Broken end of core shows chalcopyrite veinlet. The interval of QFP from 172.55 to 180.33 grades 0.10 % Cu, 245 ppm Mo, 0.86 g/t Ag and 0.007 g/t Au.

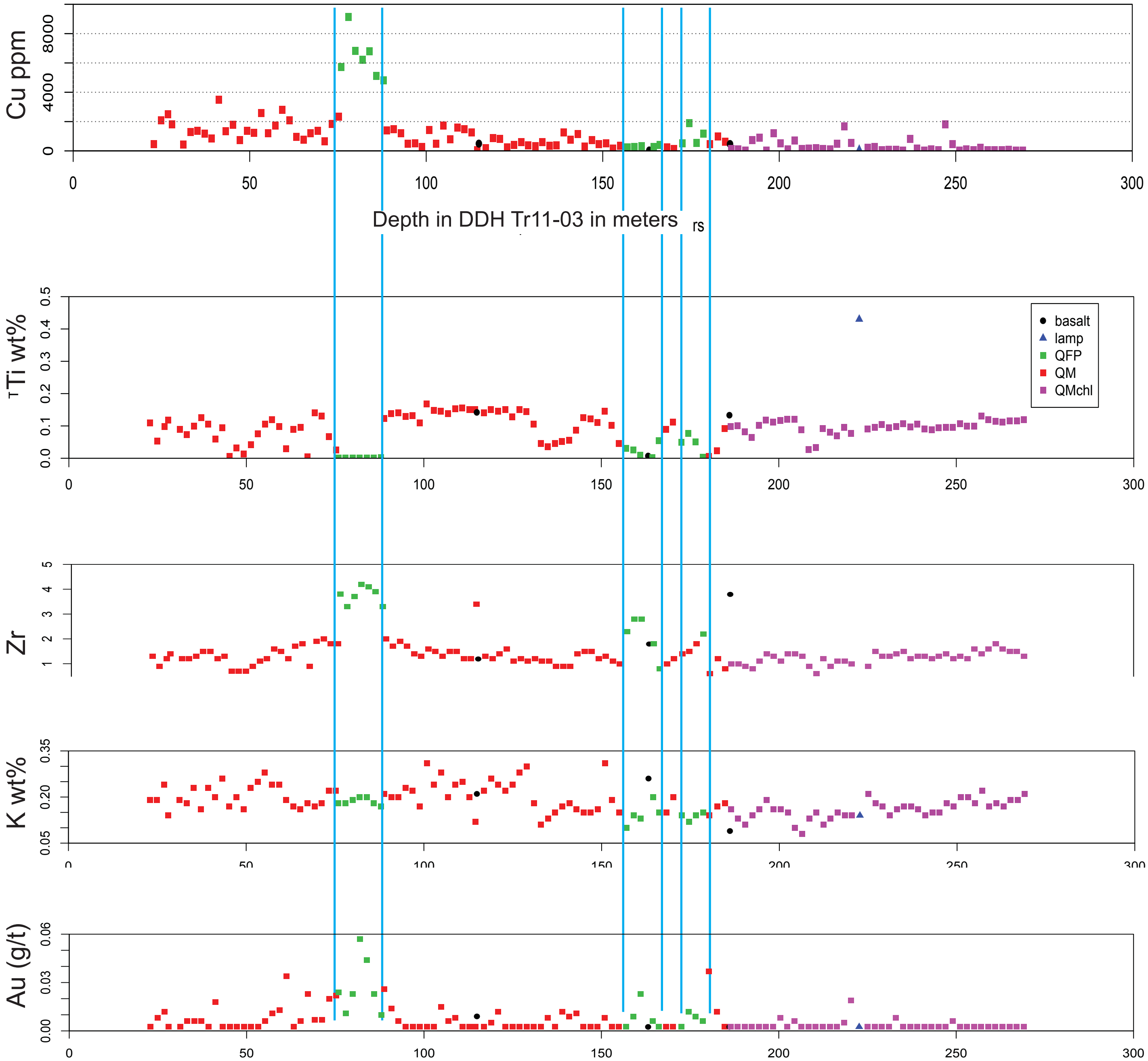


Figure 37: Diamond Drill Hole Tr11-03 Main Zone chemical plots
This lay-up of drill intersection vs Cu, Ti, Zr, K, and Au shows interesting strong correlations with the core logged lithology. The high copper interval correlates with a very low Ti and high K interval of a pale green, sericitically-altered feldspar porphyry dyke logged between 75.93 and 88.82 m. Dykes logged as QFP deeper in the hole (at 157.00 to 163.20 m), and also marked with green squares, do not show the same correlation with high Cu and K, or Zr, but do have low Ti. This likely means that there are different lithologies classified as QFPs which may be post-mineral. The QMchl unit in the legend was logged as chloritically altered quartz monzonite. Gold is elevated in proximity to the main FP dyke intersected between 50 and 100 meters. The QFP dyke from 75.93 to 88.82 (12.89 m) assays 6511 ppm Cu, 6.6 g/t Ag, and 90 ppm Mo. The top section of the hole in quartz monzonite from 22.9 to 75.93 at the dyke contact assays 1450 ppm Cu, 1.7 g/t Ag, and 111 ppm Mo.

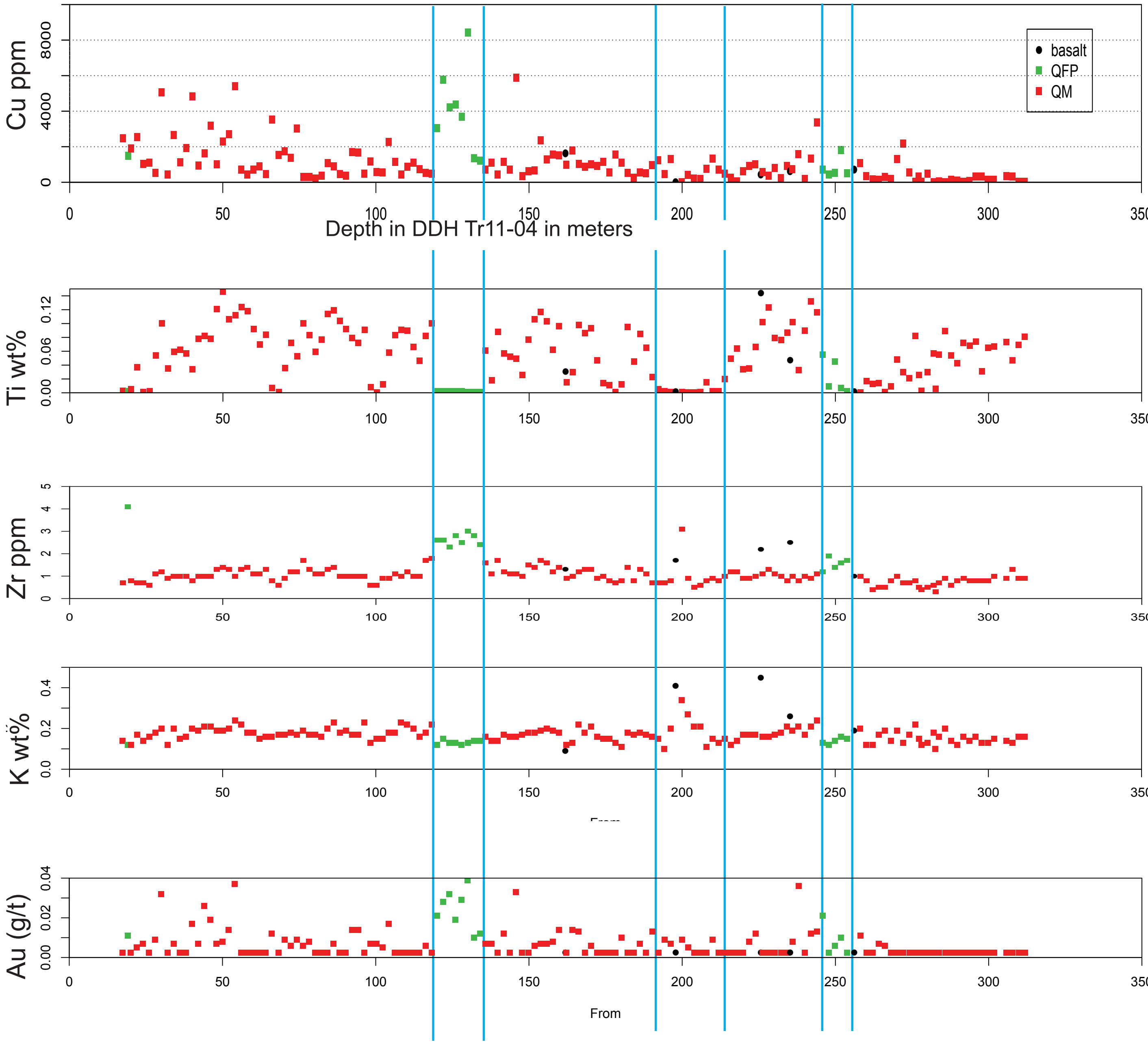


Figure 38: Diamond Drill Hole Tr11-04 Main Zone chemical plots
This lay-up of drill intersection vs Cu, Ti, Zr, K, and Au should correlate with Tr11-03 which is up section. A high copper interval between 120 and 135.8 m correlates with a very low Ti, high Zr logged as a potassically altered QFP dyke with strong sericite alteration around veins, and likely connects to the dyke interval in Tr11-03 described as a “pale green, sericitically-altered feldspar porphyry dyke” in the drill log between 75.93 and 88.82 m (in Tr11-03). A dyke logged as QFP deeper in the hole (at 250 m), and also marked with green squares, is not as enriched in copper, or high in Zr or consistently low in Ti. Gold is elevated in the main FP dyke (120 m) and also near the top of the hole where copper is erratically high. Gold appears almost directly proportional to copper throughout most of the hole. The upper QFP dyke 120.2 to 135.78 m) grades 4047 ppm Cu, 4.142 g/t Ag, 0.024 g/t Au, and 38 ppm Mo. The upper quartz monzonite interval from 20.04 to 120.02 grades 1448 ppm Cu, 1.6 g/t Ag, 0.007 g/t Au, and 70 ppm Mo.

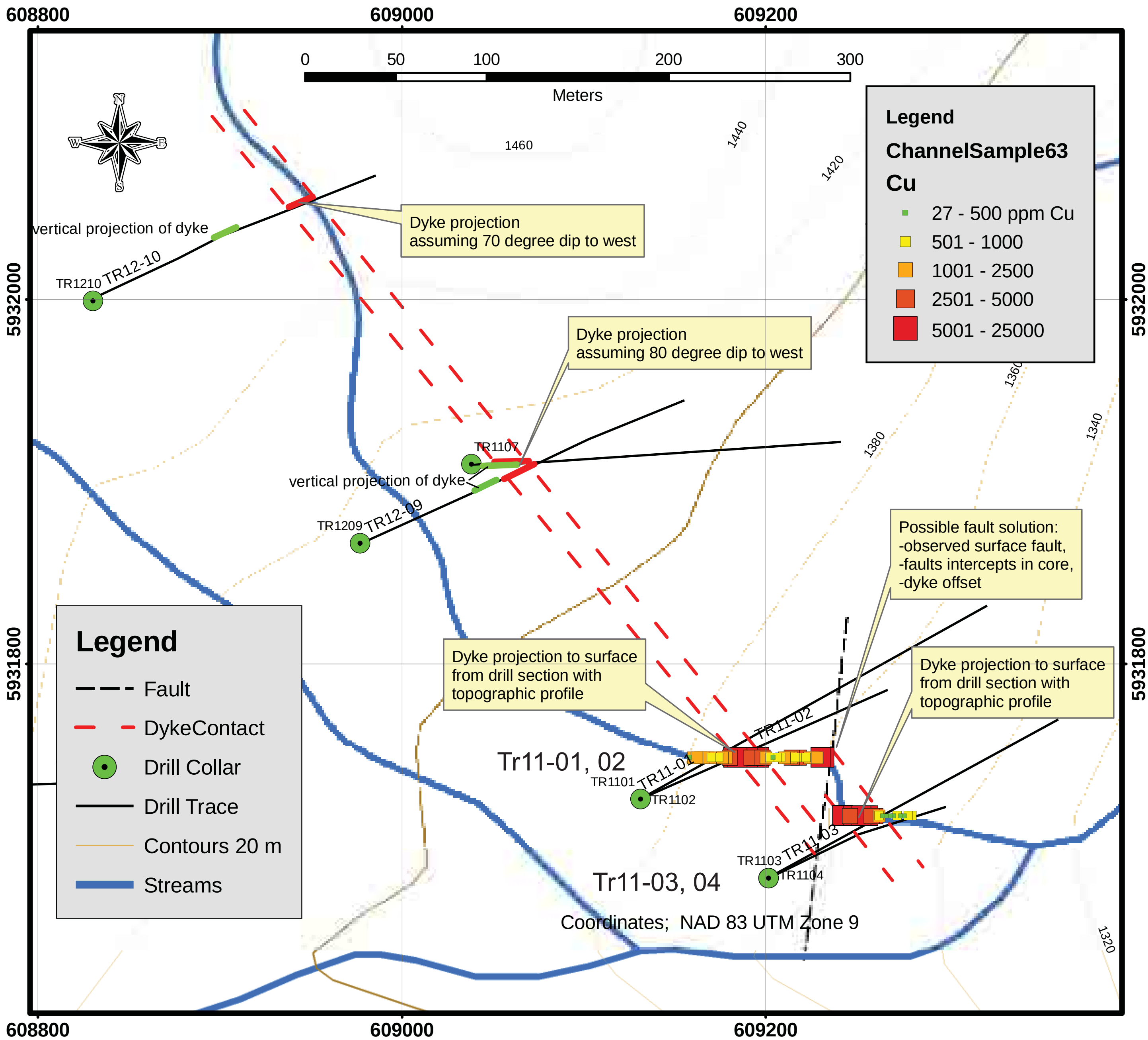


Figure 39: Projected Trace of Mineralized FP Dyke: Main Zone

The surface trace of the mineralized FP dyke is projected from four drill sections at Tr11-03 - 04, Tr11-01 - 02, Tr11-07 - Tr12-09 and single drill hole Tr12-10 shown in Figures 23 and 24. Green line segments on the drill traces are the vertical positions of the dykes, while the red segments are projected using apparent dip. The most westerly high-grade channel sample is interpreted as the track of the dyke based on high copper and distinctly low Ti and Zr like other QFP/FP intersections. Correlation of the dyke between holes is inferred from consistent low Ti, high Zr compositions in Feldspar Porphyry (FP or QFP) as shown in pseudo sections in Figures 31 to 34 and 37 to 39 and estimation of the dip of the dyke from drill sections shown in Figure 26 and projection to surface.

Between sections for Tr11-01, 02 and Tr11-03, 04 the dyke appears to be offset by the fault measured on surface at 010° and steep dip, but of unknown offset. A possible solution is shown that fits with observed surface high copper, low Ti, high Zr (QFP or FP) occurrences in the channel sample, and apparent offset of dyke intercepts in drill core in between sections for Tr11-03, -04 and Tr11-01, -02. The fault zone appears to be as wide as 8 meters where it outcrops in the creek as carbonate altered veins, and it is not clear where the the slip is located, or if the dyke curves in its intrusive track.

Map drawn by the author in ArcGIS9.3 April, 2022.

Figure 40: Main Zone Fault Trace
The fault that appears to offset the QFP dyke in the Main Zone between the channel sample tracks is possibly the Fault Trace in dashed magenta line that is evident on the steep south facing slope in the intermediate skyline of the photo. The fault trends approximately 010 degrees. Potassic alteration was observed along the fault trace causing the pink colour in the talus below the fault. The channel sample location is shown by yellow lines in the left foreground. Other possible faults are evident in the left of the photo on the steep face below cols on the ridgeline.
Photo by Galambos 2011; markup by the author April, 2022.

down or sinistral faulting. Other possible fault traces appear along the ridge to the northwest in Figure 40 and may offset the track of the dyke between drill hole Tr12-10 and Tr11-05. The compositional plots for Tr11-05 (Fig. 41) show the hole to be distinctly lower in grade throughout its drilled extent, and lacking in significantly mineralized FP or QFP dykes that line up with the projected FP dyke to the southeast suggesting that the dyke in Tr12-10 is offset beyond the reach of Tr11-05 and 06.

Other dykes intersected by the drilling and also classified as FP or QFP are not consistently mineralized, but in most cases can be distinguished by higher Ti contents than in the mineralized porphyry dyke. Zr is generally elevated like in the mineralized dyke, but it appears that there is a narrow range of compositions tied to mineralization. Post mineral fine grained dykes described as a basaltic, andesitic and dacitic were also logged, but these commonly have no copper enrichment although they may have low Ti and high Zr.

Details of the mineralization from the drill logs reveal a plethora of small quartz-pyrite and quartz-pyrite-chalcopyrite veins ranging from a few mm to 2 cm in true width. Angles to

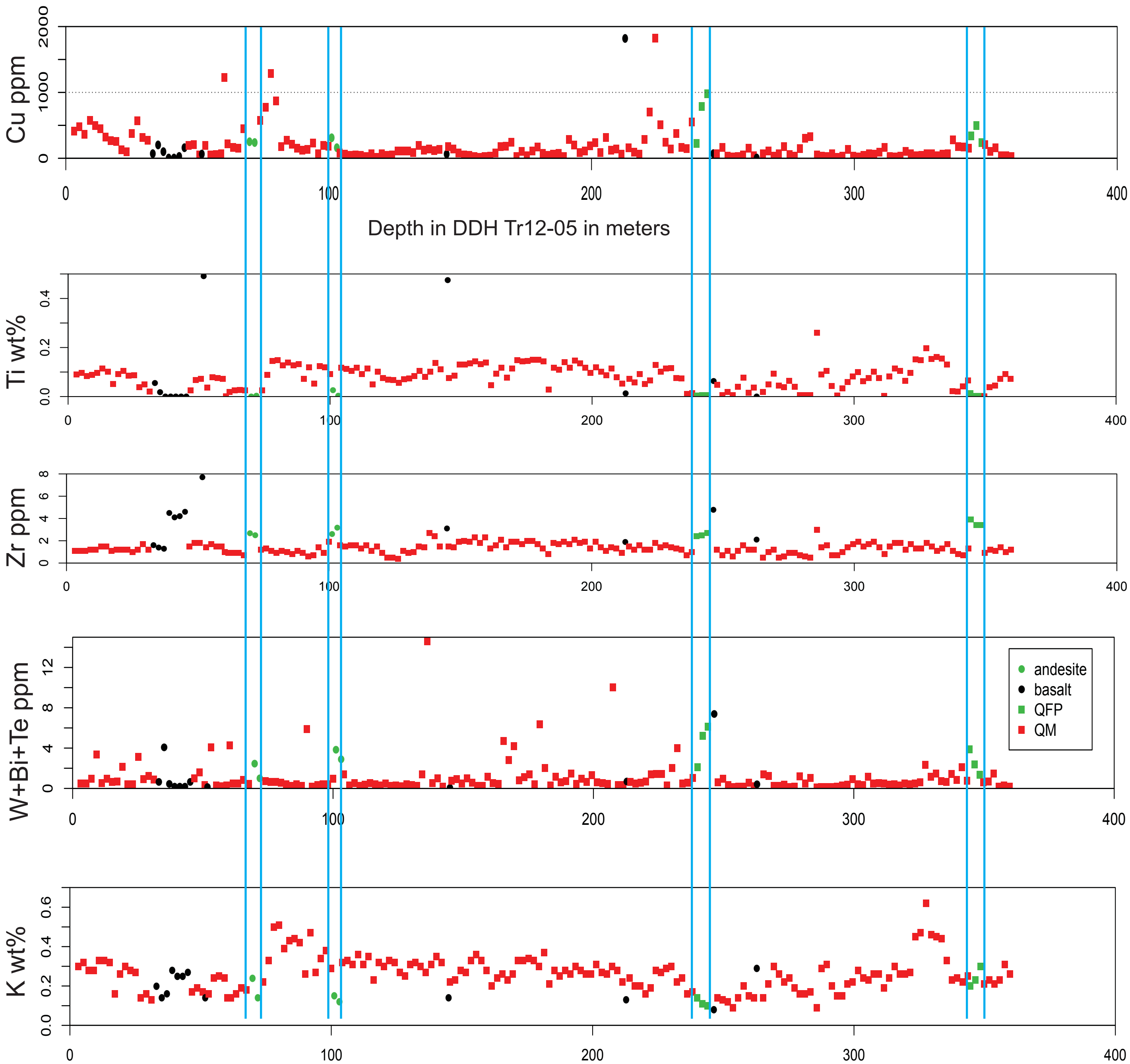


Figure 41: Diamond Drill Hole Tr11-05: west side of a possible fault?
DDH Tr11-05 is a relatively lower grade intersection at the western end of the drill fence. This lay-up of drill intersection vs Cu, Ti, Zr, W+Bi+Te, and K, highlights andesite and FP dykes logged in drill core by distinct chemical characteristics in some major and trace rock forming elements. The contacts of the andesite and QFP dykes are marked by blue lines across the profiles at 4 significant intervals correspond to the drill log near 75, 100, 230, and 350 meters (logged andesites at 69.91 to 73.99 m; and 101.15 to 104.20 m, and QFP at 239.98 to 246.40; and 344.44 to 349.74 m). All four dykes, QFP and andesite, show high Zr relative and low Ti to the quartz monzonite, but it is not clear if any of the dykes are continuous from the more richly mineralized intersections in DDHs Tr12-09 and Tr11-03. The profile for copper shows that Cu is only slightly enriched in the dykes, but only slightly more enriched in the two lower QFP dykes than the andesite dykes, but all values are below 1000 ppm.

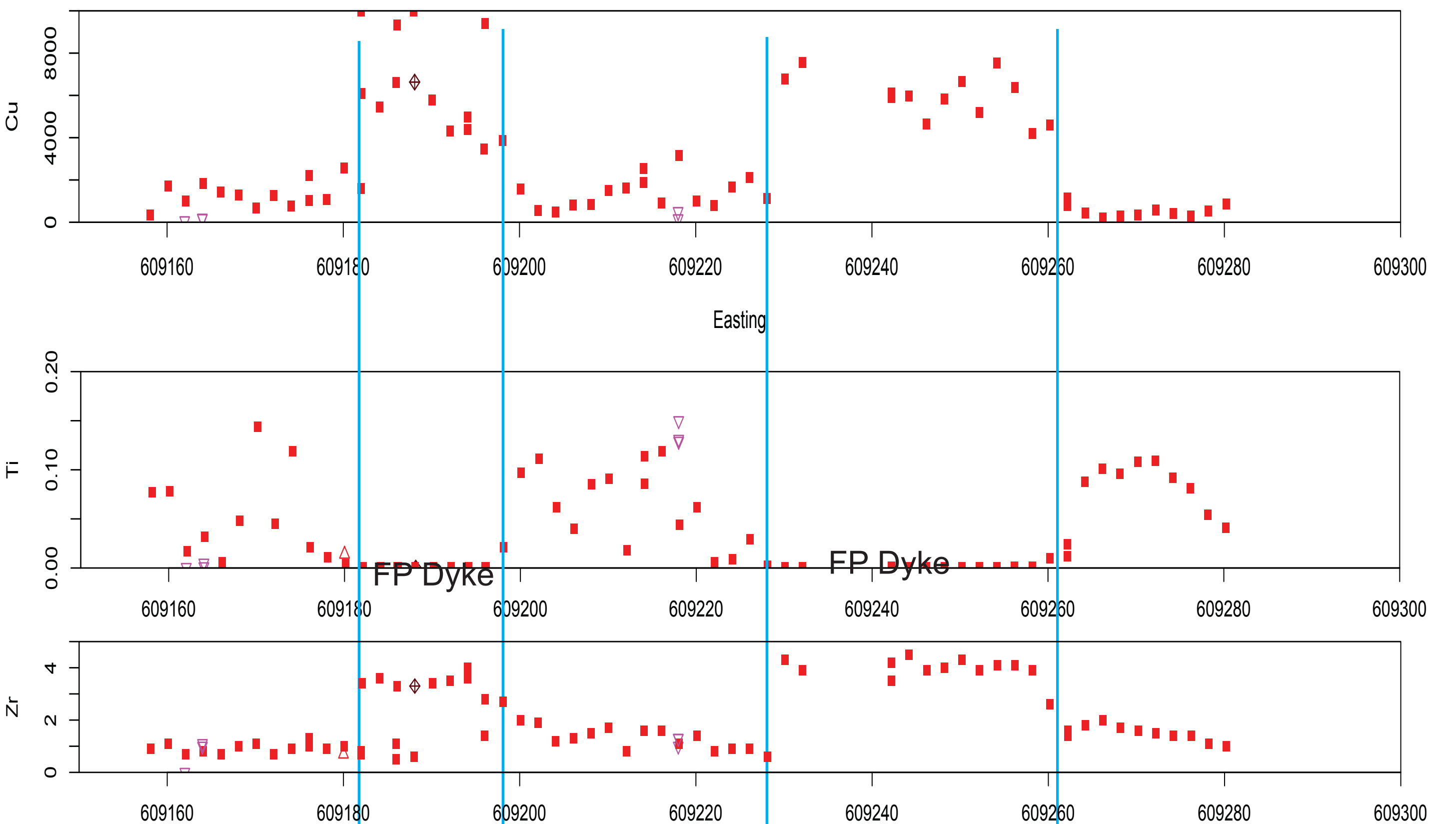


Figure 42: Main Zone Channel Sample chemistry plotted by Easting
High grade copper intervals between 609182 to 609196 and 609227 to 609261 have characteristic low Ti and high Zr of FP dykes logged in the drill core. Individual samples along the channel cut were not described, but it appears that these sections are actually FP dykes. Red squares represent values for the channel sample; other symbols are from other showings at the same UTM Easting. The two intervals are probably fault-offset sections through the same dyke as shown in Figure 39.

the core axis for the veins were consistently measured throughout the core and although the actual orientation of the veins is ambiguous without oriented core, detailed comparison of steep and shallower holes shows a possible solution. In drill hole Tr11-04 the vein angle to core axis consistently measures at about 30° TCA in a hole that was drilled at -70° degrees on an azimuth of 065°. In the same drill section, Tr11-03 was drilled on the same azimuth but at -50°, or 20° degrees shallower. In Tr11-03 angles between the core axis and veins range from 45° to 65°, but are most consistently at about 50° to core axis, or about 20° degrees different than in Tr11-04. Assuming a single vein set is cut by both holes, the 20° degree difference in dip of the drill holes can account for the 20° degree difference in measured angles between veins and core axes, which suggests that the veins dominantly strike perpendicular the drill azimuth at 155°, and dip steeply to the southwest at -80° degrees or a strike and dip of 155°/80°. If the veins were in two vein sets fortuitously bisected in one of the holes, the other hole would show a bimodal population of very low and very high angles to the core axis. The drill holes were oriented initially to be perpendicular to the regional strike of jointing fabric and surface veining and to cross the fabric at a moderately high angle.

The Main Zone FP dyke is structurally aligned with the vein fabric observed in the drill holes. The difference in the average angle of veins to core axes between drill holes in the same section (e.g. Tr11-01 and -02) is the same as the angle between the drill holes, which is consistent with the veins being oriented parallel with one common northwest striking, southwest dipping fabric. The FP dyke may have been the main mineralizer in the drill sections perhaps driving hydrothermal fluids along fractures in its vicinity.

7. Geological Setting and Mineralization

7.1 Regional Geology

The Stikine Terrane formed as a series of three oceanic magmatic arcs or island arcs during the Permian, late Triassic and early Jurassic represented by marine and subaerial volcanic strata, concomitant sediments, and coeval plutonic rocks. Stikine Terrane collided with the oceanic crust of the Cache Creek Terrane during the late Jurassic along a series of east dipping thrust faults in central BC. In general understanding from the present configuration, the Cache Creek oceanic crustal terrane was compressed between the Stikine on its west side and the Quesnel terrane, another island arc magmatic belt similar in age and affinity to the Stikine, on its east. However, arc polarities and the provenance of fossil fauna indicate a more complex origin postulated by Mihalynuk et al. (1994) to have resulted from the progressive indentation of a continuous island arc complex composed of the Quesnel and Stikine terranes, represented at the time by the Takla and Hazelton island arcs, which were then folded about a hinge now represented by the mutual northern ends, the kinematics of which are illustrated in Figure 43 The Cache Creek oceanic plate was gradually consumed in subduction zones beneath the two arc segments until it became sandwiched between them in the present configuration (Fig. 46). This model explains how the more exotic Cache Creek rocks, which contain Late Permian Tethyan fusilinids, became enclosed between the two less exotic Stikine and Quesnel terranes which are characterized by much younger Jurassic fauna. The model also explains the complex polarity of magmatic arcs in the two terranes, which appears to be consistently east-vergent in Quesnel, but changed from early west vergence in Stikine (the Cache Creek side) to east vergence after closure of the hinge and resumed convergence between North America and Pacific oceanic plates.

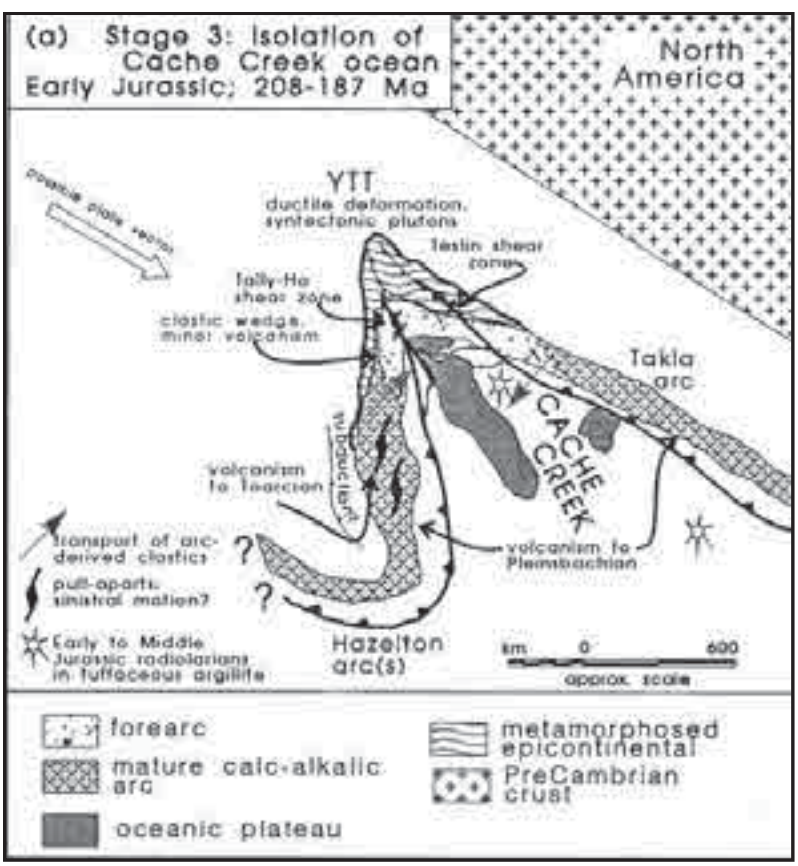
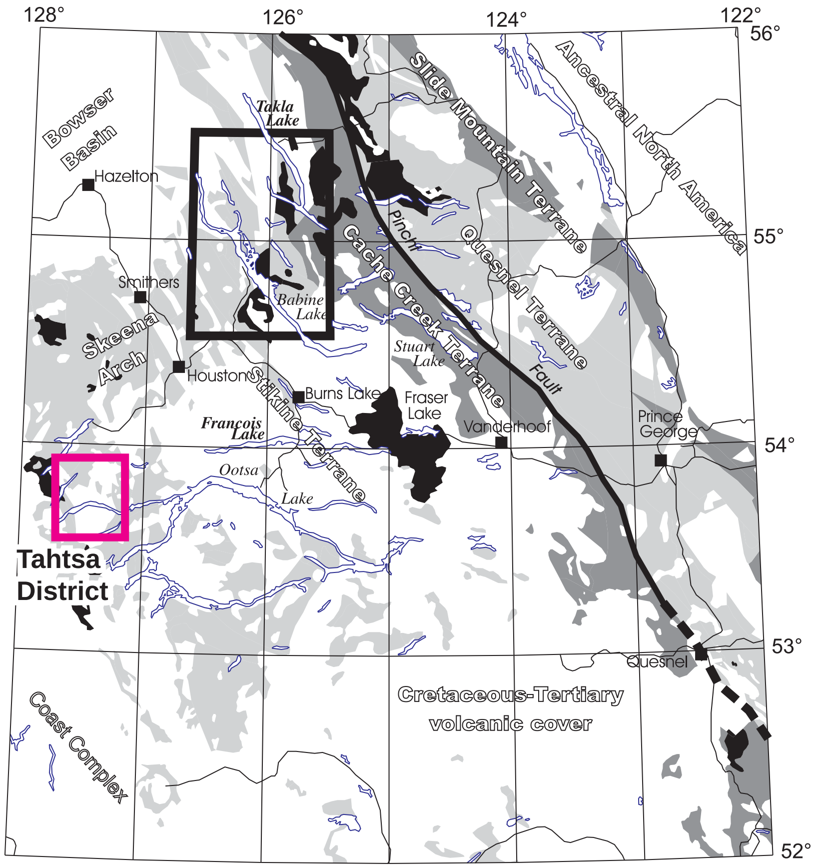


Figure 43: Hypothetical tectonic model for Jurassic oroclinal hinging of continuous Stikine and Quesnel Terranes
The model is from a series of stages postulated by Mihalynuk et al. (1994) to sandwich the Cache Creek Terrane between the Stikine (Hazelton Arc) and Quesnel (Takla Arc) magmatic arc terranes, shown in present geography in Fig.61.

Figure 44: BC Porphyry Deposits of the Stikine and Quesnel Terranes
The principal distribution of known Triassic and Jurassic magmatic arc rocks of the Stikine and Quesnel terranes and associated porphyry copper deposits shows a remarkable parallel, longitudinal continuity. In contrast younger, Late Cretaceous to Eocene porphyry copper deposits form in bands transverse to the Stikine terrane structure in the Skeena Arch and to inferred orientation of the axis of Late Cretaceous subduction.

The broad magmatic arcs of the Triassic and Jurassic waned during the Cretaceous, and by the Late Cretaceous arc magmatism was restricted to the subduction margin in the Coast Plutonic Complex. Inland from the arc in the present interior plateau (e.g. Nechako Plateau), crustal thickening of Stikine Terrane rocks during Late Cretaceous contraction, caused by oblique, high rates of convergence resulted in remelting of previously metasomatized subcontinental lithospheric mantle and eruption of magmas in localized centers now exemplified by a scattering of Bulkley Suite intrusions. The crustal thickening is recorded by Late Cretaceous northwest-directed thrusting in the Skeena fold and thrust belt which forms the basis of the Skeena Arch. Previously, crustal shortening had been directed to the northeast orthogonal to axis of the Triassic and Jurassic subduction regimes. During the Late Cretaceous to Eocene major oceanic plates were reorganized in the Pacific resulting in tectonic and magmatic events throughout the North American Cordillera known as the Laramide Orogeny responsible for



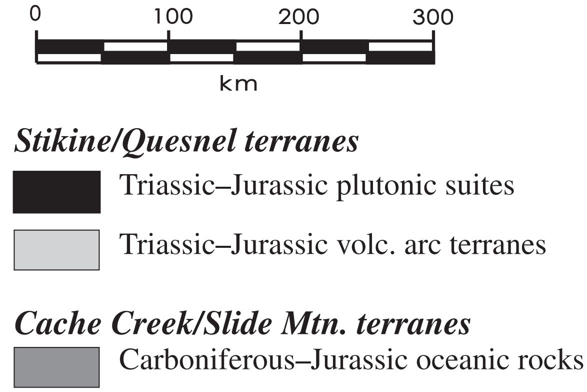


Figure 45: Tectonic Terrane geography in the Babine Region
The Tahtsa District is indicated by the red rectangle. The Babine District in the black rectangle lies across the eastern sector of the Skeena Arch adjacent to the Cache Creek Terrane and is relevant for comparison to the Tahtsa area . Figure from Macintyre (2001).

the formation of many porphyry copper deposits (Fig. 44). Magmatism and porphyry copper mineralization are typically interpreted to be the result of dehydration of subducted oceanic lithosphere and resulting partial melting of lithospheric mantle under the North American plate during periods of rapid, oblique, plate convergence. In contrast, while a main arc of magmatism above subducted oceanic crust produced the Coast Plutonic Complex shown in Figure 46-a, magmatism also was initiated inland from the main arc, triggered by partial melting of the base of tectonically thickened, subduction-modified continental crust supporting the Skeena Arch (Fig. 46-b). The resulting magmatism was widespread across the Arch and not focused above a trench-parallel linear axis typical of arc magmatism. However, the magmas were generally of a calc-alkaline nature bordering on alkaline as a result of the inherited subduction-related material at the base of the crust. The Late Cretaceous to Early Eocene magmatism was episodic in periods of 108–105, 85–78, and 54–50 Ma characterized by emplacement of plutons and construction of stratovolcanoes, and cauldron subsidence complexes depicted schematically in Figure 47.

The Skeena Arch (Fig. 44) formed the depositional, topographic divide between the Jurassic Bowser and Nechako sedimentary basins (Yorath, 1991). The Arch was initiated in the Jurassic, but persisted as a tectonically thickened section of the Stikine Terrane through the Cretaceous into the Eocene as a metallogenetic belt responsible for diverse types of mineral deposits in a wide range of geological settings. The Troitsa Property lies in the southern fringe of the Skeena Arch and is part of the Tahtsa district (Fig. 45), an area defined by MacIntyre (1976, 1985) in his Ph.D. thesis research on porphyry copper metallogenesis. The Tahtsa District lies at the western edge of the Nechako Plateau physiographic region on the eastern flanks of the Coast Plutonic Complex. Within the district, volcanic complexes are characterized by anomalously thick sections of andesitic volcanic strata preserved in grabens, proximal to high- and intermediate-level intrusions and associated porphyry copper mineralization in uplifted areas.

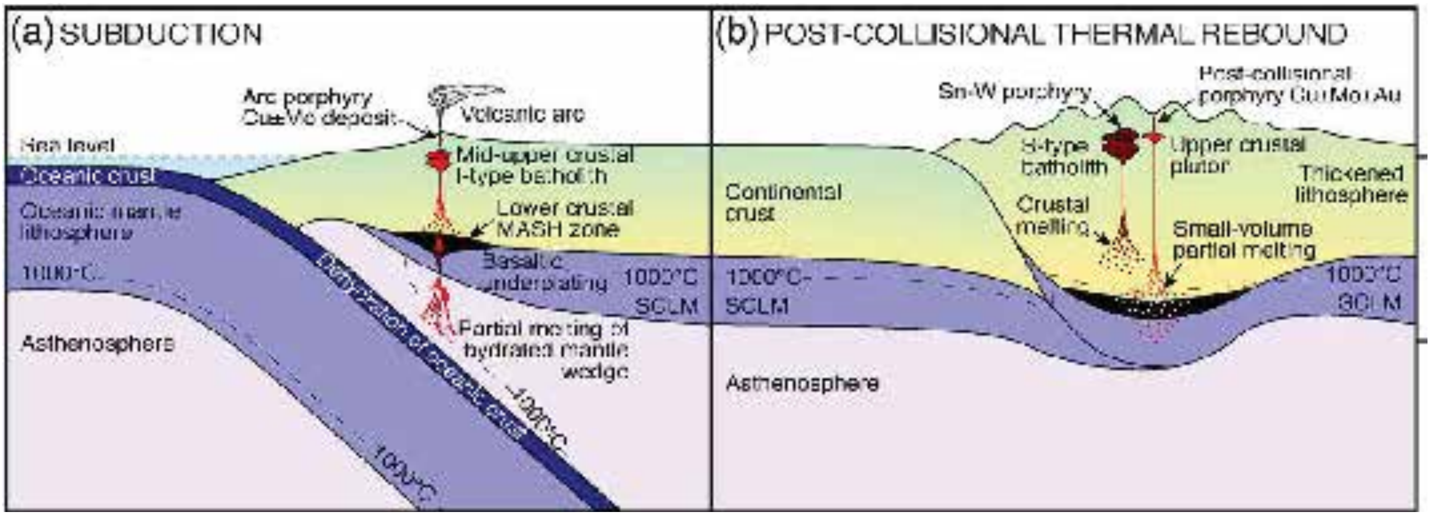


Figure 46: Tectonically thickened crust causes Bulkley Suite magmatism
(a) Shows the tectonic setting of normal subduction related magmatism where oceanic crust contributes fluids to the mantle wedge causing partial melting, and producing magmas depleted in high field strength elements such as Ta, Nb, Zr and Ti and elevated LREEs characteristic of arc magmas. (b) Tectonic thickening of the crust depresses the subcontinental lithospheric mantle and results in partial melting of basal crust previously enriched during past subduction events.
Figure from Kim, 2020.

7.2 Stratigraphic Units

The main stratified rocks that outcrop in the Tahtsa district are Jurassic and Early Cretaceous volcanic and sedimentary rocks isotopically dated by MacIntyre (1976 and 1985) and later in a regional comparison to other Late Cretaceous volcanic centers by Kim (2020). Older volcanic-arc rocks such as the Triassic Stuhini Group, characteristic of the Stikine Terrane in northwestern BC are absent or covered by the younger strata. The Jurassic and Lower Cretaceous strata are folded and faulted and cut by an erosional surface on which Upper Cretaceous volcanic strata were deposited. Triassic and Jurassic intrusive rocks are therefore absent or not exposed at surface and the main intrusive suites are a wide variety of Late Cretaceous and Early Tertiary plutons some of which are associated with porphyry copper deposits. However, the Jurassic Hazelton Group represents the oldest volcanic arc rocks exposed in the region and are present in the immediate area of the Troitsa Property (Cawthorn, 1973; MacIntyre, 1985).

7.2.1 Hazelton Group

7.2.1.1 Telkwa Formation

In the Tahtsa Lake area andesitic fragmental rocks of the Hazelton Group are assigned to the Telkwa formation as defined by Tipper and Richards (1976). The rocks are predominantly fragmental in nature, and are characteristically red and green in colour due to hematitic and chloritic alteration. Individual beds range from several centimetres to as much as 100 metres in thickness. Lapilli tuff, lithic tuff, crystal tuff, and tuff breccia predominate; there are minor intercalations of porphyritic augite andesite, dacite, tuffaceous siliceous argillite, and pebble conglomerate. The fragmental rocks are poorly sorted and contain mainly angular clasts of andesite and tuff with lesser amounts of chert fragments cemented by sericite and microcrystalline silica. The matrix is largely composed of quartz and plagioclase crystal fragments also cemented by sericite and microcrystalline silica.

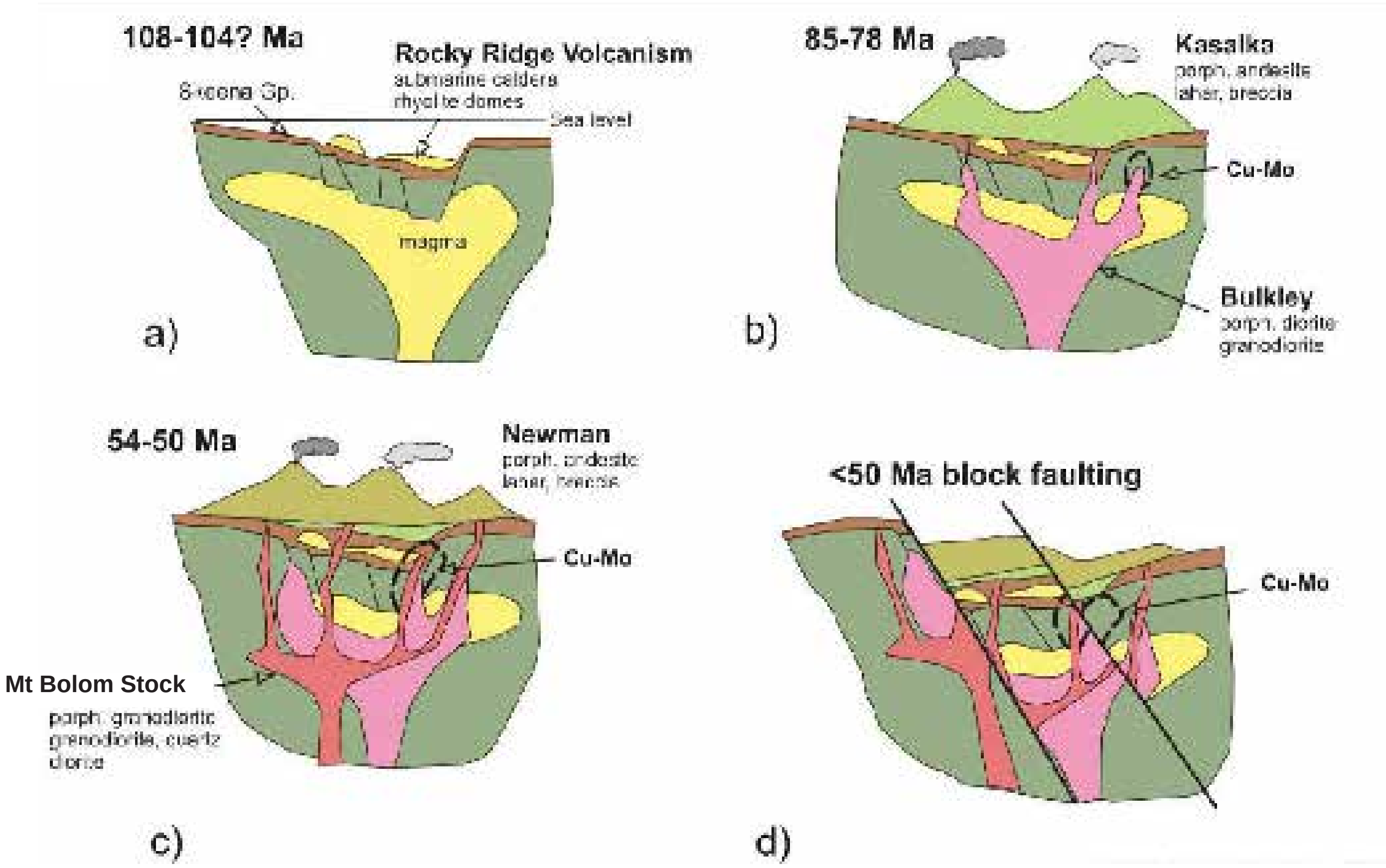


Figure 47: Metallogenetic model for Cretaceous and Eocene porphyry copper deposits
Diagram is from MacIntyre and Villeneuve (2001) and shows schematic cross sections describing the sequence of igneous and structural events between mid-Cretaceous and early Tertiary (Eocene) time. The original diagram was modelled on the inferred Tahtsa Cauldron Subsidence complex by MacIntyre (1985) citing asymmetric subsidence in the Bennett Lake Cauldron Subsidence Complex (Lambert, 1974) of southern Yukon. Cu-Mo porphyry deposits are indicated where they formed at high levels around apical intrusions branching from the main granodioritic to dioritic intrusions of the 85 to 78 Ma Bulkley and 54 to 50 Ma Babine suites.

7.2.1.2 Smithers and Whitesail Formations

Siliceous light grey, greenish grey, and dark grey volcanic rocks conformably overlie, and are, in part, interbedded with red and green volcanic units of the Telkwa Formation. These rocks are typically thin bedded, and in places are finely laminated. The predominant rock types are welded lapilli tuff, mottled cherty tuff, and banded or massive dacite and rhyodacite. Eutaxitic textures are common in the more siliceous fragmental rocks. These felsic volcanic rocks grade upward into alternating beds of mottled and banded grey chert, siliceous argillite, and siltstone which may be part of the Smithers Formation. Stratabound lenses of pyrite and pyrrhotite, up to several centimetres thick, are common in this part of the section.

7.2.2 Bowser Lake Group

7.2.2.1 Ashman Formation

Marine sedimentary rocks of the Bowser Lake Group occur in a fault-bounded block northwest of the Huckleberry mine (Fig. 52). Up to 800 metres of interbedded dark grey pebble conglomerate, sandstone, siltstone, shale, and minor tuff are exposed along the old Emerald Glacier mine road. Shelly fauna, particularly large coiled ammonites, occur in the clastic

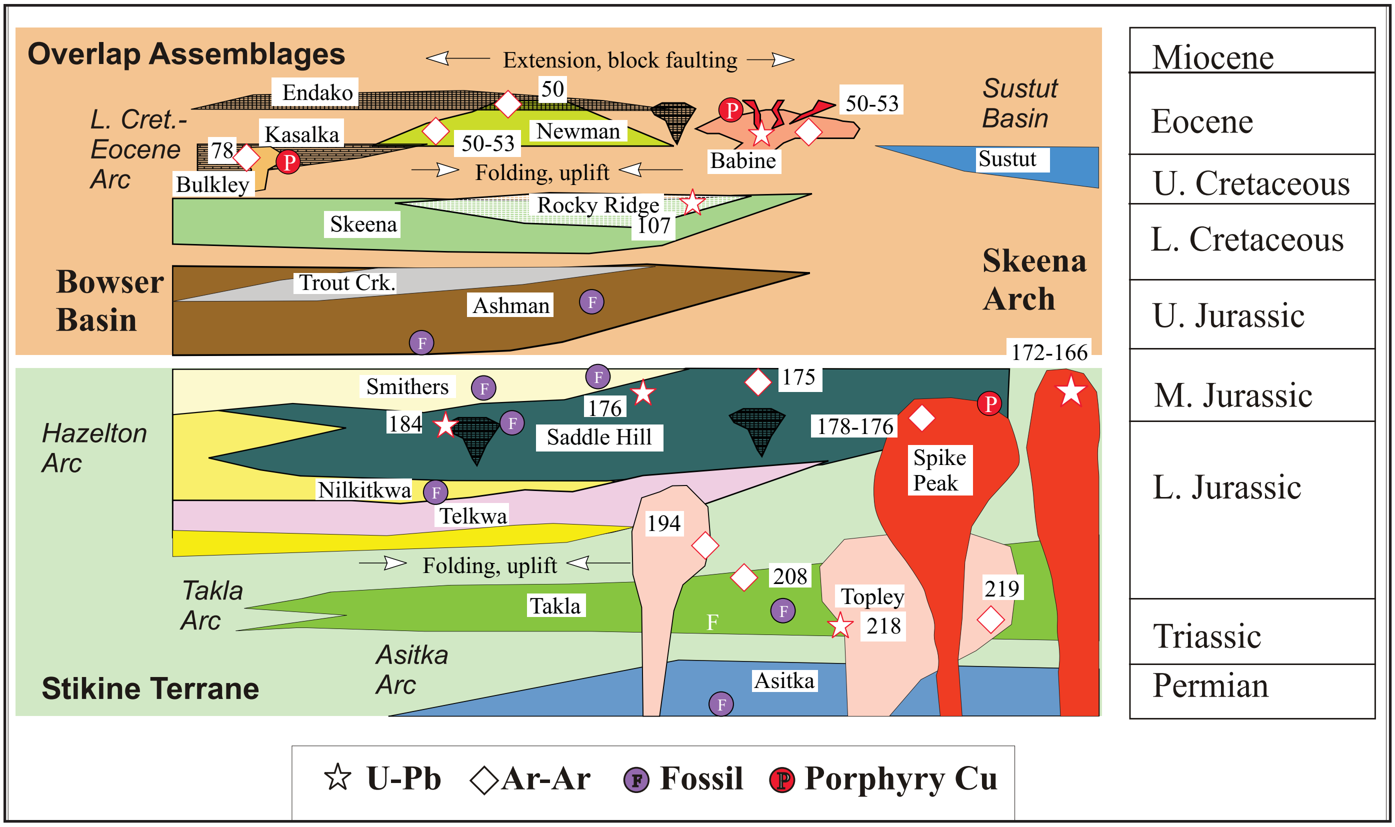


Figure 48: Schematic tectono-stratigraphic relationships, northern Skeena Arch
Diagram from MacIntyre (2006) shows the three magmatic arcs of the Stikine Terrane; the Asitka, the Takla, and the Hazelton with isotopic ages in Ma, and fossil positions. Overlapping sedimentary basins are indicated forming during the Upper Jurassic and Lower Cretaceous with the rise of the Skeena Arch namely the Bowser, Skeena, and Sustut Basins. Porphyry copper deposits are indicated in theoretical sites adjacent to mineralizing igneous intrusions. Three late Cretaceous to Eocene continental magmatic arcs are shown at the top with respectively coeval intrusions of the Bulkley and Babine Suites.

sedimentary units; they indicate a Late Bathonian age. On the basis of this age, these rocks can be correlated with the Ashman Formation of the Bowser Lake Group (Fig. 48).

7.2.3 Skeena Group

In the Tahtsa Lake map area or MacIntyre (1985) Skeena Group sedimentary rocks are well exposed on the south shore of Tahtsa Lake, in the core of the Tahtsa Range, and on Swing Peak ridge. These Lower Cretaceous rocks are distal turbidites typical of the successor basin deposits of the Skeena Group. In several localities, Lower Cretaceous sedimentary rocks conformably overlie amygdaloidal basalt flows. These flows unconformably overlie Hazelton Group strata and therefore are included with the Skeena Group. The combined thickness of the Skeena Group is estimated to be at least 1500 metres.

7.2.4 Kasalka Group

One of the distinguishing units of the Troitsa District is the Kasalka volcanics. The Tahtsa Lake district was mapped by MacIntyre (1976) for his Ph.D, thesis in which he described the relationships of the Upper Cretaceous Kasalka Group volcanics to the underlying regionally widespread, Jurassic Hazelton Group volcanics. His map area extended south across Troitsa Lake area encompassing the Troitsa Lake stock which he classified as an Upper Cretaceous

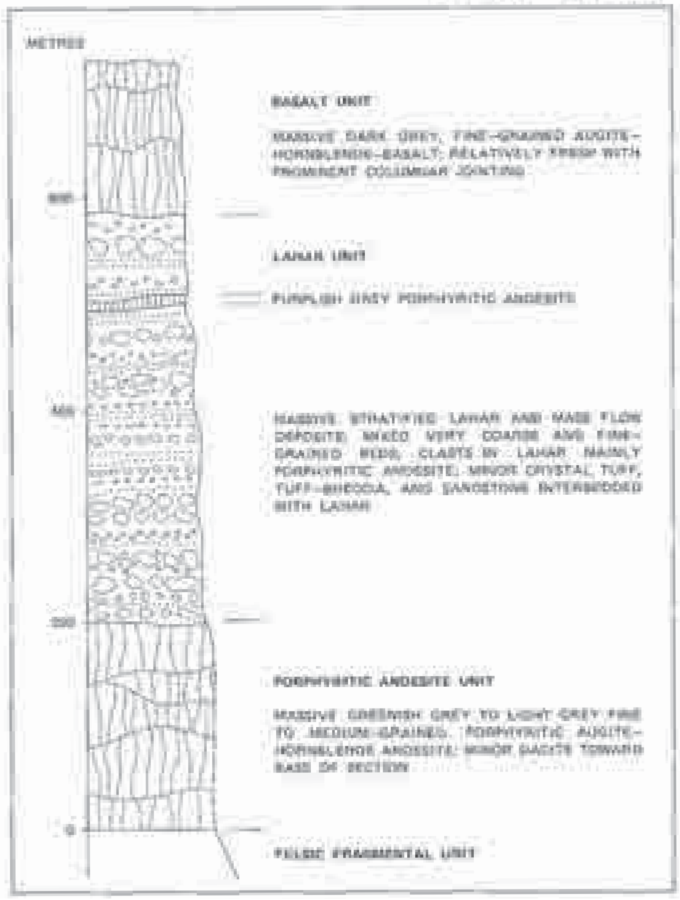


Figure 49: Kasalka Group: Swing Peak Stratigraphic Section
The section located on the south flanks of Swing Peak (Fig. 69) was informally termed the Swing Peak Formation by MacIntyre (1976), but only retained as units in BCGS Bull. 75, (MacIntyre,1985).

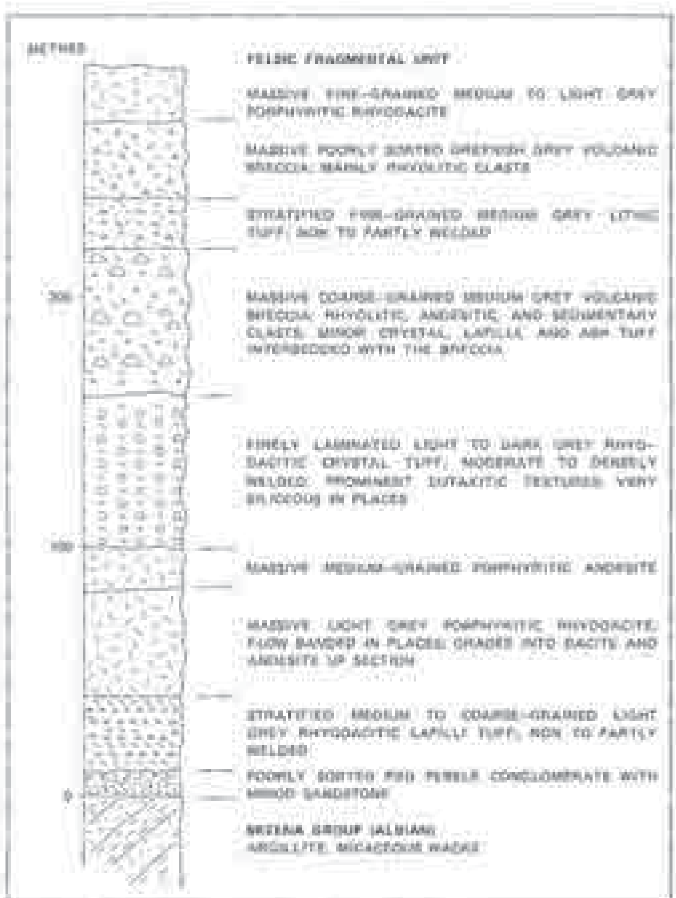


Figure 50: Kasalka Group; Mt. Baptiste Stratigraphic Section
The section located on the northwest spur of Mount Baptiste (Fig. 69) was informally termed the Mt. Baptiste Formation by MacIntyre (1976), but only retained as units in BCGS Bull. 75, (MacIntyre,1985).

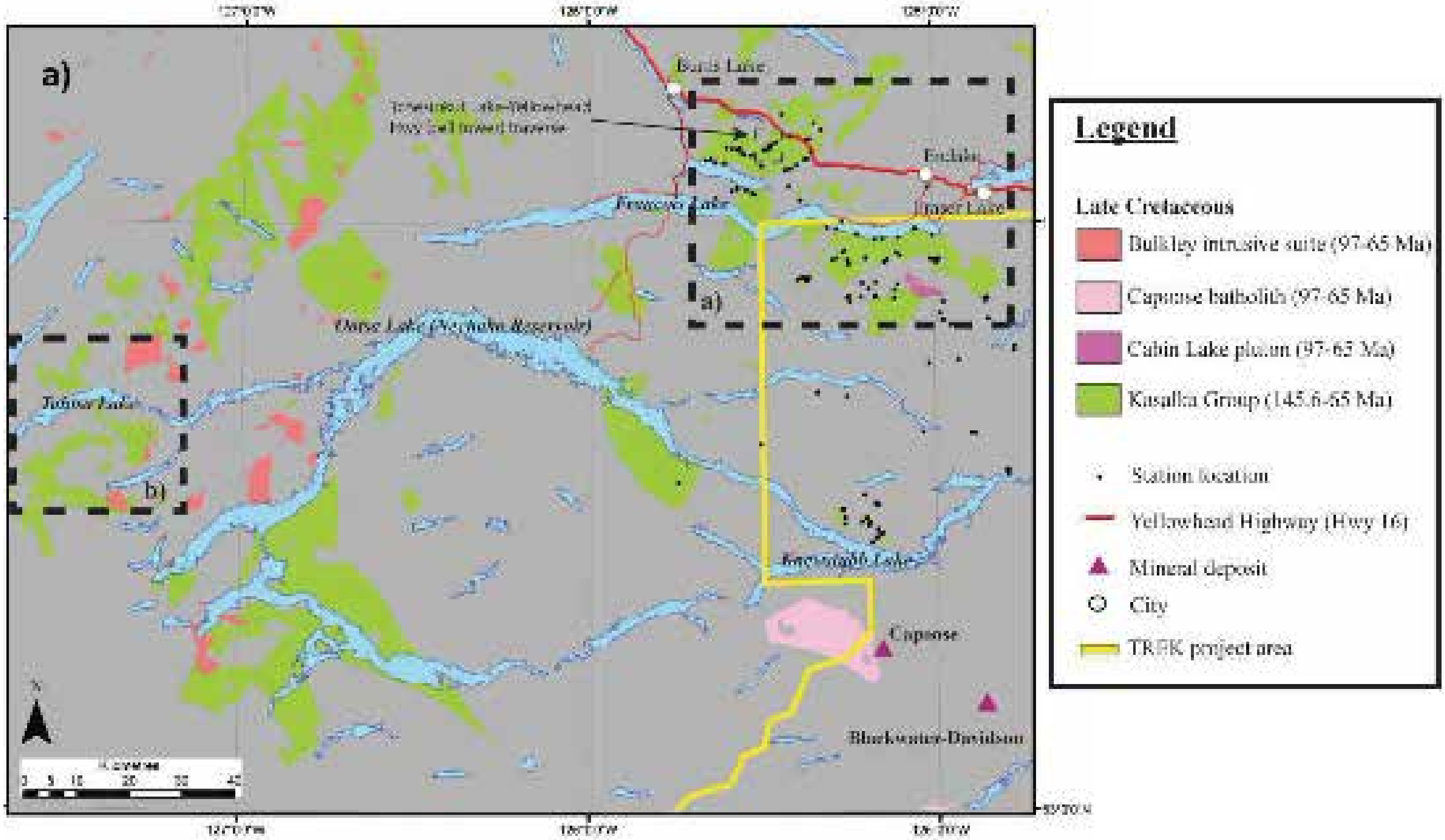


Figure 51: Regional Distribution of Kasalka Group strata
Map from the study by Kim et al. (2016) of the Kasalka Gp. comparing sections in the Tahsa Lake district (dashed outline on west side of map) to those around important recent mineral deposit discoveries of epithermal gold-silver at Blackwater-Davidson and porphyry copper at Capoose (lower right), as well as in the Francois Lake area (dashed outline, top right). The distribution of Bulkley Intrusions is shown relative to the Kasalka Gp rocks. Troitsa Lake is in the lower left of the western study block.

Bulkley Suite pluton. MacIntyre (1976) proposed defining the Kasalka Group as a number of distinctive formations locally achieving a total thickness of 1500 meters, and thinning to the north around the Tahtsa Range and the Berg porphyry copper deposit. However, the proposed formations, although distinctive in the Tahtsa Lake district were not sufficiently correlatable with more disparate occurrences of Kasalka Group rocks across the Nechako Plateau north into the Babine Lake district (MacIntyre, 1985, Kim, 2020) and they remained as informal units.

The base of the Kasalka is a prominent, red-weathering conglomerate that was deposited on an angular unconformity developed in the Hazelton Group and Skeena Group rocks. Conformably overlying and interfingering with the conglomerate is the Mt. Baptiste formation (informal term, MacIntyre, 1985) of poorly stratified silicious pyroclastic rocks defined by the type section on the northwest spur of Mt Baptiste (Fig. 52) a few kilometers north of the Property. The Mt Baptiste formation is predominantly composed of welded to non-welded lithic lapilli-tuff of rhyolitic fragments and interbedded massive flows of porphyritic rhyodacite, dacite and densely welded crystal tuffs.

The Swing Peak formation (informal term), above the Mt Baptiste fm is composed of a volcanic debris unit sandwiched between massive latitic andesite and dacites. The debris unit interfingers with discontinuous crystal tuffs, and volcaniclastic strata. The type section is located on the southern slope of Swing Peak ridge about 15 km north of the center of the Troitsa Stock. Above the Swing Peak fm is the Bergette formation (informal term), defined in peaks

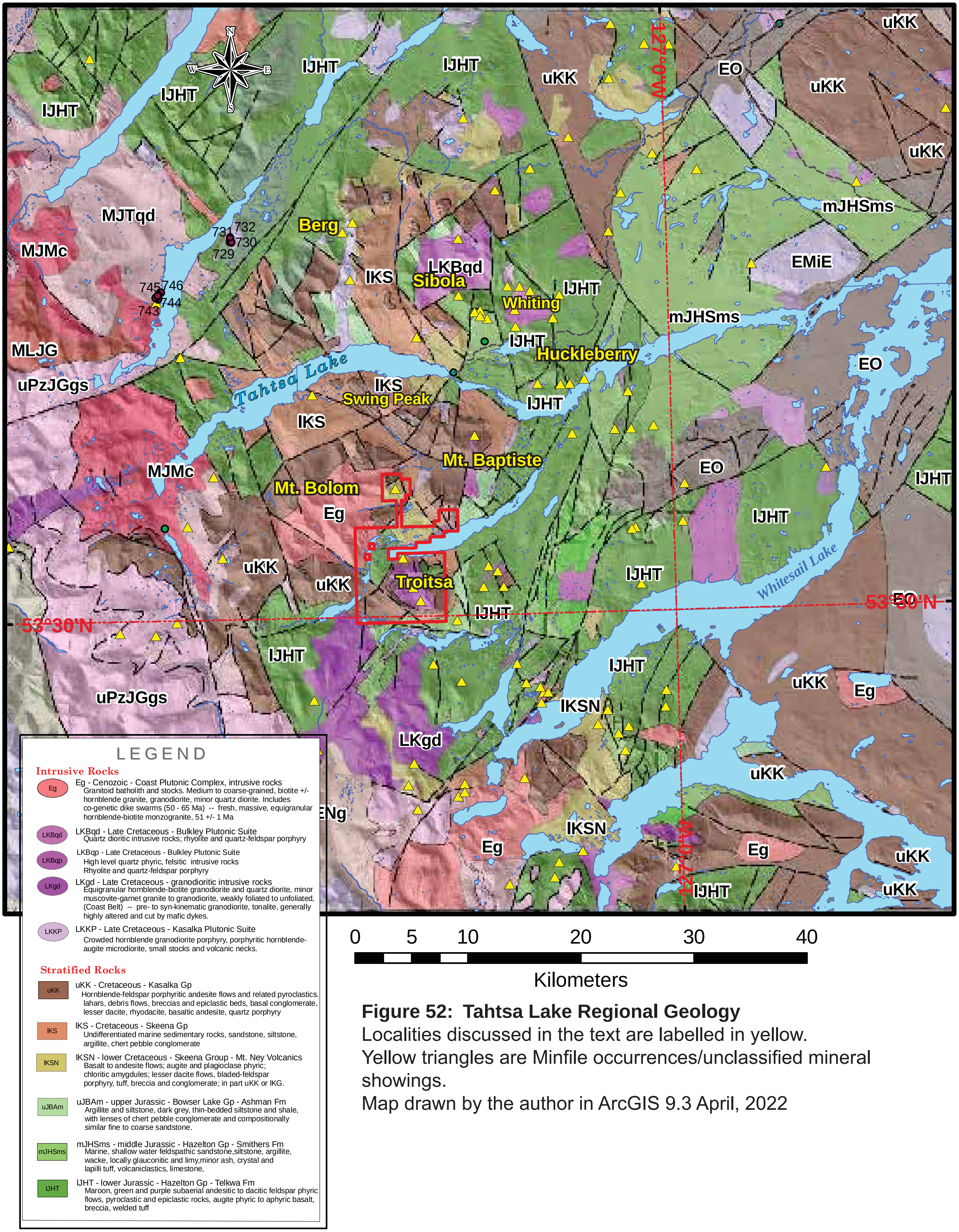


Figure 52: Tahtsa Lake Regional Geology
Localities discussed in the text are labelled in yellow.
Yellow triangles are Minfile occurrences/unclassified mineral showings.
Map drawn by the author in ArcGIS 9.3 April, 2022

LEGEND

Intrusive Rocks

Eg

Eg - Cenozoic - Coast Plutonic Complex, intrusive rocks
Granitoid batholith and stocks. Medium to coarse-grained, biotite +/- hornblende granite, granodiorite, minor quartz diorite. Includes co-genetic dike swarms (50 - 65 Ma) -- fresh, massive, equigranular hornblende-biotite monzogranite, 51 +/- 1 Ma

LKBqd

LKBqd - Late Cretaceous - Bulkley Plutonic Suite
Quartz dioritic intrusive rocks; rhyolite and quartz-feldspar porphyry

LKBgd

LKBqp - Late Cretaceous - Bulkley Plutonic Suite
High level quartz phyric, felsitic intrusive rocks
Rhyolite and quartz-feldspar porphyry

LKgd

LKgd - Late Cretaceous - granodioritic intrusive rocks
Equigranular hornblende-biotite granodiorite and quartz diorite, minor muscovite-garnet granite to granodiorite, weakly foliated to unfoliated, (Coast Belt) -- pre- to syn-kinematic granodiorite, tonalite, generally highly altered and cut by mafic dykes.

LKKP

LKKP - Late Cretaceous - Kasalka Plutonic Suite
Crowded hornblende granodiorite porphyry, porphyritic hornblende-augite microdiorite, small stocks and volcanic necks.

Stratified Rocks

uKK

uKK - Cretaceous - Kasalka Gp
Hornblende-feldspar porphyritic andesite flows and related pyroclastics. lahars, debris flows, breccias and epiclastic beds, basal conglomerate, lesser dacite, rhyodacite, basaltic andesite, quartz porphyry

lKS

lKS - Cretaceous - Skeena Gp
Undifferentiated marine sedimentary rocks, sandstone, siltstone, argillite, chert pebble conglomerate

lKSN

lKSN - lower Cretaceous - Skeena Group - Mt. Ney Volcanics
Basalt to andesite flows; augite and plagioclase phyric; chloritic amygdules; lesser dacite flows, bladed-feldspar porphyry, tuff, breccia and conglomerate; in part uKK or lKG.

uJBAm

uJBAm - upper Jurassic - Bowser Lake Gp - Ashman Fm
Argillite and siltstone, dark grey, thin-bedded siltstone and shale, with lenses of chert pebble conglomerate and compositionally similar fine to coarse sandstone.

mJHSms

mJHSms - middle Jurassic - Hazelton Gp - Smithers Fm
Marine, shallow water feldspathic sandstone,siltstone, argillite, wacke, locally glauconitic and limy,minor ash, crystal and lapilli tuff, volcaniclastics, limestone,

lJHT

lJHT - lower Jurassic - Hazelton Gp - Telkwa Fm
Maroon, green and purple subaerial andesitic to dacitic feldspar phyric flows, pyroclastic and epiclastic rocks, augite phyric to aphyric basalt, breccia, welded tuff

Figure 53: Geological Legend

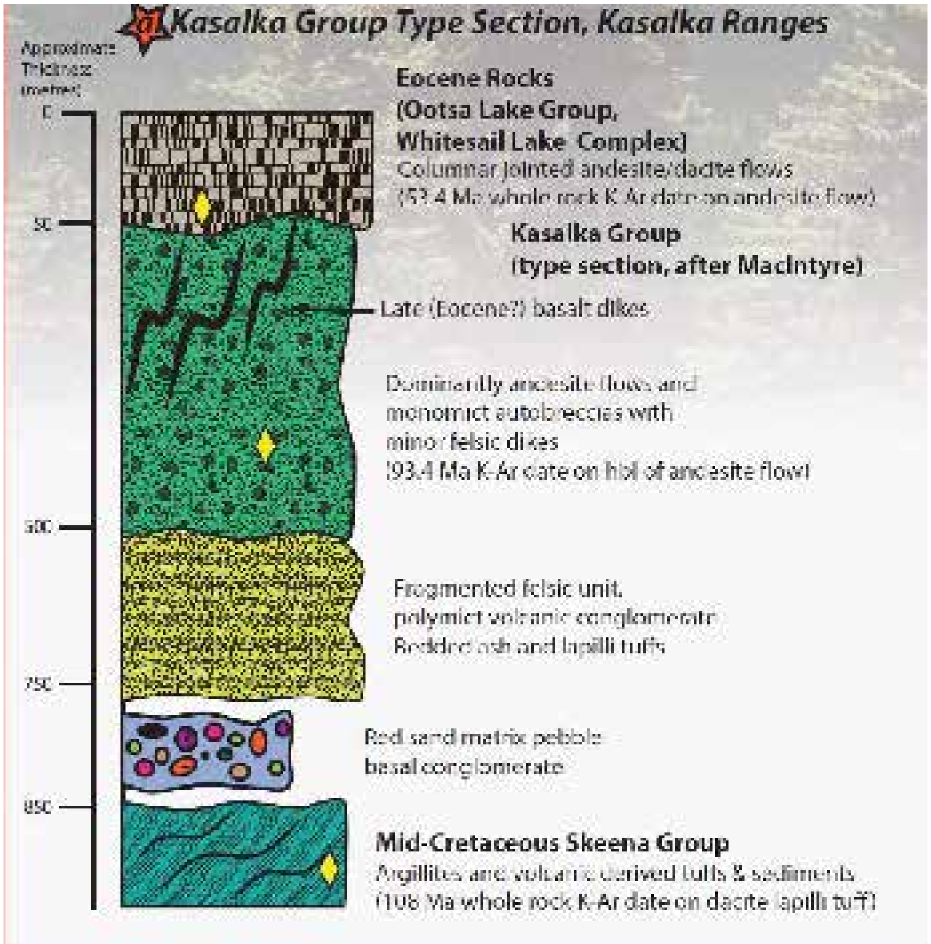


Figure 54: Kasalka Gp schematic type section.

Summary type section based on MacIntyre (1985) from Kim et al. (2016) in a regional scale comparison of sites at the Blackwater and Kapoose deposits and other section in the region.

north of the Berg deposit 30 km north of Troitsa, and composed of rhyolitic flows and tuffs and similar to the flows of the Mt Baptiste Formation. Potassium-argon whole rock dates for the Kasalka Group included 105± 5 Ma for the Mt Baptiste Fm and 87± 4 Ma for the Swing Peak and constrained by a 83.4 Ma age for a porphyritic stock near Coles Creek just east of the Troitsa Property. Stratigraphically MacIntyre interpreted an Upper Cretaceous age for the Kasalka despite the 104 Ma determination, which, in the author's opinion, as a K-Ar whole rock age, may not be reliable. Newer age constraints available confirm the relationships. The Kasalka Group is intruded by a compositionally similar suite of plutonic rocks termed the Kasalka Intrusions in MacIntyre's (1976) thesis and published in BCGS Bulletin 75 (MacIntyre, 1985). More modern compositional work on these rocks was completed by Kim et al. (2016) and Kim (2020) in an MDRU-based and Geoscience BC funded M.Sc, thesis research project.

Although the Kasalka group is aerially restricted, MacIntyre (1985) correlated it with similar volcanic strata elsewhere in BC and Yukon and this was supported by a regional study by Kim (2020) of stratigraphic relations in three other sites in the Nechako Plateau (Fig. 51).

7.3 Intrusive Suites

A wide variety of intrusive rocks of Cretaceous and Cenozoic age intrude the Jurassic and Lower Cretaceous strata of the Tahtsa - Troitsa Lake region. The variety of intrusive rocks extends from a plethora of fine grained, hypabyssal intrusions, including sills, laccoliths and dykes that commonly display similar textures to volcanics, to compositionally zoned stocks with border phases and contact metamorphic aureoles. The oldest of the exposed intrusive suites appears to be contemporaneous and probably consanguineous with the Kasalka Group volcanics and were accordingly termed the Kasalka Intrusions by MacIntyre (1985). The age range of the

Kasalka Intrusions inferred from field relations may extend across much of the Late Cretaceous; some appear to be feeders for volcanic strata, while similar-textured intrusions cut Late Cretaceous plutons that intrude the volcanic strata (Kim et al., 2016).

7.3.1 Kasalka Intrusions

The Kasalka Intrusions (MacIntyre, 1985) include numerous subvolcanic sills, dykes and irregular stocks of porphyritic augite-hornblende microdiorite and andesite that locally can grade into breccia dykes. Textures and mineralogy of the fine-grained phases termed andesites are similar to strata within the sections intruded in some cases. The diorites are coarser but modally similar to the andesites.

Felsic sills and laccoliths are dacitic in composition and characterized by bipyramidal, rounded, and embayed quartz phenocrysts. Other phenocrysts included euhedral andesine, biotite and minor hornblende in a microgranular groundmass. Rhyolitic quartz-eye porphyry sills and dykes intrude some of the local Bulkley stocks including the Troitsa and to the north at the Sibola and Whiting stocks. The rhyolitic intrusions are white and silicious and commonly flow banded and grade into breccia pipes and dykes. Near the Troitsa Property, MacIntyre (1985) reports that quartz eye rhyolitic dykes outcrop as weathering resistant cliffs parallel to the northwest shore of Troitsa Lake.

7.3.2 Bulkley Suite

The Bulkley intrusions are Late Cretaceous in age and include equigranular and porphyritic phases of hornblende diorite, biotite–hornblende granodiorite, and quartz monzonite. Some important porphyry copper deposits, such as the Huckleberry mine about 15 km to the NE (Fig. 52), are associated with porphyritic phases of this intrusive suite. MacIntyre (1985) distinguished three main phases of the Bulkley suite in the Tahtsa (Troitsa) District:

7.3.2.1 Porphyritic hornblende biotite granodiorite

Small stocks of this variety of granodiorite are found near mineral prospects at Ox Lake, Huckleberry Mountain, and Coles Creek where they are essentially single phase intrusions. The rocks are described as fine-grained sparsely- to densely - porphyritic with greater than 50% euhedral phenocrysts varying in size from 2 to 6 mm of oscillatory zoned andesine feldspar, with lesser biotite, green hornblende, and minor quartz in a microgranular groundmass with important accessory magnetite and apatite. The core zones of the intrusions are coarse grained and subporphyritic to equigranular.

7.3.2.2 Biotite hornblende granodiorite and quartz diorite

These are large compositionally-zoned intrusions with granodiorite to quartz diorite bulk compositions of the Sibola, Whiting, and Troitsa stocks (Fig. 52) The Troitsa stock grades outward from coarse-grained to fine-grained biotite-hornblende granodiorite on the margins. The Sibola stock shows compositional variation from a subporphyritic biotite-hornblende granodiorite core to a marginal zone of mafic- rich, medium-grained biotite-hornblende quartz diorite. Modal mineralogy shows an increase in potassium feldspar and quartz from marginal to core phases in the Sibola and Troitsa stocks. The stocks have wide biotite hornfels aureoles.

7.3.2.3 Porphyritic hornblende biotite quartz monzonite

The Whiting, Sibola and Troitsa stocks (Fig. 52) are intruded by northwest-trending dykes of porphyritic hornblende-biotite quartz monzonite. Within the stocks, the dykes rarely have chilled margins although contacts with wallrocks are sharp, but where they extend outside the stocks, they have fine-grained mafic-rich border zones and coarse-grained porphyritic cores.

7.3.2 Mt Bolom Intrusion

The Mt Bolom intrusion is a large plutonic mass northwest of the Property adjacent to the west end of Troitsa Lake (Fig. 52). It intrudes metamorphic rocks of the Coast Plutonic Complex in the west and Hazelton and Kasalka volcanics in the east. The rock was described by MacIntyre (1985) as consisting largely of pink, porphyritic, hornblende-biotite granophyre that is texturally zoned from a sparsely porphyritic, fine-grained border phase, to a coarser grained, more porphyritic core. The granophyre consists of intergrowths of quartz and K-feldspar forming the interstices between groundmass plagioclase laths, which are typically clay-altered. Distinctive clusters of hornblende, biotite and plagioclase are characteristic.

7.3.3 Coast Plutonic Complex Intrusions

Satellitic intrusions of the Coast Plutonic Complex are present in the Tahtsa District. The quartz diorites typically contain more hornblende and less quartz than the quartz diorites of the Bulkley Intrusions, and the intrusions are zoned, increasing in grain size from fine-grained margin to more quartz-rich core. Hornblende is elongate, subhedral and poikilitic with plagioclase inclusions. The principal example cited by MacIntyre (1985) is at the Berg porphyry copper prospect (Fig. 52), where it is hydrothermally-altered and has a a biotite hornfels zone extending for 100 meters into surrounding Hazelton and Skeena Group rocks.

7.3.4 Babine Suite

Eocene intrusions in the region include the Babine igneous suite and the similar Nanika Intrusions. In the Tahtsa district the term Nanika was applied to the Berg porphyritic quartz monzonite intrusion associated with the Berg porphyry copper prospect (Fig. 52). The intrusion is coarsely porphyritic, with 35% to 50% phenocrysts including oscillatory zoned plagioclase crystals up to 6 mm in diameter, smaller biotite crystals, hornblende needles, anhedral, resorbed quartz, and euhedral perthitic potassium feldspar.

The Babine Suite is well-known as the host rocks in the Babine Lake porphyry district (Fig. 45), where its extrusive equivalent is the volcanic Newman Formation found around parts of Babine Lake (MacIntyre and Villeneuve, 2001). Both intrusive and extrusive phases of the suites are characterized by a medium grey “crowded” porphyritic rock comprised of 35–45% 2–4 mm plagioclase and 10–15% biotite and (or) hornblende phenocrysts in a fine-grained plagioclase–quartz groundmass (MacIntyre et al, 2001). Geochemically the suite has a moderate to high potassium calc-alkaline composition with some alkalic tendencies in certain trace elements.

7.3.5 Late sills, dykes and plugs

Swarms of northwest trending dykes of basaltic and rhyolitic compositions are common throughout the Tahtsa district. Lithologically, these include lamprophyre, basalt, porphyritic andesite and feldspar porphyry, aplite porphyry and rhyolite porphyry. Most appear to have intruded after the main mineralizing systems in the region had ceased and they are generally unaltered where they cut the pervasively altered Troitsa and Coles Creek stocks. The earliest dykes may be andesite and feldspar porphyry, which are cut by basalt and lamprophyre dykes in the Troitsa stock.

7.4 Geology of the Troitsa Property

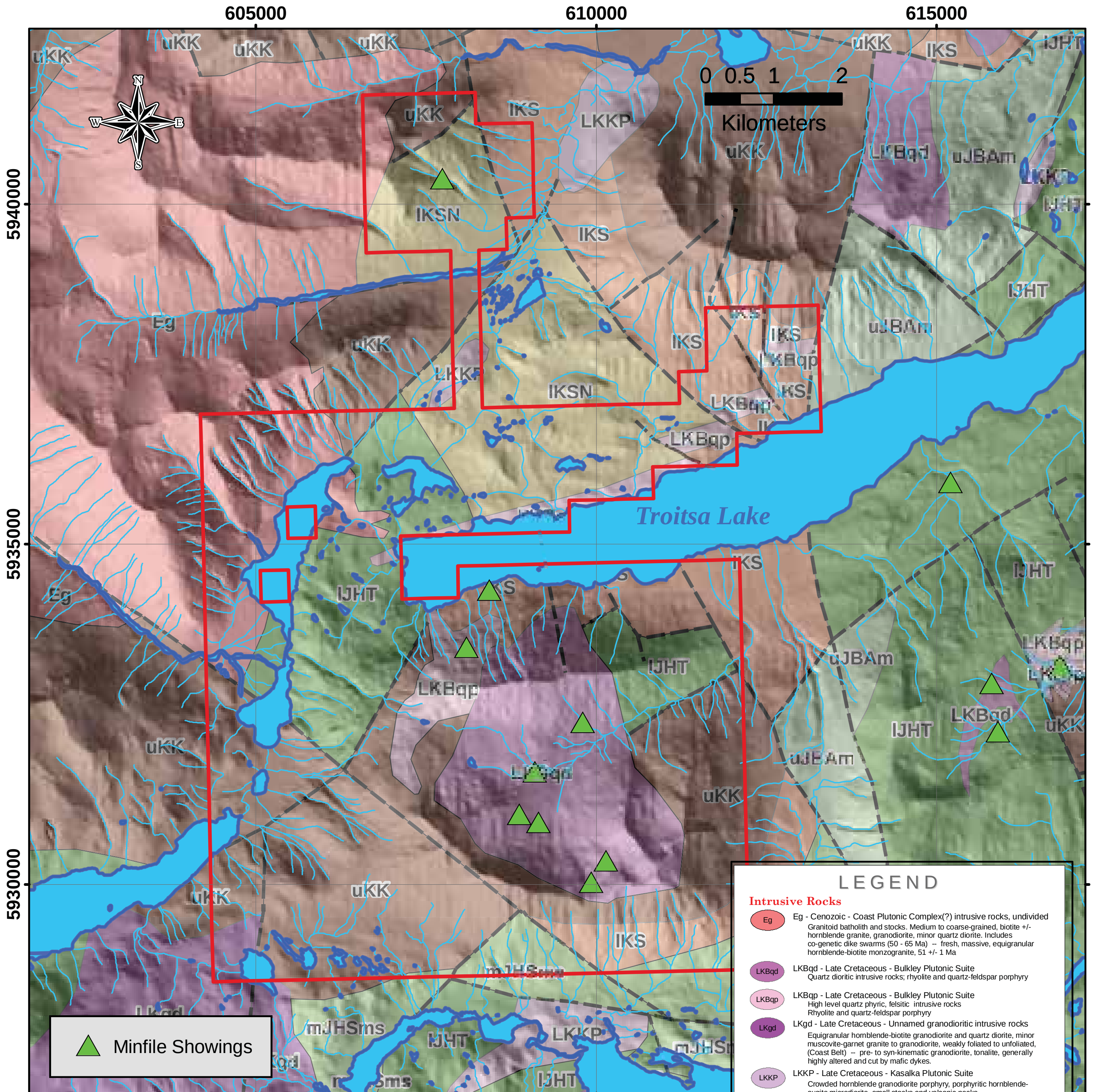
7.4.1 Historical Synthesis of the Geology

A geological map of the Troitsa Lake area of the Property, shown in Figure 64, is derived from the current BCGS data base for the province-wide maps at 1:50,000 scale maps sheets. The BCGS geological map database is a combination of regional geological mapping programs and compilation of maps from exploration industry reports. In this case the map shows mainly district-scale features from mapping by MacIntyre (1985), which generalizes some complex contacts between units. The stock is roughly ovoid in plan with many external contacts being faulted against Hazelton or Kasalka Group rocks. The country rocks around the stock are hornfelsed for about 60 meters (Cawthorn, 1973).

More detailed mapping of sections within the Property is available from geological maps by Silver Standard in 1967 (Fig. 58), and Aston Resources in 1969 (Fig. 57) (both maps in Davidson and Woolverton, 1969) and Cawthorn (1973) of the Troitsa stock, which show dyke swarms, mainly oriented parallel to the regional strike of 155° degrees with a steep southwest dip, that cut both the pluton's northwest margin and a laccolithic plug of rhyolitic composition and texture that also intrudes the northwest side of the stock. Details of the dykes and the rhyolite were apparently mapped independently by the Silver Standard and Aston surveys resulting in some discrepancies notable between the two maps in Figures 57 and 58 such as the contact of the rhyolite body with the Troitsa stock and the rhyolite's extent. The rhyolite was observed by Cawthorn (1973) to be exposed as a series of sills in the northern aspects of cirques in the south of the Property and this is represented on the Silver Standard map. Both maps show dykes, but the Aston map (Fig. 58) reveals a swarm of northwest striking dykes of disparate compositions mainly exposed within the rhyolite. These dykes range from early quartz feldspar and feldspar porphyries to later basalt, andesite, and lamprophyre. However, the Silver Standard map shows more detail in the location of the current Main Zone including alteration zonation along the length of one major dyke. The petrological relationship to the stock is unknown. One porphyritic dyke is notably enriched in mineralized part of the Main Zone mineralization intersected by the Callinex drill program.

Early observations indicated that mineralization was focused around feldspar porphyry dykes in quartz-pyrite chalcopyrite veinlets with sporadic molybdenite. Cawthorn (1973) observed preferential and zonal hydrothermal alteration in some of the feldspar porphyry dykes. One major dyke shown in a sketch map from Cawthorn (1973) in Figure 59, was noted to vary in alteration assemblages along strike from propylitic in its northern extent to quartz sericite and biotite orthoclase to the south. This zoning pattern appears in dykes on the Silver Standard geology map included in the Davidson and Woolverton (1969) report in the Main Zone (Fig. 58) and is likely the same feature shown in Figure 59 by Cawthorn (1973). The porphyry dyke studied by Cawthorn (1973) is in the centre of the stock (Fig. 55) and may be one of the mineralized dykes that was intersected in drill holes at the Main Zone (see Item 6 above).

In the propylitic zone of the feldspar porphyry dyke, Cawthorn (1973) observed the mafic minerals, biotite and hornblende, had been replaced by chlorite and epidote. To the south in a possible quartz sericite alteration zone, the hornblende is replaced by biotite pseudomorphs while plagioclase is altered to sericite with an increase in quartz in the groundmass and pyrite possibly replacing mafics. In the same dyke in the core of the stock, secondary potassium feldspar forms rims on plagioclase, sericite is coarser, chlorite and secondary biotite replace mafics, and pyrite, chalcopyrite and molybdenite are more common with chalcopyrite replacing mafics in some cases forming chalcopyrite-cored biotite clusters. The chalcopyrite was observed to be principally found in the dyke and samples from the dyke graded 0.53% Cu, while adjacent



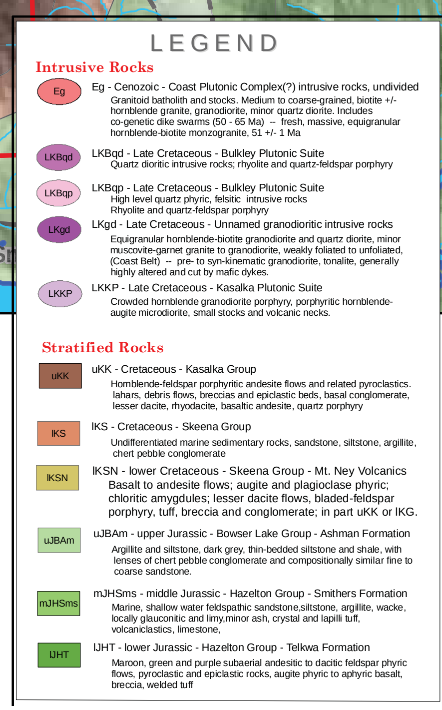


Figure 55: Troitsa Property Geological Map
The map shows the main stratigraphic and intrusive units of the immediate area around the Troitsa Property with a legend that is the same as Figure 27 above. Dyke swarms within the Troitsa Stock and adjacent rhyolite porphyry (unit LKBqp) are not included at this scale. More details of the geology of the stock appear on maps from MacIntyre (1985) in Figure 73 and from the maps by Aston Resources (Figure 74) and Silver Standard (Figure 75).
Map drawn by the author from current BCGS GIS files (downloaded from Mapplace) using ArcGIS 9.3, March, 2022.

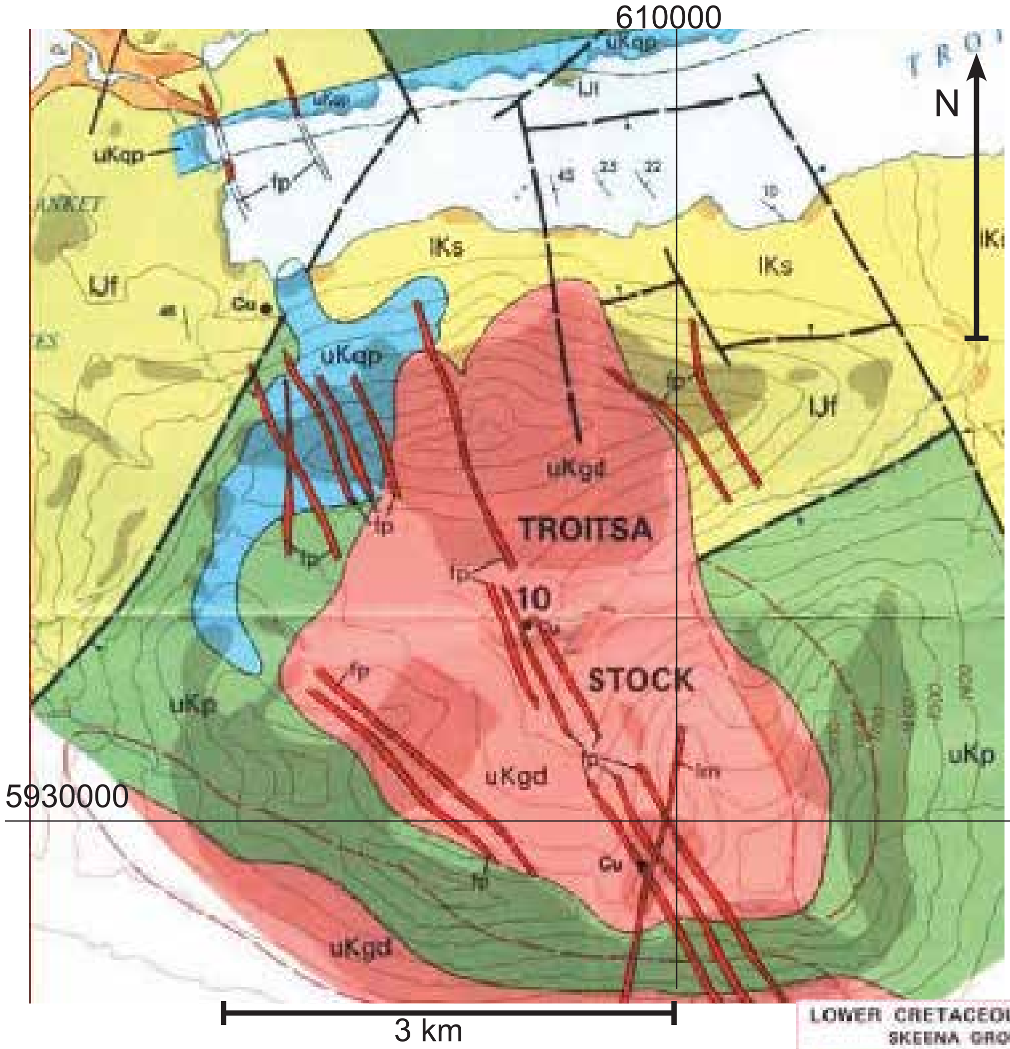
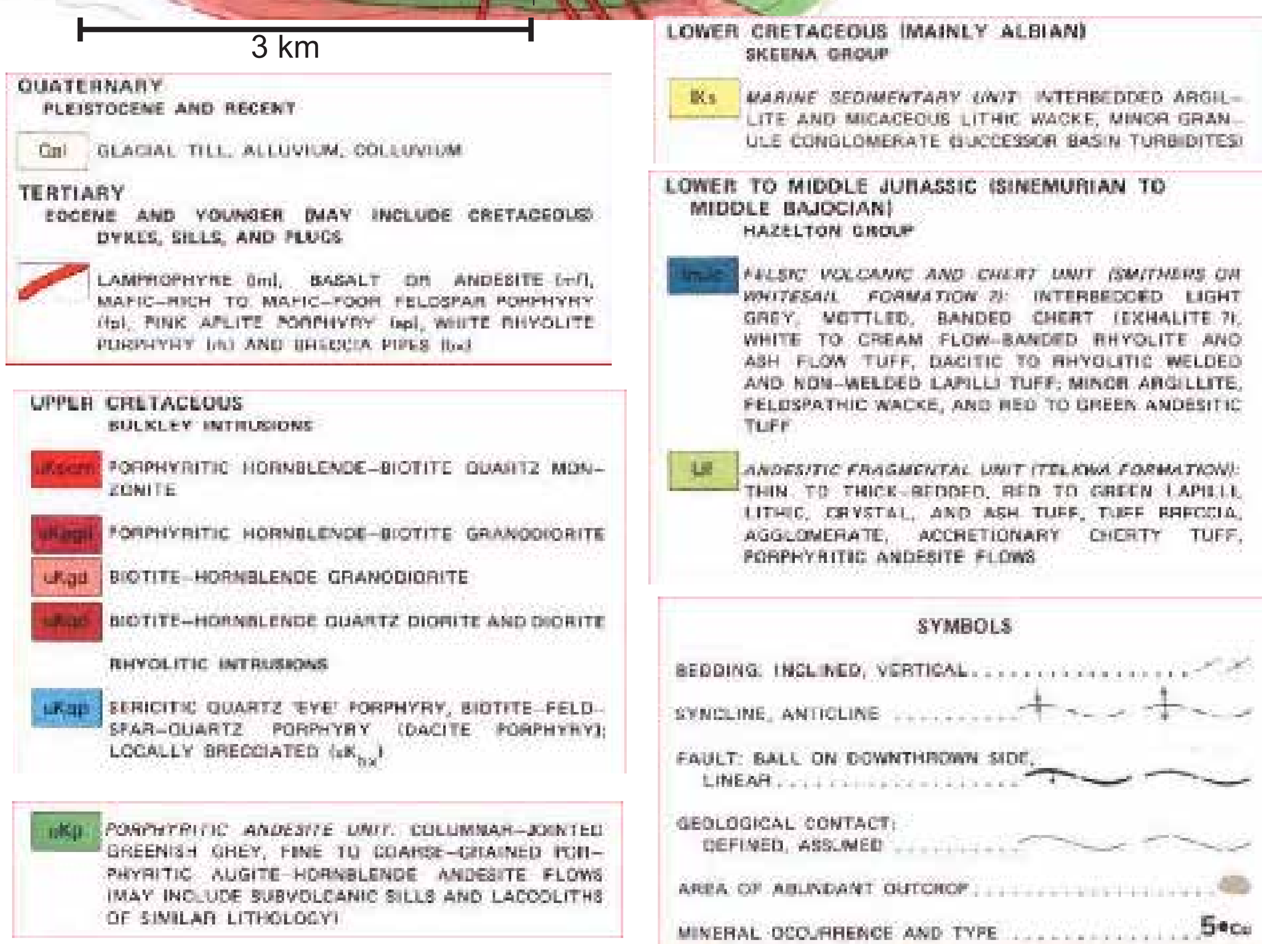


Figure 56: Troitsa geology from MacIntyre 1985
A clip from MacIntyre's map shows some of the porphyritic dykes intruding the stock and the adjacent rhyolite laccolith marked by labels "fp" for feldspar porphyry; "lm" for lamprophyre.
Coordinates in UTM Zone 9,



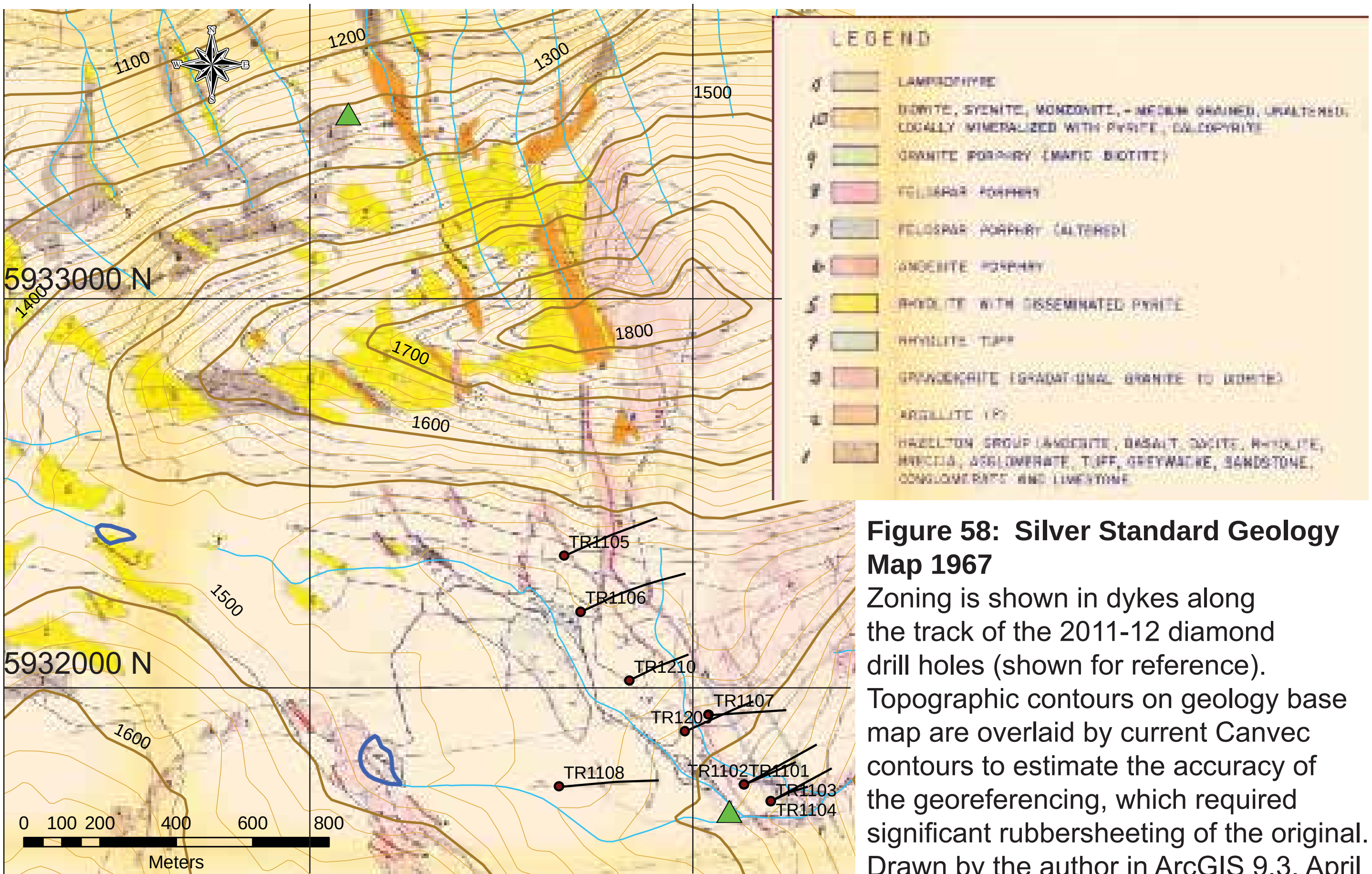


Figure 58: Silver Standard Geology Map 1967
Zoning is shown in dykes along the track of the 2011-12 diamond drill holes (shown for reference). Topographic contours on geology base map are overlaid by current Canvec contours to estimate the accuracy of the georeferencing, which required significant rubbersheeting of the original. Drawn by the author in ArcGIS 9.3, April 2022.

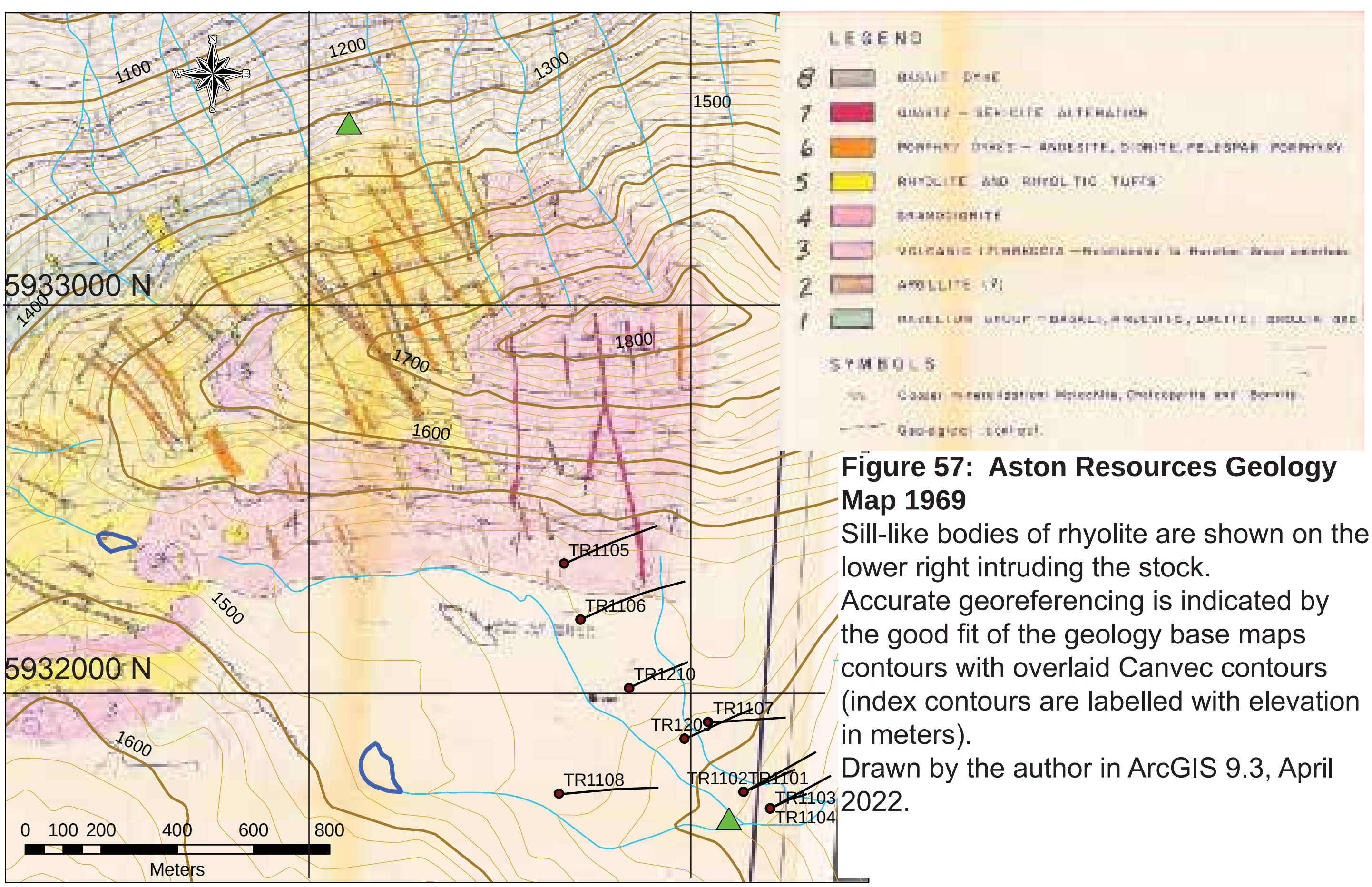


Figure 57: Aston Resources Geology Map 1969
Sill-like bodies of rhyolite are shown on the lower right intruding the stock.
Accurate georeferencing is indicated by the good fit of the geology base maps contours with overlaid Canvec contours (index contours are labelled with elevation in meters).
Drawn by the author in ArcGIS 9.3, April 2022.

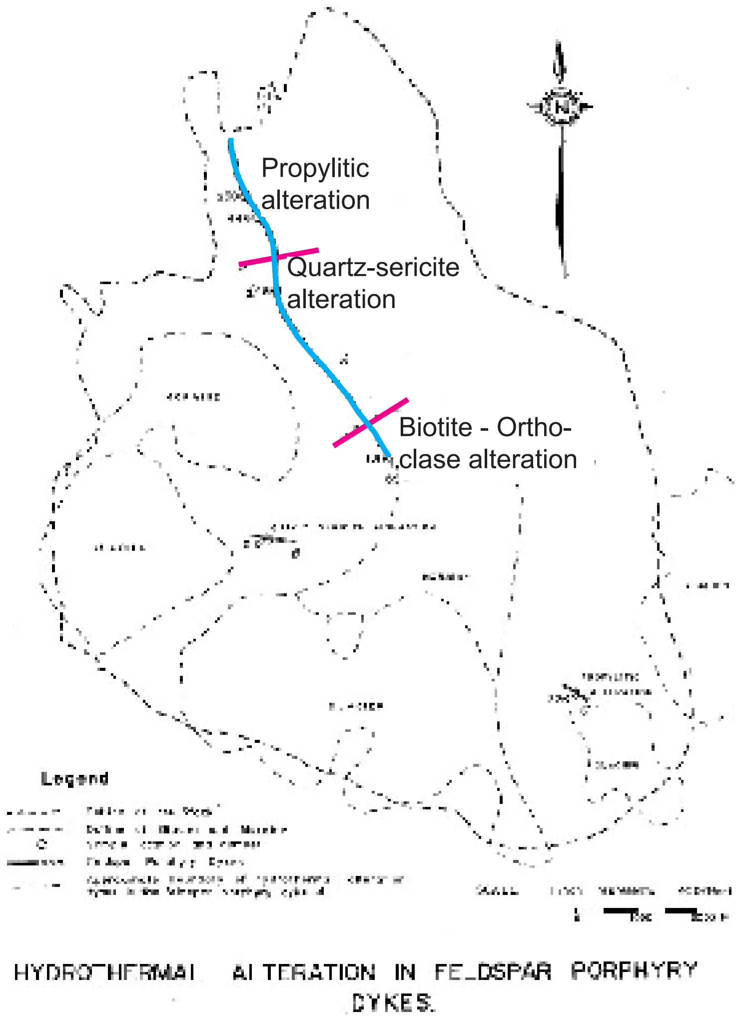


Figure 59: Feldspar porphyry dyke alteration zones.
Blue line traces an FP dyke mapped by Cawthorn (1973) within the Troitsa Stock (heavy dashed outline). Magenta lines show approximate boundaries of alteration zones. Map is from Cawthorn (1973). Modified by the author April, 2022.

quartz monzonite samples graded 0.07% Cu. However, Cawthorn (1973) noted that mineralized fractures or joints in the quartz monzonite were more common near the dyke, but spaced apart sufficiently that barren grab samples could be taken between them. Disseminated chalcopyrite was only noted in the porphyry dykes and was absent from the adjacent stock. The mineralized veins consisted of quartz, pyrite and chalcopyrite, with more sporadic molybdenite forming veins to 2 cm wide possibly like in Figure 25 (above). Other types of small vein mineralization found by Cawthorn in the core of the stock include galena, sphalerite, calcite, rhodochrosite, epidote, chlorite, tourmaline, and stibnite. Cawthorn (1973) concluded that the dykes acted as conduits for hydrothermal fluids flowing outward from the core of the stock resulting in alteration and mineralization zonation, at least as observed in the porphyry dykes.

The country rocks around the stock are hornfelsed for about 60 meters to biotite hornfels grade. The Huckleberry porphyry deposit has a stock of the same age and much of its mineralization was found in the hornfelsed country rocks.

The Troitsa stock has strong magnetic signature centered on the intrusion shown in the Geoscience BC search Project Phase II airborne magnetometer survey of much of the Nechako Region (Fig. 60) . The core of the intrusion shows an interesting magnetic low in the vertical derivative of the magnetic field that may reflect magnetite destructive alteration, and forms a classic donut shaped anomaly. However, the survey in the area shows stronger magnetic responses over high ridges, which may be a function of closer ground clearance.

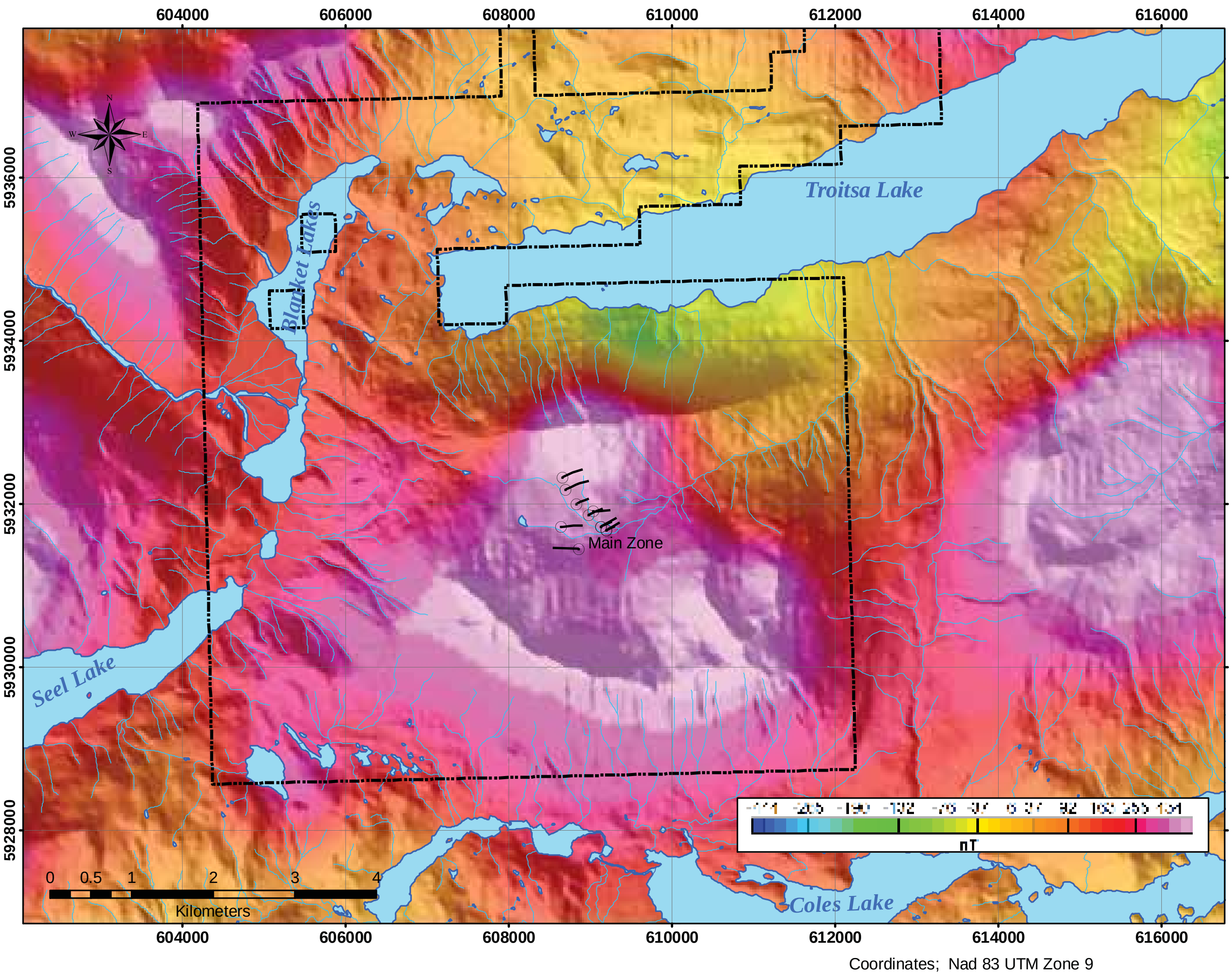


Figure 60: Geoscience BC Search II: Total Magnetic Intensity Map
The Troitsa Property outline is shown as a black dashed line. Drill hole collars and traces are shown in the center of the map labelled by “Main Zone”. The magnetic map is overlaid on a shaded relief map with sun in the south. High ridge lines are biased towards high magnetic readings, which may be a function of ground clearance although flight line were mainly along UTM eastings at 250 m N-S intervals. The map is a small section from the regional scale map commissioned by Geoscience BC for the Search Project Phase II (2016) which extended to the north end of Babine Lake. Drill hole collars and directions from the 2011-12 Callinex drill program are plotted at the Main Zone in the north sector of the magnetic high.
Map drawn by the author in ArcGIS9.3 April, 2022 using GIS files downloaded from the Geoscience BC project site.

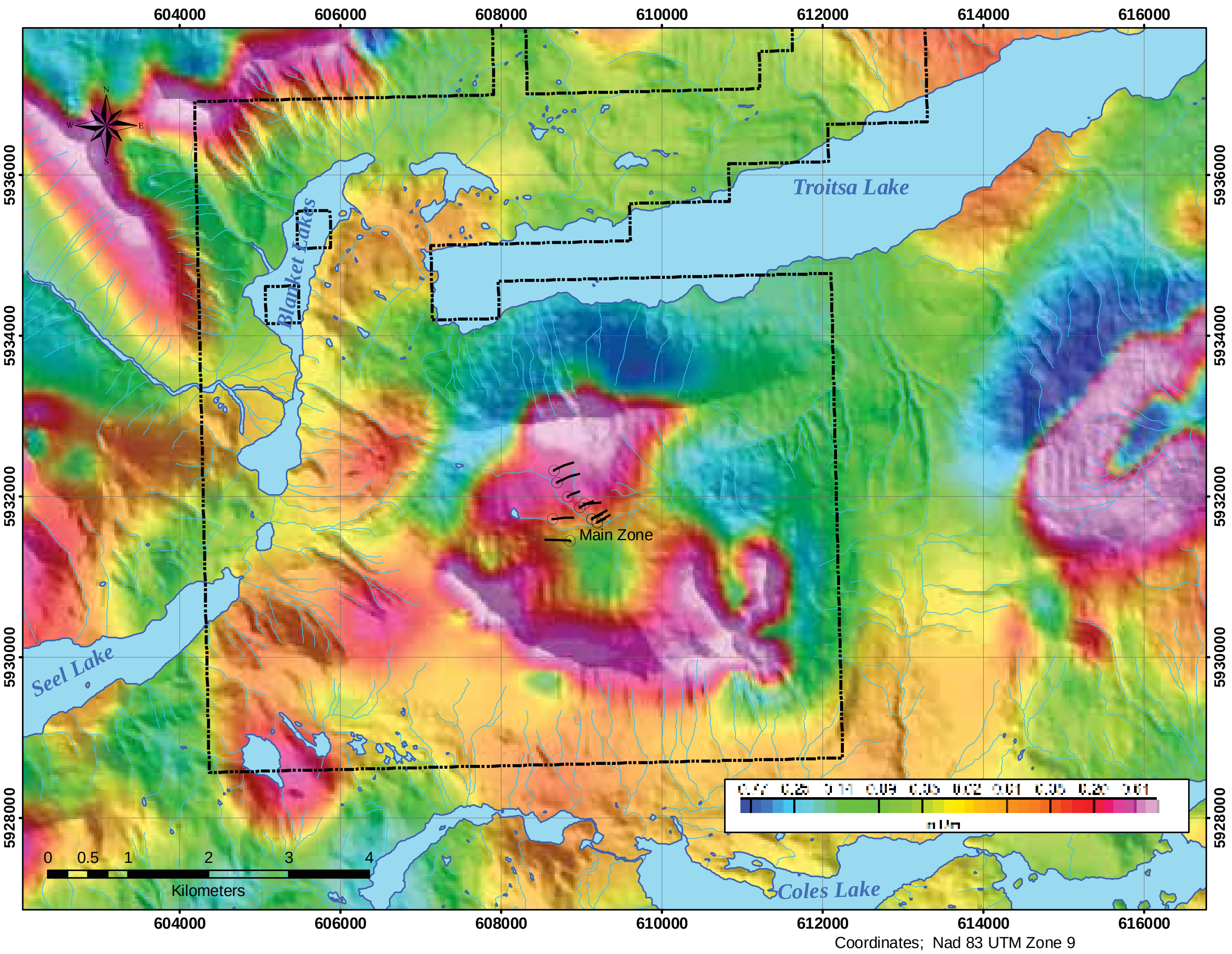


Figure 61: Geoscience BC Search II: First Vertical Derivative Magnetic Map
A possible classic donut-shaped magnetic anomaly is centred on the Troitsa stock. The Troitsa Property outline is shown as a black dashed line. Drill hole collars and traces are shown in the center of the map labelled by “Main Zone”. The first vertical derivative of the magnetic field map is overlaid by transparency on a shaded relief map with sun in the south. High ridge lines are biased towards high magnetic readings, which may be a function of variance in the nominal 80 meter ground clearance of the fixed wing Cessna Grand Caravan aircraft used in the survey although main flight lines were along UTM Zone 9 Eastings at 250 m N-S intervals. The map is a small section from the regional scale map commissioned by Geoscience BC for the Search Project Phase II (2016) which extended to the north end of Babine Lake. Map drawn by the author in ArcGIS9.3 April, 2022 using GIS files downloaded from the Geoscience BC project site.

7.4.2 Troitsa Property Showings

The following descriptions of the various showings on the Property are taken from historical sources, but reanalyzed and updated in the Exploration Item 9, below, where new information is available from the author's field visit and New Energy exploration work in August 2022.

7.4.2.1 Troitsa Cirque and Trogold showing Zone

Located about 1.5 to 2 km south southeast of the Main Zone Fig. 4) the Troista Cirque Zone was discovered during early prospecting by Silver Standard on the Property and was sampled in the Callinex exploration work in 2010 and 2011. The area is indicated by earlier soil and talus sampling from 1971 Aston Resources surveys, which reveals a broad copper geochemical anomaly. The current nomenclature includes as Minfile Showings Troitsa Cirque Minfile No. 093E 009 and Trogold Minfile No. 093E 184. Other showing names include the Darryl showing which is described by Galambos (2011) as a 50 by 75 meter area containing

Figure 62: Old drill core north of the Troitsa Cirque showing
An undocumented drill site is located at 0609711 E, 5931472 N (UTM zone 9, NAD83). Photo looks southwest towards the southern ridgeline within the Property (Fig. 3), which lies about 1.5 km distant and ranges up to 1950 meters elevation.

vein and disseminated chalcopyrite in granodiorite and andesite. Descriptions of disseminated and oriented veinlet styles of mineralization suggest similarities to the Main Zone. The Cirque 3 showing a few hundred meters to the northwest of Darryl has high density of jointing and mineralization in granodiorite. The published location of the Troista Cirque Minfile showing appears to be mislocated too far north, which is possibly a result of pre-GPS map and altimeter estimated positioning. Callinex found an extensive area of mineralization about 500 meters to the south of the Minfile location, mainly in a col in the southeast sector of a large cirque on the north side of the ridge depicted in a field photo (Fig. 62). The mineralized area lies 1.5 kilometers

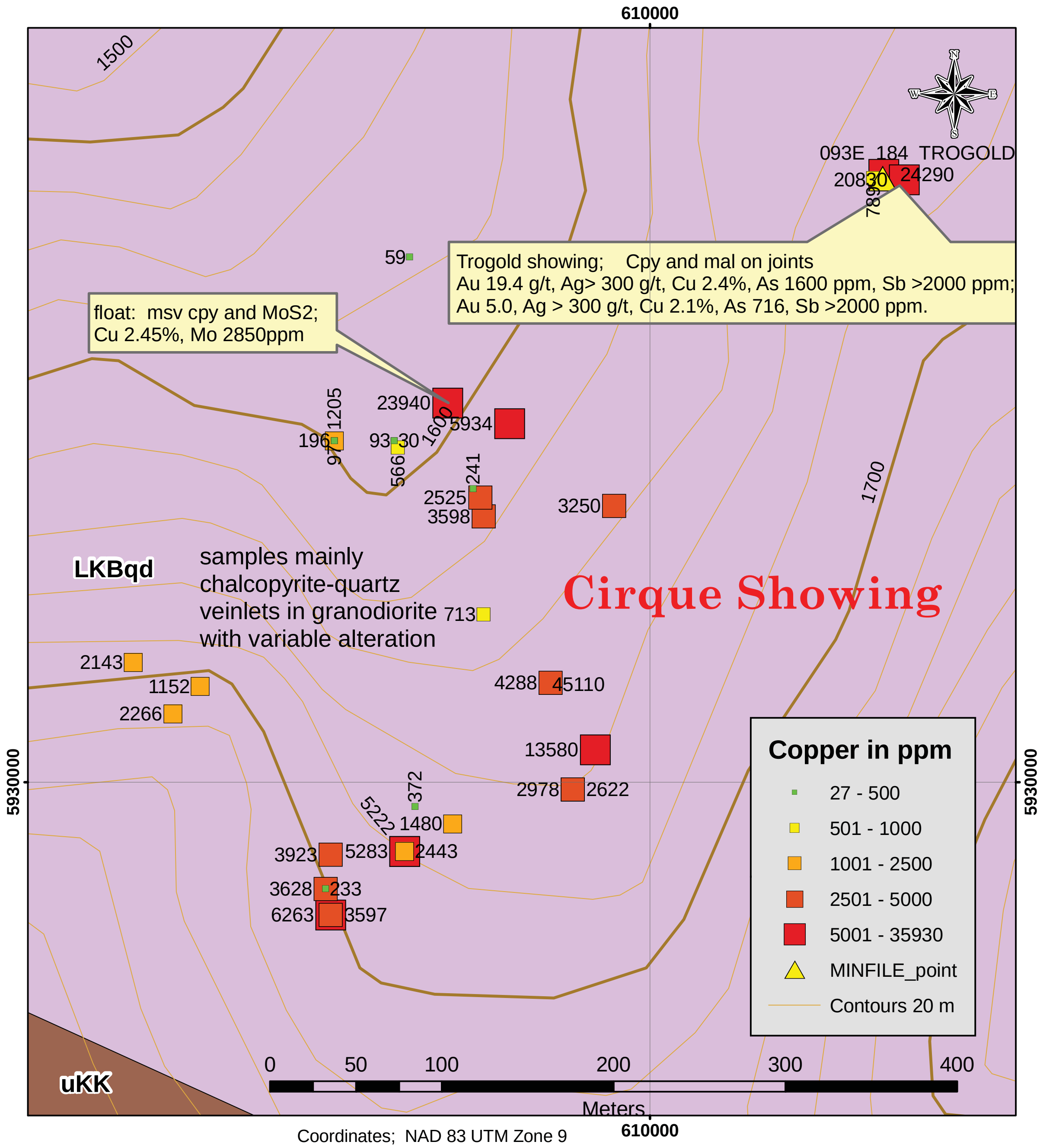


Figure 63: Cirque and Trogold Showings Map
The recorded Troista Cirque Minfile showing is located about 500 meters to the north of the centre of the cluster of samples on the map, and nothing was found by Callinex at that location. Sample sites are marked with symbols for ranges of copper concentration shown in the legend, with actual value labeled in ppm. The official Trogold Minfile showing is marked on the top right of the map with characteristics of two samples shown.

south of the old drill core and drill pad in Figure 62, which were found by the geophysical crew in 2011. The official location of the Cirque showing should be relocated about 500 meters to the south to the area located by Callinex and corroborated by the New Energy field crew in August 2022. The official Trogold showing location was corroborated precisely by the New Energy crew and other names on showings should be rationalized.

Callinex analyzed 45 mineralized grab and chip samples located on Figure 63 from the area spread over 1 km along the west face of northerly ridge south into a reentrant in the main east-west ridge at the east end of an icefield. The 45 samples range in content from 30 to

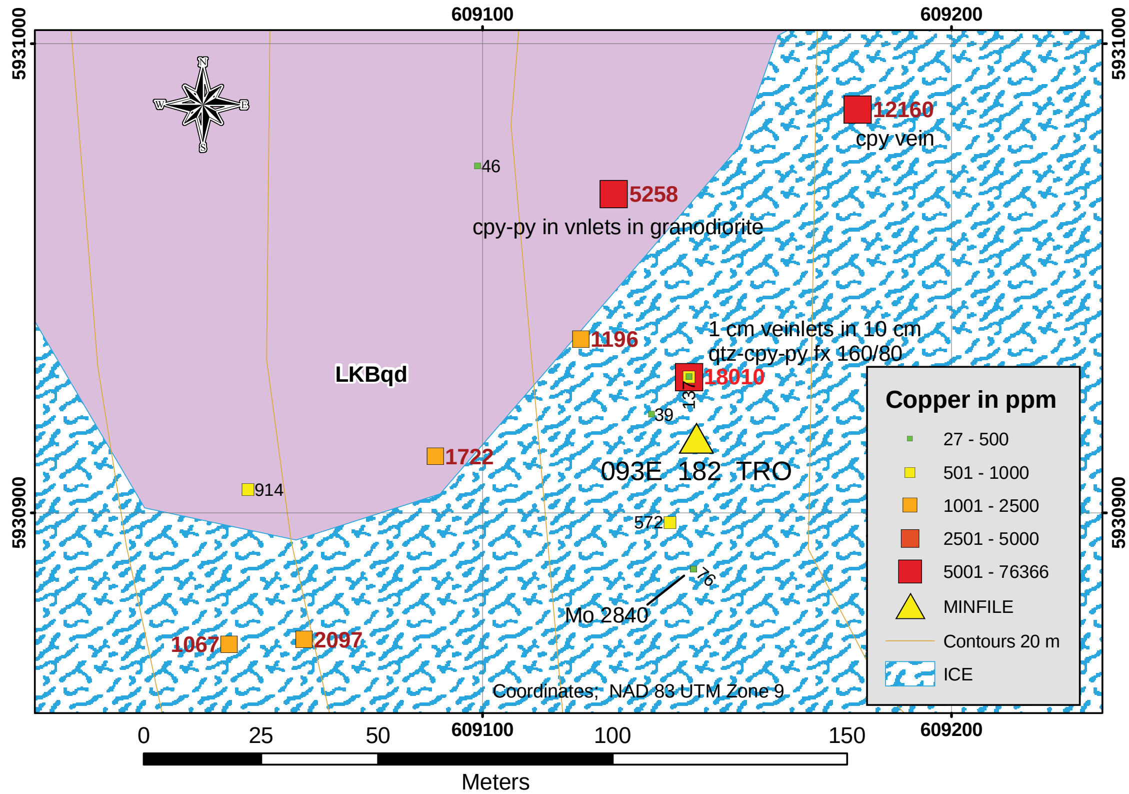


Figure 64: TRO Showing rock samples

Symbols show category of copper concentration in legend. Labels show actual assay in ppm Cu. Note: The present limit of glacial ice has retreated south by 50 to 100 meters from the position shown in the Canvec data used in this map. Drawnby the author in ArcGIS 9.3 April, 2022.

45110 ppm Cu, (mean 4857 ppm Cu), 0.8 to 19400 ppb Au (mean 857 ppb), 1.6 to 3850 ppm Mo (mean 350 ppm Mo), and silver from 0.07 to 300 ppm with a mean of 22 ppm. The samples are commonly described as hosted by granodiorite or quartz diorite, having chalcopyrite or malachite along jointing of veinlets. There is a slight correlation between molybdenite and chalcopyrite, but the sample with the highest Mo at 3850 ppm has only 59 ppm Cu.

7.4.2.2 TRO Showing

The TRO showing is located southwest of the Main Zone (Fig. 4) on a spur ridge bordered by glacial ice. Eight samples were analyzed in the Callinex program from 2010 to 2012 and another 10 by Wesphal (2013) in 2013 shown in Figure 64 symbolized for copper content. The main Minfile showing is a 10 cm fracture controlled quartz-cemented breccia mineralized with pyrite and chalcopyrite veinlets from which a sample grading 1.8% Cu was taken by Wesphal (2013). Other significant samples in the zone are described as chalcopyrite and pyrite veinlets in granodiorite. The widely scattered Callinex samples range from 46 to 12160 ppm Cu and average 3057 ppm Cu. No significant correlations are noted with Mo, Au or Ag. One sample with a moderately high Au of 485 ppb, is described as a chalopyrite vein in granodiorite, but also grades over 1% Pb, 2574 ppm Zn and 1722 ppm Cu. Two molybdenite bearing samples were taken by Wesphal (2013); one grading 2840 and another 1911 ppm Mo, but without any correlating enrichment in Cu, Pb, Zn, Au, or Ag in either sample. The 10 Wesphal samples range from 7.5 to 18010 ppm Cu and average 1971 ppm with all of the samples except the high one grading less that 692 ppm Cu. Generally, the sampling appears to show a porphyry type of

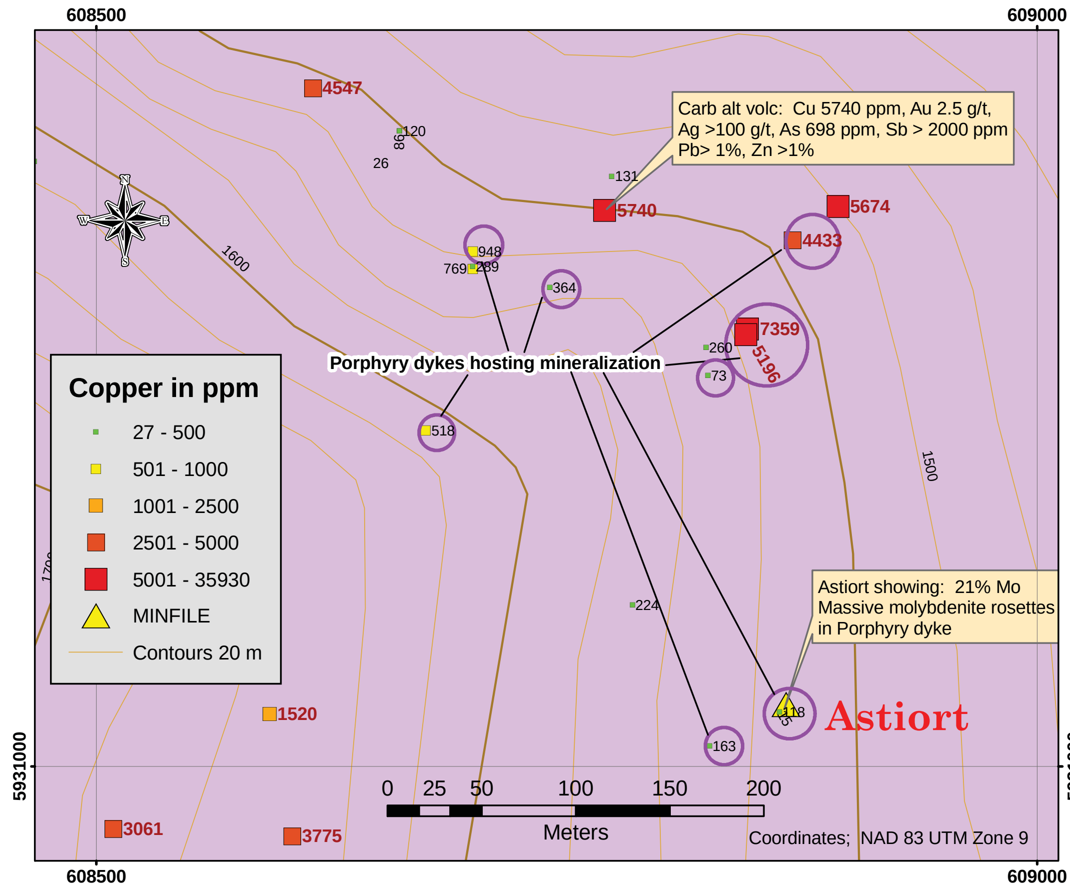


Figure 65: Astiort Showing
The Astiort Minfile showing is essentially located at a sample site where large rosettes of molybdenite were found in fractures in a porphyry dyke and one sample graded 21% Mo. A cluster of other samples were taken 200 meters to the north many of which were also from porphyry dykes (circled in pink).

mineralization apart from the few large veins that produced the high grade Cu, Pb, Zn assays.

Exploration work in 2022 by the author nad New Energy crew corroborates the description of the TRO showing.

7.4.2.3 Astiort Showing

The Astiort showing (Fig. 4 and 65) is located near the TRO showing southwest of the Main Zone and within the main granodiorite stock. The Minfile record lists it as essentially a high grade molybdenite showing of crystalline MoS_2 in fractures in a porphyritic dyke (Payie, 2015). North of the showing, about 200 meters away, several other porphyry dykes were sampled that had copper grades between 0.4 and 0.75 % from fracture filling and disseminated chalcopyrite and pyrite. One site in a carbonate altered volcanic rock was mineralized with galena and ran 0.5% Cu, and greater than 1% Pb and Zn, 0.25 g/t Au and greater that 100 g/t Ag. No other significant molybdenum grades were noted in the area.

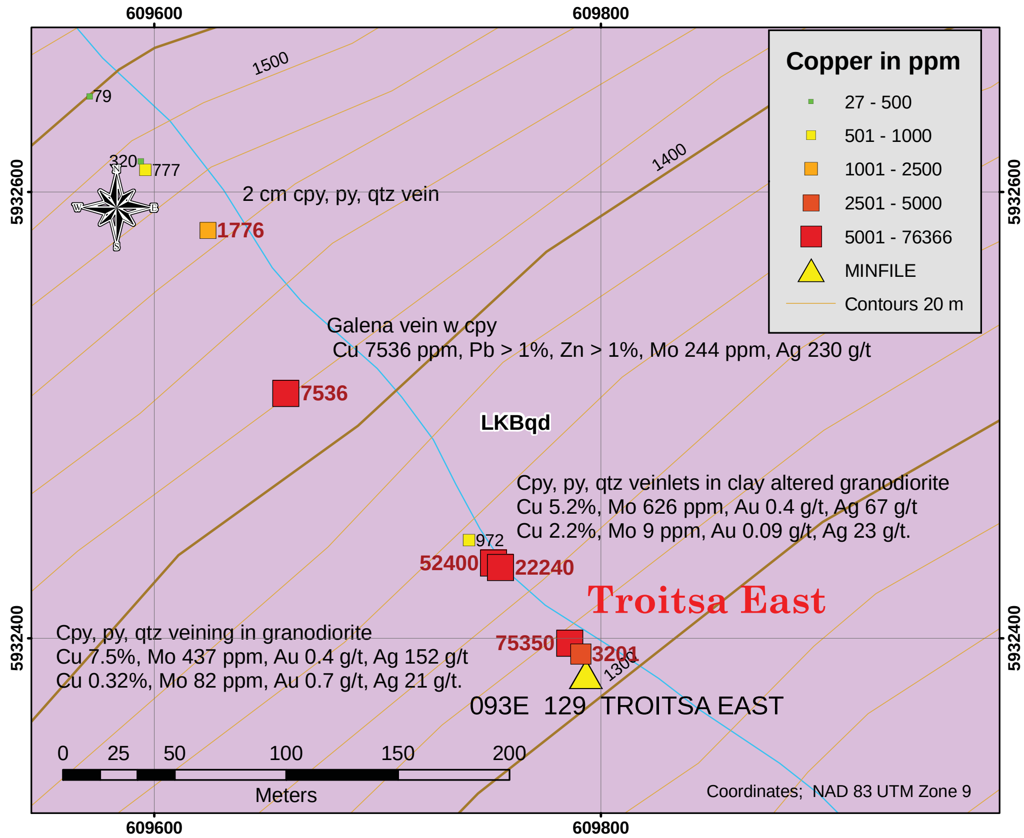


Figure 66: Troitsa East Showing
The Troitsa East showing appears to be a vein system that outcrops in a creek bed. Samples at the Minfile location are veins of chalcopyrite and pyrite in quartz large enough produce assays of several percent copper and correspondingly high silver. One sample 150 meters to the NW is enriched in galena and sphalerite showing some sort of zoning in the vein system.

7.4.2.4 Troitsa East

The Troitsa East Minfile showing (Fig. 4) was established by Callinex sampling in a creek about 1 kilometer northeast of the Main Zone and appears from the spatial distribution of samples, and their respective descriptions and mineralogy to be a vein system perhaps grading from chalcopyrite and pyrite to more galena and sphalerite over a few hundred meters. Several samples at the Minfile site have significant copper grades and correlative enrichment in silver as shown in Figure 66. Seven samples ranging along the NW trending creek grade from 972 to 75320 ppm Cu (mean 23353 ppm), 2 to 230 g/t Ag (mean 74 g/t), 56 to 745 ppb Au (mean 263 ppb), 3 ppm to greater than 1 % Pb (mean > 2936 ppm) and 100 ppm to greater than 1% Zn (mean > 1712 ppm). Molybdenum is more erratic, but somewhat correlative with copper and ranges from 6 ppm to 626 ppm Mo with a mean of 207 ppm Mo. Arsenic and antimony are elevated in one of the galena bearing samples suggesting the presence of bournonite or some lead bearing sulphosalts. The samples may be an indication of a peripheral base metal vein system associated with porphyry style mineralization. The Troitsa East showing was not visited by the author or New Energy personnel in 2022 as it appeared to be a solitary vein.

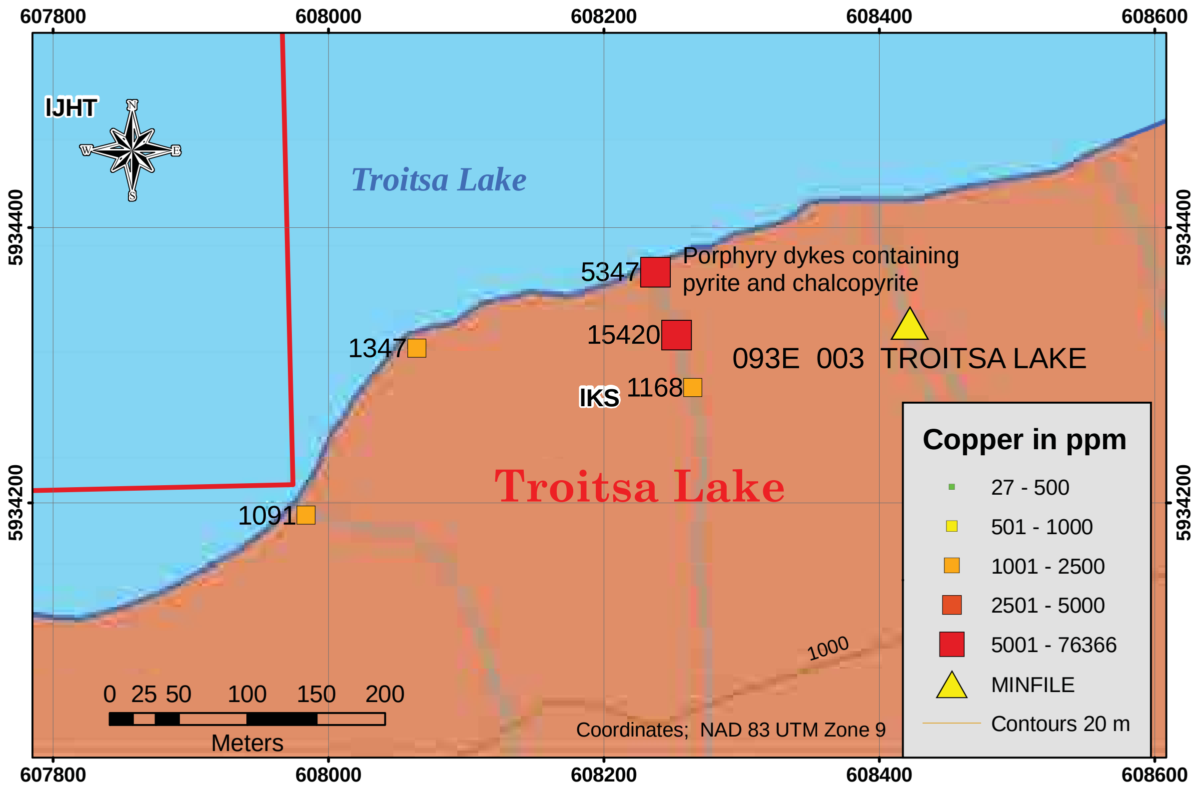


Figure 67: Troitsa Lake Showing
The Lake showing was discovered by Turford in 2010 and shows an example of dykes with porphyry style mineralization. The map shows the sample locations classified by ranges of copper in the assays. Labels are actual copper assays on ppm. The Minfile site is shown approximately 100 meters to the east of the actual location.

7.4.2.5 Troitsa Lake

The showing area is regionally mapped as Lower Cretaceous Skeena Group sedimentary rock but reports indicated volcanic and intrusive rocks as hosts cut by porphyry dykes in the mineralized zone. The original Lake (Fig. 4) showing may have been discovered by Silver Standard, but only reported indirectly by the subsequent optionee Aston Resources (Woolverton and Davidson, 1971) who described it being at the west end of the lake.

Minfile records (Payie, 2015a) state that the showing is related to a 9 meter wide monzonite-granodiorite dyke that has intruded Hazelton rocks with a complicated stockwork of quartz mineralized with pyrite, molybdenite, and chalcopyrite, and that some mineralization, especially pyrite, extends into the volcanics. However, no reference could be found for this description in early reports or the later Callinex reports. The earliest description from Woolverton and Davidson (1971) describes the Troitsa Lake showing as five closely-spaced sets of quartz-pyrite-chalcopyrite veins and mineralized fractures forming stockwork mineralization in granodiorite and altered volcanic rocks over 30 metres, cut by at least three ages of andesitic and dioritic dykes. The Woolverton and Davidson (1971) report refers to previous trenching, presumably by Silver Standard, which showed average grades in the order of 0.60 per cent copper in the stockwork mineralization and values of 0.30 per cent to 0.40 per cent copper in one of the late dykes. The exploration work by Callinex was preceded by the initial prospecting work of Shawn Turford and Ralph Keefe shown in Figure 67 along the lake shore where they found a chalcopyrite-pyrite bearing quartz vein system in porphyritic dykes that produced two significant assays one with 1.5% Cu and 19 g/t Ag and another with 0.53% Cu and 5.4 g/t Ag (Galambos, 2010). Subsequent exploration programs were unable access the showing because of steep terrain inland from the showing, which was originally accessed from the lake. An attempt by the author and Ken Galambos on August 5, 2022 to find the showing was similarly thwarted by steep terrain.

7.4.2.6 The Price Showing

The Price showing is located in the northern extension of the Property (Fig. 4). The main showing is principally a massive sulphide lens about 2 meters long within volcanic rocks of the Kasalka Group (Galambos, 2020). The showing area is underlain by volcanics of the Upper Cretaceous Kasalka Group consisting of andesitic flows, andesitic lapilli tuff and heterolithic

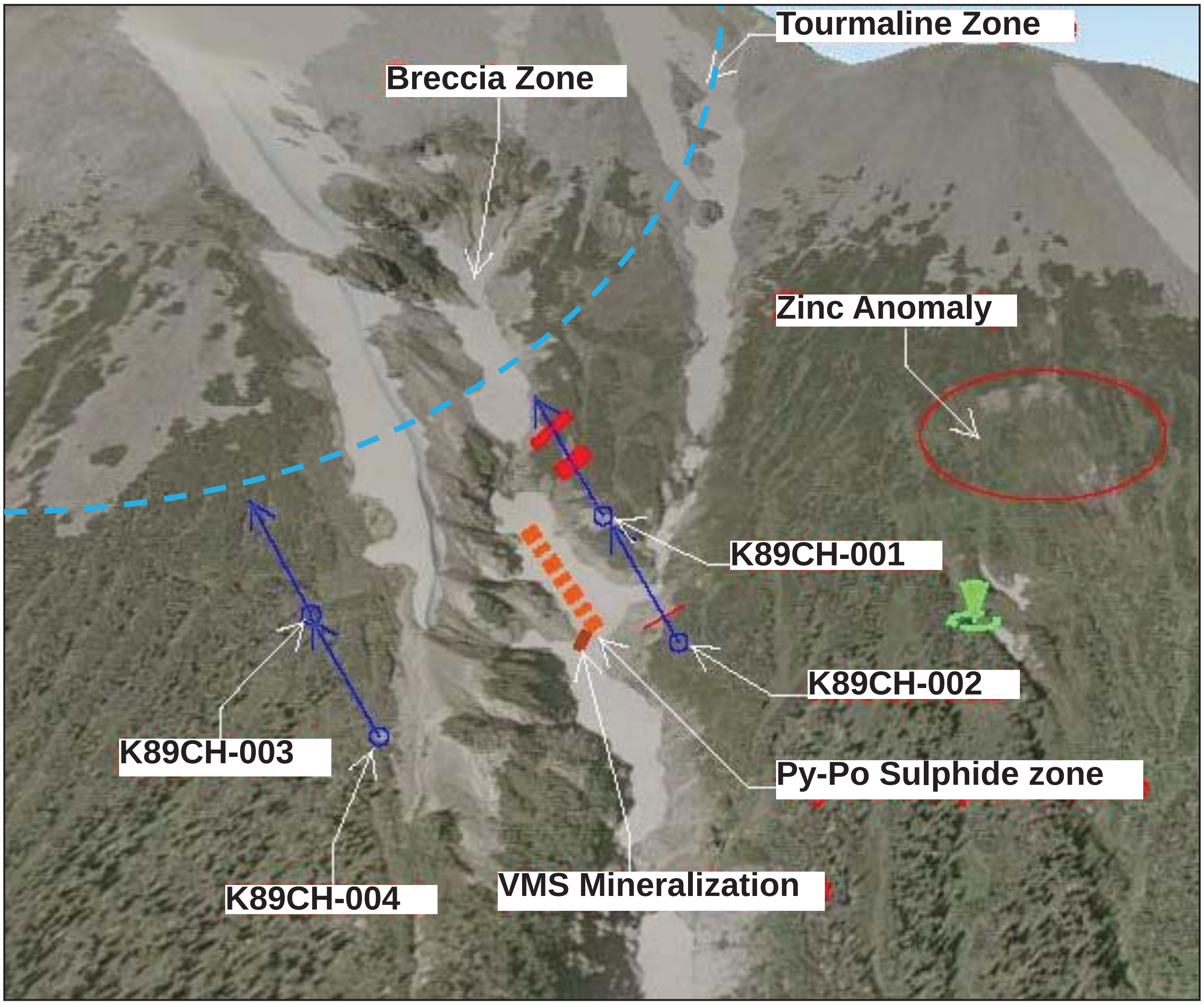


Figure 68: Oblique Photo of the Price Showing
Photo and estimated placement of features is from Galambos (2020) showing the drill sites from a 1989 program by Equity Silver Mines, and the location of the Price sulphide lens. Drill holes were oriented due west on dips of -45°. Equity drilled four BQTW core holes totaling 457.4m. The “tourmaline zone”, marked at the top right, is a 4 by 8 meter outcrop displaying quartz sericite-tourmaline alteration in the volcanics.
In K89CH001 a 10.8 m intercept below 76.4 m depth assayed 0.19 % Cu, 37 g/t Ag and 0.9 g/t Au from a weakly altered and fractured ash tuff. A 1.1 m section of this intercept assayed 0.16% Cu, 21. g/t Ag and 3.8 g/t Au. A second intercept 20m deeper in the hole assayed 0.46% Cu, 27 g/t Ag and 0.15 g/t Au over 1.2m.

volcanic breccia. Feldspar porphyritic dykes of felsic composition intrude the volcanics.

The first documented work in the area was a stream silt and heavy mineral concentrate geochemical survey by Union Carbide in about 1982 (Galambos, 2020). Subsequently, Canamax acquired the claims and discovered the Price Showing massive sulphide lens along a geochemically anomalous creek. Soils geochemistry highlighted a 300 meter diameter area of anomalous Pb, Au, Mo and Ag around the showing. Equity Silver Mines Ltd. conducted an extensive heavy mineral sampling program in 1986 and found that the creek below the Price showing was highly anomalous in Mo, Cu, Zn, Pb, Ag, Au, As and Sb as well as several other nearby creeks with anomalous Pb, Zn and Ag (Hanson, 1986)

The Price showing mineralization consists of disseminations of pyrite and pyrrhotite localized on fractures in coherent volcanic rock proximal to small pods of massive pyrite and pyrrhotite with accessory chalcopyrite, sphalerite, minor galena and arsenopyrite. The main feature of the Price showing is a vertically oriented 2 m by 0.5 m sulphide lens that strikes 160° and grades 14.6% Zn, 1.9% Cu, 0.33% Pb, 55 g/t Ag, 0.70 g/t Au and 5.42% As as a weighted average of 3 chip samples over a third of a meter (Hanson, 1988). Drilling results from 1989 included one 10.8 meter intercept that assayed 0.19% Cu, 37.5 g/t Ag and 0.93 g/t Au from a weakly altered and fractured ash tuff. A 1.1m section of this intercept assayed 0.16% Cu, 21.0 g/t Ag and 3.82 g/t Au. There is no apparent consistent orientation to the mineralized zones or the controlling fractures. (Payie, 2015c)

Galambos (2020) collected samples of a rusty, silicified andesite with 0.2 g/t Au and 666 ppm As in 2010 west of the Price showing, Other samples from a 2011 visit by Galambos (2020) were a rusty weathering grey green andesite grading 410 ppm Cu, 1.7 g/t Ag, 162 ppm As and 11 ppm Mo, and lighter coloured rusty andesite with 241 ppm Cu and 99 ppm As.

The Prince showing was snow covered and not visited by the author or the company crew in the 2022 exploration program.

7.5 Geochemistry of Rock Samples

7.5.1 Drill Core

A large historical set of geochemical data is available from drill core and surface exploration samples for the Troitsa Property. The main analytical data set was obtained for 1877 drill core samples collected and assayed by Callinex in their 2011 and 2012 exploration programs. Of these most were analyzed using aqua regia digestion, but one batch of 91 samples from drill hole Tr11-01 was analyzed using strong, 4-acid digestion for more complete dissolution, which compromises comparison with the other sample analyses for analytes not completely liberated from certain minerals by aqua regia. for the purposes of statistical analysis and correlations these 91 assay were excluded from the 1877 assay leaving a data set of 1786 assays.

For rock samples from surface prospecting an additional 418 are available, 400 from the main Callinex work from 2011 and 2012, five from the first prospecting program in 2010 by Turford, and thirteen more from a property examination by Wesphal in 2013. All of these have been reviewed in the sections correlating dykes and the nature of Troitsa Property showings. The purpose of the statistical analysis is to reveal indications of mineral zoning on the Property reflective of broad hydrothermal systems that may guide exploration models.

The data for 1786 drill core samples digested by aqua regia and 400 surface rocks similarly treated were statistically analyzed in two separate groups using box plots and correlation coefficient calculations of significant elements to explore systematics of the mineralization. Individual binary and ternary plots of sets of elements further demonstrate possible metal zoning and mineralogy of the mineralizing system. The location of the surface samples symbolized for copper content is shown above in maps in Figures 13 for prospecting samples and Figure 23 for channel samples from the Main Zone. More detailed maps of sample locations and geological features are shown for each of the main showings in Figures 63 to 66.

Boxplots of nine elements that appear to show some sort of systematic variation are plotted in Figure 69 using GCDkit 4.1 (Janousek et al., 2006). The boxplots for Au, Ag, Cu, W, Bi ,and Te, elements typically found in magmatic hydrothermal systems such as porphyries, graphically show anomalous chemical behaviour usually by a wide range of outlier points above a tight box containing the Inter Quartile Range ("IQR"), or second (25 to 50%ile) and third quartiles (50 to 75%ile) of sample concentrations. In contrast, the rock forming elements found in silicate minerals such as Zr, Nb and Y in Figure 69, and Mn, Fe, Ca, P, Mg, Ti, Al, Na, and K in figure 70, all show box plots with "normal" distributions of values with a very minor range of outliers in some cases reflecting mineralization and in others unusual rock types such as lamprophyres. The generally "normal" distributions reflect the narrow range of rock compositions.

. To explore the correlation between elements in the mineralizing system, a chart of correlation coefficients and graphical binary plots of the same set of elements was constructed in GCDkit 4.1 and shown in Figure 71 for the 1786 drill cores samples and arbitrarily symbolized to indicate different drill holes. The expected high correlations are between elements with similar chemical behaviours in hydrothermal systems or that form solid solutions in some minerals. Examples are Sb and As, coefficient 0.79, which form a series in fahlerz minerals such as tetrahedrite and sulphosalts, or S and elements in common metallic minerals such as Cu (0.67) in chalcopyrite, Pb (0.38) in galena, and Zn (0.44) in sphalerite. Arsenic (As) also is correlated with S (0.46) reflecting the same fahlerz and sulphosalt minerals. Copper and silver also have a very high correlation coefficient of 0.60 suggesting some kind of substitution of silver for copper in copper minerals related to the common 2+ oxidation state in some conditions. Other high

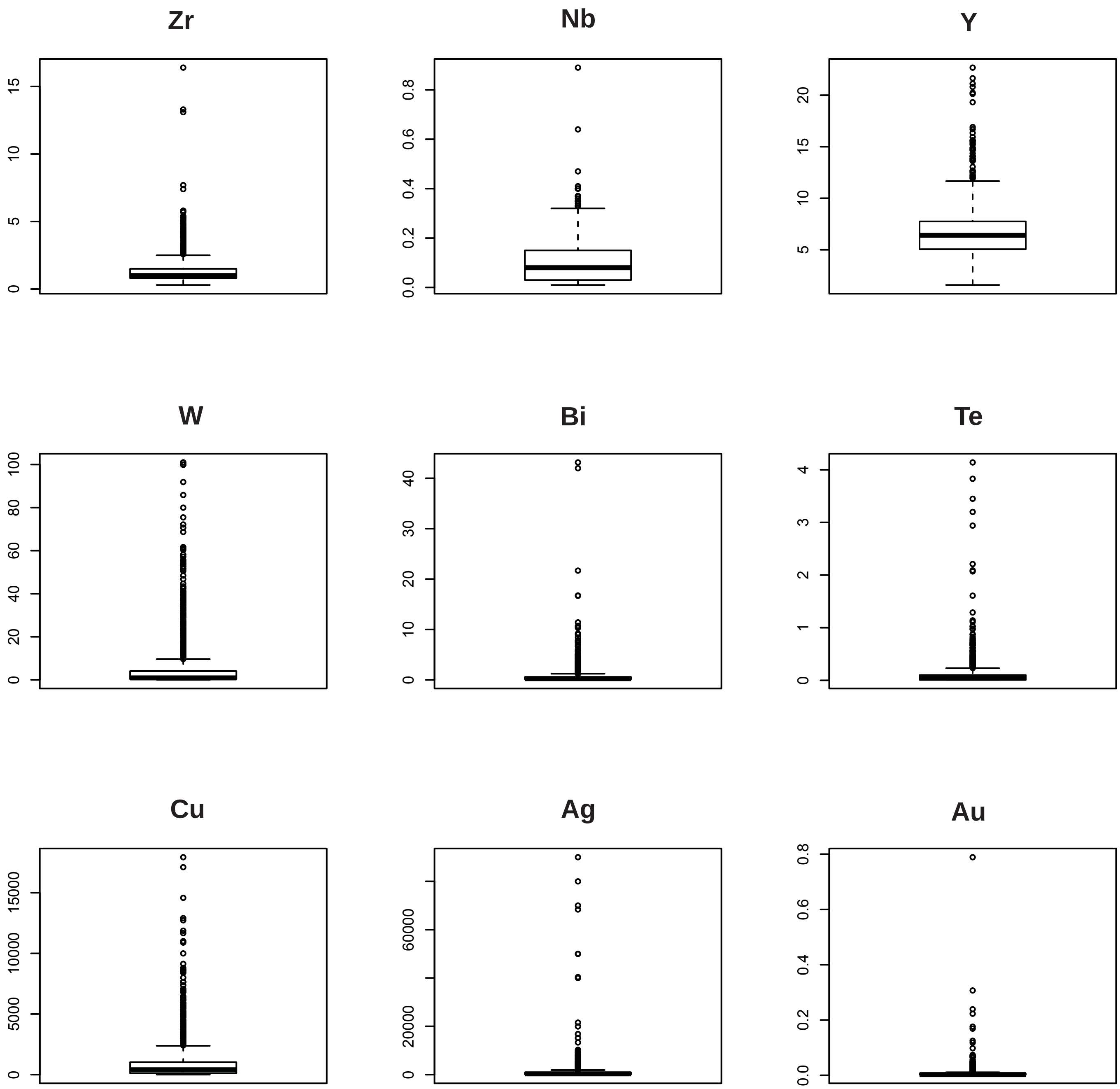


Figure 69: Boxplots of mineralizing elements in the drill core dataset
The boxplots provide a visual comparison of the statistical distribution of trace, immobile rock forming elements Zr, Nb and Y and mineralization-related elements commonly associated with magmatic-hydrothermal fluids in porphyry environments W, Bi and Te, and mineralization elements Cu, Au and Ag. All concentration axes in ppm except Ag which is ppb. Samples analysed by ACME method 1E, which used strong 4 acid digestion for 91 samples are excluded from the dataset. Scales are linear. The rectangular "boxes" within each graph enclose the second and third quartiles of samples spanning the Inter Quartile Range ("IQR"); the dark line is the median value, the whiskers either side of the box represent 1.5 times the IQR, and outliers are spots beyond the whiskers. The mineralizing elements Cu, Au, Ag and Te, Bi and W show very strong skewed distributions compared to normal distribution for Zr, Nb and Y.
Boxplots drawn in GCDKit 4.1 (Janousek et al., 2006) by the author April 2022.

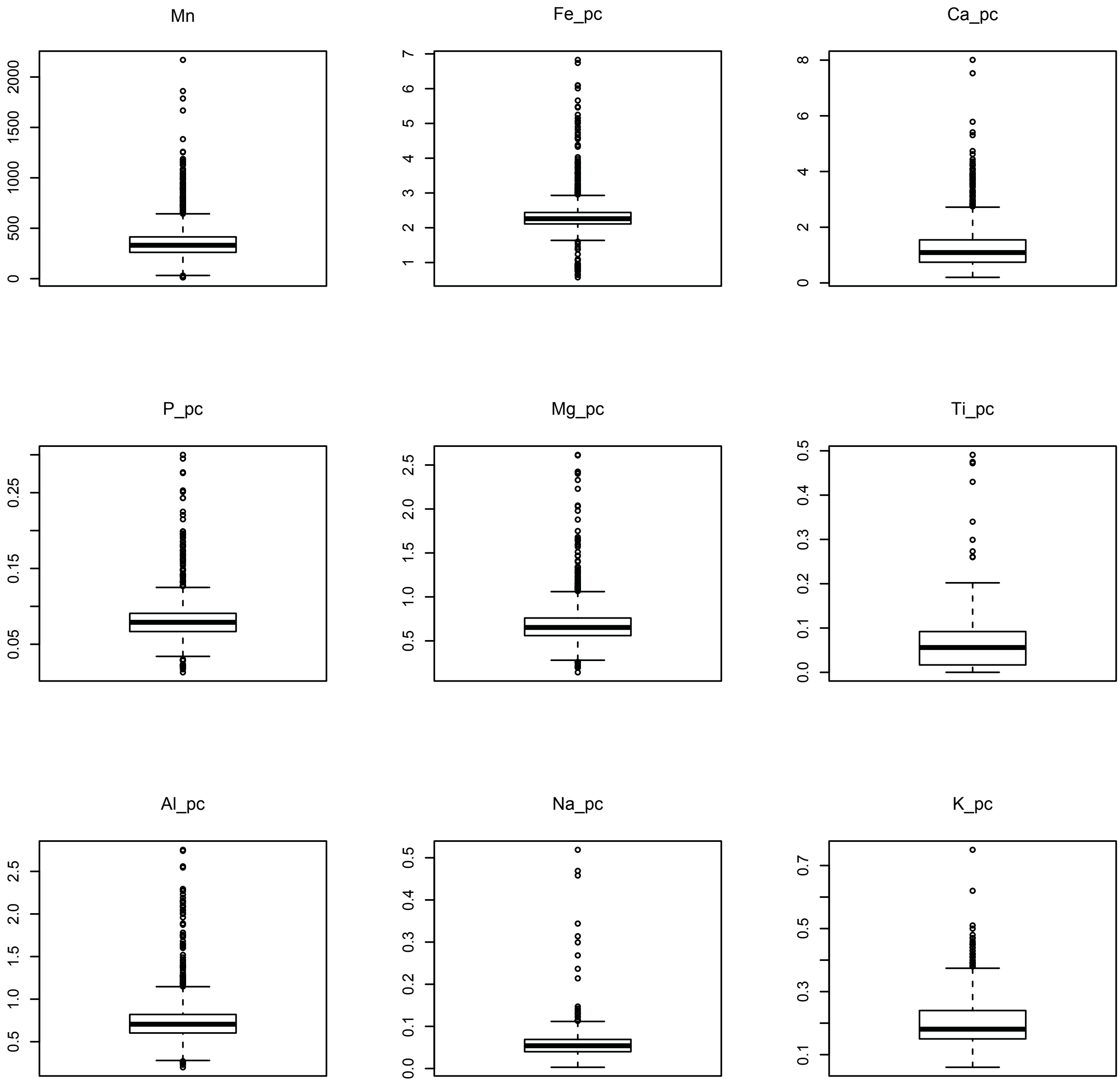


Figure 70: Boxplots for 9 rock forming major elements in the 1786 drill core samples.
The boxplots provide a visual profile of the statistical distribution of concentrations of rock forming elements in 1786 rock samples. Vertical axes are linear and all concentrations are in percent except Mn which is ppm. Samples analysed by ACME method 1E (91 out of 1877) were excluded from the dataset to avoid bias from the greater extraction of elements by strong acid dissolution of silicate minerals. The rectangular "boxes" within each graph enclose the second and third quartiles of samples spanning the Inter Quartile Range ("IQR"); the dark line is the median value, the whiskers either side of the box represent 1.5 times the IQR, and outliers are spots beyond the whiskers. Symmetrical distributions, or normal distributions are expected within a data set comprising a narrow range of rock types. In this case the data set includes not only the granitoids of the main stock and some dykes of similar composition, but also basaltic and even lamprophyric dykes, which represent some of the outliers.
Boxplots drawn in GCDKit 4.1 (Janousek et al., 2006) by the author April 2022.

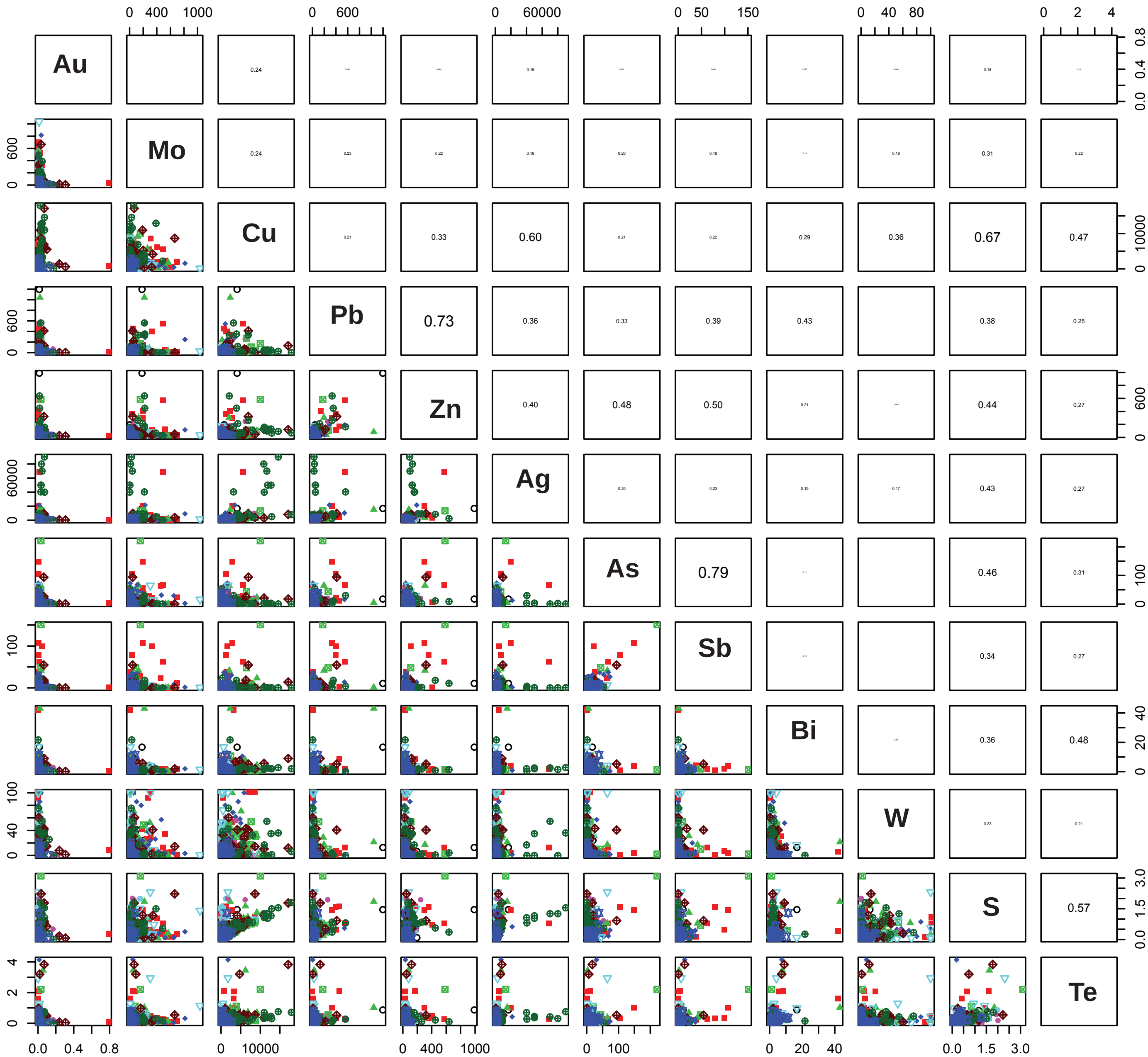


Figure 71: Element correlation chart of mineralizing elements in core samples
Selected mineralization related elements, shown in the diagonal boxes, are plotted as binary co-variations below with other elements in the set and calculated correlation coefficients above the diagonal. Axes are in ppm, except S % and Ag in ppb. Correlation coefficients range from 0 to 1 and are printed in proportion to the number sucha that very low coefficients are vanishingly small numerals at the displayed scale of the diagram. Highly correlated pairs included elements with naturally similar chemical properties such as semi-metals Sb and As which form continuous series of composition in tetrahedrite. Copper (Cu) and silver (Ag)are highly correlated in the mineralizing system because they can mutually substitute as 2+ ions. Au and Mo are not well correlated with any other elements in the set suggesting that they are concentrated under different conditions than e.g. Cu and Ag.
Calculations and graphing by the author using GCDKit 4.1 (Janousek et al., 2006)

- TR1101
- Tr1102
- Tr1103
- Tr1104
- Tr1105
- Tr1106
- Tr1107
- Tr1108
- Tr1209
- Tr1210
- Tr1211

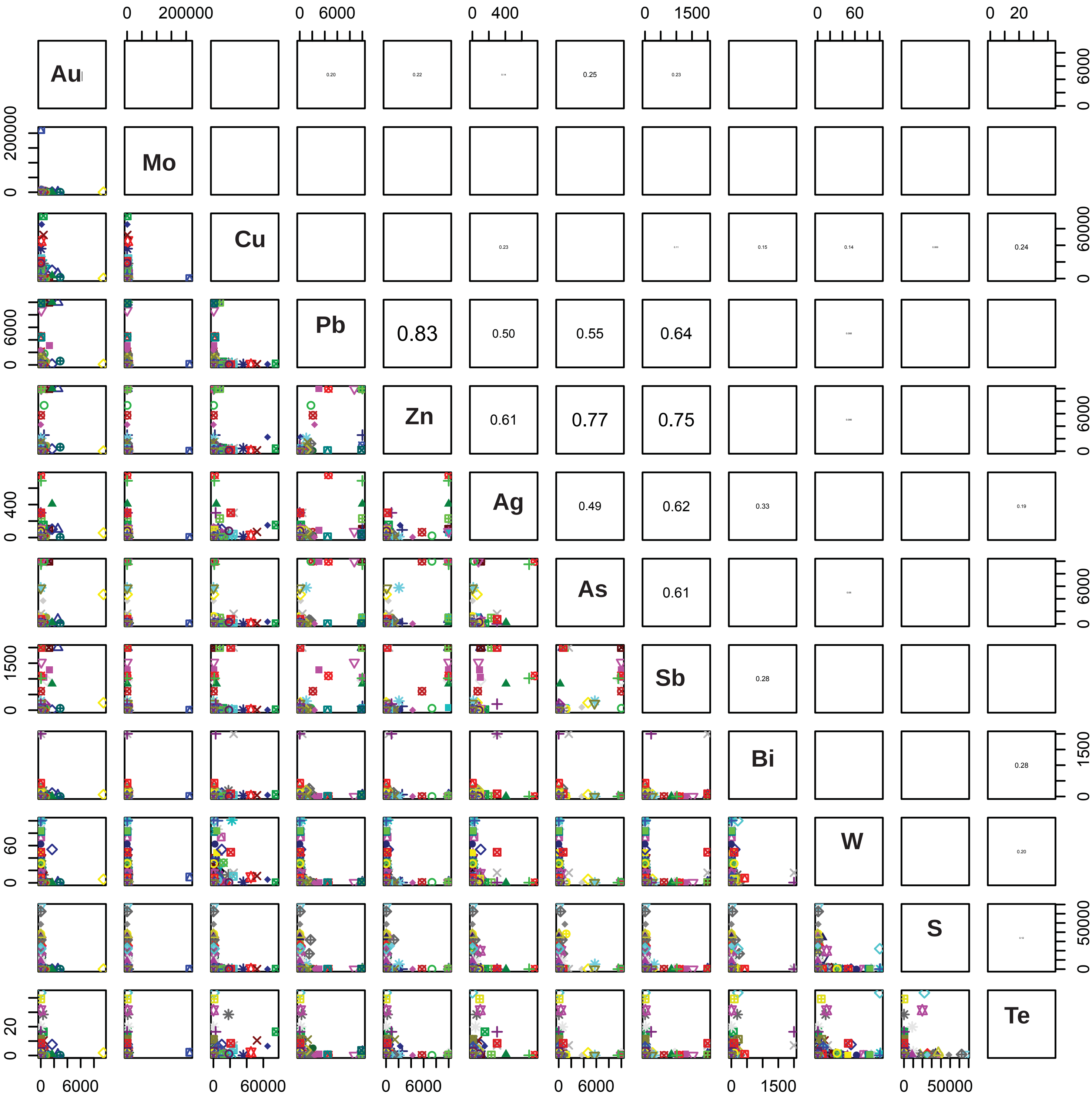


Figure 72: Element correlation chart mineralizing elements in 400 field rock samples
Selected mineralization related elements, shown in the diagonal boxes, are plotted as binary co-variations below the diagonal with other elements in the set and calculated correlation coefficients above the diagonal. Axes are in ppm, except Fe in % and Ag in ppb. Highly correlated pairs include elements with naturally similar chemical properties such as transition metals Fe, Ni and Co, and Cu. Copper and silver are highly correlated in the mineralizing system because they can substitute as 2+ ions. Au and Mo are not well correlated with any other elements in the set suggesting that they are concentrated under different conditions than e.g. Cu and Ag.
Calculations and graphing by the author, March 2022, using GCDKit 4.1 (Janousek et al., 2006)

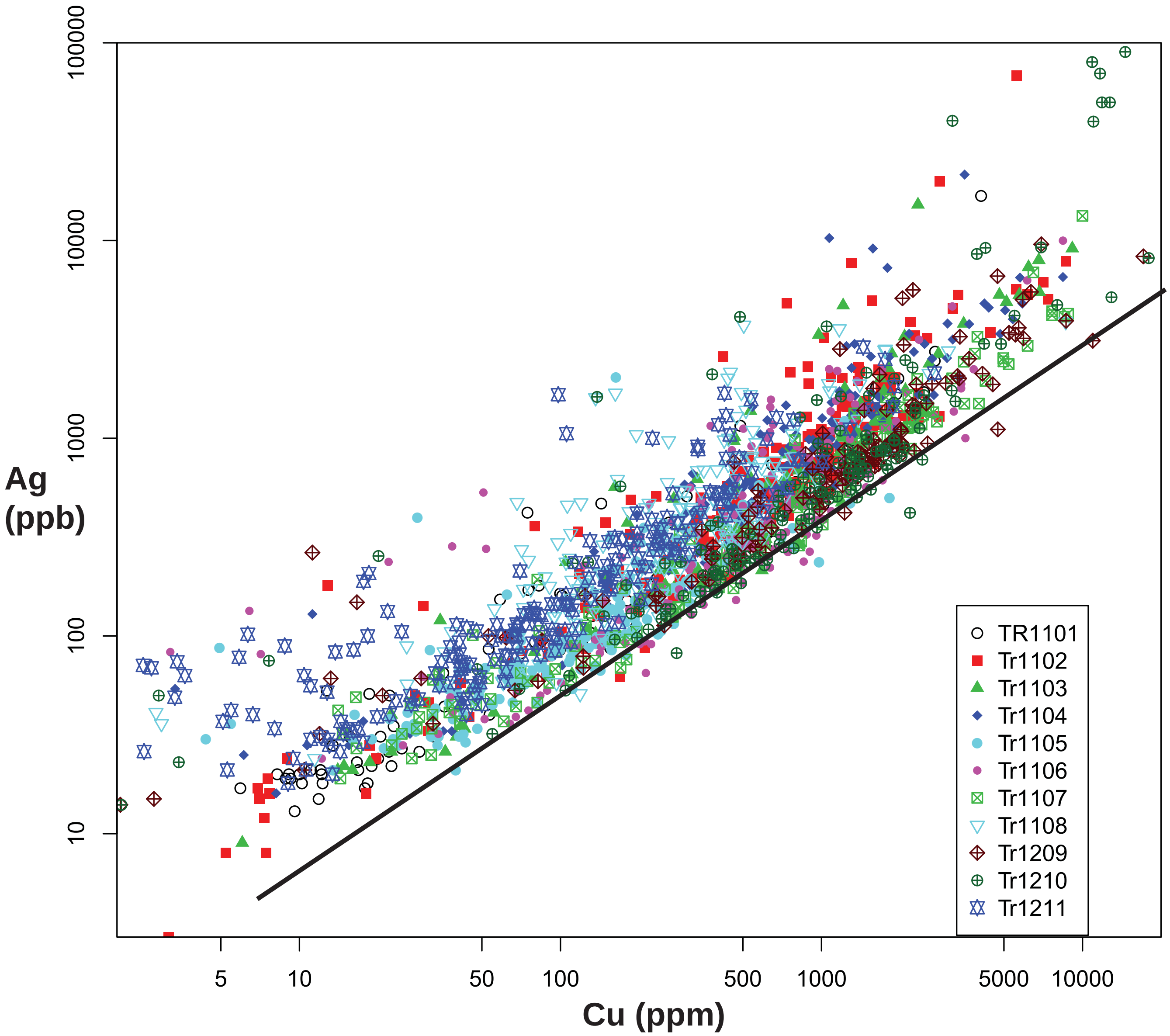


Figure 73: Copper vs Silver in Drill Core Samples
The graph show a very strong dependency of silver on copper by the narrow linear array with minimal scatter above the array probably representing silver associated with other metals such as Pb or Zn. The scattered points may reflect the silver in minerals other than copper bearing ones. such as galena or sphalerite.

Drawn by the author in GCDkit4.1, April, 2022.

correlations may reflect minerals commonly found in assemblages such as galena and sphalerite indicated by a coefficient of 0.73. In contrast to these predictable behaviours, correlations for gold and molybdenum are scarce, with correlation coefficients for Cu with Mo and Au of 0.24. Gold is also only weakly correlated with Ag (0.18) and S (0.18). These weak correlations suggest that different mineralizing fluids are responsible for deposition of molybdenite than chalcopyrite. Common magmatic hydrothermal signature elements Bi, Te and W all have moderate correlations with Cu and with S.

A similar analysis of the field samples (Figure 72) should show similar correlations unless their greater spatial range includes different mineralizing zones around the Troitsa Stock compared to the more restricted zone of the drilling. Mutual correlations amongst Pb, Zn, Ag As, and Sb in Figure 72 suggests that various vein mineral assemblages of galena, sphalerite, fahlerz (tetrahedrite-tennantite) and sulphosalts are more common in parts of the Property outside of the Main Zone drill holes. Generally, this may reflect more distal types of vein mineralization in a porphyry system. Molybdenum apparently shows even lower correlation with the spectrum of field samples than in the drill core, but the presence of one high grade molybdenum sample with 21% Mo overshadows other correlations and their coefficients and needs to be reassessed excluding the high grade sample. Interestingly, gold shows higher correlations with Pb, Zn, As, and Sb than with Cu.

The presence of mineralogical zoning on the scales of the drilling array or the whole Property can be revealed by more detailed plots showing well correlated elements. A strong correlation is shown between Cu and Ag in the core samples, but a much lower correlation is found in the field samples. A binary log-log plot of Cu vs Ag in Figure 73 shows a near linear array with some scattered points at higher Ag concentrations. The array has a linear boundary edge from lower Ag-Cu to higher Ag-Cu reflecting a dependency of silver on copper in a probable mineralogical solid solution allowed by their similar geochemistry. In the log-log plot this sloping line represents an exponential relationship, which in this case can be considered the exponent 1 and a common minimum ratio of silver:copper to persist throughout the system. In samples with higher silver copper ratios than this minimum ratio. The silver is either accommodated in other copper silver minerals like sulphosalts with higher Ag:Cu ratios or perhaps higher substitution of silver for copper in chalcopyrite.

Zoning in the array of drill holes is apparent in the spread of data on the Cu-Ag plot in Figure 73 despite the crowding of symbols. Zoning is of two types, the first being general distribution of copper assays for samples representing low grades in drill holes Tr12-11, Tr11-05, and Tr12-08, which appear mainly below 500 ppm on the copper axis, and high grades in drill holes Tr12-09, Tr11-02, 03, 04, and 07, all of which is known from the averages of intervals in Table 3. The second zoning is in the Ag:Cu ratios which increase with distance above the marker line representing the minimum ratio of silver to copper. At low copper contents it appears that the Ag:Cu ratio in Tr11-05 is lower than in Tr12-11, and at higher copper concentration Tr12-09 and Tr11-07 are closer to the low ratio line than Tr11-04 and 02. These contrasting ratios are compatible with the spatial relations between the holes: Tr12-09 and Tr11-07 are in the same vicinity as are Tr11-02 and 04, and Tr12-11 is oriented away from the Main Zone trend compared to Tr11-05. Closer inspection of these zoning patterns may be warranted.

A similar mineralogically governed relationship can be seen on a plot of Cu vs S in Figure 74, which reflects the fixed ratio of copper in chalcopyrite indicated by the right edge of the array of assays. The same zoned distribution of high and low copper assays between drill holes is apparent here as well as in the Cu-Ag plot. However, a broad scatter of assays away from the minimum sulphur to copper ratio of chalcopyrite is obvious at all copper concentrations, which reflects, probably, increases in the amount of pyrite and other non-copper bearing sulphides in the drill core samples. Tr11-05, 06, 08 and Tr12-11 all show broad ranges of high sulphur to copper ratios reflecting a higher amount of pyrite compared to chalcopyrite in the drill holes, which are outside of the higher grade part of the Main Zone. In comparison, Tr12-09 and 10, Tr11-07 plot close to the minimum S:Cu ratio line indicative of the more common higher grade intervals in those drill holes, but also reflecting a high proportion of chalcopyrite to pyrite.

The relationship between copper mineralization and molybdenite is not clear at Troitsa. The correlation coefficient between copper and molybdenum in the drill core assays is low at 0.24. This can be appreciated in the log Cu- log Mo plot in Figure 54, which shows a general trend of

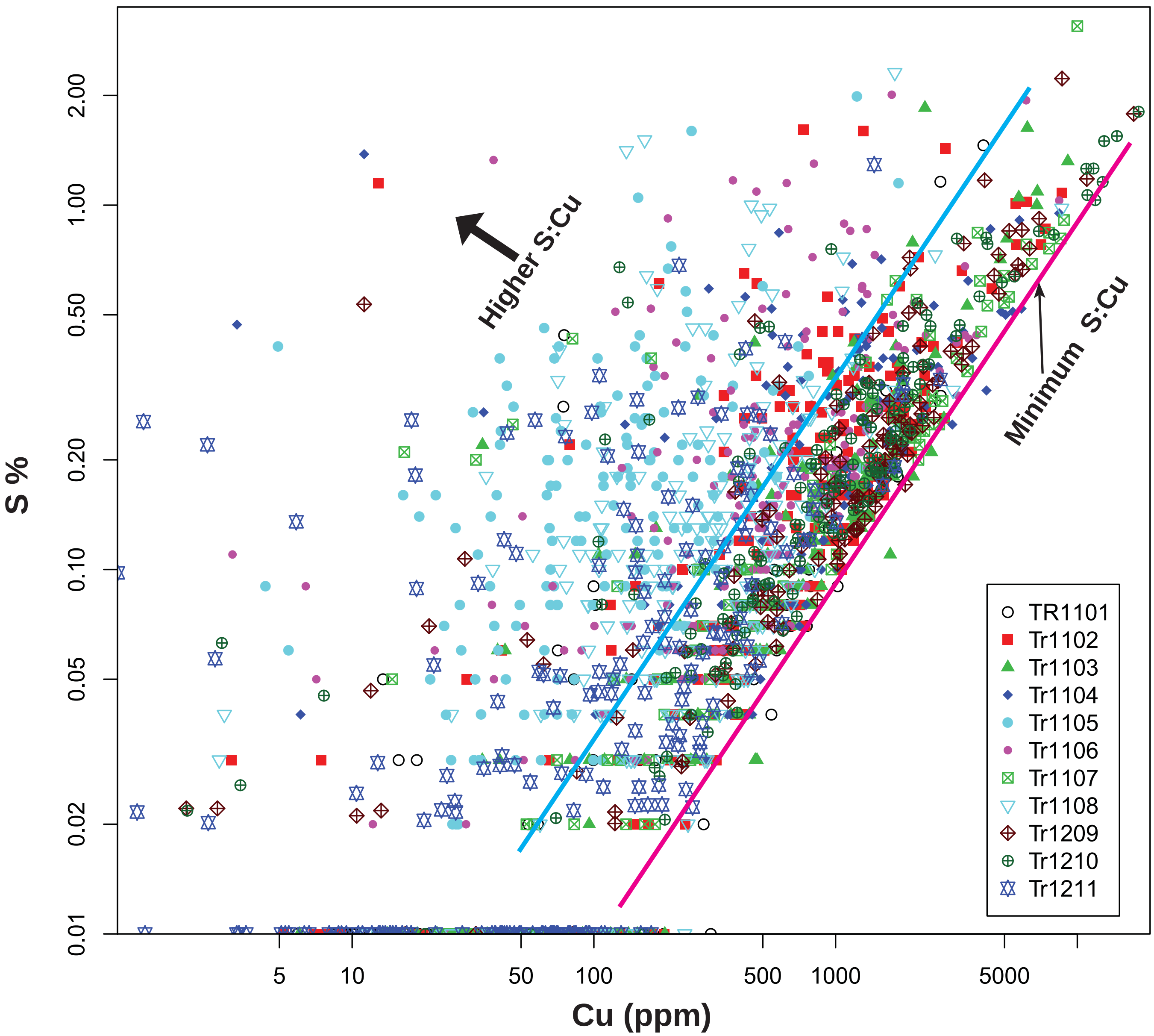


Figure 74: log Cu vs log S covariation in Troitsa drill core samples

The symbols marking each samples' composition represents the drill hole from which the sample was taken. The striking linear boundary or right edge of the array of compositions on the logS:logCu graph represents a potentially exponential relationship, measured by the slope of the line, which turns out to be about 1 meaning a linear relation between S and Cu likely representing the ratio of copper to sulphur in chalcopyrite. This line can be interpreted to represent the minimum sulphur in mineralization for any amount of copper in the Main Zone.

Conversely, sulphur can increase by its presence in other non-copper species such as pyrite.

The strong linear trend of Cu:S compositions of samples from the main zone relative to other showings, as indicated by the symbols, indicates a concentration of samples with higher proportion of chalcopyrite to pyrite than many other showings. The density of symbols inhibits differentiating drill holes near the minima line, but it appears that samples from Tr11-05 and Tr12-11 are lower in copper for the same sulphur concentrations while samples from Tr11-01, 02, 03, 04, 09, and 10 are higher in copper as predictable from the previous analysis of FP dykes.

If chalcopyrite were the only sulphur-bearing mineral present, all the samples would plot along the blue reference line. Graphs of copper vs. iron or sulphur vs. iron do not show the minima line because iron is also a significant major element in silicate and oxide minerals. However, Cu vs Fe shows zoning in the area of the drill holes.

Drafted by the author in GCDkit4.1, April, 2022.

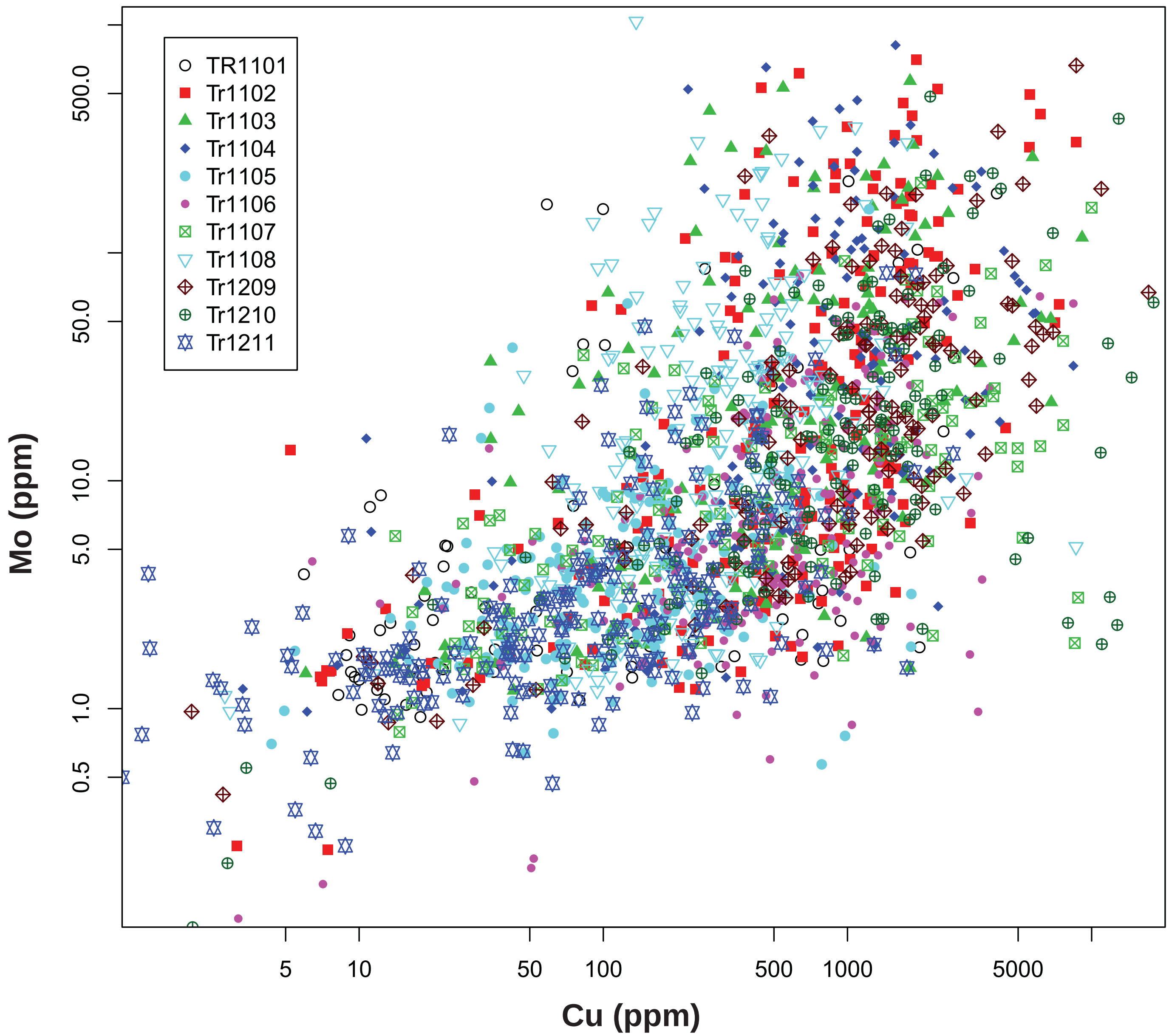


Figure 75: Copper vs Molybdenum in drill core samples
This logarithmic plot of copper vs molybdenum show very broad scatter of values, but with some apparent dependency and metal zoning. Dominantly higher grade copper drill holes plot to the right centred roughly around 1000 ppm Cu and show a wide range of Mo values roughly ranging from a few ppm Mo to 500 ppm Mo.
Drill holes Tr11-05, 08, 11 generally plot below 500 ppm Cu and 10 ppm Mo, but Tr11-08 ranges to higher values of Mo. Tr11-02, 03, 04, 07, 09, and 10 all occupy the higher range of copper values as is known from the drill core plots in sections above. Overall there is a weak dependency of Mo on Cu with no values of Mo above 50 ppm at less than 50 ppm Cu and the highest Mo requiring Cu above 500 ppm.
Drawn by the author in GCDkit 4.1, April, 2022.

increase in molybdenum with copper, characterized by a very broad scatter of Mo concentration at high Cu concentrations. Some very generalized zoning can be discerned among the drill holes in Figure 54: At high copper concentrations, above 500 ppm copper, examples include Mo being generally higher in drill holes Tr11-02 and 04 than in Tr11-06. At low copper contents, below 500 ppm the range of Mo decreases significantly, but zoning is apparent with Tr12-011 and Tr11-05 being the lowest in Mo compared to higher Mo in Tr11-08 at the same copper levels. A map of the drill holes shows that Tr12-11 and Tr11-05, 06 lie outside a hypothetical core area of the Main Zone (Fig. 55). The zoning may reflect a hydrothermal plume, although it is clear that a significant aspect of the higher grades are in the porphyry dyke tracked through sections at Tr11-03 and 04 to Tr12-10 in the northwest over a distance of about 600 meters (Fig. 76; and 39 in Item 6).

Zoning of lead and zinc relative to copper is generally reflected in galena-sphalerite veining peripheral to porphyry deposits or at late stages in the mineralization history. A ternary diagram in Figure 77 of Cu-Pb-Zn symbolized by drill holes indicates zoning of ratios between copper enrichment relative to a combination of lead and zinc and zoning of zinc relative to lead. Absolute values of concentration are not represented in ternary diagrams, only ratios.

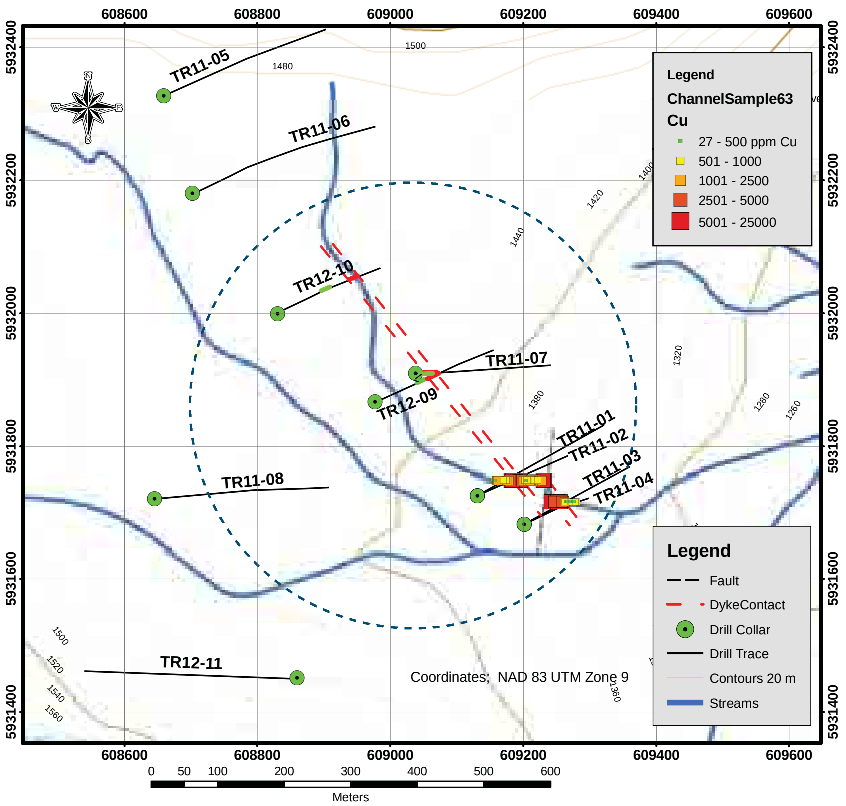


Figure 76: Map of Main Zone Drill Holes and possible zoning

The dashed circle encloses the core zone of higher grade copper and molybdenum in the drill holes. Drill holes Tr12-11 and Tr11-05, and 06 lie outside of the core based on zoning in diagrams of Cu vs Mo and Cu vs S and Ag. The diameter of the circle is 675 m.
Map drawn by the author in ArcGIS 9.3, April, 2022.

Higher copper relative to lead and zinc, Cu:(Pb+Zn), is apparent in drill holes Tr12-09, -10 and Tr11-07 while more peripheral zoned lead- zinc samples are apparent in Tr11-05, 08 and Tr12-11. Tr11-06 appears to lie in the center of the range. In ratios of zinc to lead, Tr12-11 has higher Zn:Pb ratios than Tr110-05.

7.5.2 Outcrop Rock Samples

The data set for the field samples collected and assayed by Callinex amounts to 400 assays. Basic statistics and correlation coefficients were calculated by the author for a range of expected mineralizing elements. Correlation coefficients are shown in Figure 72.

The same graphical analysis that was applied to the 1786 core samples was used on

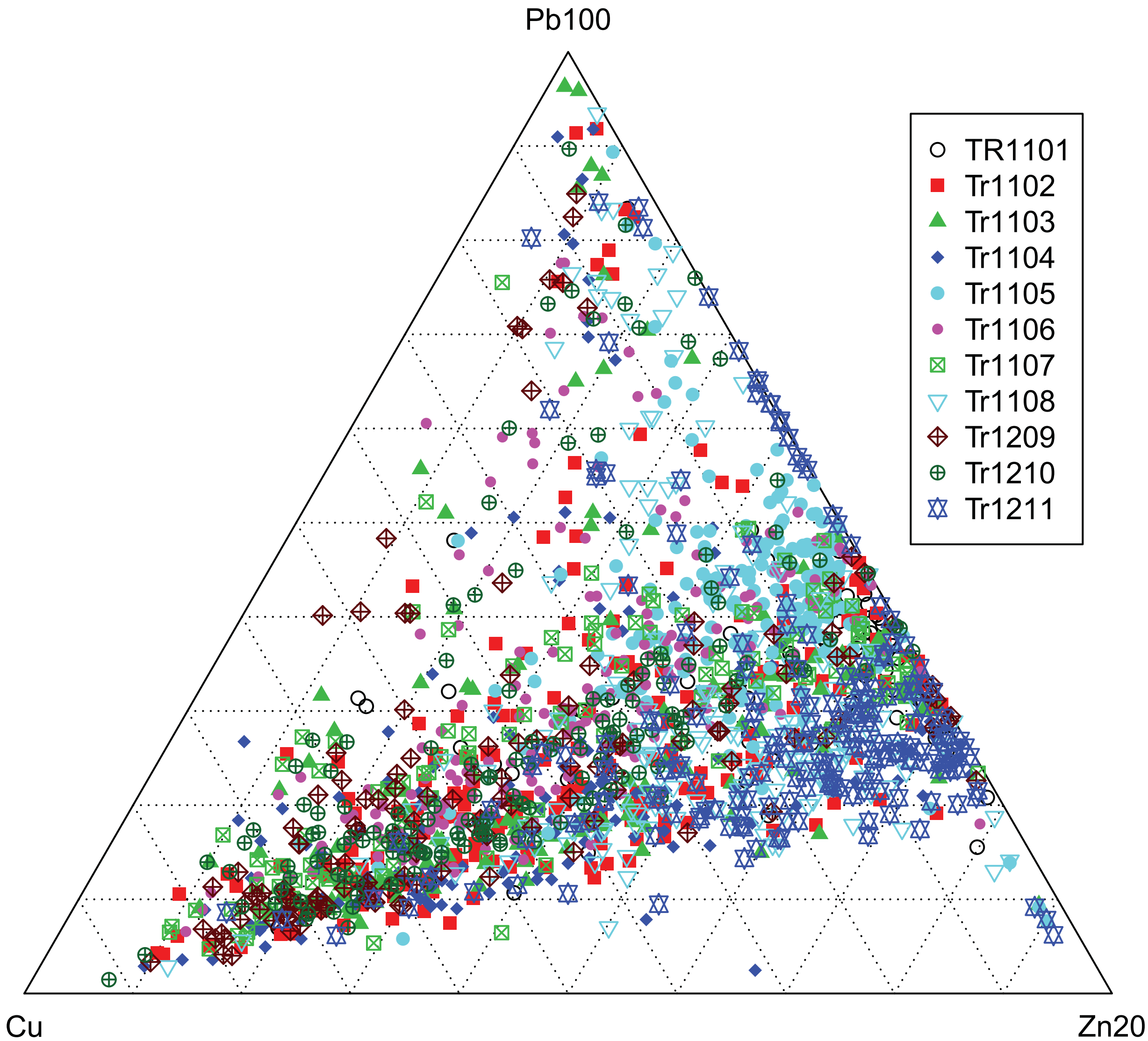


Figure 77: Ternary plot of Cu- Pb - Zn in 1786 drill core samples
Copper values in ppm are plotted against 100 Pb in ppm and 20 times zinc in ppm. The factors are arbitrarily chosen by trial and error to center the data in the ternary.
The symbols represent the drill hole of the sample and form a complex array representing ratios of metals in the samples without bias for actual concentrations. Metal zoning is apparent amongst the drill holes although there is much scatter and the apparent density is somewhat dependent on the the distinctiveness of the symbol and its colour. The clearest example of metal zoning is for lead-zinc enrichment in Tr11-05 and Tr12-11which lie north and west of the copper enriched section of the Main Zone drill intersections. There is also a preference in Tr12-11 for Zn compared to Tr11-05. and 08 for Pb. Samples for Tr11-02 appear widely scattered across ratios of Pb:Zn and Cu: Pb+Zn. Tr12-09 and 10 both show relatively strong copper affinity. Tr11-04 shows a wide range of Cu: Pb + Zn with a preference for Zn scattered along the lower edge of the array.
Drawn by the author in GCDkit4.1, April, 2022.

the field samples producing some similar relations such as minimum ratios of copper to silver (Cu:Ag), and sulphur to copper (S:Cu), both reflecting chalcopyrite mineralogy. However, for this analysis samples were symbolized by the author according to proximity to known showings, which potentially allows the showings to be categorized. The graph of Cu vs Ag in Figure 78 shows a near linear correlation of assays from the Main Zone most of which are from a channel sample across a porphyry dykes. A "minima line", interpreted as representing the minimum silver substitution for copper in chalcopyrite and possibly other copper-silver minerals, appears at the same ratio of 1:5000 as in the drill core samples. In contrast to the core samples, the field samples show a much higher degree of scatter towards lower Ag:Cu ratios, probably representing mineralogical zoning across the Property in proportions of chalcopyrite to other copper and silver bearing minerals. The most clear cut categorizations are for the Main and Cirque Zones which plot closest to the Ag:Cu minimum line suggesting they have the highest proportions of chalcopyrite to other silver-copper minerals and presumably are at the core of the mineralizing system. Samples from the TRO showing appear next, while the farthest away from the line are from Troitsa Easter, TSA indicating a broad stock-scale zoning of decreasing proportions of chalcopyrite to other silver bearing sulphides. However, there is broad overlap of the samples from the various showings, which highlights the issue of representivity of samples, and the arbitrary assignment of samples to showings.

The plot of copper versus sulphur in Figure 80, like the one for the drill core in Figure 74, shows a minima line on the high copper-low sulphur side of the assay array representing the ratio of sulphur to copper in chalcopyrite as a sloped line with exponent 1. The line represents samples in which the only sulphur species is chalcopyrite. Mineralogical zoning of proportions of chalcopyrite and pyrite ares indicated by the clustering of samples for the Main Zone near the minima line relative to samples farther from the line for 1. Cirque, 2. TRO and Astiort, and 3. Troitsa Easter and TSA. The expectation from this would be that samples with the most chalcopyrite relative to pyrite and other sulphur bearing species are near the core of the system and that proportions of galena, sphalerite and pyrite increase outwards through the various showings. Sample scatter is considerable, however, and individual samples can be biased depending on the focus of the sampler towards different ratios.

Another diagram indicative of mineralogical zoning is the ternary Cu-Fe-S (Fig. 79) representing the elements in chalcopyrite, pyrite and other copper sulphides present in the system, along with some bias for iron in silicates and magnetite. Similar results to the log Cu - log S graph are shown by the ternary with the closest samples to the Cu corner shown by the Main Zone followed, towards the Fe-S side, by TRO and Troitsa Eastera and East. However, minorities of samples from each showing area scatter across the range of ratios with no absolute boundaries. The spread of Main Zone samples across from the Cu to the Fe corner likely represents iron in non-sulphide minerals such as magnetite and hornblende though silicate iron could be expected to be underrepresented by lack of dissolution in aqua regia.

The general conclusion from the geochemical analysis is that mineralogical zoning is present in the Troitsa stock indicating a core to periphery decrease in the prevalence of copper in hydrothermal solutions. The importance of establishing a zoning pattern is firstly that it implies a potentially single, large hydrothermal convection system at one or more stages in the evolution of the pluton, and that a pattern of zoning may be used to guide exploration into less exposed terrain on the Property. A clearer definition of zoning might be achieved by using more arbitrary spatial subdivisions to categorize the samples, especially the unclassified "exploration" samples, across the Property perhaps on a scale of 100 hectare blocks, except perhaps for the core of the Main Zone where zoning is indicated on a narrower scale between drill holes.

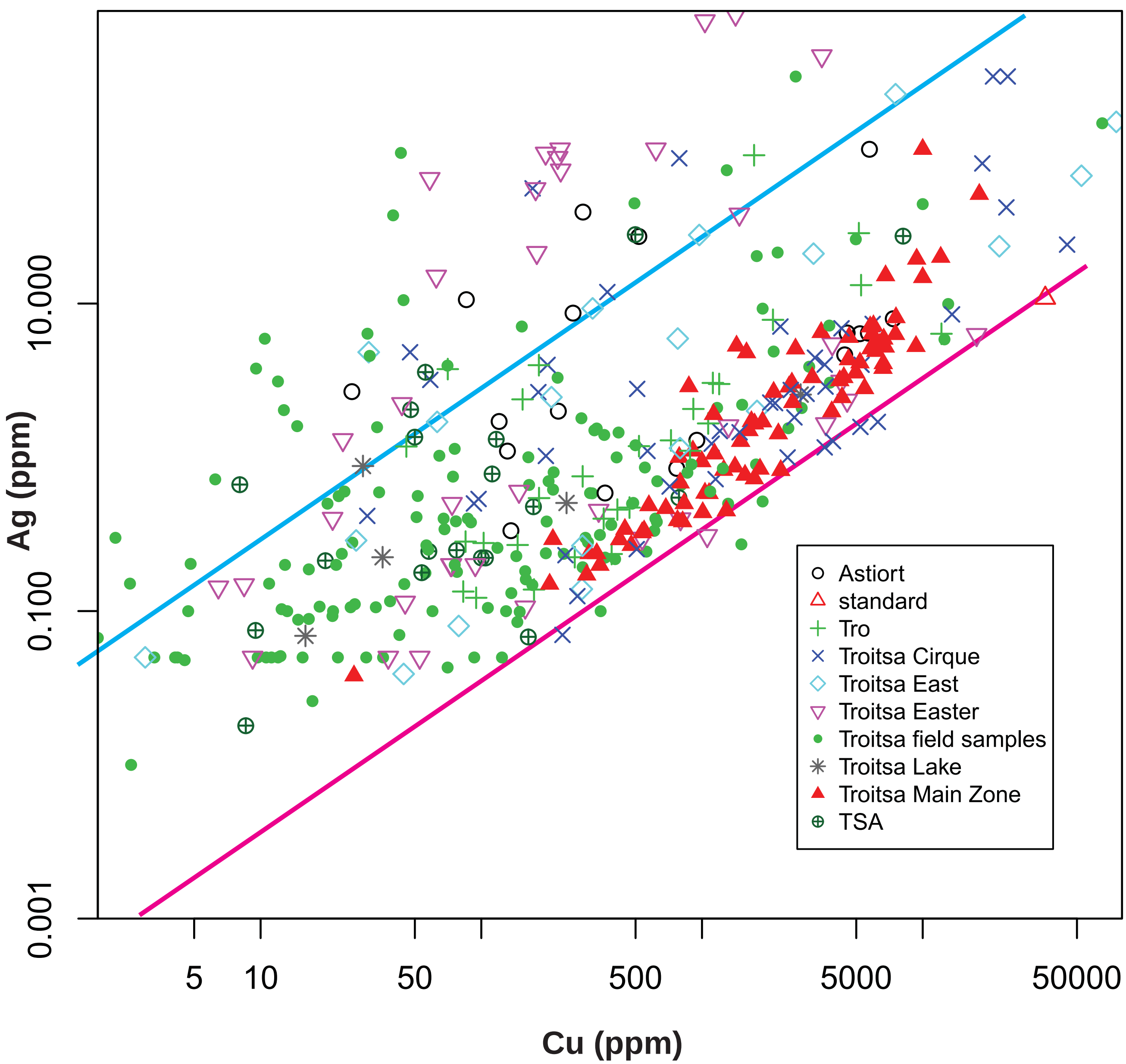


Figure 78: Binary log covariation of Cu and Ag in surface rock samples across the Troitsa Property

Samples are symbolized by proximity to known showings. "Troitsa field samples" are samples not attributed to a specific showing from spatially diverse locations across the Property. Axes are logarithmic. The pink line marks an apparent minima in silver relative to copper that is probably a reflection of mineralogical control such as a solid solution of silver substitution for copper in chalcopyrite. The blue line marks a Cu:Ag ratio of 50:1. The existence of the minima indicates that copper bearing hydrothermal solutions always contain silver above 1 part in 5000 relative to copper. Property wide mineralogical zoning is indicated by the concentration of samples close to the line at the Main Zone and Troitsa Cirque showings relative to Troitsa Easter, East, TSA, Lake, and Astiort. Cu:Ag zoning, with obvious exceptions, appears to be ordered from 1. Main Zone, 2. Cirque, 3. TRO, 4, Troitsa East, Astiort, TSA, Troitsa Lake to 5. Troitsa Easter. The unclassified Troitsa field samples include samples near the core as well as the margins of the stock, and predictably span across any real zoning. The zoning may represent increased silver relative to copper in one mineral or it may indicate that other silver bearing minerals increase in proportion to chalcopyrite outward from the Main Zone.
Drawn by the author in GCDkit4.1, April, 2022.

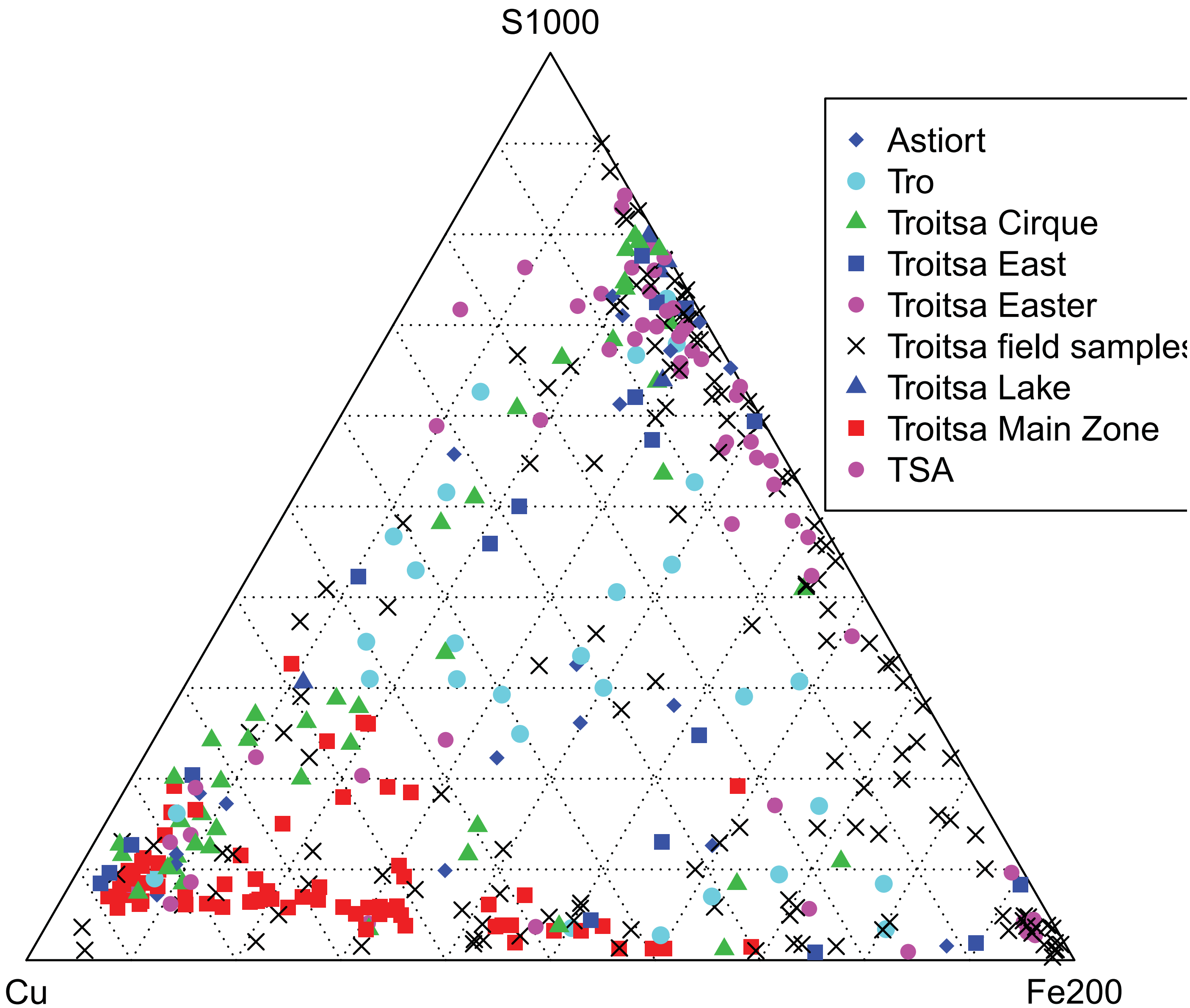


Figure 79: Cu-Fe-S Ternary diagram for field samples
Samples have been categorized by proximity to showing keyed to symbols in the legend. Spatial variations in the ternary in Cu+Fe to S, and Cu: Fe relate to metal zoning and predictably dominant mineralogy of the showing area, but are independent of grade. Comparably. the Main Zone and Troitsa Cirque have more copper-rich sulphides in the sample mineral assemblages plotting close to the Cu corner than others except for a minority of the Troitsa East, and TSA samples. Most of the Troitsa Easter samples plot along the Fe-S axis indicating mainly pyrite or combinations with Zn and Pb in sphalerite and galena grains in the sample. Samples from TRO scatter widely across the center suggesting mixes of pyrite and lesser chalcopyrite in the samples and a few high grade copper samples outlined in Figure 42.
Drawn by the author in GCDkit4.1, April, 2022.

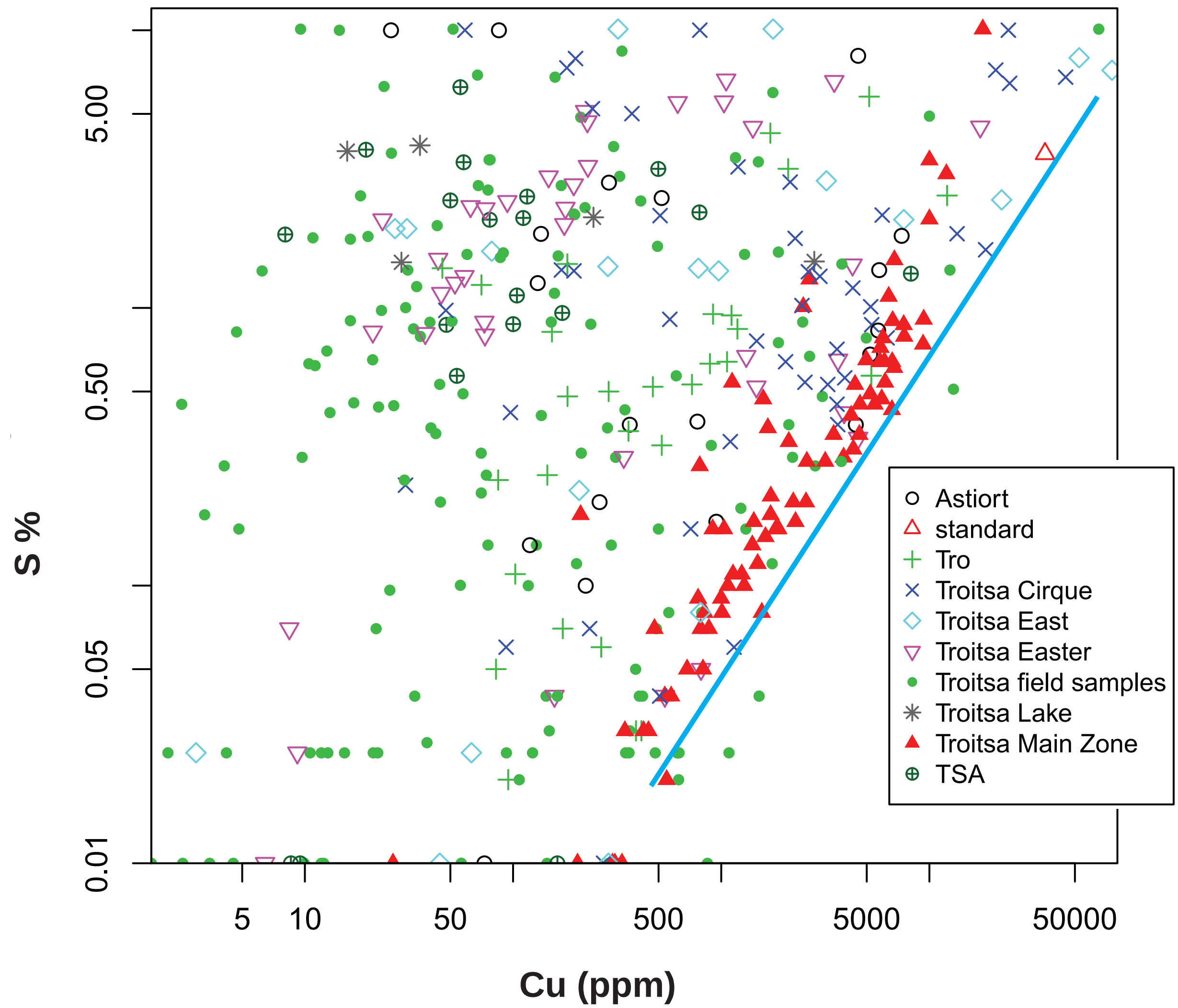


Figure 80: log Cu vs log S covariation in Troitsa field and channel samples
The symbols marking represent the zone or showing where the sample was located, as assigned arbitrarily by the author in a GIS, with the exception of the green circles which represent samples from unnamed, widespread locations in the Property.The striking linear trend at the edge of the array of compositions on the logS:logCu graph represents a potentially exponential relationship, measured by the slope of the line, which turns out to be about 1 meaning a linear relation between S and Cu likely representing the ratio of copper to sulphur in chalcopyrite. This line can be interpreted to represent the minimum sulphur in mineralization for any amount of copper in the Troitsa mineralizing system. Conversely, sulphur can increase by its presence in other non-copper species such as pyrite. The strong linear trend of Cu:S compositions of samples from the Main Zone relative to other showings, as indicated by the symbols, indicates a concentration of samples with higher proportion of chalcopyrite to pyrite than many other showings. Broadly, this shows that mineralization is zoned with an increasing ratio of chalcopyrite to pyrite towards the Main Zone. If chalcopyrite were the only sulphur-bearing mineral present, all the samples would plot along the blue reference line. Graphs of copper vs. iron or sulphur vs. iron do not show the minima line because iron is also a significant major element in silicate and oxide minerals. However, Cu vs Fe shows zoning in the area of the drill holes.
Drawn by the author in GCDkit4.1, April, 2022.

8. Deposit Types

8.1 Introduction

In defining a potential deposit type for exploration of the Property, two approaches were considered by the author: one was to classify the known mineralization according to profiles of defined deposits types, while the other was to evaluate the potential for discovery on the basis of the characteristics of deposit types known in the region. The rationale for the former approach is to assume that any significant deposits within the Property will conform to the known mineralization characteristics found to date, while for the latter, the rationale is that exploration for common mineral deposit types found in the region may be warranted where similar host rocks are present on the Property.

Few deposit models in the magmatic hydrothermal classification are relevant for the Troitsa Property. Porphyry copper/molybdenum deposit are the most obvious, but some characteristics of low sulphidation epithermal, subvolcanic replacement lodes, and subvolcanic copper/gold/silver models may also be significant. Most of the mineralization discovered is chalcopyrite and pyrite, with sporadic molybdenite, within quartz veinlets in the Troitsa stock, mainly oriented along a northwest strike and dipping southwest, and in porphyry dykes as fracture filling and as disseminated replacement of mafic minerals. Assemblages of hydrothermal alteration minerals appear to form zones with a predominance of potassium feldspar and biotite in the centre of the stock at the Main Zone and varying outwards to propylitic assemblages of chlorite, sphene, magnetite and calcite. Locally, isolated veins showing galena, sphalerite and associated arsenic and antimony bearing minerals are present, which may represent late stages or peripheral zones of a hydrothermal system. The stock itself is texturally and compositionally zoned and intruded volcanic rocks thought to be the extrusive equivalents of the intrusions. The stock is roughly cylindrical and the enclosing rocks are contact metamorphosed to a biotite hornfels.

These characteristics are typical of the porphyry copper-molybdenum model classified by Lefebure and Church (2022) as deposit type L04 Porphyry Cu-Mo-Au and described by Panteleyev (1995). As well they are similar to descriptions of deposits associated with other stocks of the same Late Cretaceous age in the district known as the Bulkley Plutonic Suite.

8.2 Porphyry copper/molybdenum

The porphyry copper-molybdenum classification is the main deposit type is described by Panteleyev (1995) as associated with host igneous intrusions that vary from coarse-grained phaneritic to porphyritic stocks, forming batholiths and dyke swarms, and with compositions that range from quartz diorite to granodiorite and quartz monzonite. Multiple intrusive episodes are common and the stocks and surrounding strata are modified by breccias and dykes related to the main intrusive event. Lateral zoning is evident in alteration mineral assemblages as well as ratios of metals and sulphide mineral assemblages. Alteration assemblages are typically zoned outwards from a potassic core of secondary biotite and orthoclase overgrowths and replacement, through phyllic alteration, where mafic minerals are replaced by pyrite and feldspars by sericite to propylitic indicated by assemblages of chlorite, epidote and calcite replacing mafic minerals and feldspars. The mineral deposits may be concentrically zoned in the main stock or surrounding country rocks and the hydrothermal alteration zones and fracture filling mineralization may extend over several square kilometers.

Ore controls include igneous contacts with the surrounding wallrocks and internal contacts between intrusive phases; cupolas and the uppermost, bifurcating parts of stocks, dyke swarms, early formed intrusive breccias and hydrothermal breccias. Mineralization consists mainly of chalcopyrite; molybdenite, lesser bornite and rare (primary) chalcocite. At extremes of hydrothermal alteration associated with advanced argillic alteration assemblages in the upper parts of the deposits, a transition occurs to arsenic and antimony bearing minerals such as the tetrahedrite-tennantite series, enargite, various Cu-Ag sulphosalt minerals, bornite, and electrum forming larger veins and replacement lodes. In many deposits, veins that form after the main stage events, or at a distance from the core zone commonly contain galena and sphalerite in a gangue of quartz, calcite and barite.

In the Nechako district, mineralization in several porphyry copper deposits including Huckleberry and Berg is principally found in the hornfelsed rocks around the main stock, a characteristic not yet found at Troitsa, which warrants exploration. Porphyry copper deposits are classified as low grade high tonnage deposits usually amenable to open pit mining. In British Columbia mined deposits range in size from 50 Mt to a billion tonnes at grades from 0.2 to 0.5% copper, nil to 0.04% Mo, and sporadically 0.1 to 1.5 g/t Au and 1 to 3 g/t Ag Panteleyev (1995).

8.3 Polymetallic silver/lead/zinc veins

Although not a priority deposit type on the Troitsa Property, polymetallic silver-lead zinc veins are common in the district such as at Coles Creek immediately to the east. Lefebure and Church (1996) describe the deposit type as sulphide-rich veins containing sphalerite, galena, silver and sulphosalt minerals in a quartz - carbonate gangue. Veins occur in peripheral zones of mineralizing intrusions or in the country rocks and are structurally controlled by bother preexisting weaknesses such as regional faults and by imposed structures related to the stress field created by narrow, cylindrical intrusions such as radial and ring fractures. The typical veins vary considerably in width and mineral assemblages along strike and vertically, but are generally narrow from a few centimetres to a few meters wide and up to a kilometer in length. Mineralization can occur as coarse-grained sulphide minerals in pods within quartz veins, and some disseminated sulphides in host rocks.

Mineralization in this deposit type consists of galena, sphalerite, tetrahedrite-tennantite and other sulphosalts including various Cu-Ag sulphosalts, acanthite, native silver, chalcopyrite, pyrite, arsenopyrite, and stibnite. Gold and silver grades are variable and dependent on minerals assemblages silver- bearing tetrahedrite. Gangue mineralogy is composed of primarily quartz and carbonate and may contain specular hematite, barite and fluorite. Alteration is confined to vein margins as clay alteration, but may coalesce in to volumes of chlorite-pyrite around closely spaced veins. As a deposit type at Troitsa the main recognition of this deposit type is for affirming aspects of the porphyry copper deposit model, with which polymetallic veins may be associated. Veins such as the Troitsa East showing (Fig. 66) may be examples of this deposit type.

8.4 Subvolcanic copper/gold/silver veins

The Price showing (Minfile 093E 099; Figs. 4 & 68)) consists of lenses of pyrrhotite and chalcopyrite in volcanic rocks located on the northern extension of the Property. It is postulated to be of the subvolcanic porphyry system origin (Galambos, 2020). The subvolcanic nomenclature refers to a transitional environment to epithermal mineral deposits above a porphyry stock (Panteleyev, 1995) where hydrothermal solution chemistry results in replacement of host rocks by sulphide veins, pods, breccias, or lenses. These deposits commonly contain pyritic, auriferous, polymetallic mineralization with Ag sulphosalt and other As and Sb-bearing minerals. Rhyodacite and dacite flow-dome complexes with fine to coarse-grained quartz phyric intrusions are common. Dyke swarms and other small subvolcanic intrusions are likely to be present. Stockworks and closely-spaced to sheeted sets of sulphide-bearing veins occur within intrusions and as structurally controlled and stratabound or bedding plane replacements along permeable units and horizons in surrounding country rock. Breccia bodies are commonly tens of metres and, rarely, hundreds metres in size. Massive sulphide zones can pass outward into auriferous pyrite quartz-sericite veins and replacements.

Common ore mineralogy consists of pyrite, possibly auriferous, chalcopyrite, tetrahedrite/ tennantite; enargite/luzonite, covellite, chalcocite, bornite, sphalerite, galena, arsenopyrite, argentite, sulphosalts, gold, stibnite, molybdenite, wolframite or scheelite, pyrrhotite, marcasite, realgar, hematite, tin and bismuth minerals. Depth zoning is commonly evident with pyrite-rich deposits containing enargite near surface, passing downwards into tetrahedrite/tennantite + chalcopyrite and then chalcopyrite in porphyry intrusions at depth. The deposits can be quite large such as those at Equity Silver where the bulk mineable reserves were approximately 30 Mt grading 0.25% Cu, 86 g/t Ag and 1 g/t Au. International examples include the Recsk deposit in Hungary where a shallow breccia-hosted Cu-Au ores overlie a porphyry deposit containing ~1000 Mt with 0.8% Cu.

9. Exploration

9.1 Logistics and Methods

The initial phase of exploration by New Energy Metals on the Troitsa Property was undertaken between August 2 and 9th, 2022 based on recommendations of a preliminary version of this Technical Report. The author was able to visit the Property for this full period in the unexpected absence of one of the members of the Bjorkman Prospecting Inc. mapping team. The crew was housed near Smithers and flew to the Property daily in a A-Star B2 helicopter operated by Silver King Helicopters. On most days a drop-off and pick-up were arranged from Smithers, but on a few days Silver King had other business in the immediate area, saving the cost of ferry flights. The weather was generally conducive to helicopter flights, and traverses in steep terrain and observing the geology.

The crew consisted of Jessica Bjorkman (mapper), David Nelles (P.Geo.; geologist), Kenneth Galambos (P.Eng.; geologist and Property owner) and the author. The crew utilized a mapping program called Field Maps®, which is an offline, GPS mapping application developed by ESRI® for GPS-enabled tablets. High-precision Arrow® GPS units were Bluetooth®- linked by Bjorkman Prospecting to their field tablets to enable sub-meter accuracy in data acquisition under most field conditions. The Field Maps program facilitated data collection including in the field tracing of point, linear and areal geological features for incorporation into a GIS program to produce maps. For the Troitsa Property, satellite imagery was installed and downloaded onto tablets for use in the field. The author made use of the program, but additionally recorded coordinates with a Garmin 62s GPS unit and field notes and diagrams in a notebook.

For the purposes of this report the author has divided the Troitsa Property into eight reference areas, which are shown in Figure 81 outlining the areas of geological maps drawn by the author. Other reference names have been used on the Property including Minfile showings and logistical zones for current exploration work.

In the author's seven day visit he was able to evaluate several key aspects of the geology of the Property including the Main Zone and drill core from the 2011-2012 Main Zone drilling program, the West showing and geology of that area, the ridge north (North Ridge) of the Main Zone, the vicinity of the Tro showings (South Glacier), and two sectors of the pyritic halo on the east side of the Troitsa stock (East Contact and Pyrite Halo). The author also had opportunities to work with each of the crew member in the field and discuss aspects of the planning and geology in Smithers. The company crew initially focused its work on the Main Zone, sampling and mapping the area of the mineralized dykes (Main Zone), and then on areas along strike to the southeast at the South Glacier and Cirque. The author collected 14 rock samples to verify historical exploration results and eventually sampling by New Energy. The New Energy crew, Nelles and Bjorkman, collected 101 rocks for analysis from eight areas including many of the known showings, but analytical results were not available at the time of writing. Property owner, Ken Galambos, was employed guiding the author and crew to specific sites, and continued some research in geochemical soil sampling lines for "pH analysis" and partial extractions to delineate the track of the Main Zone dykes across a covered interval.

9.2 Geochemical Analyses

9.2.1 Introduction

The author collected and independently analyzed 14 rocks as check samples, of which 8 were completely characterized for whole rock major, trace and rare earth elements. In addition,

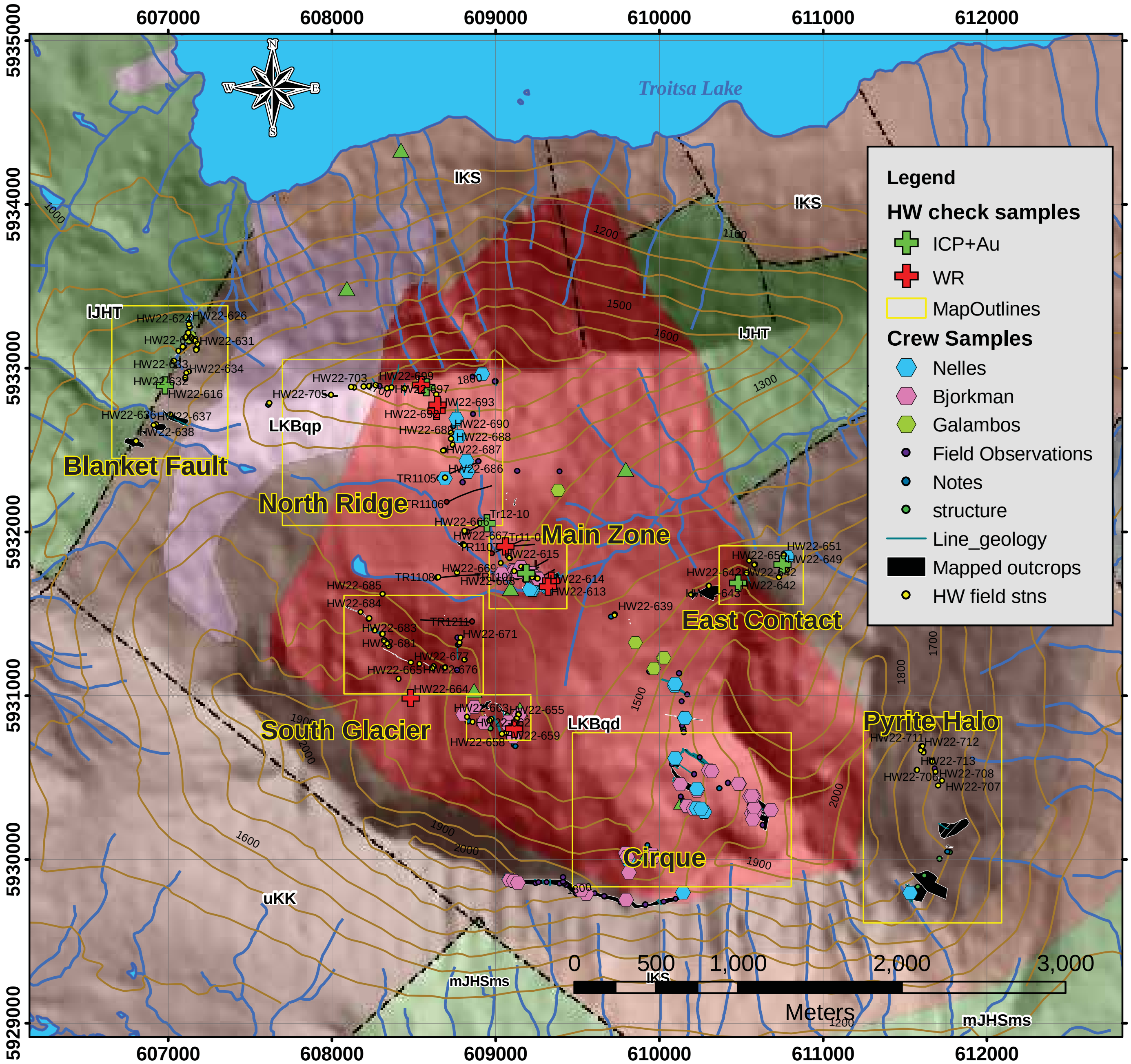


Figure 81: Troitsa 2022 Exploration Summary
The map shows the extent of maps for eight areas that were evaluated in the 2022 exploration program. Rock sample sites are indicated on the map and symbolized by name of the sampler. The author's 14 check samples are divided into igneous rocks analyzed for whole rock lithogeochemistry (red crosses) and veins and mineralized igneous rocks analysed by trace element methods. Mapped outcrops, both by the author and the New Energy crew, are shown in black. Geological details of the mapped areas are shown in individual maps for each area . Mapped features are principally dykes cutting the Troitsa stock or surrounding Kasalka volcanic rocks. The background Property scale geology is the same as in Figure 52 in Item 6.
Drawn by the author in ArcGIS 9.3, November, 2022.

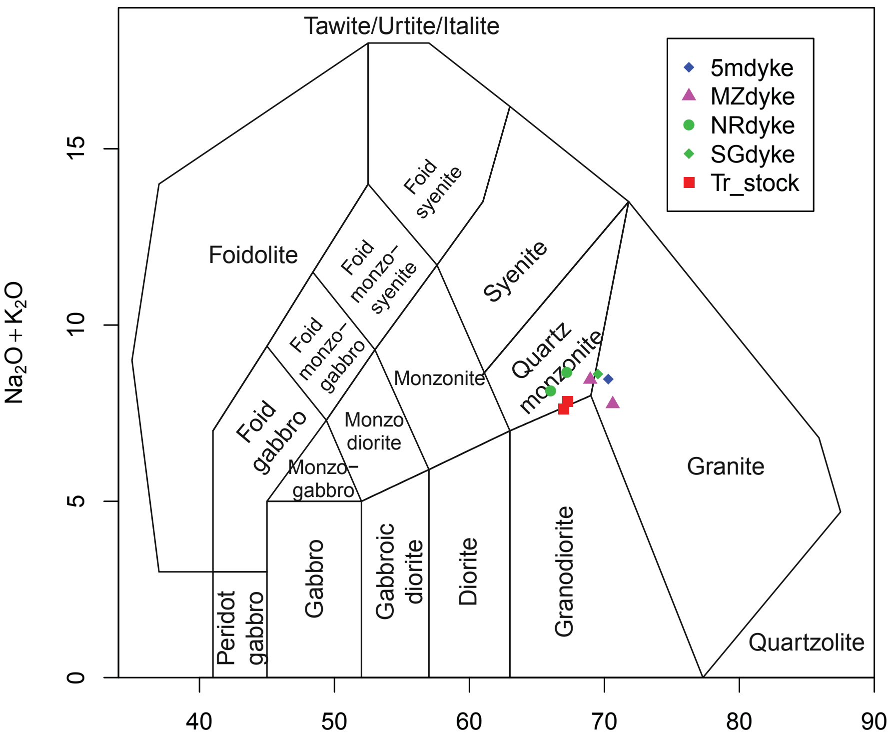


Figure 82: Total Alkali-Silica Diagram for 8 Troitsa Granitoids
The TAS diagram is a standard compositional classification diagram for plutonic rocks designed by Middlemost (1994).
The author's whole rock samples were divided into 5 groups symbolized in the legend: "5mdyke" is a small mineralized FP dyke mapped downstream of the Main Zone dykes ("MZdyke"). "NRdyke" refers to two porphyritic dykes along strike of the Main Zone dyke high on the North Ridge. "SGdyke" refers to a hornblende phyric grey dyke in the South Glacier area. "Tr_stock" are two samples from the Main Zone dykes.

all of the 14 rocks were analyzed by two other methods, one utilizing strong 4 acid digestion and the other aqua regia, with measurements by ICP mass spectrometry at ALS Geochemistry. Two of the author's samples were from drill core stored at the Coles Creek camp and consisted of random segments of previously sawn and sampled mineralized intervals of the Callinex drill core. The remainder of the author's rocks were grab samples from veins, and mineralized and unmineralized granitoid rocks of dykes and the main Troitsa stock.

The analytical results for the author's check samples corroborate historical values for copper and other elements of economic interest in mineralized rocks on the Troitsa Property. Whole rock analyses of 8 granitoid rocks including a sample of the main stock all have similar compositions with narrow range on a Total Alkali Silica diagram (Figure 82) around the intersection between the granite, -granodiorite and -quartz monzonite fields.

9.2.2 Lithogeochemistry

The whole rock data indicate a narrow range of compositions for the stock and dykes, which suggests they area all derived from a common parental magma. Field classification of the coarser grained granitoids involved estimations of modal percentages of quartz, orthoclase, plagioclase and various mafic minerals including biotite and hornblende. Various classification names resulted including granodiorite, quartz monzonite, monzodiorite, hornblende diorite, quartz diorite and granite requiring some rationalization. Cawthorn (1973) concluded in his thesis on the stock that the rocks were mainly biotite granodiorites with very little compositional variation. The various finer grained dyke phases are somewhat more difficult to accurately classify by modal mineralogy and are mainly classified by phenocryst phases. Compositional classification schemes are less subjective by attempting to replicate modal mineralogical classifications.

The most common classification diagram in current use is from Middlemost (1994) and involves only the alkalis and silica in the Total Alkali Silica (TAS) diagram. It is susceptible to the mobility of alkalis by hydrothermal alteration typical of porphyry copper systems, but nevertheless shows the narrow range of compositions near the join between the fields for quartz

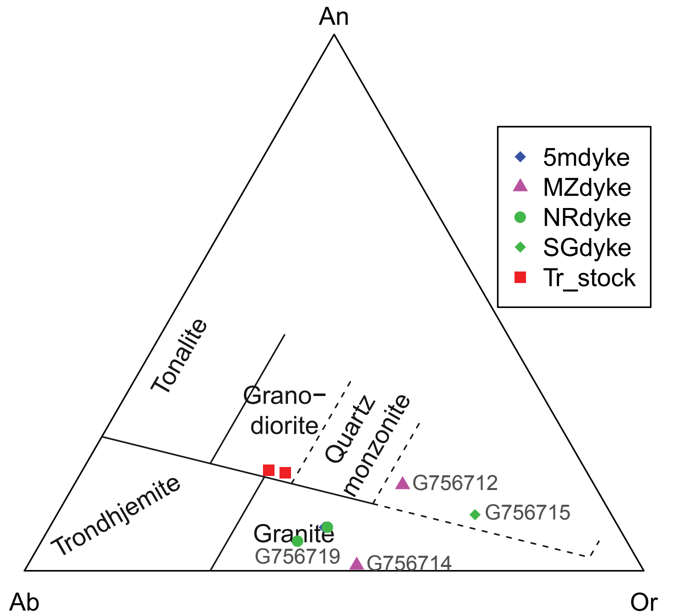


Figure 83: Feldspar Triangle
Sample chemistry is used to calculate normative feldspar compositions for albite (Ab), orthoclase (Or), and anorthite (An). Fields are defined by O'Connor, (1965) to correspond to modal classifications of granitoids. O'Connor, (1965). Two stock rocks "MZstock" plot together in the granodiorite field; dykes in the granite field and an unnamed adjacent field.

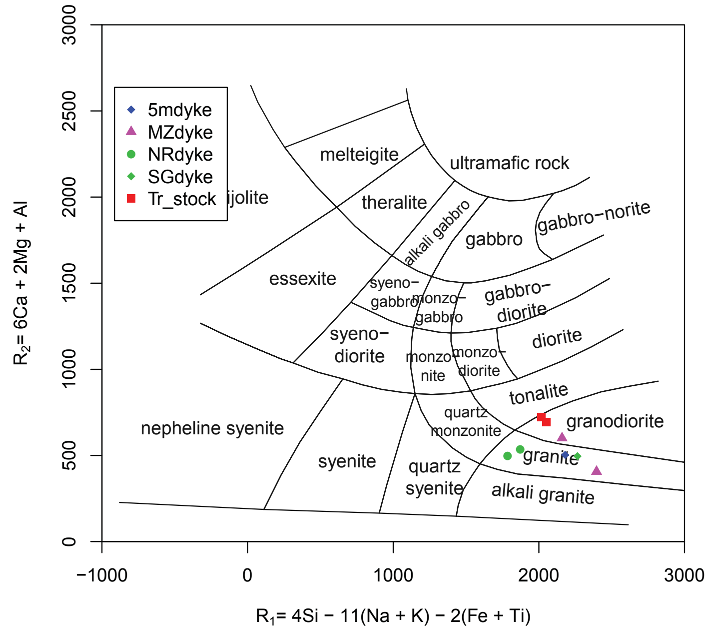


Figure 85: R1-R2 Plot
The diagram shows the distribution of Troitsa stock, Main Zone, North Ridge, and South glacier dykes in a classification diagram employing most major elements (De la Roche, 1980). Most of the dykes plot in the granite field, the stock plots in the granodiorite field.

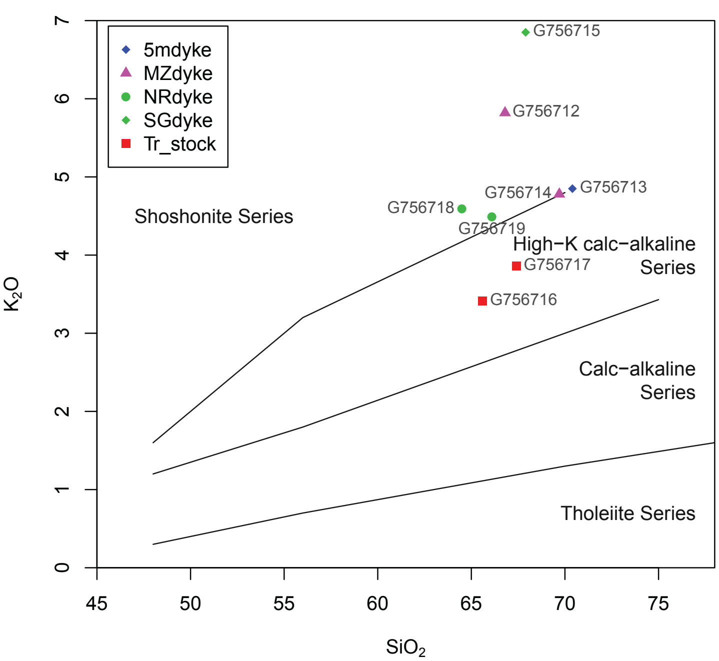


Figure 86: K_2O-SiO_2 binary
The classification diagram of Peccerillo and Taylor (1976) is mainly for arc volcanics, but shows an unlikely broad range of K_2O for the Troitsa stock and dykes suggesting K_2O mobility or potassic alteration.

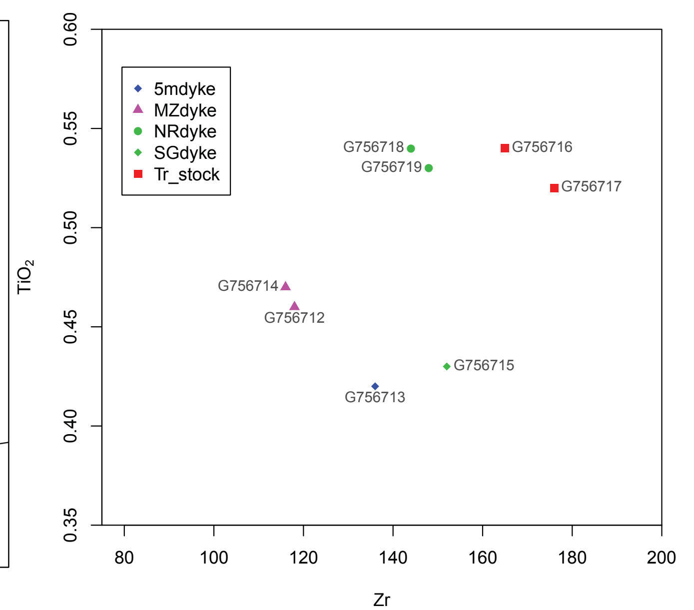


Figure 84: Zr-TiO_2 binary variation
The tight grouping of points for each of the units, Troitsa stock (Tr_stock), the North Ridge dykes (NRdyke), and Main Zone dykes for immobile elements Zr and Ti confirms that compositional differences of more mobile major elements in other classification diagrams are not just related to hydrothermal alteration. Plotted by the author in GCDkit4.1 (Janousek et al., 2006), November, 2022.

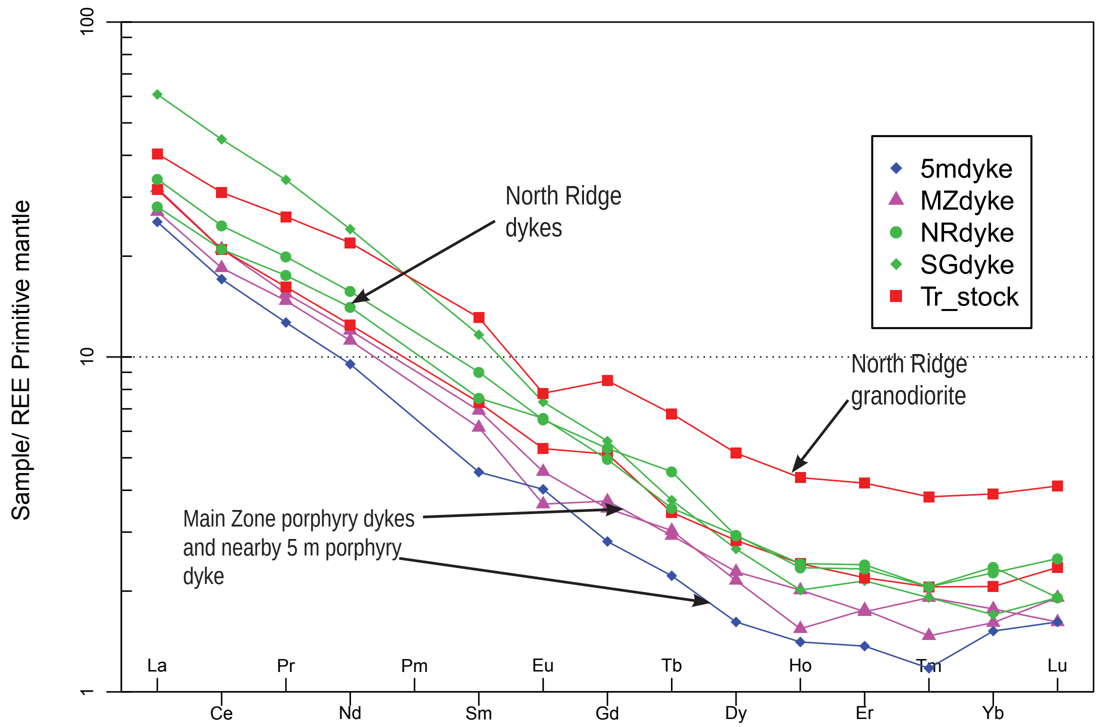


Figure 87: Troitsa granitoids: REEs Primitive mantle-normalized spider diagram
The diagram plots the REEs in order of increasing magmatic compatibility. The profiles are sensibly parallel caused by higher degrees of plagioclase fractionation for higher lines. Identical compositions are shown for the pair of Main Zone dykes (MZdyke), and the pair of North Ridge and the South Glacier dyke (green). The two Troitsa granodiorite have parallel patterns, but relatively widely separated and both show slight Eu anomalies indicative of plagioclase fractionation in a source region below 40 km.

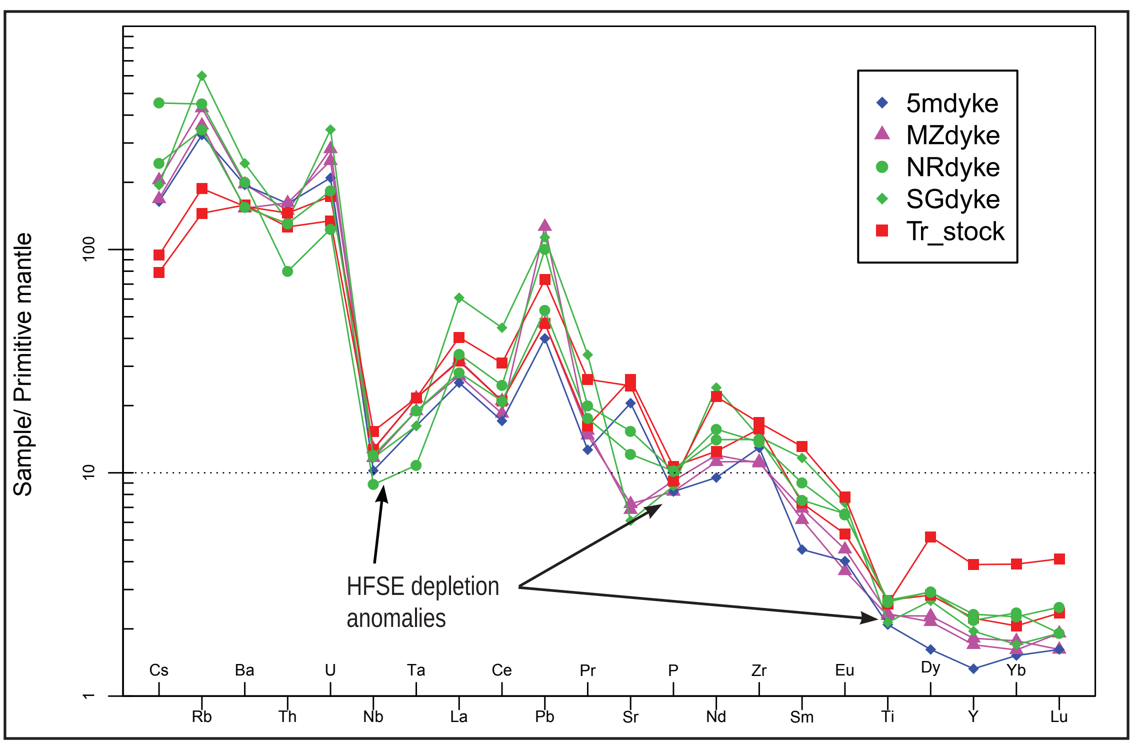


Figure 88: Troitsa granitoids spider plot: primitive mantle normalized
The profiles all are distinctive patterns diagnostic of volcanic arc /subduction magmatism exemplified by the depletion anomalies for HFSEs Nb-Ta, P, and Ti, and the enrichment in Pb. Sr is depleted in the two Main Zone dykes and the South Glacier dyke indicative of partition into residual plagioclase in the source region.

monzonite, granodiorite and granite in Figure 82. More complex classification schemes involving more major elements included the Feldspar Triangle of O'Connor (1965) shown in Figure 83, which makes use of CIPW normative albite-anorthite-orthoclase feldspar calculations, and the R1-R2 Plot of De la Roche et al, (1980) (Figure 84), which involves several major elements in addition to Si, K and Na including Ti, Fe, Si, Mg, Al, and Ca. These are also susceptible to hydrothermal alteration, but may help to resolve the differences in classification by composition. In the Feldspar Triangle (Fig. 83), the two Troitsa stock samples plot near each other in the "granodiorite" field despite being sampled 2 kilometers apart. The Main Zone dykes also plot close to each other but distinctly in the granite field, while the North Ridge and South Glacier dykes scatter across the granite and an adjacent unnamed field. The R1-R2 diagram is similar to the Feldspar Triangle in classifying the Troitsa stock as granodiorites, and place the dyke rocks mainly in the granite field.

Notably, the range of compositions appears to be representative of the units sampled as supported by nearly identical plotting positions on the three classification diagrams for the two Troitsa stock samples, the two Main Zone dyke samples and the two North Ridge dyke samples. The same effect is corroborated by binary plots of less mobile high field strength elements (HFSE) including Zr and Ti shown in Figure 85. The rocks can be postulated to have been derived from a common parental magma by varying degrees of fractionation. REE patterns on spider diagrams are diagnostic of calc-alkaline volcanic arc magmatism with strong LREE enrichment in a primitive mantle normalized REE plot of Figure 87, and Nd-Ta depletion anomalies in the primitive mantle normalized plot of REEs and other incompatible elements in Figure 88. The tight grouping of samples from each area (Main Zone dykes, vs North Ridge dykes) highlights compositional differences between different groups, but an important corollary is that the Troitsa stock and the mineralized dykes are related and led to the to development of a porphyry copper system.

The prospectivity of the magmas can be assessed relative to a world-wide survey of arc magma compositions based on the particularly selective ratio of V:Sc plotted against a differentiation index such as SiO_2. The base plot in Figure 89 is a comparison of fertile and barren arc magma by Loucks (2014) on which the whole rock values from the Troitsa rocks has been plotted. showing good alignment with the field of highly productive porphyry copper deposits. The basis of the plot is that vanadium partitions strongly into titanomagnetite while scandium (Sc) along with Titanium (Ti) and Yttrium (Y) partition even more strongly into hornblende once the melt reaches the saturation point for either mineral. The effect of the partial pressure of H_2O on mineral saturation and therefore crystallization is explained in a P-H_2O vs Temperature plot in Figure 90 from which it can be inferred that at high P-H_2O, or hydrous melts preferential for porphyry copper magmas, hornblende will crystallize prior to magnetite. Hornblende crystallization depletes the melt in Fe^{3+} and Fe^{2+} required for magnetite and thus can delay or suppress magnetite crystallization. Meanwhile, vanadium (V), which partitions strongly into magnetite, will accumulate in the melt in the absence of crystallizing magnetite and the combined effect on the melt is to increase the V/Sc ratio with progressive differentiation resulting in high V/Sc in felsic magmas such as the Troitsa stock and the various dyke phases. Essentially the V/Sc ratio is a proxy for the high fluid levels required to maintain copper enrichment in a magma, although for alkalic magmas associated with gold-rich copper gold porphyries the high potassium levels suppress hornblende leading to lower V/Sc ratios similar to barren arc rock rocks.

9.2.3 Mineralized Rock Geochemistry

In addition to the eight granitoid samples analyzed primarily by whole rock methods, six rocks were analyzed mainly for mineralization and secondarily for lithogeochemical data available by partial extractions used in prospecting and drill core sample analysis.

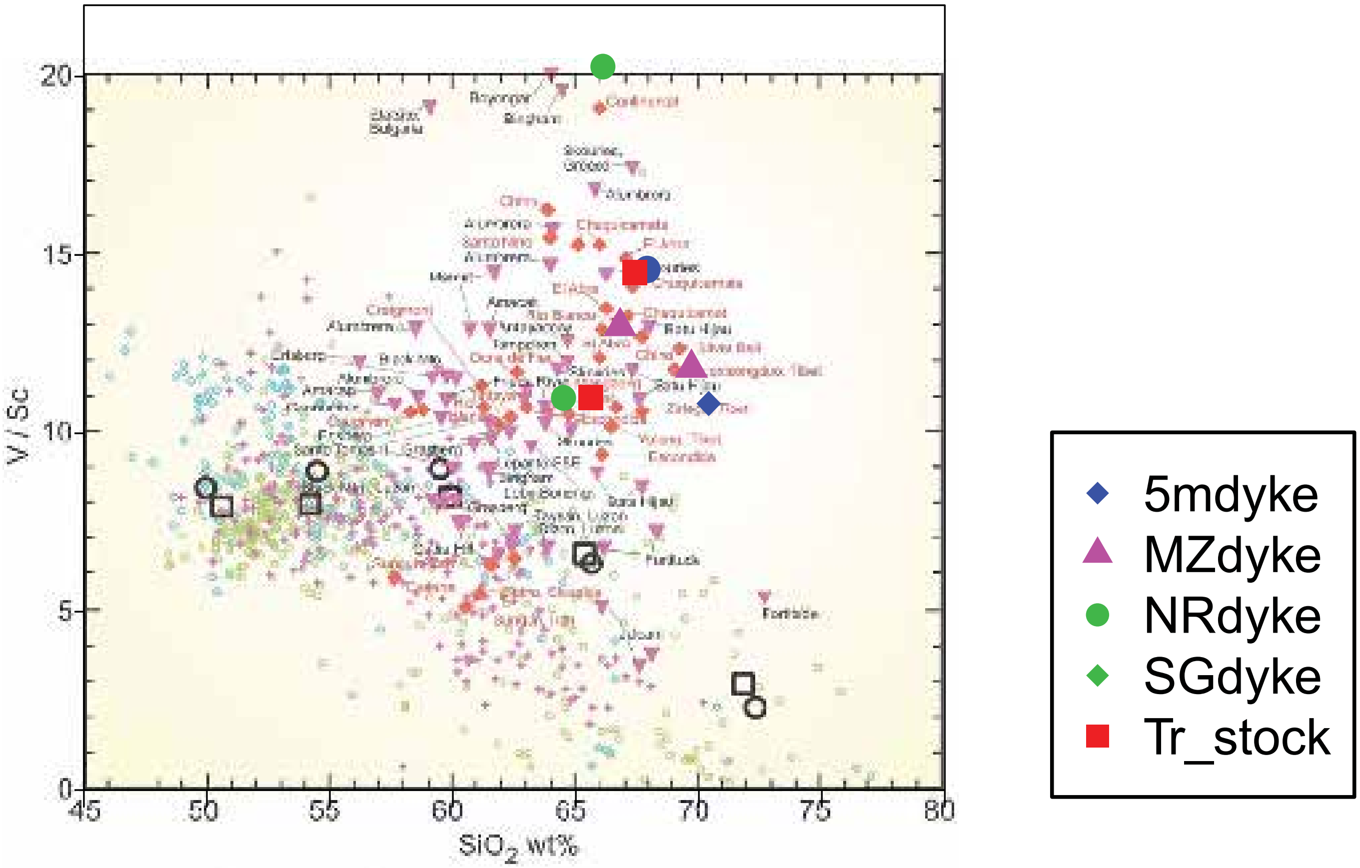


Figure 89: Copper Fertility of Arc Magmas: V/Sc vs SiO2
Whole-rock V/Sc is highly selective for Cu ore-forming fertility. Average basalt, basaltic andesite, andesite, dacite and rhyolite in late Cenozoic circum-Pacific arcs (heavy grey squares and circles) represent the usual magmatic-differentiation trend of igneous suites that are unprospective for Cu-dominant ore deposits. All intrusive felsic porphyry suites having V/Sc > 10 are unambiguously prospective (magmatically fertile) for large Cu (Au) deposits. Background diagram and caption description from Loucks (2014) with whole rock data plotted in GCDkit 4.1 by the author. November, 2022.

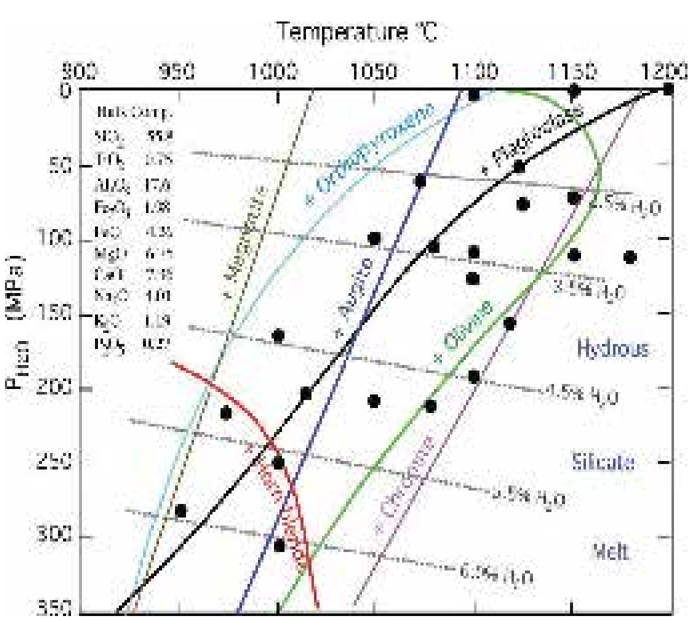


Figure 90: P-T *f*H_2O effect on phenocryst mineralogy (Loucks, 2014)
Varying the wt% H_2O dissolved in the silicate melt strongly affects the order of mineral crystallization from the melt—and consequently the relative rates of depletion or accumulation of various trace elements in the melt—as illustrated by this map of phase assemblages in a series of experiments on a basaltic-andesite arc magma of the composition (“Bulk Comp”) shown in the inset. Each black dot represents an experiment in which the crystallizing mineral assemblage was identified, and the melt’s content of dissolved H_2O (dotted grey contours) was determined from the composition of the quenched glass. At P-H_2O = 0 (dry), the crystallization order of silicates from the cooling melt is plagioclase first, followed by olivine, orthopyroxene and then augite. At P-H_2O > 350 MPa and > 6.5 wt% H_2O dissolved in the melt, plagioclase is the last of those silicates to crystallize, and hornblende is first. Saturation curves for magnetite and orthopyroxene in the hydrous melts are based on lower-temperature experiments.

	Sample	Station	Description	Cu-61	Mo-61	TiWR	Ti-61	Ti-41	Zr-WR	Zr-61	Zr-41
1	G756701	HW22-602	MZ BFP dyke	8440	24.4		0.23	0.003		37.1	3.8
2	G756702	HW22-616	West showing	6510	6.1		0.44	0.059		71.3	3.0
3	G756703	HW22-643	Vein galena	450	64.9		0.05	0.003		3.0	0.3
4	G756704	HW22-650	Vein galena	129	0.6		0.13	0.003		9.5	0.3
5	G756705	HW22-694	Py gossan	2110	3.8		0.18	0.003		12.5	1.8
6	G756706	TR12-10	MZ BFP dyke (core)	9840	15.8		0.24	0.003		48.8	3.1
7	G756712	TR11-07	MZ BFP dyke (core)	5180	37.3	0.28	0.19	0.003	118	41.9	3.9
8	G756713	HW22-611	5 m MZ dyke	1115	85.5	0.25	0.26	0.149	136	29.8	2.3
9	G756714	HW22-613	MZ BFP dyke	2190	37.7	0.28	0.21	0.003	116	37.4	3.1
10	G756715	HW22-656	SG fg hb porphyry dyke	639	4.6	0.26	0.22	0.003	152	111.5	9.7
11	G756716	HW22-664	Troitsa stock	36	0.7	0.32	0.32	0.112	165	14.3	1.3
12	G756717	HW22-691	Troitsa stock	37	1.1	0.31	0.30	0.149	176	19.0	2.7
13	G756718	HW22-692	NR porph dyke	432	0.4	0.32	0.33	0.038	144	119.0	10.7
14	G756719	HW22-695	NR porph dyke	40	0.8	0.32	0.34	0.015	148	53.2	12.1

Table 4: Ti-Zr variability by different geochemical methods
Values for Cu, Mo, and Zr are in ppm, and for Ti in percent. Whole rock Ti values were converted from oxide weight percent for TiO_2 to weight percent Ti. Digestions: "WR" Li-borate fusion, acid dissolution; "61" 4 acid digestions; "41" aqua regia digestion. Note: samples in yellow background are veins.

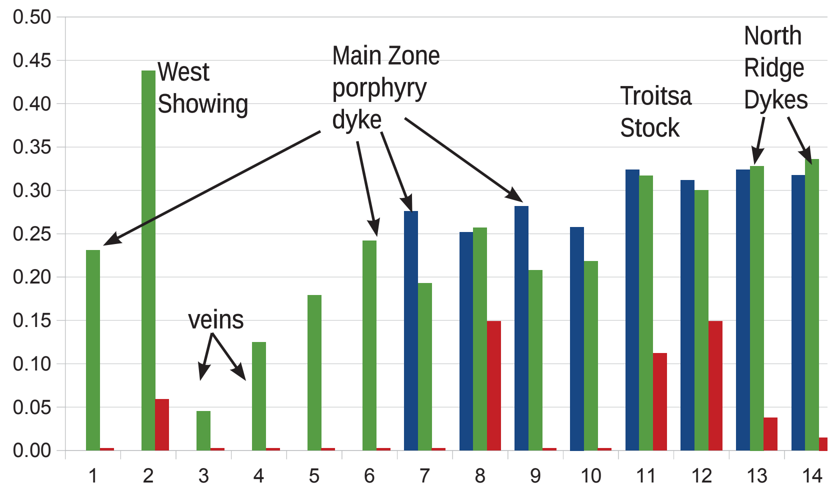


Figure 91: Bar chart comparing Ti measured after different extractions.
Values in the chart are from Table 4. Blue represents analyses of solutions after lithium borate fusion (TiWR: ME-ICP06); green by strong acid dissolution (Ti61 = ME-MS61) and red by aqua regia (Ti41 = ME=MS41). Note the similar total Ti in the igneous rocks and the discrepancy between Ti by fusion or strong acid compared to those by aqua-regia for the samples from the Main Zone mineralized dyke in columns 1, 6, 7, and 9. Samples from less altered rock of the main stock and other dykes all have much higher aqua regia extracted Ti relative to 4 acid extraction values.

	Cu-61	Cu-41	Ag-61	Ag-61	Au-41	Au-AA23	Mo-61	Mo-41	Te-61	Te-41	Bi-61	Bi-41	W-61	W-41	As-61	As-41
1	8440	8420	3.63	3.23	0.01	0.015	24	24	0.44	0.41	1.61	1.52	45.0	6.95	30.0	29.1
2	6510	6570	22.2	23.6	0.33	0.414	6.1	5.6	0.84	0.89	1.77	1.66	1.60	0.18	427	414
3	450	462	87.2	86.5	2.75	3.300	65	69	1.05	1.30	6.08	6.53	4.30	0.10	872	946
4	129	131	93.3	91.0	0.38	0.434	0.6	0.5	0.12	0.15	0.31	0.28	13.7	0.11	10001	10001
5	2110	2050	1.15	0.94	0.01	0.015	3.8	3.1	1.74	1.76	148.	152.	82.3	8.79	67.3	40.8
6	9840	10100	5.38	4.88	0.02	0.118	16	10.	0.67	0.58	4.16	3.24	194	126	24.0	20.4
7	5180	5510	1.82	1.80	0.01		37	36.	0.17	0.19	0.86	0.81	43.4	16.9	4.5	4.3
8	1115	1120	1.00	0.95	0.02		85	77	0.08	0.10	0.95	0.93	21.5	19.4	3.6	2.3
9	2190	2280	1.82	1.86	0.01		38	37	0.14	0.15	1.94	1.98	118	81.1	3.7	1.4
10	639	663	2.11	2.08	0.01		4.6	4.4	0.42	0.37	18.9	21.5	8.70	0.13	2.7	1.4
11	36	36	0.06	0.05	0.01		0.7	0.5	0.03	0.01	0.44	0.38	1.00	0.43	1.0	1.1
12	37	37	0.10	0.09	0.01		1.1	0.9	0.03	0.01	0.20	0.16	1.70	0.66	2.5	2.3
13	432	444	0.47	0.46	0.01		0.4	0.3	0.22	0.23	22.3	24.4	4.90	0.70	3.5	2.9
14	40	37	0.10	0.09	0.01		0.8	0.6	0.18	0.16	2.10	1.97	10.2	0.51	2.9	1.8
		1.3%		**3.6%**		**NA**		**8.2%**		**11%**		**5%**		**61%**		**13%**

Table 5: Mineralizing-Element Assays
The table shows selected element assays, numbered as in Table 4, comparing analytical values by ME-MS61 (4 acid strong digestion) with ME-MS41 (aqua regia), and for gold by ME-MS41 against Au-AA23 (fire assay). Pink fill indicates the 20 meter Main Zone porphyry dyke, blue the Troitsa stock granodiorite, and yellow, ferroan carbonate - galena - sphalerite veins. Pb and Zn are not shown in the table because they are low except in the two carbonate-galena-sphalerite veins. Similar values for aqua regia and 4-acid digestions are evident from the calculated average percentage difference shown in the bottom row (except W which is less by an average of 61%), which result from the relative solubility of sulphide minerals.

Two of the 4 samples from the 20 meter Main Zone FP dyke and the sample from the 5 meter FP dyke were analyzed by whole rock methods for complete characterization of major elements, REEs and trace elements particularly high field strength elements such as Zr useful in accurate classification. All five rocks were also analyzed using aqua regia and strong 4 acid digestions to compare with results from the drill program and evaluate partial dissolutions of various elements useful in lithogeochemistry. Analytical results for the author's 4 samples from the 20 meter Main Zone FP dyke show copper concentrations ranging from 2190 to 9840 ppm with a mean of 6412 ppm and corroborated by the additional two analytical methods. The 5 meter dyke sample graded 1115 ppm Cu.

The check samples corroborate the grades of copper and silver in the drill holes intersections from the Callinex 2011-2012 drilling program. The main FP dyke intersection in Tr11-07 from 10.92 to 33.89 meters (HQ core; total weight over 100 kg) assayed an average of 6407 ppm Cu and 4.3 g/t Ag and 11 of the 14 individual 2 meter core samples ranged between approximately 5000 and 8000 ppm. The two analyses from the check sample gave 5180 and 5510 ppm Cu, which is in reasonable agreement given the 3.1 kg sample size compared to the over 100 kg of rock analyzed from the HQ core. Similarly, the dyke intersection in Tr12-10 was assayed with an average of 8520 ppm Cu over 12 samples (NQ core total wt 51.5 kg) ranging between 1896 and 14580 ppm Cu each 2 meters in length and compares reasonably with the check sample grades of 9840 and 10100 ppm Cu (NQ core wt 1.2 kg) The check sample from the upper Main Zone consisted of several fist sized grabs and assayed 8430 ppm Cu and 3.43 ppm Ag (two analyses). The corresponding nine channel samples ranged from 4310 to 9391 ppm Cu and 2.4 to 19.5 ppm Ag, which average 6260 ppm Cu and 5.96 ppm Ag. The comparison is reasonable considering that the channel sample total weight was 43 kg, while the check sample was only l.36 kg. Considering that the check samples weighed on a few percent of the original continuous sample's weight, either from channels or core, the correspondence is remarkably good.

Other check samples can only be compared to a mix of grab and chip samples from prospecting by Callinex. Of the Callinex samples, the West showing is the most closely replicated by a check sample because of the small area of the showing. The Callinex sample 147020 reported 8148 ppm Cu, 27 ppm Ag, 6.7 ppm Mo, and 375 ppb Au. The check sample, #2 in Tables 4 and 5, reported 6540 ppm Cu, 22.9 ppm Ag, 5.8 ppm and 414 ppb Au, which closely a a reasonable match give that the check sample consisted of several small grabs of readily breakable material.

In addition to confirming the copper grades cited in the Callinex drill program, the author's lithogeochemical data confirm the Zr-Ti characterization of the mineralized FP dyke by the author in Item 6. The Callinex core was mostly analyzed using a method involving aqua regia digestion. To rationalize the unusual Ti values in some mineralized intervals the author's samples were analyzed using three different digestion methods: Li-borate fusion, which should give a near 100% response for both elements; strong 4 acid digestion, which should give a partial response for Zr and near total for Ti, and aqua regia, which would be expected to give a partial dissolution dependent on mineral species hosting Ti and Zr and degree of crystallinity. All three methods confirm the same grades of copper and other sulphide hosted metals, but significant differences in extractions for Zr and Ti. The analytical results show Zr and Ti by ME-MS61 (4 acid digestion) are close to the fusion values in CCP-Pkg01, but significantly higher than values for Zr and Ti using aqua regia in ME-MS41. In the Callinex drill core assays (aqua regia) the Main Zone 20 meter FP dyke was distinctive in having anomalously low Ti compared to the surrounding granodiorites and other dykes in the drill core. This distinction is repeated in the current aqua regia digestion results for Main Zone 20 meter dyke, which reported Ti below detection limit of 0.005%, which is in contrast with much higher values in less mineralized dykes and the Troitsa stock for which aqua regia Ti values range up to 0.149%. The low Ti by aqua regia indicates that Ti is in a resistive mineral, probably rutile, whereas higher Ti reported in aqua regia analyses probably indicates sphene or ilmenite as the Ti mineral. Low Ti by aqua regia in reported consistently in the MZ 20 meter dyke, but not in the lesser mineralized 5 meter dyke or the Troitsa stock. The difference in mineralogy of the well-mineralized dyke may have resulted from the higher oxidation conditions of potassic alteration observed by Cawthorn (1971), stabilizing rutile and associated with the prevalence of sulphide mineralization.

However, a relatively unmineralized dyke from the South Glacier area, with only 639 ppm Cu, also shows Ti below detection for aqua regia, but 0.26% Ti by fusion and 0.22% by 4-acid. Texturally, the dyke has little evidence of potassic alteration, but whole rock analysis shows unusually high K_2O of 6.85 wt%, and low Na_2O of 1.56%. If these alkali element values were primary and magmatic, they would be diagnostic of a strong shoshonitic or alkaline tendency, but Late Cretaceous magmatism across the Skeena Arch (Bulkley Suite and Kasalka Group) is generally calc-alkaline with only borderline alkalic tendencies (see Figs. 46 and 47 in Item 7). The Troitsa stock K_2O values are only 3.4 and 3.9%, four of the other dykes range between 4.5 and 4.9%, and the highest copper grade Main Zone dyke has 5.8% K_2O. Thus it appears that the exceptionally high K_2O values are likely the result of potassic alteration, during which Ti was recrystallized as rutile, resulting in the low reported Ti by aqua regia.

Another interesting rock sample with low Ti by aqua regia and moderate grade of copper (average 2080 ppm; Table 4) was collected from a pyritic alteration zone in an unidentified granitoid on the upper slopes of the North Ridge. Potassium was measured by ME-MS61 at 3.74% K, similar to the two North Ridge porphyry dyke (3.84 and 3.91% K), higher than values for the Troitsa stock (2.89 and 3.16% K), but lower than the mineralized porphyry dykes of the Main Zone, which range between 3.93 and 4.67 % K and the exceptional South Glacier dyke discussed above at 5.72% K (or by WR 6.85% K_2O). This rock has unusually high Bi and Te (analysis 5 in Table 5), which are generally indicative of magmatic-hydrothermal fluids in porphyry and epithermal systems. Te is 1.75 ppm (Table 5) compared to a range from 0.1 to 0.67 ppm and Bi is 150 ppm compared to a range from 0.9 to 22 ppm in the Main Zone and North Ridge dykes. It is not clear from field relations whether the rock was an altered dyke or part of the stock, nor whether the alteration was aligned in one of the north-south structural breaks that cross the ridge.

9.3 Field Area Evaluations

9.3.1 Main Zone

The Main Zone was explored on the first day by the author, Nelles, and Bjorkman guided by Property owner Galambos. The objectives at the Main Zone were to confirm that the high grade copper intervals of the series of channel samples from the 2011 Callinex exploration were mainly within a feldspar porphyry dyke at the core of a larger zone of mineralization, and to determine if the dyke was offset by a fault zone previously mapped in the creek. As well, it was

Figure 92: Main Zone Biotite Feldspar Porphyry Dyke
The dyke outcrop is the finely broken, orange weathering rock between the snow patch and the blue pack, which measures about 20 meters. A subhorizontal, spaced fabric is present in the dyke. The coarsely blocky outcrops on either side of the dyke are Troitsa granodiorite cut by quartz chalcopyrite veins parallel to the joints aligned along the line of sight. Photo by the author August 3, 2022.

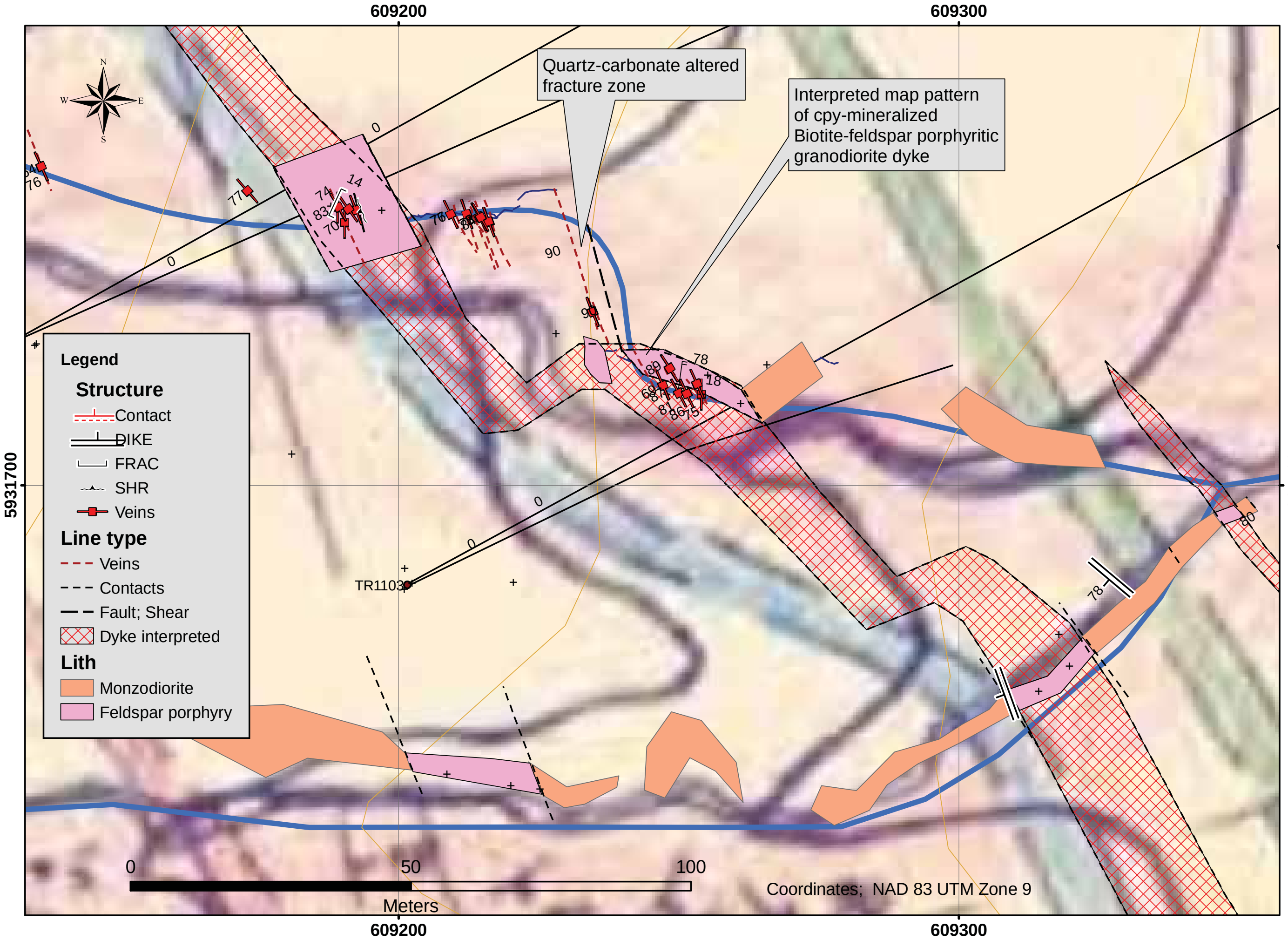


Figure 93: Main Zone Mineralized Biotite Feldspar Porphyry Dyke
The maps shows a possible trace of the Main Zone mineralized FP dyke. The map superimposes current mapping, shown as coloured polygons, on the hand-coloured geological map of Silver Standard Mines Ltd from 1967. The Silver Standard map was georeferenced using a rubber sheeting technique of many approximate geographic features, but clearly does not line up along the distinctive "S" bend in the northern creek. However, the map pattern of the dyke shows a lateral offset of the dyke offsetting consistent with its identification in drill core intersections and the channel samples. The altered fracture zone in the N-S segment of the creek does not appear to have any fault displacement because outcrops of the dyke appear adjacent to each other across the structure.

an opportunity to compare observations of rock types and structures.

Some observable characteristics of the dyke distinguished it from the granodiorites of the intruded Troitsa stock, but generally the contacts were obscure and the texture not distinct. However, a prominent sub-horizontal wavy jointing fabric at centimetre-scale spacing was notable throughout the outcrop of the dyke regardless of the degree of alteration or oxidation. The origin of this fabric is not known. The dyke is also distinguished from the intruded stock by the common presence of chalcopyrite blebs up to 5 mm that have apparently replaced biotite or hornblende. Centimetre-wide quartz-chalcopyrite veins were notable in the mineralized zone along the creek, but mainly outside of the porphyry dyke. However, one large quartz-chalcopyrite vein was mapped in the porphyry dyke.

In Item 6: History, the author correlated highly mineralized feldspar porphyry dyke intersections in the 2011 and 2012 drilling programs at the Main Zone with the high grade

Figure 94: Fracture zone in Main Zone creek
The orange weathering rock in the center of the creek is a zone of carbonate filled fractures striking 162° (yellow dashed line). The fracture zone cuts the dyke, but outcrop of mineralized dyke rock occur adjacent on both sides of the creek near where Nelles and Bjorkman are standing. The trend of a possible fault zone aligning with rusty lineament on the North Ridge is closer to 010°, implying that these veins may be shallow angle shears or veins in a riedel shear system.

channel sample intervals at the Main Zone and postulated that the downstream set of high grade channel samples had intersected a structural repetition of the same dyke. From mapping along the creek exposures of the channel samples there was no observable offset along an altered structure presumed to be a fault. The track of the mineralized dyke is nevertheless offset between the two channel sample series, but it may just curve or have offset along cross fractures when it intruded dilatant jogs in the Troitsa stock granodiorite. The path of the dyke could conform to the Silver Standard map shown in Item 6: Figure 58. Apart from intersections in drill core, the dyke was not found in outcrop outside of two creek canyons so it was impossible to trace its exact path or determine if it was offset along unexposed faults. However, mapping by the author of other dykes in well exposed areas of the Troitsa stock showed a pattern of repeated 10 to 20 meter intrusive offsets of felsic dykes along pre-existing fracture sets at intervals along the strike of the dykes of approximately 100 to 200 meters, which suggests that a similar pattern may have occurred during intrusion.

The 20 meter Main Zone dyke was sampled by the author at two surface locations, one in the upper channel sample series zone where sample G756701 graded 8430 ppm Cu (Tables 4 & 5), and a second in a presumed continuation of the dyke in outcrops along a parallel creek 100 meters southeast where sample G756714 graded 2190 ppm Cu. The author also sampled the dyke from drill core intersections in drill holes TR11-07 (Cu 5390 ppm average of 2, #7 Table 5) and TR12-10 (Cu 9970 ppm average of 2 Sample #6 Table 5), stored at the Callinex camp near Coles Creek. Several samples of the main dyke were also taken by New Energy at locations of veins symbolized in Figure 93, but analytical results were not available at time of writing. The author also sampled a 5 meter wide mineralized dyke that has a similar texture to the Main Zone FP dyke and with similar clots of chalcopyrite (Cu 1115 ppm #8 Table 5). It was located down stream near the confluence with a larger creek to the southeast and continuous to outcrops in a creek to the south. All of the samples were effectively a collection of random grabs: The drill core samples consisted of about eight 10 cm long pieces of previously split-sawn core selected somewhat randomly over the full intersection of the 20 meter dyke. The outcrop samples consisted of about 5 fist sized chunks selected across the width of the dyke, avoiding some widely spaced 1 cm quartz-chalcopyrite veins.

9.2.2 North Ridge

The North Ridge area is a prominent east-west oriented ridge overlooking Troitsa Lake (Figure 95) that lies immediately north of the Main Zone and on the strike of several dykes mapped or drilled and the general trend of the more broadly mineralized zone around the dykes. A covered interval at the base of the ridge obscures the connection to the Main Zone outcrops, but some continuity can be inferred from IP survey results. The objective of exploring the ridge was to determine the nature of several rusty lineaments that are assumed to be faults, and to examine the continuity of mineralized dykes. The east end of the ridge was traversed by Nelles and the west side by the author on separate days.

The ridge exposes the northern sector of the Troitsa stock where it is overlain by, or intrudes a thick sill-like complex of rhyolitic rocks on the west flank of the ridge. Numerous dykes of various lithologies were mapped by Silver Standard Mines in 1967 and Aston Mining

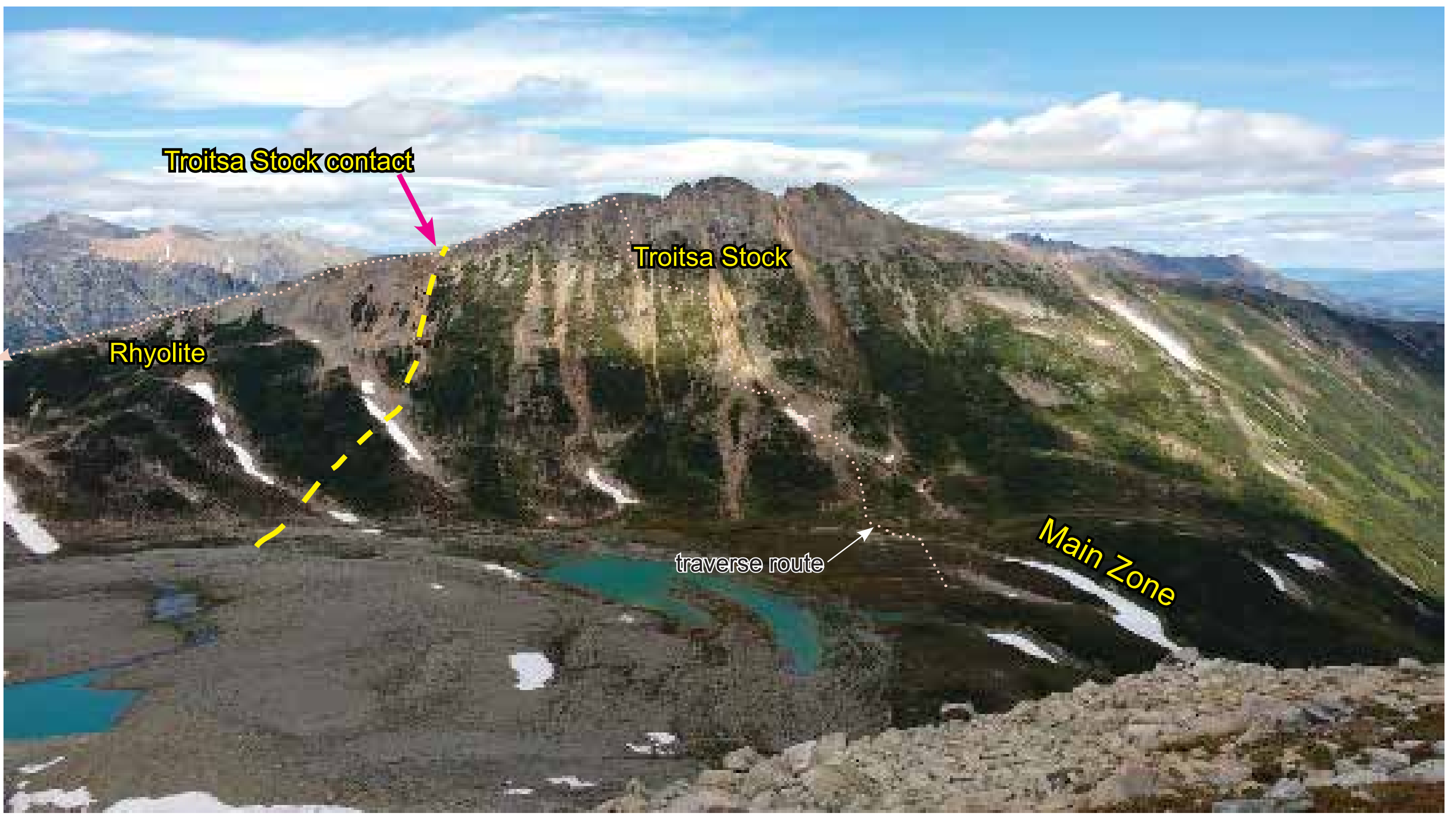


Figure 95: North Ridge viewed from the South Glacier area.
The Troitsa stock outcrops along the rugged central spine of the ridge and is in contact with a rhyolitic complex on the left at the red arrow. The stock contact in yellow dashed line is approximate. The flat middle ground in front of the ridge is a complex of glacial end moraines and small intervening lakes. The Main Zone drill fence runs between the two snow patches filling creeks draining to the right of the lakes. Photo by the author, August, 2022.

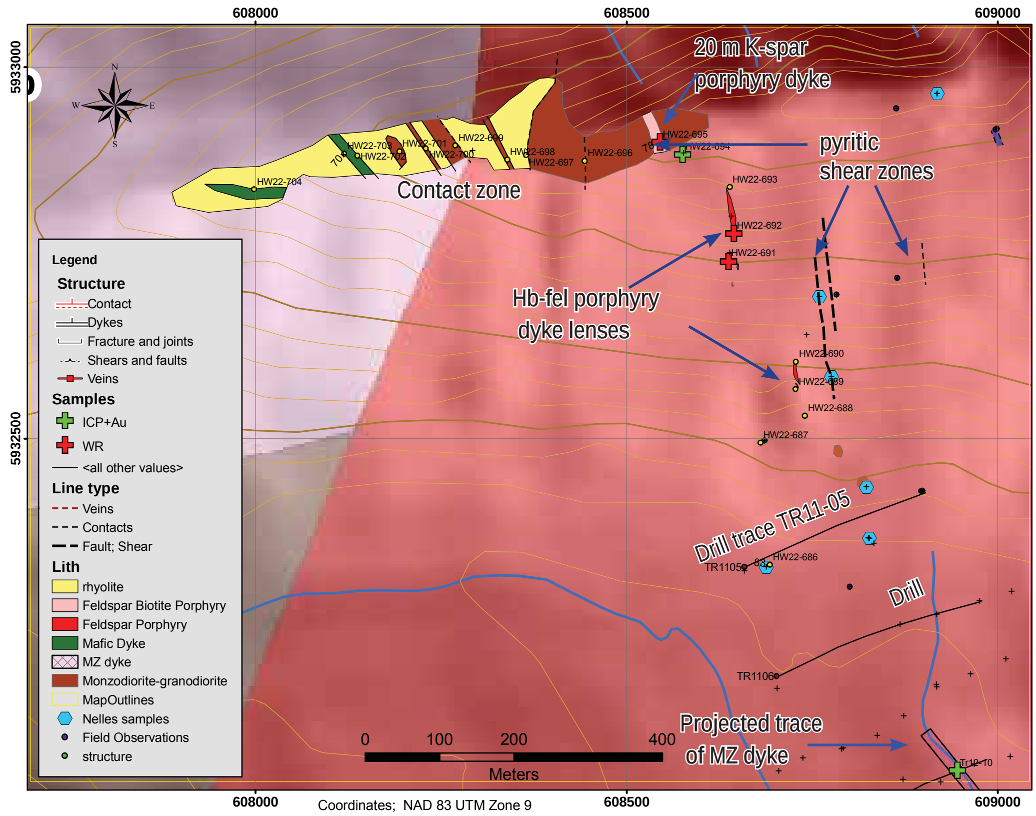


Figure 96: Geology of the North Ridge
The map uses the current BCGS provincial-scale geological map of Figure 55 as background. Mapping by the author along the ridge crest is in near continuous outcrop showing numerous dykes and intrusive contacts. The Main Zone drilling is at the base of the slope on the right. Several pyritic shears zones are expressed as rusty talus chutes and on the south face cols on the ridge crest (photo Figure 93). Mapping by the author and David Nelles, August 2022. Drawn by the author in ArcGIS 9.3 November, 2022

in 1969, including several that were mapped as continuous with mineralized dykes in the Main Zone.

The dykes mapped by the author on the south slope of the ridge formed discontinuous lenses in en echelon arrays (Figure 96). Generally the dykes were unmineralized, but one analysis of a hornblende feldspar porphyritic granodiorite dyke yielded a copper content of 432 ppm (Tables 4 & 5; #13). A pyritic, rusty weathering zone near the ridge crest in altered granodiorite without obvious visible chalcopyrite also ran 2110 ppm Cu (Tables 4 & 5; # 5). The rock was altered to pyrite-sericite and is inferred to be part of one of the north striking shear zones that form visible rusty weathering gulleys or lineaments up the slope to small cols along the ridge crest.

Three whole rock analyses were obtained for three dykes of different textures: a coarsely feldspar porphyritic granodiorite, a grey porphyry and a medium grained biotite feldspar porphyritic granodiorite. All three have similar major element compositions overlapping the granodioritic to quartz monzonitic boundary in TAS diagrams (Figure 82).

9.2.3 Piano Peak - Cirque Zone

The Cirque Zone refers to a Minfile prospect defined as the source of numerous well-mineralized samples from the Callinex Program in 2011 and an area of widespread highly anomalous copper in soil samples from the Aston Mining program in 1970 (Mustard and Cawthorn, 1971). The area is on strike with the mineralized FP dyke at the Main Zone, which may have continuity into the area. Previous work was inhibited by steep terrain and glacial cover.

Two parts of the Cirque Zone, an area at the edge of the steep icefields north of the col between Piano Peak and the South Ridge, labeled on Figure 97, (South Ridge is defined term for unnamed 2200 meter ridge line along the southern margin of the Troitsa Stock) were explored by David Nelles and Jessica Bjorkman in the August 2022 program for New Energy Metals. Initially the South Ridge and the small cirque basin near the col were examined. Many of the Callinex samples defining the Cirque Minfile occurrence were located near the col and the objective of the new exploration was to resample and classify the mineralization. The second area was in very steep terrain below residual icefields on the west side of Piano Peak. A total of 42 grab samples were collected by Bjorkman and Nelles from a variety of mineralized or veined rocks including in granodiorite of the main stock, volcanics and feldspar porphyry dykes.

Figure 97: View looking south towards the Cirque Zone
Photo was taken from the North Ridge looking southeast over the Main Zone towards the Cirque Zone at centre of the field of view (f.o.v.) on August 8 in mid afternoon. The axis of the photo is approximately along the strike of Main Zone and Cirque Zone mineralized dykes. Shadows on the icefields below the South Ridge below the 2200 m ridge the right which is in Kasalka Group volcanics. Piano Peak is on the left with two remnant glaciers. The glacier on the far left crosses the contact of the Troitsa stock and is a hanging glacier above the East Contact area. The South Glacier area is located on the slopes below the icefields at the right of the f.o.v. Traverses in the South Glacier area were started from drop-off points near the small lake at centre.
Photo by the author from the North Ridge, August 8, 2022.

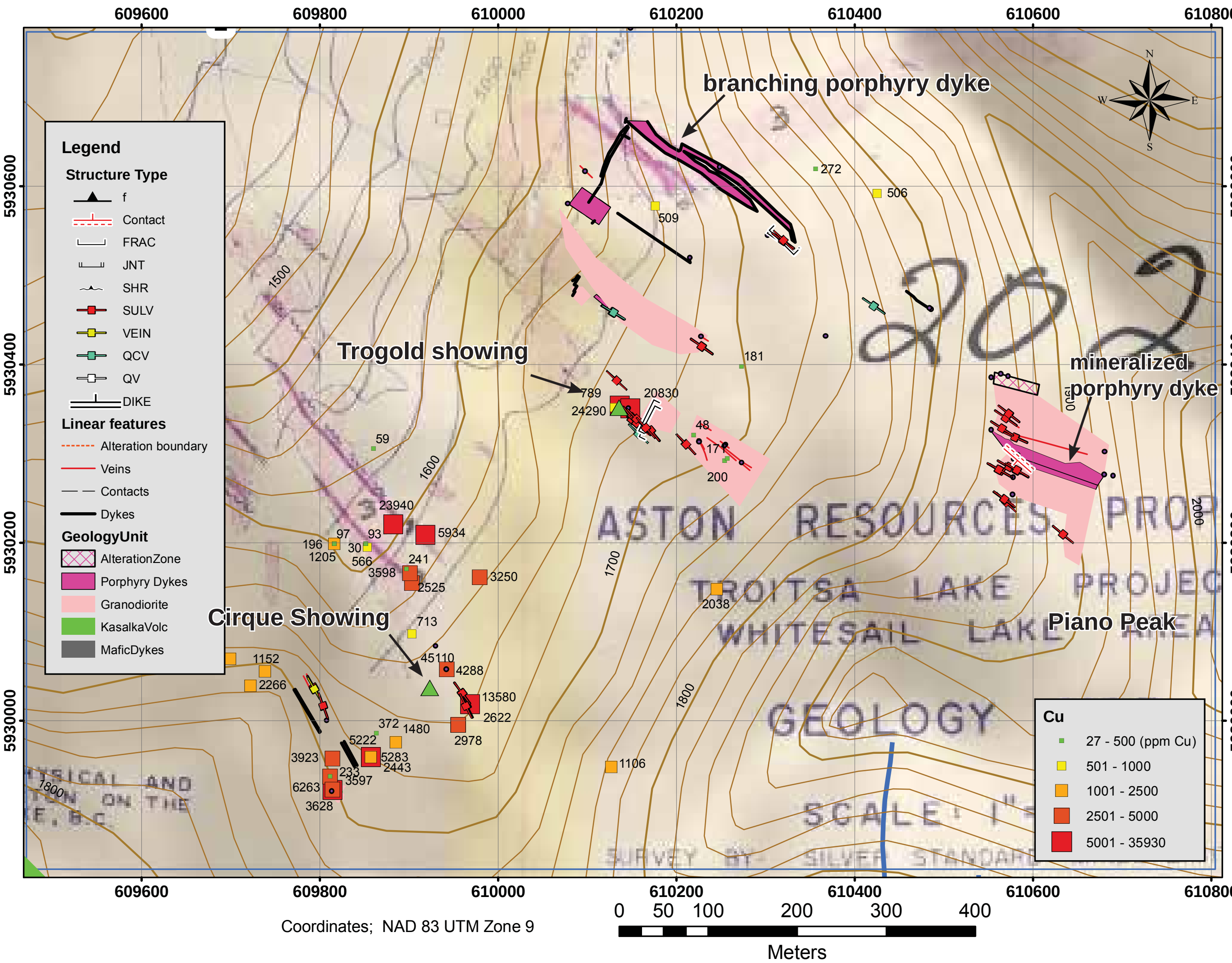


Figure 98: Troitsa Cirque Zone
New mapping by Nelles and Bjorkman is shown in symbols in the legend. For comparison to previous mapping the geology map produced by Silver Standard Mines in 1967 is shown as background. A georeferencing error of about 50 meters is apparent from the match-up of bifurcations in porphyry dykes at the top of the map. Samples from the Callinex exploration program are symbolized in the legend at lower right for copper, and values labelled in ppm on the map. A revised placement of the Cirque Minfile showing is within the cluster of Callinex samples which are probably related to the dykes shown on the Silver Standard map.

The South Ridge is characterized by numerous NNW-trending feldspar phyric latite dykes cutting intermediate composition, well bedded crystal tuff of the Kasalka Group. The Troitsa stock contact cuts west-northwesterly across the north slope of the ridge and dykes in the Cirque icefield area are oriented more northwesterly that those on the ridge. In the Cirque or Trogold showing area Nelles and Bjorkman reported finding feldspar phyric dykes mineralized with disseminated chalcopyrite and pyrite in a texture similar to that observed in the Main Zone FP dyke. In the surrounding granodiorite they observed discrete veins of quartz and ankerite with pyrite and chalcopyrite also similar in occurrence to the extensive intervals of mineralization in the granodiorites proximal to the FP dykes at the Main Zone. The veins are spatially associated with a large area of oxidized monzodiorite with phyllically-altered margins around the veins up to a meter wide. The alteration aureoles weather a rusty orange colour from the oxidation of fine pyrite and are very hard, inhibiting sampling.

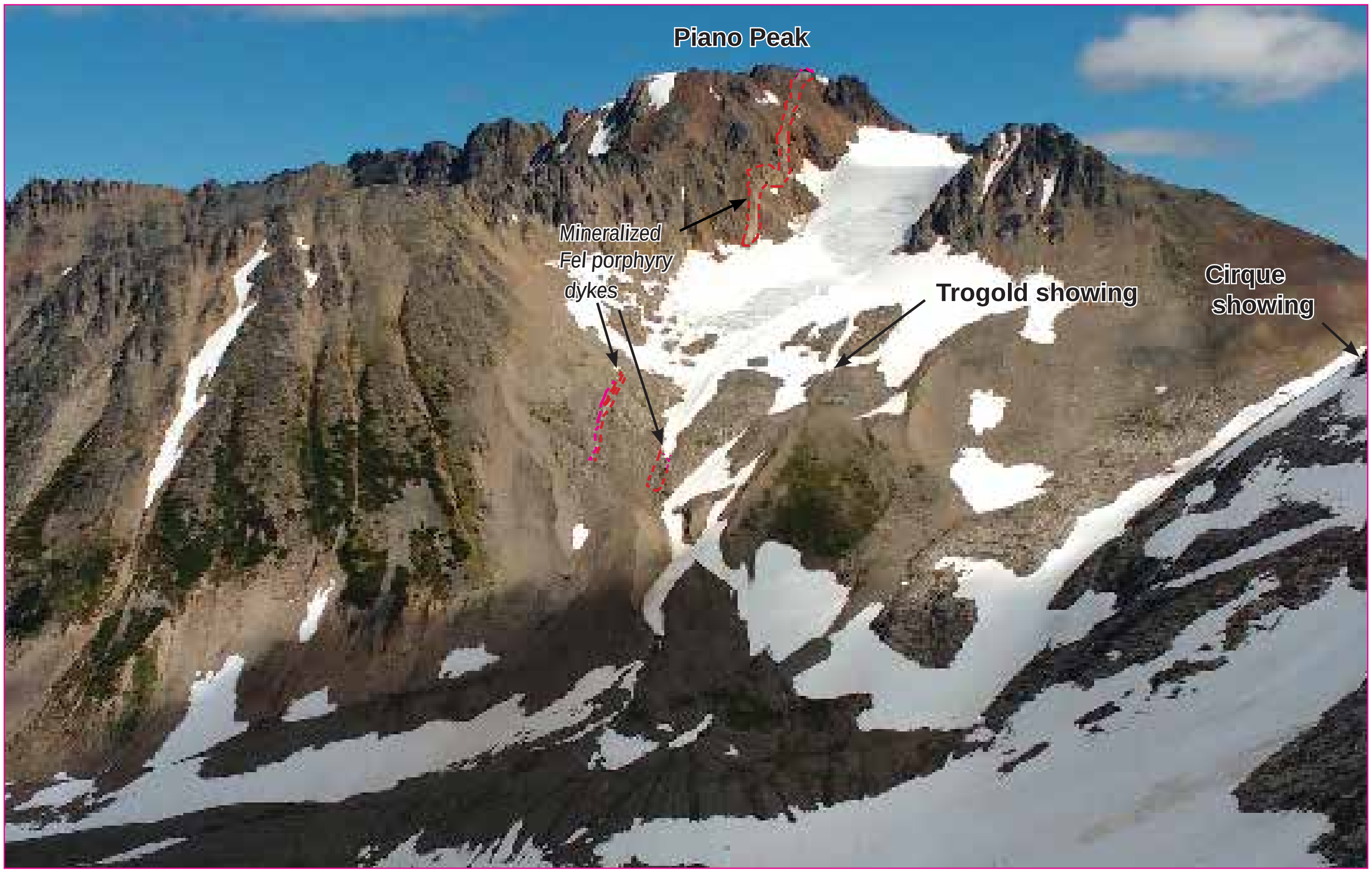


Figure 99: Porphyry dykes at the Trogold showing
The traces of feldspar porphyritic felsic dykes mapped by Nelles and Bjorkman are outlined in this photo of the Trogold area on the west face of Piano Peak. Numerous sulphide veins were mapped nearby the dykes and parallel to their strike. Photo by the author from the ridge at the South Glacier area August 6, 2022.

The mineralization in the area redefined as the Cirque Showing (Fig. 96) may be explained by several felsic dykes, which appear on the Silver Standard geology map in Figure 96. The Cirque-Trogold area is at the south end of strong copper in talus fines geochemical anomaly on the Aston Resources sampling grid (Figure 10 in Item 6). The anomalous copper zone covers much of the western slope of Piano Peak ranging between 400 and 2640 ppm Cu over much of the area, but actually diminishing slightly to the 200 to 400 ppm category in the Cirque-Trogold area (Fig. 10).

9.2.4 South Glacier

The South Glacier zone is the locale of the TRO and Astiort Minfile showings described in Item 6 and 7 above. The southeastern extent of the zone is exposed below a small icefield, the South Glacier, that has gradually retreated and it was anticipated that new rock would be exposed in the decade since the Callinex program. However, glacial retreat was ambiguous in 2022 because snow-pack persisted late in the summer leaving many samples sites from 2011 under snow. The zone extends about 1 kilometer to the northwest onto the northern aspect of the spur ridge that forms the head-wall of the South Glacier. The author and Jessica Bjorkman explored the east-facing slope of the zone around the Tro and Astiort occurrences, shown in Figure 100, and the author also evaluated the northwesterly extension, shown in Figure

103. The outcrop exposure in the lower parts of the area is nearly 100%, having been recently glaciated.

The most characteristic and prominent features of the area are a swarm of fine grained felsic porphyritic dykes, and broad areas of intensely altered and brecciated granodiorite that are in places bordered and transected by quartz-carbonate veins. In the southern part of the area the author mapped and sampled a large NNW striking felsic dyke that forms two en echelon, left-stepping lenses, one about 50 meters long and the other nearly 200 meters shown in Figure 101. The lenses taper from a maximum width 15 meters and are laterally offset by about 20 meters and appear to be the locus of numerous quartz-carbonate veins that also can be traced over 100 meters. The dyke is a fine grained hornblende-feldspar porphyry of quartz monzonitic bulk composition, but with unusually high K_2O of 6.85% and low Na_2O of 1.27% compared to the stock and other granodioritic to quartz monzonitic dykes. A nearby sample of biotite quartz diorite or granodiorite of the main stock has comparable major and trace elements except for K_2O of 3.4% and Na_2O of 4.1%. It is not clear if the K_2O of the dyke is primary or the result of potassic alteration, but the Ti measured from an aqua regia extraction is below detection, while TiO_2 from whole rock analysis and Ti by strong acid extraction are normal at 0.26 and 0.22 wt% respectively (as wt% Ti). This discrepancy between Ti extractions points to rutile as the Ti-bearing mineral in the dyke, which is attributed to potassic alteration of the Main Zone dykes supporting the conclusion that the high K_2O of this hornblende porphyritic dyke is also the result of potassic alteration. The granodiorite of the main stock outside of the breccia zones and the dykes is fresh and unmineralized, K_2O is 3.4% and Ti measured by aqua regia is 0.11%, which

Figure 100: South Glacier area
Photo looking south along the edge of a small glacial tarn below the icefield in the centre of the f.o.v. The area investigated is in the light coloured rocks below the ice at right, within the granodiorites of the Troitsa Stock. Dark rocks on the skyline are Kasalka Group volcanics forming cliffs above the icefields of South Ridge. (photo by the author.)

is considered normal (Ti by fusion and strong acid is 0.32%; Table 4). The dyke is also parallel to two tabular zone of brecciated altered granodiorite of the main stock, which do not display potassic alteration.

The altered zones are either tabular bodies, typically 10 meters wide and oriented west northwest with continuity of a few hundred meters along strike between bounding veins, or of less determinate shape (Fig. 101). The alteration of the granodiorite is formed in 10 to 15 cm aureoles around thin veinlets and fractures, randomly arrayed within the breccia zone and at wide intervals resulting in the appearance of boulder-sized patches of fresh granodiorite bordered by recessively weathered phyllic/argillically altered granodiorite (Fig. 102). Mineralization

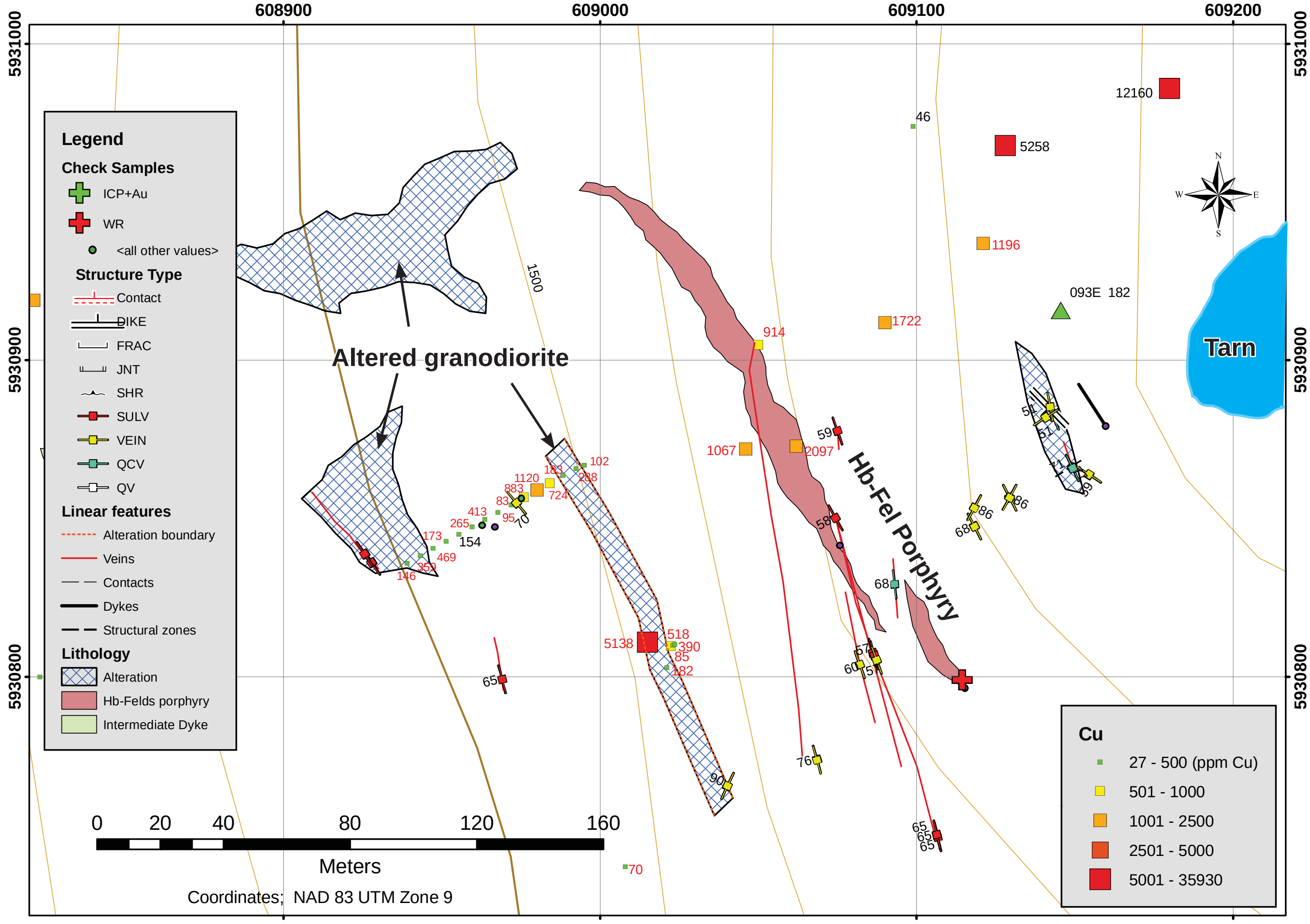


Figure 101: South Glacier: Area 1
The map shows an area of near continuous outcrop at the base of icefields below Piano Ridge. The hornblende-feldspar phyric dyke (pink) shows and en echelon offset of intrusive lenses and is cut by subparallel qtz-carb veins some of which track out for over 100 meters. Four areas of vein networks and associated alteration were mapped in the blue-gridded polygons. The one at right near the Minfile symbol is bounded on its lower side by a 10 cm wide quartz-carbonate vein with sporadic chalcopyrite and galena. Callinex exploration samples are symbolized for copper and labelled (red) in ppm Cu. Veins mapped by the author and Bjorkman are symbolized in the legend.

generally is confined to the narrow quartz-carbonate veins at the margin of the breccia zones, but minor disseminated and fracture controlled chalcopyrite-pyrite mineralization was observed associated with phyllic and argillic alteration haloes around networks of fractures in the altered zones. The broader, irregularly constrained areas of alteration and anomalous mineralization were observed by Nelles closer to the glacier, and appear to have been the target of a 70 m series of chip samples from the Callinex survey that showed anomalous copper, molybdenum other elements (Fig. 101). However, higher grade samples from the Callinex program appear to have been taken from larger veins and are not representative of bulk compositions of the granodiorite.

The northwestern part of the South Glacier area, shown in Figure 103, differs structurally from the southeastern part by a swing in the strike of dykes and veins from NNW to WNW. The dykes also display left lateral en echelon offsetting, but interestingly two dykes were mapped with right lateral dilatant jogs. The dilatant jogs show that the dykes apparently follow north trending fractures, which were also observed in vein and joint sets and the trend of a few mafic dykes. A prominent north striking, altered rusty weathering fault or shear structure was

Figure 102: South Glacier Quartz-carbonate Argillic alteration
A) The photo looks north along the eastern contact of a 10 meter wide, tabular network of quartz-carbonate veins with argillically altered aureoles in quartz monzonite of the main Troitsa stock. The contact between fresh and altered rock continues for over 150 meters through the notch on the skyline.
B) rusty weathering network of quartz carbonate veins with argillic alteration aureoles forming a breccia in unaltered quartz monzonite.
C) localized quartz-carbonate vein stockwork within the altered zone
D) comby quartz lined iron-carbonate vein with malachite staining around trace chalcopyrite with pyrite. Alteration adjacent the vein is sericite-pyrite and more argillic peripherally.
(photos by the author)

traversed on steep slope south of the trace of drill hole Tr12-11. The structure was characterized by numerous conjugate fractures along a sericite-pyrite alteration zone up to 7 meter wide with sporadic traces of chalcopyrite. Several samples with anomalously high copper were taken in the Callinex program within the vicinity of the structure. The structure lines up with probably similar fracture zones on the North Ridge 1.5 kilometers to the north.

Bulk compositions from the northern part of the zone may, however, be represented by continuous drill cores sampling from hole TR12-11, which was drilled westerly at the northeast side of the slope below the zone. Anomalously higher copper grades are noticeable in intervals from 13 to 48 meters. The average grade of the intervals is about 3 times the average for the whole 403 meters of the hole and at six 1.5 meter samples had grades ranging from 1200 to 2700 ppm. The drill core samples are 1.5 meters of continuous rocks, more representative of heterogeneous vein and disseminated mineralization than discontinuous and potentially biased surface outcrop chip or grab samples. The average of 61 outcrop samples taken in the Callinex program is 1239 ppm Cu, ranging from 15 to 7359 ppm (excluding a single sample described as "massive chalcopyrite"). Generally, it may be inferred that the drill core from hole Tr12-11 and surface sampled material in the South Glacier zone are comparable suggesting that zones moderately enriched in copper occur throughout the area and may be associated with the structurally controlled alteration zones. By comparison Pb and Zn grades for the same intervals are the same or lower than the average for the drill hole, but surface samples are much more erratic, with many spot high grades. The average for Pb in 61 surface samples is 723 ppm and for Zn 285 ppm, but in drill core the averages are only 5.8 and 28 ppm, respectively for the selected intervals. This suggests that Pb and Zn are more concentrated in discrete high grade veins than is the case with copper.

In general, the South Glacier area appears to have been influenced by alteration and minor mineralization of a porphyry type, but in a zone laterally or vertically distal from the core copper mineralized zone. The most obvious veining appears to be of carbonate-dominated,

Tr12-11	FROM	TO	Length (meters)	Au (ppb)	Mo	Cu	Pb	Zn	Ag (ppb)
Interval	11.0	31.6	20.6	5.80	16.8	674	1.8	27.3	607
Interval	60.9	108.9	48.0	2.96	7.4	569	6.4	27.5	691
Interval	128.9	168.0	39.1	1.55	11.1	263	6.7	23.9	417
Interval	194.8	208.0	13.2	6.94	4.9	372	11.4	33.7	821
Interval	283.6	303.6	20.0	2.57	6.3	400	2.6	27.7	572
Ave of int			**140.9**	***3.98***	***9.3***	***455***	***5.8***	***28***	***622***
	8.97	**412.7**	**403.7**	**2.02**	**5.5**	**214**	**5.1**	**31.3**	**309**

Table 6: South Glacier: Selected intercepts from drill hole Tr12-11
The table shows average grades for 5 selected intervals which showed consistently higher grades of copper than adjacent intervals. Other elements from the same intervals are shown for comparison. The row highlighted in blue show the average of the 5 interval and the row in yellow the average for the entire 403.7 meters of the hole including the 5 higher grade intervals. Au and Ag are in ppb; the rest in ppm

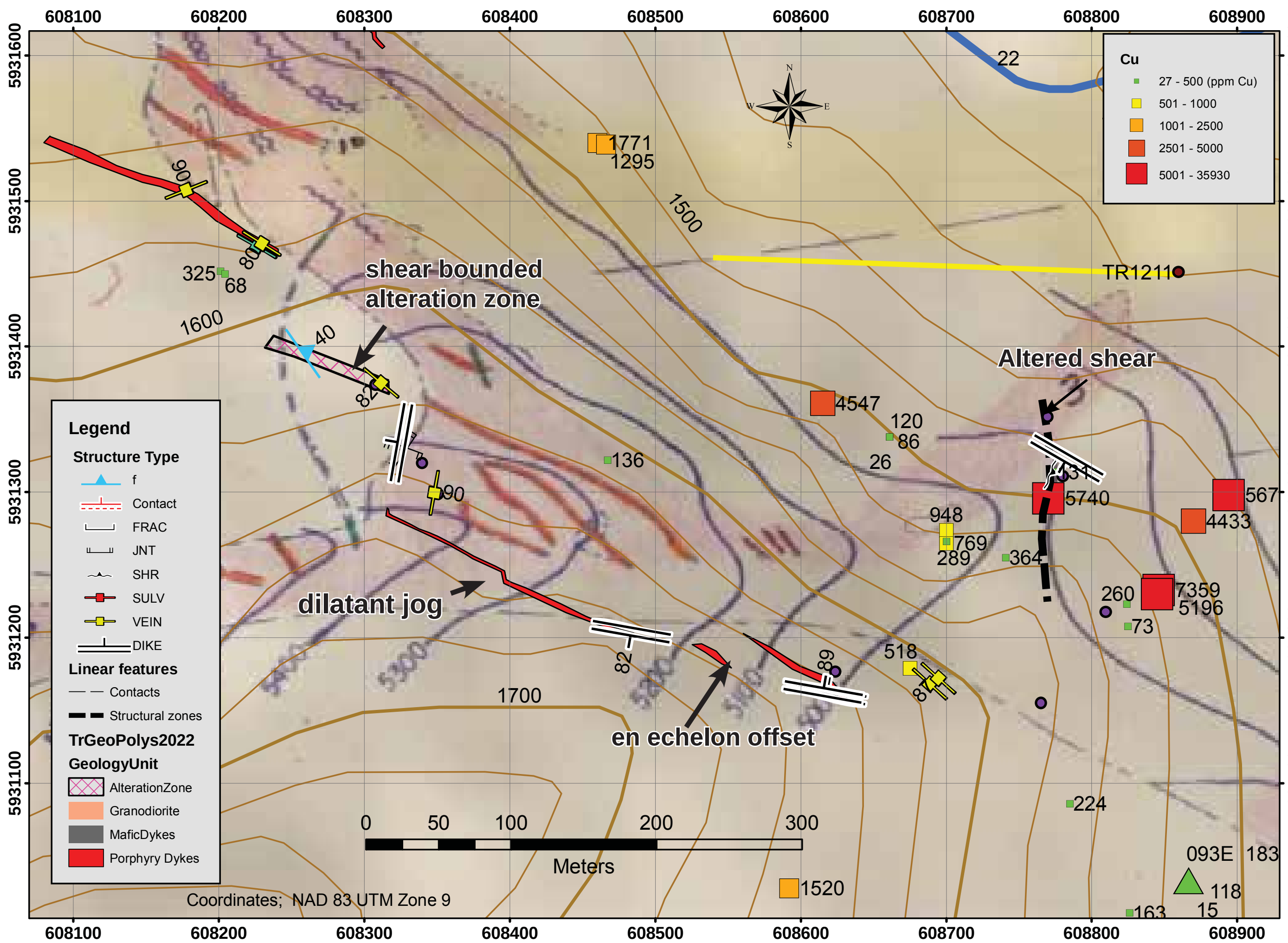


Figure 103: South Glacier: northern aspect
The map shows a series of porphyry dykes with left lateral en echelon offsets and right lateral dilatant jogs cutting through granodiorite of the Troitsa stock. The trace of drill hole TR12-11 is shown in solid yellow line. An altered, fracture bounded zone is shown parallel to the main porphyry dykes in the left center of the map, The current mapping is overlaid on a georeferenced map from the Silver Standard Mines exploration program of 1967, which shows a swarm of curvilinear dykes and fracture or shear zones in the left side of the map. The alignment of the Silver Standards map is about 100 meters shifted north judging by the discrepancy between contours for the apex of the spur ridge. Samples from the Callinex exploration are symbolized for ranges of Cu and labelled in ppm. Map drawn by the author in ArcGIS 9.3 November, 2022.

hydrothermal type indicative of a peripheral zone outside of the zone of magmatic-hydrothermal "B" vein mineralization. However, it is curious that the porphyry dyke sampled for lithogeochemistry shows chemical characteristics of potassic alteration such as high K_2O and very low aqua regia-liberated titanium, indicative of rutile.

9.2.5 East Contact

The eastern contact zone of the Troitsa stock was examined by the author to evaluate the potential for mineralization in the hornfelsed Kasalka Group volcanics. Significant porphyry mineralization occurs at Huckleberry in the hornfelsed zone surrounding the main stock. The author traversed across the northern aspect of the Piano Peak, which underlies the eastern margin of the stock, and into the surrounding volcanics (Figure 105). The main stock outcrops were observed to be consistently a fresh/unaltered coarse grained granodiorite to quartz monzonite from the interior to the contact with Kasalka volcanics. A few small feldspar porphyry dykes were observed. At a point 100 meters from the contact of the stock, a shear zone oriented north by northwest contained small veins oriented transverse to the shear and mineralized with minor galena, sphalerite and chalcopyrite (Pb 1.3%, Zn 1.1%, Cu 450 ppm and 87 ppm Ag) with greater than 1% arsenic. Beyond the contact, which is sharp and near vertical, the Kasalka Group volcanic consists of moderately to thickly interbedded argillite and maroon tuffs. About 200 meters east of the contact in the tuffs and below the toe of a hanging glacier,

Figure 104: Kasalka Group banded tuffs
Well bedded and laminated tuffs of intermediate composition dominate the section. The section in the photo is flat lying but folded moderately over a few hundred meters. The dark bands are maroon-coloured, biotite-hornfelsed tuff with sporadic disseminated pyrite indicated by rusty spots. Light bands are pale grey coarser tuff.

localized pyritic zones are evident and many small veins dominated by sphalerite and galena were observed. These veins were previously sampled by Aston Mining and Callinex showing Pb-Zn-As mineralization with moderate Sb, but low Bi, Te and W. A check sample from a 2 cm galena-sphalerite vein assayed 1.45% Pb. 2.8% Zn and 128 ppm Cu consistent with the previous sample assays including high As-Sb and low Bi-Te-W values. Pyrite zones in the tuffs may be hornfels related, but the tuffs are not intensely contact metamorphosed. No mineralized dykes or significant chalcopyrite-quartz veining were observed. The mineralization might be classified as peripheral to the porphyry system in the Troitsa stock, but could also be of a later epithermal event related to localized felsic intrusions.

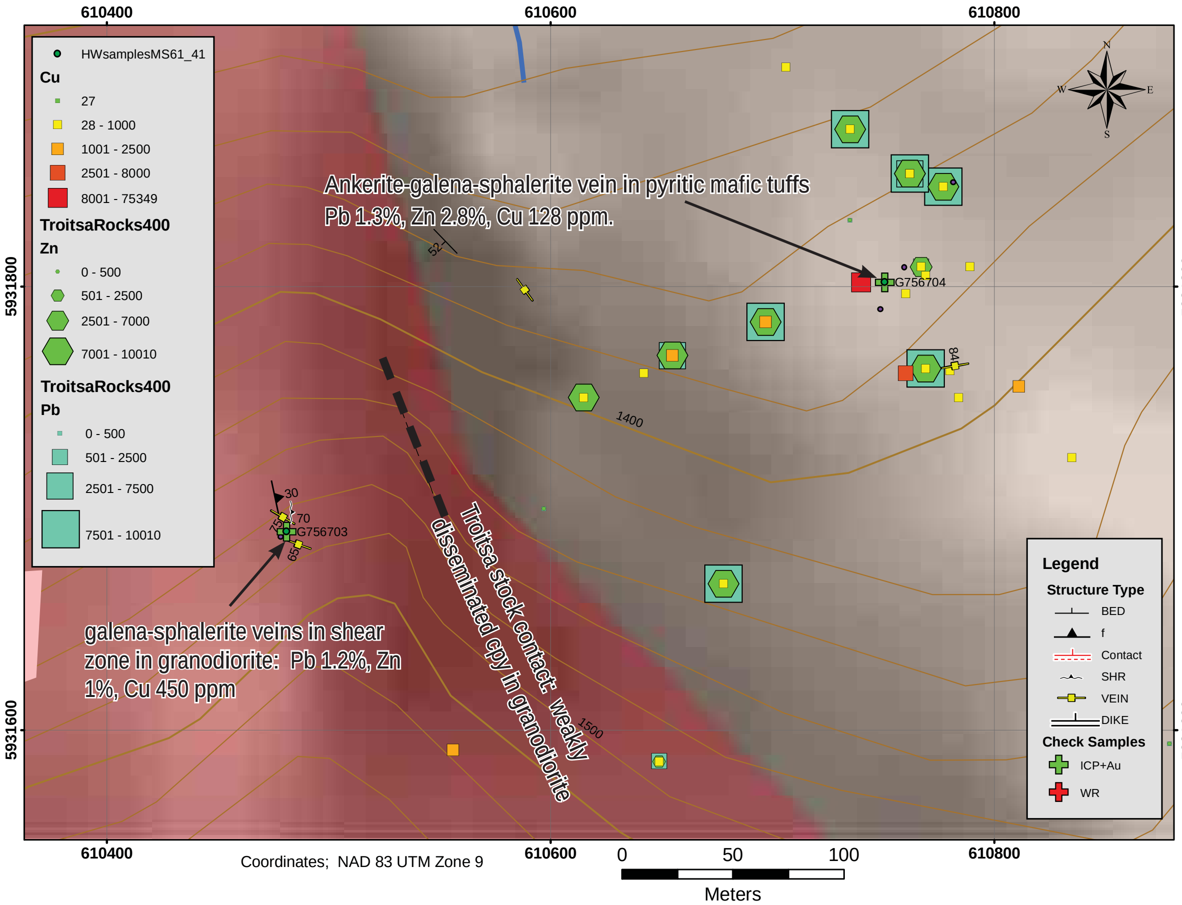


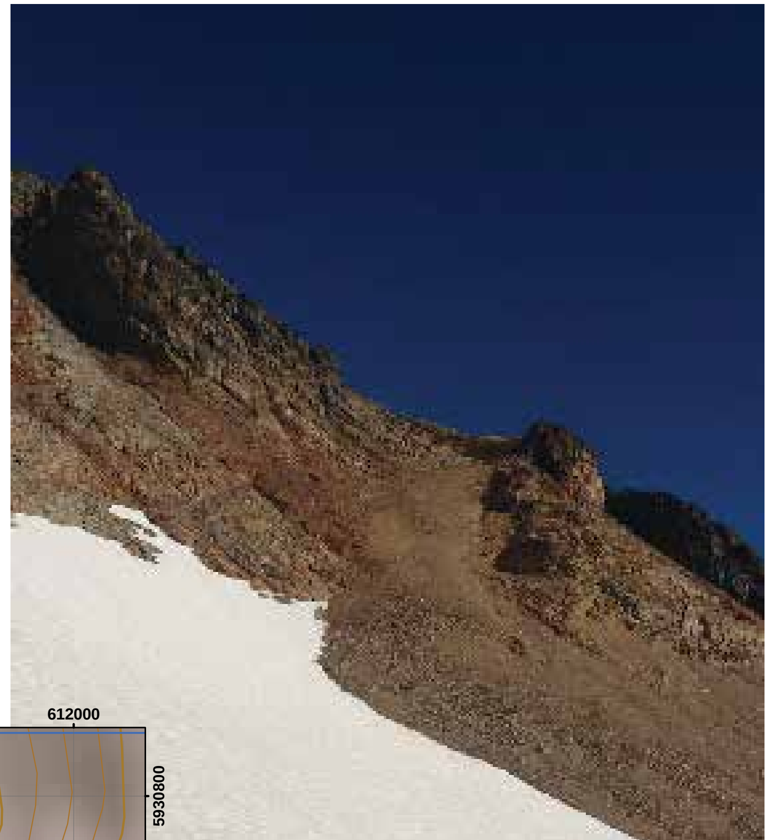
Figure 105: Hornfels zone east of the Troitsa stock in banded, pyritic tuffs
Base map from BCGS current regional mapping. Sample data from Callinex survey 2010 shows overlapping symbols for Cu, Zn and Pb to highlight prevalence of galena-sphalerite veins. Several of the vein analyses were over limit of 1% for Pb and/or Zn.

9.2.6 Pyrite Halo

A potentially hornfelsed aureole around the Troitsa stock was evaluated by the author and Nelles in the southeast slopes of Piano Peak. The area of best outcrop is high on the flanks of the mountain and interlaced with small icefields. The author observed that much of the mountainside is a stratigraphically-thick pile of moderately east dipping (359°/40°E) well-bedded tuffs with local, rusty weathering pyritic patches and cut by a number of narrow dykes and sills of intermediate composition. The tuffs are variably fine to coarse rhyolitic crystal-lithic tuffs with sparse 1 mm quartz phenocrysts and generally massive internal texture. The rusty patches are caused by pyrite interspersed in chlorite-biotite lenses localized around intersections of fractures in the tuffs. In maroon weathering very fine tuffs, biotite-chlorite -pyrite alteration lenses have haloes of pale green alteration. The dyke observed by the author was white-weathering biotite porphyry of felsic composition. Nelles observed a narrow NE striking pyritic altered band in one outcrop of andesitic tuffs. A previous sample from the outcrop showed no enhanced metal content other than iron.

No mineralization was observed at the location mapped and it is inconclusive if the pyritic alteration is directly related to contact metamorphism by the Troitsa stock or whereabouts within the halo mineralization might be contained. At Huckleberry, mineralization in the hornfels zone occurs at what would probably be a much higher structural level than appears at the surface at Troitsa.

Figure 107: Kasalka Group tuffs
Photo looking northwest at ridges above station HW22-710 on figure 106 below. Bedding dips steeply east in well bedded tuffs and tuff-breccias.
Photo by the author August 9, 2022.



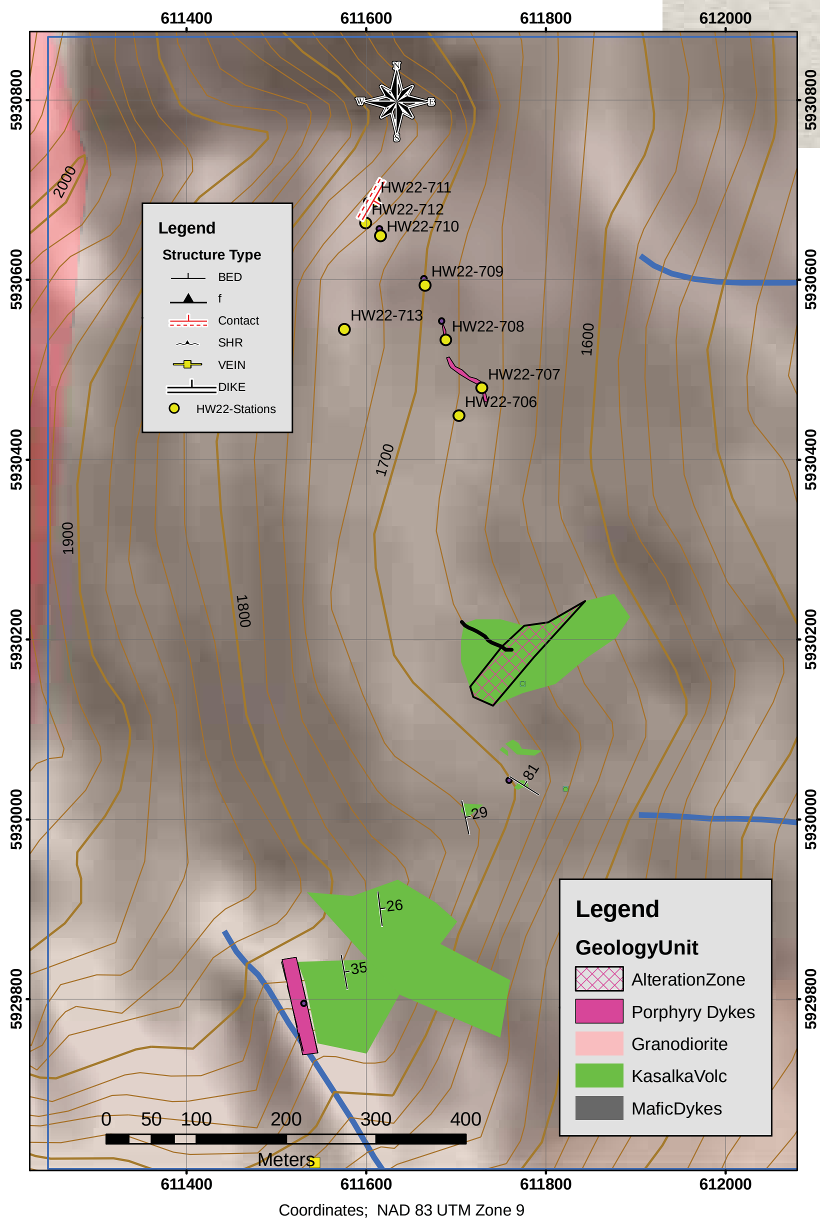


Figure 106: Pyrite halo: Map of the southeastern contact of the Troitsa stock.
The map shows stations by the author (north) and Nelles (south) within the postulated pyritic halo of the hornfels zone around the Troitsa stock. Outcrop in the mapped area is variably covered by talus and snow and overshadowed by cliffs to the west.
Map drawn in ArcGIS 9.3 by the author from field notes and GPS features. Polygons extracted from “Field Maps” file of Nelles and the author.

9.2.7 Blanket Lake Fault Area

In the western part of the Property outside of the Troitsa stock, the West showing, found by Callinex (Galambos, 2010), consists of well-mineralized biotite feldspar porphyry in an isolated showing. The author was guided to the showing by property owner Ken Galambos, but it could not be determined whether the rock was in place or if it was float. The occurrence consists of a low profile, small area of well-mineralized rock in a west sloping, wet alpine meadow (Fig. 108-A) with localized red staining from oxidation of sulphides in the rock (Fig. 108-B). The meadow is in on the east side of a ravine marking the Blanket Lake fault zone, which juxtaposes Hazelton Group volcanics on the west against Kasalka Group volcanics and sediments on the east. The author sampled the showing and confirmed a significant copper grade of 6540 ppm (average of 2 analyses) with 22 ppm silver.

However, the composition of the West showing rock differs considerably from other granitoids including the Main Zone porphyry dykes. It was not analyzed by whole rock methods, but using strong 4-acid digestions (ME-MS61) and aqua regia (ME-MS41) with gold measured by fire assay Au-AA23. Major differences from other dykes analyzed by the author include high As at 415 ppm compared to a range of 1 to 5 ppm in other dykes, very low K by 4-acid digestion

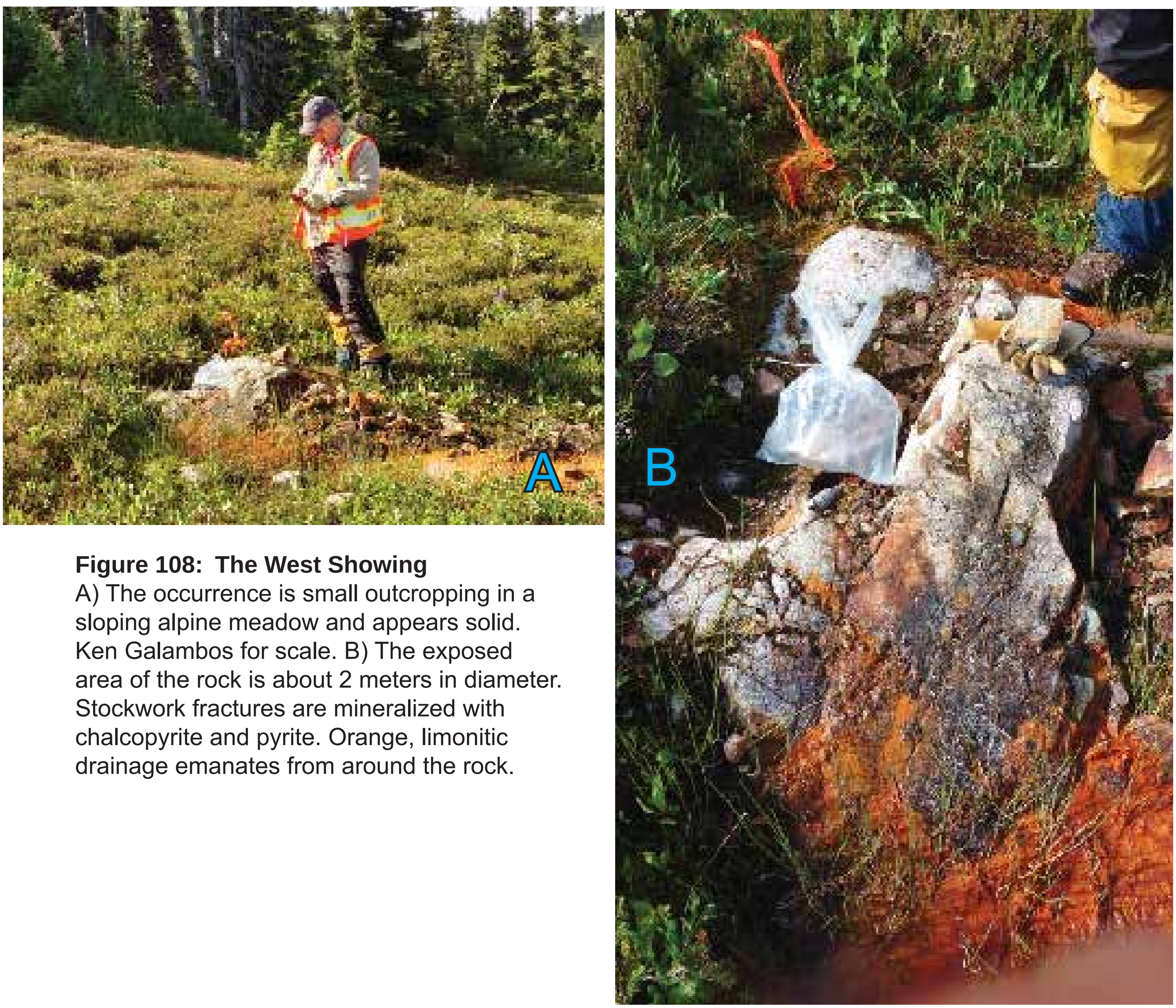


Figure 108: The West Showing
A) The occurrence is small outcropping in a sloping alpine meadow and appears solid. Ken Galambos for scale. B) The exposed area of the rock is about 2 meters in diameter. Stockwork fractures are mineralized with chalcopyrite and pyrite. Orange, limonitic drainage emanates from around the rock.

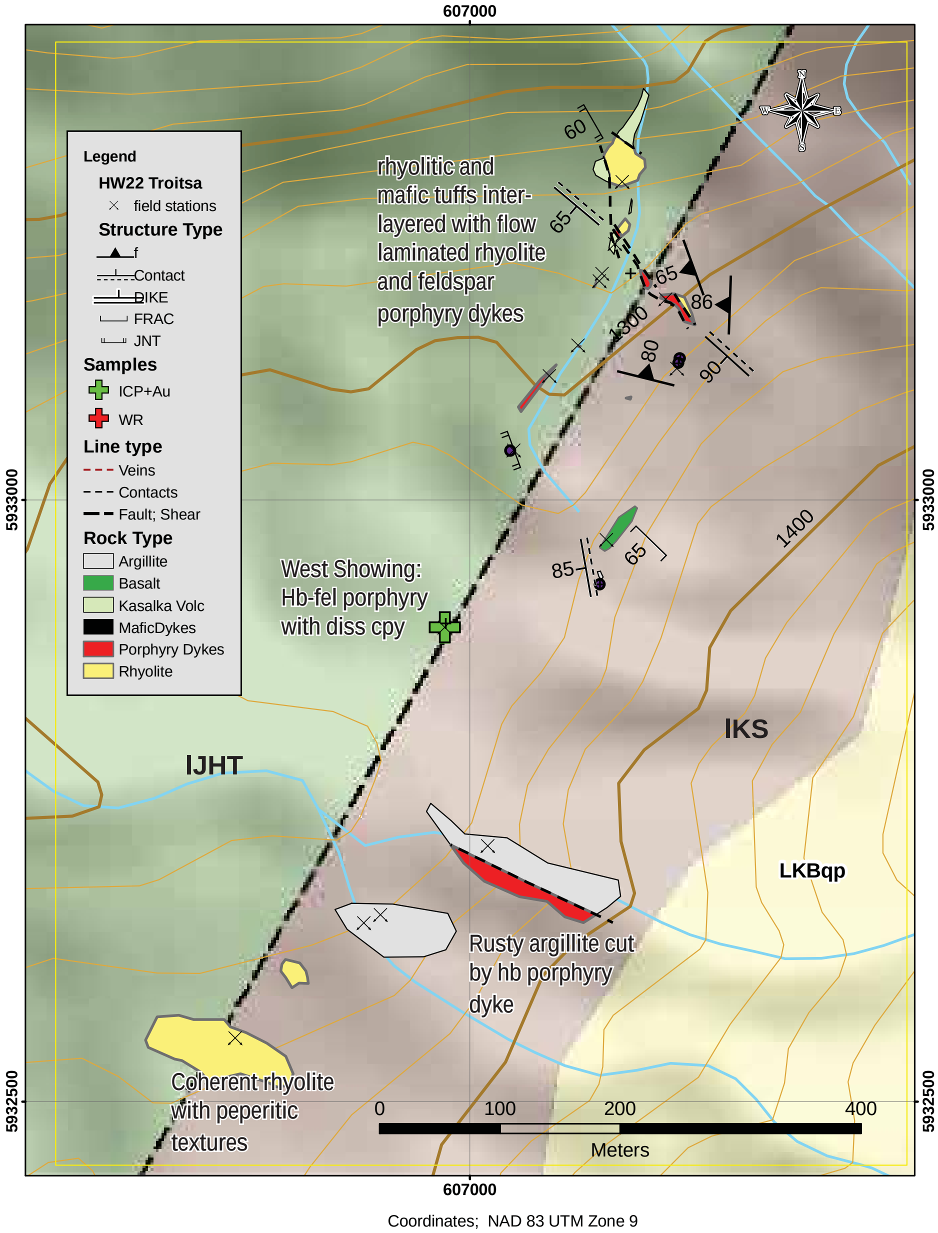


Figure 109: Geological Map of the Blanket Lake Fault area near the West Showing
The base geology units LKBqp (rhyolite), IKS (Kasalka Gp) and IJHT (Hazelton volcanics) are from current BCGS regional scale mapping in Figure 54 (above). The West showing is an isolated rock in a meadow. Outcrops to the south are in creek ravines showing thick sections of argillite cut by hornblende porphyry dykes, and a rhyolite showing peperitic texture indicative of intrusion into wet, unconsolidated mud. Outcrops to the north are in rhyolitic tuffs cut by flow-laminated rhyolite
Mapping by author August 3, 2022. Drawn in ArcGIS 9.3 November 2022.

of 0.38% compared to a range of 2.9 to 5.7 %, and higher Na with 4.0% by 4-acid compared to a range of 1 to 3% for dykes and the stock. Titanium by 4 acid is 0.44% which is higher than the range of 0.19 to 0.34%, while by aqua regia Ti is 0.06%, unlike the sub-detection limit values in potassically altered dykes (Table 4). The higher Ti signals a more mafic composition which is also supported by higher Cr, Ni, V, Mn, and Mg than the range of the other granitoids. Finally, gold and silver are higher than in other mineralized granitoids. Gold assayed at 0.414 ppm Au compared to a range from 0.009 to 0.059 ppm for 4 granitoids rocks analyzed by Au-AA23, and 0.33 by aqua regia (ME-MS41) analysis compared to a maximum of 0.02 for the 11 other granitoids (Table 5). Silver by ICP analysis (both by aqua regia and 4-acid) is 23 ppm, but the other dykes range from 0.1 to 5.4 ppm. Generally, the West showing rock is a more mafic granitoid lithology than the other check sampled dykes and mineralized with more of a gold-enriched arsenic-associated sulphide assemblage.

The geological context of the fault and the West occurrence were explored by the author by mapping a 500 meter series of outcrops in a ravine along the strike of the fault to the north and another 500 meters to the south in west sloping terrain (Figure 110). No other mineralization of a similar nature was located in the area. To the north is a sequence of mafic and rhyolitic

Figure 110: Argillite cut by porphyry dyke
Well-bedded argillites of the Kasalka group are rusty weathering and cut by a grey weathering dyke that splays into sills within the argillite. Photo looking NE on the west slope of the Property.

Figure 111: Argillites on the west slope of the Property
Exposures are in a creek gulley on a westerly slope Photo by the author August 2022, looking NE.

tuffs cut by a felsic hornblende-quartz phyric dyke that strikes NW-SE. Minor pyrite dominated mineralization was located along the margins of the dyke at one point.

To the south, the stratified rocks are dominantly black argillites exposed in some large outcrop areas in SW flowing creek ravines (Figures 110 & 111). In one of the ravines, the argillites are cut by a hornblende phyric felsic dyke and connected series of felsic sills. At the south end of the traverse (map in Fig. 109) the author observed peperitic textures (Fig. 112) of rhyolite at the margin of a large rhyolitic mass that appeared to have intruded unconsolidated mud, now argillite. The rhyolite contained disseminated pyrite, but without any observable structural control along fractures or veins.

The West showing is significant in that its lithogeochemistry is more mafic than the Main Zone dykes and it has a significant gold content and an arsenic signature. Whether or not the showing is in place or transported is important, but it is not likely to have been transported uphill from the west by glaciation. During the peak of Fraser glaciation ice flow was to the west and during the later alpine valley glaciation stage, ice flow would have been split with the interior valley flowing east, as remnant glaciers do today, and ice at the West showing location flowing initially north and as ice levels in the Blanket Lakes valley dropped, to the west. If it is in place or very local, it may indicate complexity in the Troitsa porphyry system.

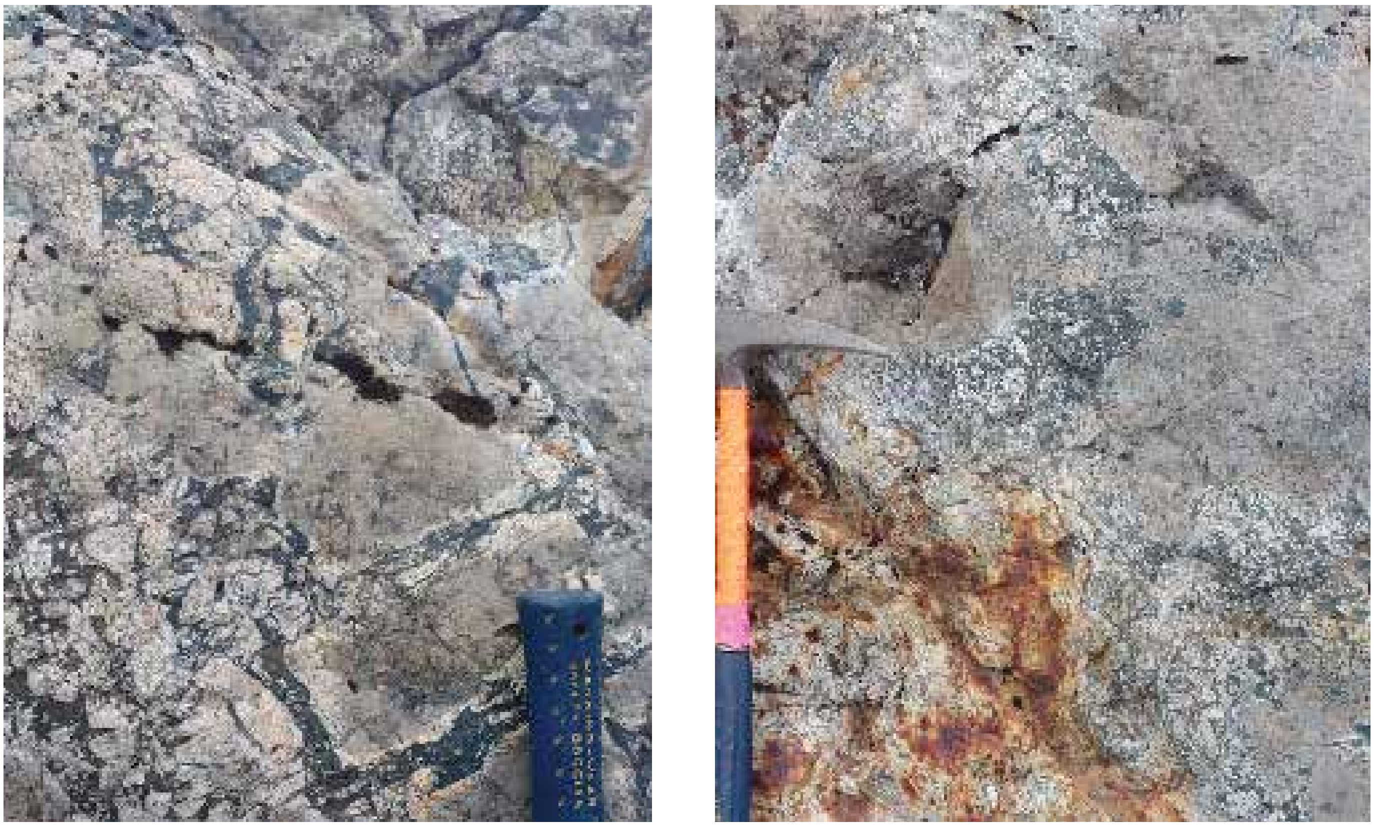


Figure 112: Peperite textures in rhyolite intruding argillite/mudstones
The pink weathering rock is coherent rhyolite. Bleaching and in situ phreatic brecciation of the rhyolite are evident around black, silicified argillite filling breaks in the rhyolite.

10. Drilling

Historical exploration diamond drilling on the Troitsa Property is described in Item 6: History.

11. Sample Preparation, Analyses and Security

11.1 Historical Geochemical Sampling and Analyses

The geochemical analyses reviewed in this Technical Report were conducted by historical exploration programs as reported in assessment reports. In each case including the older reports from the 1960s and 70s, analytical methods were specifically reported and evaluated using available QA/QC data. In the older geochemical surveys QA/QC procedures were less rigourous than at commercial laboratories today, but most analytical methods were much less automated requiring manual measurement of each analyte in a sample with greater attendant care invested in each analysis and in preventing contamination from preceding rocks, and many programs only reported, for example, copper and molybdenum from soil and rock samples.

Rock sampling in the historical programs was primarily grab samples to characterize specific types of mineralization. However, during the Callinex program of the 2010 to 2012 period, many chip samples were taken over measured widths. In places this can lead to a more representative sample than simple grabs, but it was observed in some smoothly glaciated outcrops on the Property that sampling was difficult and dependent on available protrusions and fractures. True representative samples would have been difficult except by channel sampling or drilling and it is expected that many older chip samples could have been biased towards vein material.

Soil geochemical surveys were governed by the availability of surficial material. In subalpine areas “B” horizon soils were preferred, but in areas of talus cover in the transition to exposed rock in the alpine, talus fines were used, and in more exposed areas rock chips. The historical analytical results appear to be relatively seamless and not negatively affected by the use of different surficial sample, which has allowed greater coverage of the Property. The most recent soil surveys employed the MMI method in the Main Zone, where samples are taken at a fixed depth of 20 cm and analyzed by proprietary partial leach digestion. On the current exploration program, Ken Galambos collected Ah horizon soils across several lines over the projected track of the Main Zone mineralized dykes for soil pH analysis and partial leach digestion methods. Results are pending at the time of writing.

Soils and rocks from the early programs were analyzed typically using Atomic Absorption Spectrometry (AAS), which involves aspirating an analytical solution into a high temperature flame and analyzing the strength of specific spectral lines using a spectrophotometer. Different solutions were commonly used for each analytes depending on the dissolution process optimized for the element as detailed in most of the reports. As a great deal of effort was required for each individual elemental analysis received it is respected that verification of each value was a priority.

In the 2010 - 2013 exploration programs, analytical work was conducted at ACME Analytical in Vancouver or in the case of an MMI soil program, by SGS in Toronto. At the ACME laboratory, the soil or rock samples were catalogued, dried, crushed, split and pulverized using standard rock and soil preparation procedures. Common crushing (70% <2 mm), riffle splitting, and pulverizing (85%< 75µm) specifications were used in all the core and rock samples. Several methods were used for dissolution depending on analytical requirements: ACME method 1E, used in one batch of drill core, involves a strong 4 acid dissolution (H_3ClO_4 -HNO_3 - HCl; dry down and re-dissolution in HCl) to prepare the solution for ICP AES analysis, while method 1F15 uses aqua regia (HCl:HNO_3) for dissolution.

ACME laboratory quality control methods were rigourous and included inserting into the laboratory sample stream a series of appropriate certified rock standards, reanalysis of random samples and laboratory blanks. Precision is assessed by the degree of variation of concentrations reported for an element in successive analyses of the same standard and by reanalysis of a small number of randomly selected field samples. Elements that returned concentrations above the analytical limit for 1F15 or 1E were reanalyzed using a sequence of quantitative methods for higher concentrations of base and precious metals as required.

The author compiled the analytical and sample coordinate data into ArcGIS and checked coordinates for map plotting. In the data compilation in an excel spreadsheet, the author replaced element concentrations that were reported as below detection limit (e.g. <10 ppm) with a numerical value of half the detection limit (e.g. 5 ppm) to allow numerical processing of the data.

ACME Analytical was a leading Vancouver based laboratory established in the 1980s and recently acquired by Bureau Veritas, which is a certified commercial analytical laboratory with ISO 9001:2000 certification. It has no connection to New Energy or the author other than as a regular service provider - client relationship. The laboratory in North Vancouver has also been accredited to ISO 17025 standards for specific laboratory procedures by the Standards Council of Canada (SCC).

From the description of the historical projects in reports, the author acknowledges that reasonable sampling methodology and secure chain-of-custody were adequately maintained during the course of the projects. The historical projects were remote helicopter-accessed operations. The author is unaware of any problem with the analytical procedures, field locations, or data handling that would have an adverse affect on the quality of the historical data that is represented in this report.

11.2 Geochemical Analyses of Check Samples

The author collected 14 check samples from mineralized and unmineralized rocks on the Property. All 14 samples were redundantly analyzed using both aqua regia and strong 4 -acid digestions for induction coupled plasma (ICP) mass -spectrometry methods at ALS Geochemistry (repectively methods ME-MS41 and ME-MS61). Six mineralized rocks were analyzed for gold using ALS method ME-Au-AA23, and the other eight, representing various granitoid lithologies including dykes mapped by the author, were completely characterized by a combination of optimal whole rock methods in ALS package CCP-Pkg01. For major elements and rare earth elements (REEs), lithium borate fusion is utilized to break down silicate and other resistive mineral matrices to ensure complete liberation prior to dissolution for ICP analysis.

The purpose in multiple / redundant analyses of the author’s samples was to compare the degree of extraction of various elements of importance in lithological characterization of the rocks particularly Zr in zircon, and Ti, in titanite, rutile and ilmenite, which were used to profile mineralized FP dykes in the Callinex drill program data. In the Callinex program some of the rocks were analyzed using a 4 acid digestion and the majority using aqua regia, but with no overlap for comparison of results. Copper in sulphides is expected to be fully extracted by both strong 4-acid and aqua regia digestions. Zircon can only be fully dissolved by either a mix of hydrofluoric acid and nitric acid in a high pressure bomb at 400 C over a few days or by fusion with lithium borate flux and subsequent dissolution of the fused material. Using strong 4-acid dissolution, only a partial extraction of Zr from metamict zones of zircon crystals is possible, but with aqua regia only a minor leach of Zr result. For titanium, extraction depends on the Ti-containing minerals present: ilmenite and titanite are relatively soluble in hot acids in contrast to rutile which is less soluble. For both Zr and Ti there is no fixed relative ratios of extraction among aqua regia, strong 4 acid and fusion methods of digestion. Similarly, aqua regia and strong 4- acids do not completely break down silicate matrices, which inhibits comparison of major elements such as Ca, Na and K. Strong 4-acid digestion is more complete for silicates, and is preferred over aqua regia as an economical alterative to whole rock fusion methods for large-scale lithogeochemical surveys.

11.3 Rock Geochemistry of the New Energy Samples

The New Energy Metals crew collected 101 rock samples to evaluate previously discovered mineralization, and to discovery new areas of mineralization. The samples were generally multi-chunk grab samples specifically collected to characterize vein, veinlet and disseminated mineralogy. Rocks were principally analyzed by ME-MS41 and Au-AA23, with a subset of whole rock analyses completed by CCP-Pkg03. The rocks collected by Bjorkman, and Nelles included 11 rocks for whole-rock analysis by CCP-Pkg03 to characterize the main intrusive granitoid units comprising the Troitsa stock and various dykes phases. The analytical data were not available at time of writing.

12. Data Verification

12.1 Historical Data

The Technical Report includes data from historical sources including field geological descriptions, geochemical data for rocks and soils, geophysical data from Induced Polarization surveys and airborne magnetometer surveys, and diamond drilling.

The author recompiled and reevaluated all of the historical geochemical exploration data available in assessment reports from the public domain British Columbia Assessment Report Information System and assessed their reliability by their internal consistency with respect to quality controls described, and statistical analysis of the data in relation to known geology of the areas surveyed.

For older geochemical results from the early reports the original data were not available and only presented as maps showing locations and values. For these the author verified and evaluated the data by georeferencing the maps in a GIS, and digitizing the values labelled at sample sites on the map making them readily available for spatial as well as statistical analysis. The original analytical values were evaluated by checking QA/QC data presented in the reports. Some of the data were also cross-checked by comparison to other survey data for the same locations.

More recent geochemical data were verified by recompiling the original data sheets supplied by the analytical laboratory and rejoining the data to coordinate and descriptive information found in the reports. This was the case of the exploration work conducted in the period from 2010 to 2013. The author obtained the data files from Ken Galambos, the author of several of the reports. Data files included laboratory csv files and spreadsheets of GPS coordinates and descriptions of rock samples both from ground exploration and diamond drilling. The csv spreadsheet files were randomly cross checked with lab certificates, but all of the files were found to be in their original state as received from the lab. Some data was only available in partially compiled spreadsheet databases, but this appeared to have respected preservation of measurement units by not blending columns using different reporting units. This data was processed by the author to produce map representations of sample points with categoricallysymbolized values, and graphs of elemental variations to evaluate the potential distribution of mineralization. Internal consistency of the analytical data was a significant issue because through the numerous laboratory reports, different units were used for the same elements, such as ppm or percent for various major elements such as iron or titanium, as a well as copper, lead and zinc, or ppm, or grams per tonne or ppb for gold and silver.

In some cases the analytical method was changed between batches in a program resulting in quite different degrees of extraction of elements found in rock forming silicate minerals such as feldspars. This is particularly the case with one early batch of core samples from the 2011 Callinex drill program, discussed by Galambos 2011, which was analyzed using 4-acid digestion (ACME method 1E) which includes hydrofluoric acid, while all later batches were analyzed using a method (ACME method 1F15) involving aqua regia dissolution. The former dissolves silicate minerals such as feldspars releasing most of the sodium, calcium and potassium for analysis, while aqua regia would only release a small proportion of the same elements in feldspars and less stable silicates minerals such as hornblende, and can result in drastic differences in reported concentrations as shown in Figure 113 for Na and K.

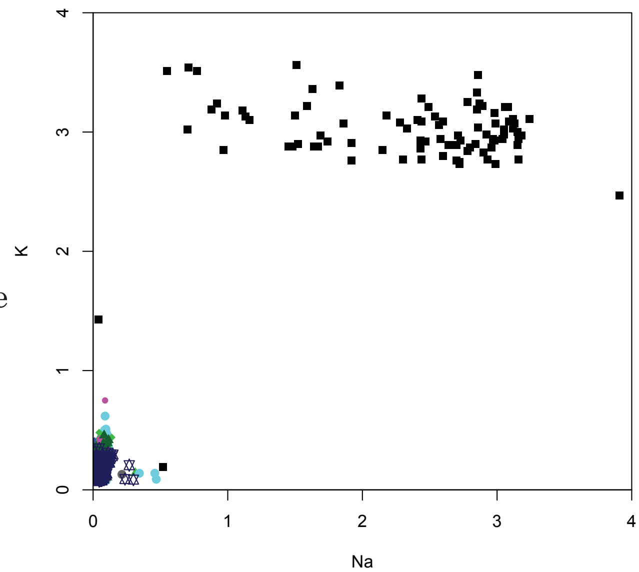


Figure 113: Effect of Mixed Analytical methods on Large Datasets.
A plot of Na vs K contrasting results for rocks analyzed from aqua regia extraction and those by strong 4 acid extraction. All the rocks are from similar granitoid core samples from the Callinex diamond drilling which amounted to 1877 samples. The black squares represent samples from the first half of drill hole Tr11-01 analyzed by 4-acid digestions and the rest, the latter half of TR11-01

However, both 4 acid and aqua regia would dissolve sulphide minerals releasing elements of more immediate economic interest (copper, lead, zinc, silver) and potentially preserving in solution some elements such as tellurium that are lost in the stronger 4 acid dissolution, which is a problem if the lost element is a pathfinder. In the author's opinion it is essential to consistently use the same analytical methods throughout a sampling program, and if necessary reanalyzing samples using the common method. Aqua regia dissolution is an economical method, but compromises some aspects of lithogeochemical analysis of the data, which may be important in porphyry environments. The resulting compiled plotting files for both the drill core program which resulted in 1877 analyses, and the ground exploration program with 400 analyses, were cross-checked by random inspection of the analytical certificates published in the assessment reports. The results of this work are shown in Item 6: History for the 2010 to 2013 programs.

The exploration geochemical data (rock and soil samples) are susceptible to natural variations in the local geological environment and the quality of material collected and thus subject to field decisions on sampling, but not critical in resource evaluations. Rock sample data from early stage exploration was also subject to field decisions and requires evaluation of the context of the collected material, if available, by the qualified person.

A wide range of geophysical data is available for exploration programs on the Property from the past 50 years. Most of the data was presented as contoured maps for which the

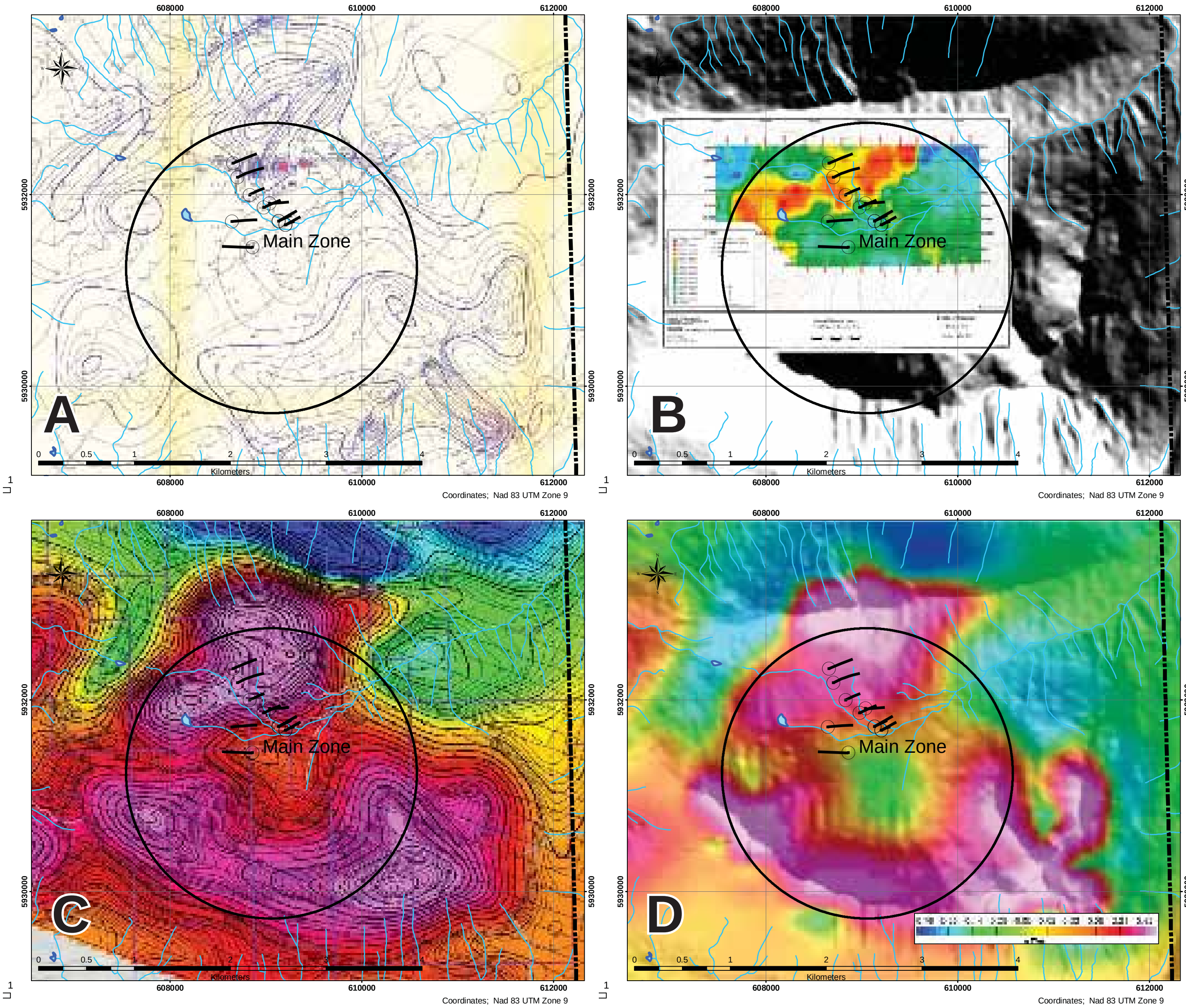


Figure 114: Verification of Magnetometer Survey Results by Comparison
Four different magnetometer surveys show similar, potentially significant results mutually verifying the data obtained by each. A 3 kilometer diameter circle is arbitrarily placed by the author at the same position in each of the maps for reference: **A)** Airborne magnetometer survey contours of magnetic field from 1969 Aston Resources survey. **B)** Ground based magnetometer survey contracted to SJ Geophysics during a concurrent IP survey for Callinex Mines in 2011. **C)** Total Magnetic Intensity map from a helicopter survey by Geotech for Callinex in 2012. **D)**. First Vertical Derivative of the magnetic field from survey by Sander Geophysics for Geoscience BC in 2017.

verification of the original data was not possible. The only feasible level of verification was to georeference the presented maps and compare the derivative values of IP chargeability or magnetic field to other surveys of the same area as well as evaluate the data for reasonable consistency with expected results, and plausible anomalies. In some more recent reports the logistical report for the surveys was available and this was read by the author to evaluate potential limitations or biases in the data inherent in comparison of ground and aerial survey data.

An example of verification by comparison of survey results is seen amongst the various magnetometer surveys of the central area of the Property in Figure 80. A recent airborne radiometric and aeromagnetic survey under the TREK program conducted for Geoscience BC produced high resolution magnetometer map of the Property showing an annular magnetic anomaly centered on the Troitsa stock, a potentially classic response to a magnetite destructive core in the core of a porphyry copper mineralized system. However, the magnetic highs of the anomaly also coincide with all of the high ridges within leading to the cautionary interpretation that the donut anomaly may be an artefact of higher than planned ground clearance of the Cessna Caravan fixed wing aircraft over the central valley around the Main Zone. However, by comparing a ground based magnetometer survey in 2011, and a helicopter-borne survey in 2012 by Callinex, and an airborne magnetometer survey from 1969 the annular anomaly of the TREK survey can be verified. The 4 survey results are shown for comparison in Figure 80 at the same scale. The ground-based survey only covered a small area but produced an arcuate magnetic high that coincides with the northern sector of the annular ring in the TREK survey. The airborne survey by Callinex was run along NW-SE flight lines using a helicopter, which also produced an annular magnetic anomaly exactly coinciding with the TREK survey. The results are also consistent with an airborne magnetometer survey run for Aston Resources in 1969. Individually, the data from the four surveys could not be verified by the author, but the surveys produced similarly interesting results despite using considerably different equipment and logistical methods.

Geological data included geological maps drawn for several of the early projects and academic studies of the Property and region, as well as sample and drill core descriptions from the 2010 to 2013 exploration programs. Verification of field based geological data ultimately requires ground checking, but some assessment can be made by reviewing field notes if available and replotting maps for comparison. This analysis was achieved by georeferencing images of old maps and comparing common features where they appeared to have been mapped independently, or where a later report specifically discussed previously mapped features. In any case no critical features were noted that the current project would rely upon for feasibility.

In the author's opinion the quality of the data collected is wholly adequate for the purposes of early stage exploration of the Troitsa Property as laid out in this Technical Report (pursuant to item 12 (c) of Form NI 43-101 (F1)) within the limitations described by the author regarding analytical methods used. Subsequent to the evaluation of the historical data, the author visited the Property and collected several check samples, including core from the Callinex drill program and grab samples from known showings. The results of this are evaluated below in Item 12.2 Current Exploration Data.

12.2 Current Exploration Data

The author's 14 check samples were used to verify historical assay data from drill core and surface mineralization. Generally, the check samples confirm the approximate grade of the historical sampling, although they were not replicates of the original samples. Verification of the check samples was accomplished by multiple analyses of each sample. For the eight whole rock samples, five different methods were used specific to different minerals to produce the suite of significant rock-forming elements. Of these, sulphides containing Ag, Cu, Mo, Pb, and Zn amongst other elements of economic interest were analyzed using ME-4ACD81, a strong four acid digestion (Nitric HNO_3, perchloric $HClO_4$, and hydrofluoric HF with HCl redissolution of the dried down residue) and ICP mass spectrometric measurement. For all the 14 samples and as a second analysis of the whole rock sample, another aliquot of the pulverized sample was analyzed by ME-MS61 also using four-acid digestion of a 0.25 gram sample to produce results for 48 analytes including Ag, Cu, Mo, Pb and Zn. Finally, for a third analysis of the whole rock samples and second analysis of the other six, a 0.5 gram sample of the pulverized sample was digested by aqua regia and analyzed using ICP mass and emission spectrometry. The results were then compared and found to agree within reasonable error especially for copper. Comparison of selected elements is tabulated in Table 4 and 5.

Although aqua regia is only a partial dissolution for silicate minerals, for sulphides it is near total. The average difference between the 2 digestions for Ag was 3.6%, for Cu 1.3%, for Fe 6%, Mo 8%, Pb 33%, S 14%, and Zn 9.3%. However, the differences were the greatest at low concentrations, which were represented by some of the unmineralized lithogeochemistry/whole rock samples and for most sulphide elements aqua regia results were lower than by 4-acid digestion. For rock forming elements found in the silicate minerals, the difference between MS61 and MS41 is large e.g. K values are on average 87% lower, and Na 85% lower. However, values for copper and silver were comparable. Comparison of the MS61 and ME-4ACD81 values showed good agreement for all of the economic elements.

13. Mineral Processing and Metallurgical Testing

There has been no historical or recent extraction of rock for the purposes of mineral processing or metallurgical testing undertaken on the Troitsa Property.

14. Mineral Resource Estimates

The Troitsa Property is an early stage exploration project; therefore no mineral resource estimates have been made for the Property.

15. Adjacent Properties

The major mineral property adjacent to the Troitsa Property is owned by Surge Copper and constitutes a 122,372 hectare group of owned and optioned claims within an arc up to 50 kilometers to the east and north collectively called the Ootsa-Berg Project. Within the Surge Copper Property (Fig. 115) are many notable deposits, characteristics of which may shed light on the potential of unrecognized geological aspects of Troitsa. These include, Berg due north about 30 km, Bergette 10 km east of Berg, Ox Lake and Seel, about 30 km northeast. The Huckleberry Mines Ltd Property north of Ootsa Lake includes the Huckleberry mine and the Whiting Creek deposit (Fig. 115). The closest adjacent property to the Troitsa Property is the Coles Creek epithermal system which was explored by Callinex together with Troitsa in the 2010 to 2013 period. Other properties not in the Surge Copper land tenure include South Rim, 10 km south, and Deer Horn, about 20 km south.

An example of geological potential is the Huckleberry deposit where much of the porphyry style mineralization was discovered in hornfelsed host rocks surrounding the stock that is responsible for the mineralization, whereas this type of mineralization has not been recognized at Troitsa. Huckleberry is a past producing porphyry copper deposit 20 km to the northeast of Troitsa on the north side of Ootsa Lake, and like Troitsa it is related to an isolated Bulkley intrusion. However, the intrusion at Huckleberry is much less exposed possibly representing a high level of a stock, or a much narrower prolate stock than at Troitsa.

The following summaries are drawn from publicly available data, generally using Minfile records. The author has been unable to verify the accuracy of the information and the summaries are provided for informational purposes only and are not indicative of the mineralization on the Troitsa Property, which is the subject of the Technical Report.

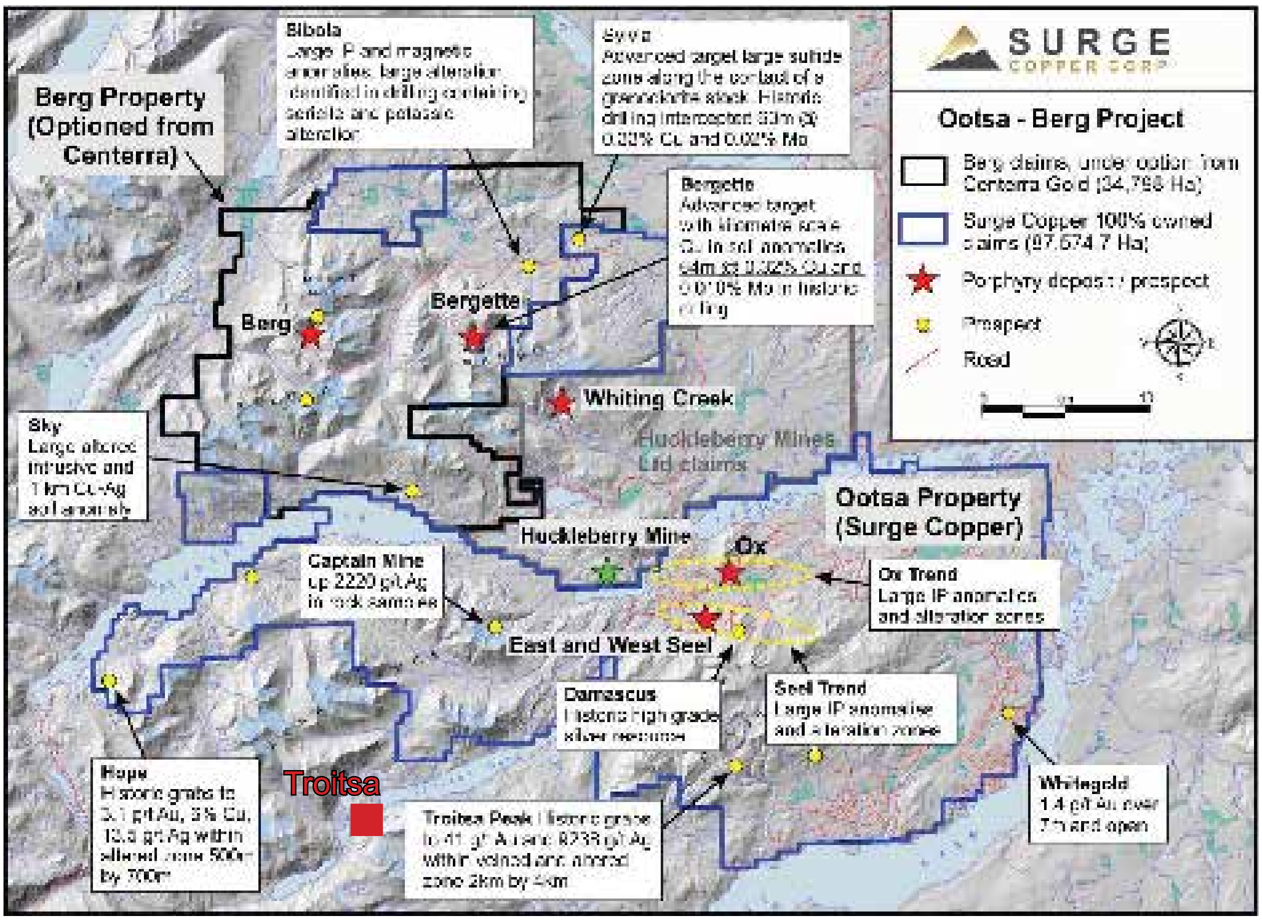


Figure 115: Surge Copper Corp Project Map
Map from Surge Copper promotional presentation showing porphyry deposits within the Ootsa - Berg project area at Berg, Bergette, Seel, and Ox. The dormant Huckleberry Mine is indicated by a green star and is in Huckleberry Mines Ltd claims which includes the Whiting Creek deposit. Other prospects are labeled with capsule descriptions of salient features. The center of the Troitsa Property is indicated by a red square labeled "Troitsa". The author has not confirmed any of the geochemical or geophysical information disclosed by Surge.

15.1 Huckleberry

The Huckleberry mine is a porphyry copper-molybdenum deposit related to Late Cretaceous Bulkley suite stocks. The main stock is elliptical in plan with axes of 425 and 670 meters intruding and hornfelsing crystal tuffs of the Hazelton Group. The mineralization consists of chalcopyrite and minor molybdenite in fractures, principally in the hornfelsed volcanics, but also in the stocks and has been defined as two zones, the Main Zone and the East Zone (Fig. 116) both enclosed in an easterly-trending alteration zone 4 kilometers in length and variably 1 to 2 kilometers in width (Fig. 117). Alteration mineral assemblages are zoned with potassic alteration, consisting of biotite and orthoclase

A 40 meter wide dyke oriented, along a 110 striking fault, extends from a biotite granodiorite stock, and represents some of the highest grade copper mineralization in the East Pit of the mine within the 900 by 300 meter East Zone. The Main Zone is an arcuate body that measures about 500 by 100 meters and is located along the eastern margin of a the Main Zone stock.

Figure 116: Huckleberry porphyry copper deposit
Photo of the Huckleberry miner site prior to development in 1993 from the air looking west towards Tahtsa Lake and the Coast Range mountains. The black outlined areas are the projections to surface of Cu mineralized zones lying within the pyrite halo outside of the Huckleberry stock.
Photo from a presentation by Huckleberry Mines Ltd.

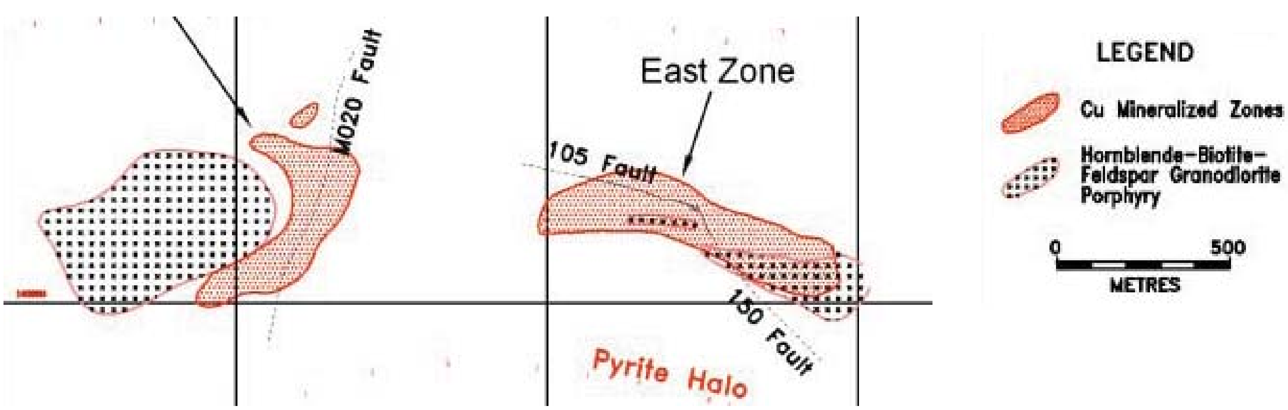


Figure 117: Simplified geological map of the Huckleberry porphyry copper deposit
The Cu mineralized zones in red stipple lie mainly outside of the granodiorite porphyry stocks and are the same areas as the outlines in Figure 114.

15.2 Berg

Berg is a large porphyry copper-molybdenum deposit, situated 30 km north of Troitsa, in Hazelton Group volcanic and sedimentary rocks overlain by Skeena Group strata and intruded by a pair of Eocene granitoids. The earlier and larger intrusion is a quartz dioritic single phase pluton, 7 kilometers long north to south, up to 2 kilometers in width and has hornfelsed surrounding volcanic rocks. Mineralization is related to the Berg stock, a second multi-phase composite quartz monzonitic stock of vertical cylindrical form and 600 to 750 meter diameter. Mineralization and alteration are concentrically zoned around the Berg stock extending outwards to 1000 meters from the intrusive contact. Primary mineralization is mainly superimposed on the hornfelsed rocks and the quartz diorite and consists of several stages of quartz-sulphide stockwork veining with earliest containing mainly chalcopyrite-pyrite and molybdenite, and the later characterized by veins of quartz, calcite, galena, sphalerite, and copper-silver sulphosalts minerals in various assemblages. The early chalcopyrite-pyrite veins are associated with potassic alteration observed as orthoclase alteration, both pervasive in the core of the Berg stock and as selvages around veins in the mineralized zones, and biotite replacement of mafic minerals in the quartz diorite and volcanic units in the biotite hornfels zone. Molybdenite is zoned within and adjacent to the stock while copper grades are highest outwards of 70 meters from the Berg stock contact in an annular zone best developed on the eastern side of the Berg stock.

15.3 Ox Lake

The Ox Lake prospect is a relatively small porphyry copper deposit generated by a Late Cretaceous Bulkley suite granodioritic stock that intrudes into Telkwa and Smithers Formation volcanic and sedimentary rocks. The stock is elliptical in plan with axes of 400 by 600 meters, the mineralized zone is crescent shaped and located in hornfelsed sedimentary rocks on the stocks' western margin. Mineralization consists of assemblages of pyrite, chalcopyrite, bornite, hematite, magnetite, pyrrhotite and molybdenite in an intense stockwork of veins and fractures. Fine grained feldspar porphyry dykes and sills cut the mineralized zone and host some of the mineralization in disseminated form. A crowded porphyry-texture feldspar biotite phyric granitoid body bounding the east side of the mineralized zone, is weakly mineralized locally, but also displays propylitic and sericitic alteration. The mineralized zone is controlled and bounded by brecciated zones around faults, which also host quartz-ankerite and base metal veins containing galena and sphalerite.

15.4 Emerald Glacier

The Emerald Glacier is a past producing base-metal vein type deposit mined between 1951 and 1968. The mineralization consists of en-echelon quartz veins containing galena, sphalerite, chalcopyrite and pyrite that extend for at least 1200 meters in Hazelton Group volcanic and sedimentary rocks.

15.5 Seel

The Seel occurrence is located on the south side of Tahtsa Reach, 7.8 kilometres east-southeast of the Huckleberry mine (Fig. 78). Porphyry style mineralization is related to a Bulkley stock that has intruded Telkwa and Smithers Formation. The stock is composite with at least two phases including a dioritic phase and variably textured, dominantly feldspar porphyritic granodiorites. Alteration associated with mineralization includes biotitic hornfelsing in sedimentary rocks, biotite alteration in some porphyritic intrusive phases and widespread sericite and intermittent sericite-quartz in the porphyritic intrusions. Vein mineralogy is typically pyrite-chalcopyrite-quartz, but some early magnetite-quartz veining exists associated wiht potassic alteration in crowded feldspar porphyries. Mineralization has been classified as copper-gold on the basis of some long drill intercepts such as drill hole S06-39 which graded 1.7 g/t Ag, 0.503 g/t Au, and 0.43% Cu over 160 meters as well as several other examples of 100 meter intercepts with copper ranging from 0.32 to 0.5% and gold from 0.38 to 0.5 g/t (Flower, 2020). Late stage veins and breccias are Cu-Pb-Zn-Ag quartz carbonates.

15.6 Deer Horn

The Deer Horn prospect is located abou 20 kilometers south of the Property and north of Lindquist Lake. The main prospect is a polymetallic epithermal vein system characterized by the presence of gold, scheelite, sphalerite, galena, chalcopyrite, hessite, altaite, tellurobismuthite, tetradymite, in a quartz vein host along with associated pyrite, pyrrhotite, magnetite, and arsenopyrite. The deposit occurs in Skeena Group rocks near the contact with mafic volcanics of the Lower Jurassic Gamsby Group and is proximal to dioritic intrusions of the Eocene Coast Plutonic Complex (Flower, 2020).

In 2009 Golden Odyssey Mining Inc. drilled hole DH09-068 which was highlighted by a 2 meter intercept that graded 89 g/t gold and 665 ppm tellurium. Subsequently the company was renamed Deer Horn Metals Inc. and drilled DH11-110, which intersected 10.5 metres grading 10.9 g/t gold, 297 g/t silver and 329 g/t tellurium. Scheelite mineralization is also locally important and concentrated in altered sedimentary rocks below a local thrust fault. The vein systems are structurally controlled in a thrust fault system and probably generated by an Eocene granodioritic stock.

15.7 New Nanik

The New Nanik prospect is located 32 km northwest of Troitsa on the western edge of Nanika Lake. The area lies approximately 4.8 kilometres east of the main contact between the Tertiary–Jurassic Coast Plutonic Complex to the west and various Mesozoic sediments and volcanics, principally Lower–Middle Jurassic Hazelton Group, to the east. A block of Hazelton Group rocks approximately 3.2 kilometres in length is present lying along the western shoreline of Nanika Lake.

Sulphide mineralization occurs as disseminations, fracture-filling and veinlets of pyrite, chalcopyrite, pyrrhotite and molybdenite. Pyrrhotite is a minor constituent in the mineralized zone and occurs as massive lenses a few centimetres wide. Molybdenite in minute amounts is widespread. The mineralization occurs in a west dipping, northeast trending fractured fault zone at the western contact of a block of altered felsic porphyritic Hazelton Group rocks with quartz monzonitic intrusives. In 1968, one drill hole intersected a 48 metre section of 0.75 per cent copper (Payie, 2015b).

16. Other Relevant Data and Information

At the time of writing, assays for the 101 samples collected by New Energy from the Property during the period of the author's property visit, were not available. However, the author is satisfied with the coverage provided by his check samples and believes that the company samples will not significantly influence the author's interpretation of the very large historical dataset evaluated in Item 6. There is no additional relevant data or information known to the author that is not disclosed in this technical report on the Troitsa Property.

17. Interpretation and Conclusions

17.1 Historical Work and Initial Exploration by New Energy

In August 2022 a geological crew, working under contract to New Energy, and the author conducted a 7 day exploration program on the Troitsa Property. The program was partially guided by the recommendations in a private preliminary report commissioned by New Energy that was based on extensive data compilation and interpretation by the author. The author's interpretations and conclusions, herein, were revised from the preliminary report to reflect field observations by the author and the crew and analytical data for the author's 14 check samples. The company's geochemical data were not available at the time of writing, but the author's check sample data have confirmed previous analytical data sufficiently to expect that the company's analytical data will not adversely affect the author's interpretations, and primary conclusion that the Troitsa Property warrants significant exploration effort and, in the author's opinion is a property of merit.

Copper and molybdenum mineralization in the Troitsa Stock conform to a porphyry style found in some Cu-Mo-Au deposits consisting of a high level elliptical stock with a zonal pattern of dykes, veins and alteration. The stock is a member of the Late Cretaceous Bulkley intrusive suite, which is responsible for several well-explored and mined porphyry copper deposits in the region. Mineralization consists of northwest-striking fracture or joint set controlled quartz-chalcopyrite veins in weakly altered granodiorite of the Troitsa stock, and disseminated chalcopyrite replacing biotite in feldspar porphyry dykes, which are also oriented parallel to the NW regional structural fabric. The mineralized dykes appear to form the core of a vein mineralized zone extending into the surrounding granodioritic to quartz monzonitic Troitsa stock and reflected in modest grades of copper in long intervals of drill core at several contiguous Main Zone drill holes. Potassic alteration was substantiated in the Main Zone porphyry dykes by high potassium values measured in whole rock analyses and negligible titanium values measured by aqua regia extraction signaling that titanium had recrystallized into rutile, which is consistent with potassic alteration. General alteration patterns in the stock and surrounding rocks are not well displayed nor delineated, but there is a significant biotite hornfels zone up to 60 meters wide on the east margin of the stock. Many other Bulkley suite porphyry systems in the region, including Berg and Huckleberry have significant resources developed in the hornfelsed rocks around the main stock. The only evidence of mineralization in the pyritic hornfels around the Troitsa stock is an area of widely spaced, galena-sphalerite quartz-carbonate veins cutting mafic tuffs of the Kasalka Formation.

A key conclusion reached from evaluation of historical and Property visit data is that the biotite feldspar porphyry dykes are the primary expression of a porphyry copper system in the Troitsa stock, within the current perspective. The stock and the dykes may have evolved from the same magma chamber and have similar compositions, but the dykes are inherently enriched in copper and magmatic fluids that drove mineralization whereas unveined parts of the stock are essentially barren. The main mineralized porphyry dyke at the Main Zone has been observed to be internally altered in zones along its length passing from orthoclase-biotite at the Main Zone to quartz-sericite and propylitic (Cawthorn, 1973) on the North Ridge, but the alteration is not necessarily reflected in the host granodiorites. The dykes, by themselves, are not mineable porphyry targets, but coupled with mineralization spread into surrounding rock they may be at the core of mineralized bodies. This conclusion was drawn from notably high copper contents in otherwise apparently unmineralized porphyry dykes, evidence of potassic alteration within the dykes, and swarms of veinlets in surrounding stock granodiorites, along with zones of discontinuous, amorphous alteration.

The most intensively explored part of the Property is known as the Main Zone, which occurs in a central alpine valley in the core of the Troitsa granodioritic stock. A long series of channel samples, cut in 2011, reveals grades of copper over two 20 meter intervals of 0.57% in both intervals within the 121 meter sample length. Lesser intervals grade approximately 0.12% over 18 and 26 meters, but the whole channel length grades an average of 0.28% over its 121 meter length. Diamond drill holes were spotted along the apparent strike of the zone mainly to the northwest, and in part based on an IP survey. The precise positions of the channel samples were measured by New Energy using a high resolution GPS unit during the August 2022 exploration program and compare favourably with estimated positions used by the author in a structural analysis.

Analysis of the drill hole and channel sample spatial, lithological, and geochemical data has led the author to conclude that the most consistently high grade intervals can be attributed to disseminated chalcopyrite in the southwest dipping feldspar porphyry dykes (FP dykes). Furthermore the author has concluded that the two series of high grade channel samples separated by a right angle bend in the creek bed from which the samples were cut, are a structural repetition of the same dyke. This dyke can be tracked with high confidence through drill sections for Tr11-01, 02 to Tr11-07, Tr12-09 and Tr12-10. Between the high grade intervals in the series of channel samples, and between the drill sections for Tr11-01, -02 and Tr11-03, -04, an altered fault zone may have offset the dyke, but it appears from mapping other dykes within the stock that the dyke, alternatively, may have been offset along orthogonal intrusive channels, or may form a series of en-echelon lenses. Faulting may have contributed to the sinistral offset of the 20 meter dyke, which would be resolved as some combination of sinistral and east side down motion along the surface strike of 350° amounting to about 35 meters of horizontal apparent offset. In either case, fault offset or intrusive bends, the channel samples in the two reaches of the creek are representative of the same dyke and surrounding mineralized granodiorite.

Correlating the FP dyke between drill and channel intercepts was facilitated by the distinctive geochemistry of the FP dykes which, with aqua regia digestion used in the ICP analyses, are anomalously low in Ti compared to all the other rock types and anomalously high in Zr, although Ti analyzed by whole rock methods is actually similar to other granitoids. The very low Ti analytical values in FP dyke intersections in the drill core represent a low degree of partial extraction of Ti by aqua regia digestion from a relatively insoluble Ti mineral. This was revealed by comparison of analyses from three different analytical digestion methods, whole rock lithium borate fusion, strong 4-acid digestion, and aqua regia digestion on 8 granitoid samples collected by the author including 4 samples from the main zone dykes. All of the 8 granitoid rocks analyzed by fusion have similar whole rock TiO_2 concentration ranging from 0.25 to 0.32 wt% or by 4 acid dissolution Ti of 0.19 to 0.34 wt%. The low degree of Ti extraction by aqua regia in the Main Zone dykes (sub-detection of 0.005%) compared to other granitoid dykes is interpreted as the result of the Ti being present in the dykes as rutile. Rutile is inferred to have crystallized in the dykes, replacing an earlier more soluble species, as a result of the high oxidation state of potassic alteration of the dykes stabilizing rutile (TiO_2) as the primary Ti species. A high oxidation state is consistent not only with the the presence of rutile, but also disseminated chalcopyrite mineralization and hydrothermal biotite. Hydrothermal biotite does not incorporate Ti to the same degree as magmatic biotite, which it replaced and it is inferred that Ti was liberated from magmatic biotite as well as other Ti minerals. In other alteration types, peripheral to a potassic alteration zone, titanite (aka sphene, $CaTiSiO_4$), and ilmenite ($FeTiO_3$) are the stable Ti species and are much more soluble in aqua regia than is rutile indicated by a range up to 0.15% Ti in other granitoids analyzed. This distinctive geochemical

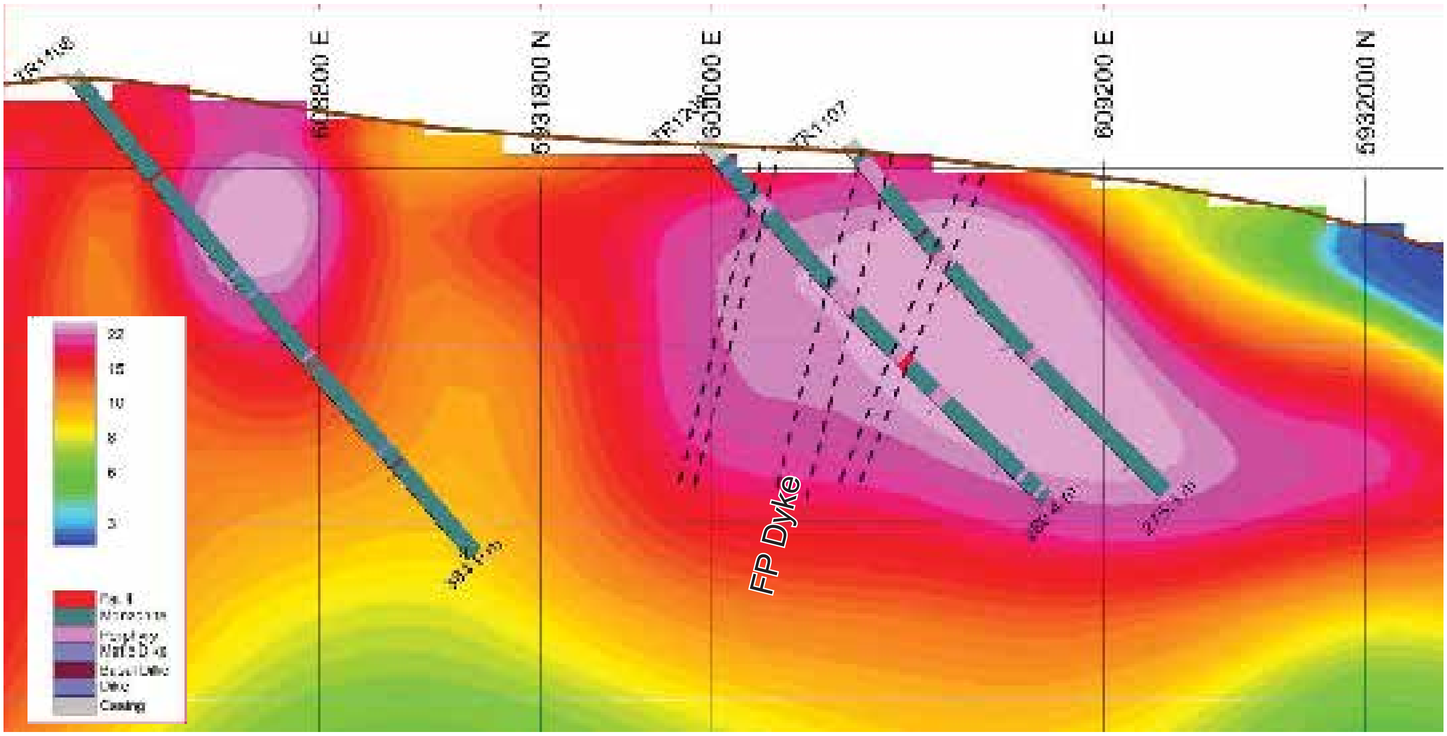


Figure 119: IP section at drill holes Tr11-07, -08 and Tr12-09
An example IP inversion section with projections of diamond drill traces showing geological units. Grid references, and drill hole lengths (label at end of hole) are in meters to show scale. Section looks north. Modified by the author from Galambos (2013).

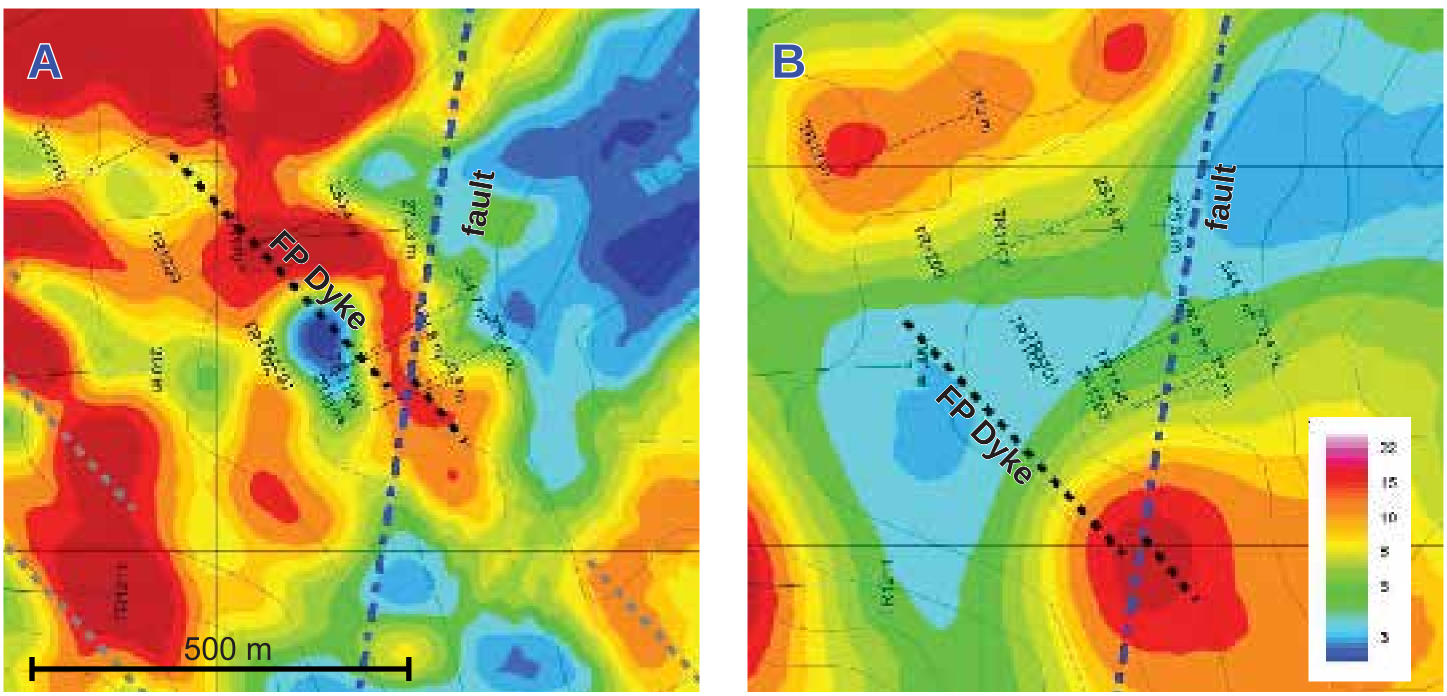


Figure 118: Interpretation of the Fault - Dyke Intersection in IP depth inversions
Inversion "**A**" is for 50 m depth; Inversion "**B**" for 300 m. The fault is assumed to be vertical and the dyke dipping at about 65 to the SW. The large IP anomaly at depth may be caused by either doubling of the dyke across a fault, or thicker section from dilatant jogs or bends in the intrusive path of the dyke, but this is not certain because a response from the dyke does not appear on expected strike to the northwest. It is recommended that the IP inversions be interpreted using various structural configurations. Chargeability scale on right in B is in milliseconds.
Maps drawn by the author in ArcGIS 9.3, April 2022.

signature was tracked across the drill sections confirming structural interpretations of the drill intercepts and observed core angles.

Interpretation of IP sections and plans in the vicinity of the Main Zone shows reasonable correspondence between the estimated plunge of the interpreted dyke-fault intersection line, or alternatively, a dilatant jog or abrupt bend in the path of the dyke, and a narrow chargeability high that continues from the 50 m depth plan in Figure 119-A to the 300 m plan in Figure 119-B. At the northwest end of the drill screen, in drill sections for Tr11-05 and -06, the FP dyke and the associated high grade intervals prominent in the adjacent Tr12-10 section, are absent. Other faults oriented along 010° are visible in the steep ridgeline to the north and might account for the unmeasured offset of the FP dyke if not one of the other offsetting patterns observed by the author in well- exposed dykes in the South Glacier area.

The Main Zone FP dykes continue to the north into the North Ridge, but copper grades in possible extensions of the main dyke are lower and potassic alteration is not as evident. However, copper grades are still significantly higher than in the surrounding stock or many other barren dykes. One biotite feldspar porphyry dyke near the crest of the North Ridge graded 432 ppm Cu, but Ti by aqua regia was 0.038 wt% and K_2O was 4.6%. A nearby rusty weathering pyritic zone in an altered granitoid grades 2200 ppm Cu, the rock could be either part of the stock or a porphyry dyke perhaps continuous with those in the Main Zone.

On strike 1.5 to 2 km southeast of the Main Zone, a series of felsic porphyry dykes at the Trogold and Cirque showing lies within a zone of high level quartz carbonate and quartz-chalcopyrite veins. Disseminated chalcopyrite was observed in the dykes, but analytical data were not available. The significant gap in rock exposure that lies between the Main Zone and the Cirque Zone is covered in till and bush and was not included in the 2011 IP grid. Lateral variations from the Main Zone dyke-related mineralization may be seen at the South Glacier area where broad zones of phyllic-argillic alteration occur in tabular zones parallel to a set of hornblende porphyritic dykes, at least one of which have high K_2O in whole rock analyses, low Ti by aqua regia, and anomalously high copper (639 ppm Cu; Table 4).

Geochemical zoning is evident both in the drill hole dataset of 1786 samples and in 413 field samples from several showings across the Troitsa stock. In the drill core sample copper .silver and copper /iron ratios decrease away from the most mineralized drill holes and in the field the same effect is observed and can be interpreted to as a general decrease in the chalcopyrite and increase in pyrite in mineral assemblages away from the core area in the Main Zone. The relatively unexplored Troitsa Cirque zone shows similar Cu:Fe ratios as the Main Zone.

The West showing lies outside of the Troitsa stock on the west side and, although not conclusively in place, appears to be from a different magmatic source and type of mineralization than the Main Zone. A check sample confirmed significant copper (9800 ppm Cu), but also higher arsenic and gold than other showings and the geochemistry of the granitoid appears more mafic possibly a dioritic intrusion in contrast to the felsic compositions of the Troitsa stock and feldspar porphyry dykes. No similar rocks were mapped in the vicinity.

The TSA and Lake showings were not located during the 2022 exploration. The locations lie along the axis defined by the Cirque-Main Zone - North Ridge feldspar porphyry dykes and it might be speculated that these showings are related to the same suite of dykes.

Significant early stage exploration of the Troitsa Property, in the period from 1967 to 1986, included geochemical soil and talus surveys that remain as useful information on the potential distribution of mineralization in the stock. The geochemical surveys were principally aimed at B-horizon soils, but talus fines were substituted in many alpine areas of poor soil development and the distribution of anomalous analytical values appears continuous with those from soils. At least three of the geochemical surveys significantly overlap each other in the core of the pluton, which allows confirmation of significant results by comparison. Large areas of anomalous copper in surficial material (soils, talus fines, rock chips) remain under-explored in the southeast sector southeast of the Main Zone towards the Cirque and Trogold showings.

Geophysical surveys within the Property have included ground and airborne magnetometer surveys, an airborne EM survey, and at least one IP survey over the core of the Troitsa stock around the Main Zone. The three airborne magnetometer surveys corroborate each other showing an annular total magnetic intensity high centered over the stock. The ground based magnetometer survey from 2011 shows a NE trending magnetic high across the limits of the survey, which fits within a sector of the annular magnetic high on the northwest side of the stock. The importance of this is that it potentially negates concern that the annular magnetic highs in the airborne surveys were artefacts of lower ground clearance over the ridges than over the central valley. The annular high may be interpreted as some combination of hydrothermal depletion of magnetite in the core of the stock and hydrothermal magnetite in the hornfelsed zone around the stock. The magnetite low on the north side of the stock is likely a shadow effect caused by the steeply-sided, high magnetic susceptibility feature of the stock intercepting and deviating the Earth's north-dipping magnetic field lines, and not a magnetite destructive alteration zone.

The IP survey, centered on the Main Zone, utilized an interlaced moving array with 100 meter dipole to overcome difficult conductivity in hard tills, and produced inversion maps and sections of chargeability and resistivity with fair to good confidence (SJ Geophysics Logistics report) in the inversion model to depths of as much as 400 meters. Diamond drilling in 2011 and 2012, used the IP data for targeting, which seems to corroborate the inversion modeling of chargeability anomalies, at least in the situations tested. Comparison of drill hole results with the IP sections shows an interesting coincidence of good intersections of vein and disseminated mineralization in drill holes Tr11-07 and parallel drill hole Tr12-09 with a strong chargeability anomaly (Fig. 116). In contrast in the same IP section, drill hole Tr11-08, which was comparably lean in mineralization especially of the disseminated porphyry dyke-hosted chalcopyrite type, penetrates through only a minor chargeability zone on the section (Fig. 118). The most significant mineralization in Tr11-07 and Tr12-09 is associated with one feldspar porphyry dyke indicated in Figure 118 and many west-dipping quartz-chalcopyrite-pyrite veinlets that appear to be centered on the dyke. Other dykes intersected by the same drill holes are geochemically unrelated to the FP dyke and have negligible copper grades. It can be concluded that IP surveying can detect the disseminated and vein style mineralization in the dykes and surrounding rocks.

17.2 Risks and Uncertainties in the Interpretation of the Exploration Results

There are no significant exploration results from the historical work where there is a high risk that misinterpretation will have an effect on the outcome of future exploration work unless unwarranted reliance is placed on idealized porphyry copper system models. For example, while airborne magnetometer surveys show an apparent annular magnetic high which could conform to an idealized model of magnetite destructive alteration in the core of the stock, there are sufficient ground based observations of alteration in the granodiorites to prevent overreliance on such a model. Uncertainty in interpretation of IP inversions is a standard risk that should be recognized in future exploration targeting. Inversions are a model to explain the observed geophysical data and assume a homogeneous earth absent information to the contrary. Potential variance from the model increases with depth and the confidence should be assessed by varying the model parameters in prioritizing drill targets.

The assay data from field prospecting rock samples and drill core are sufficiently accurate for early stage exploration. Risks in misinterpretation are minimal and mainly related to the representivity of the sampled material. Copper grades of disseminated chalcopyrite as replacements of biotite may be as high as 1% Cu in grab type samples. Higher grades should be suspected of including significant proportions of vein chalcopyrite. The author has concluded from comparative analyses that analytical data for important economic elements, Cu, Ag, Zn, and Pb, were accurately analyzed by either 4-acid digestion or aqua regia digestion methods and that gold can be reliably estimated by the same aqua regia method and accurately measured by fire assay.

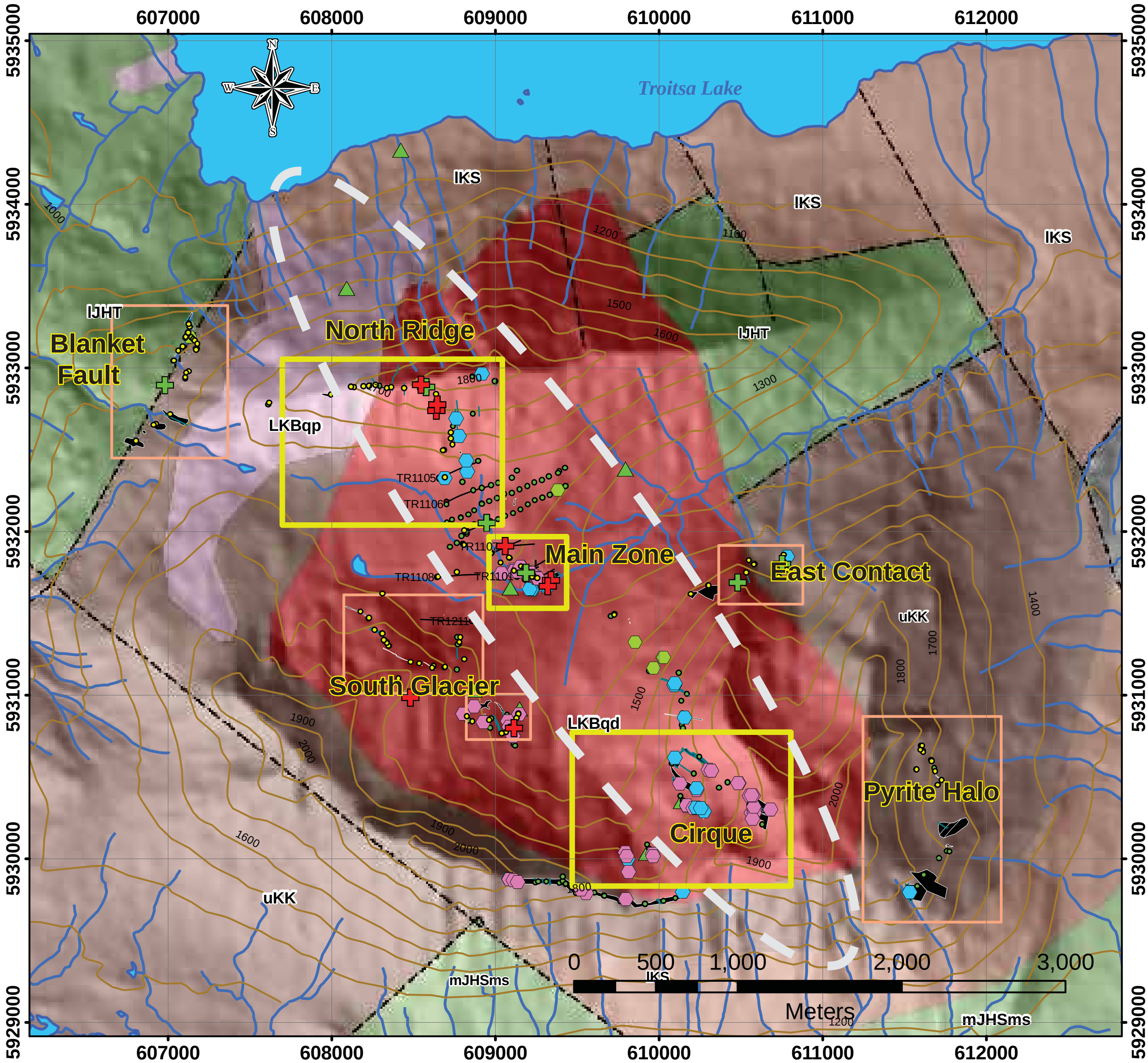
18. Recommendations

18.1 Exploration Priorities and Methods

On the basis of currently known geological and logistical information about the Troitsa Property and results from the author's property visit, a second exploration programme by New Energy Metals is recommended.

The primary recommendation is to focus attention on the various dyke phases associated with mineralization. The main tool is a comprehensive program of lithogeochemistry involving sampling all granitoid dykes in a 1 kilometer wide corridor along a NW-SE axis through the Main Zone reaching from the SE slopes of Piano Peak to the TSA showing area at the west end of Troitsa Lake. The focus area is shown in Figure 120, a map of the Troitsa Stock relative to the map outlines of the 2022 exploration areas. The objective of the program is to classify the dykes and identify ones from the Main Zone biotite-feldspar porphyry suite and determine the degree of alteration and mineralization at intervals along their length. The geochemical characteristics of the altered zones of the biotite feldspar porphyry (BFP) suite appear to be K_2O by WR higher than 4.5%, or K by 4-acid > 3.9%, copper contents greater than 400 ppm, possibly high tungsten (W) by any method, WR TiO_2 between 0.2 and 0.3%, but very low Ti by aqua regia (<0.03%), and Zr by WR of 120 to 140 ppm. Most of the analytical parameters may be determined using a strong 4-acid digestion as in the ALS method ME-MS61, but the low Ti by aqua regia may also prove useful and requires ME-MS41.

The choice of an analytical scheme depends on the budget. Ideally, run all dyke samples with whole rock, 4 acid digestion and aqua regia digestion techniques, and negotiate a discount or custom scheme with the analytical laboratory. However, each of the methods has distinct advantages: the whole rock package using fusion and either XRF or ICP analysis is the only way to measure SiO_2 (except for potential with newer handheld XRF technology) and the most consistent total results for refractory elements such as Ti, Zr and REEs. Four acid digestion is a good compromise giving consistent near total analysis of K and Na, useful in assessment of potassic alteration, but is inconsistent in Zr with unpredictable variability in degree of dissolution and it does not provide SiO_2. Aqua regia is the only method producing the potentially diagnostic low Ti results when rutile is the main Ti mineral, and gives reliable, if imprecise, results for gold (and mercury) obviating the need for separate gold analysis by fire assay. Titanium by whole rock fusion, and to a lesser and more variable degree, 4 acid digestion,



Coordinates; NAD 83 UTM Zone 9

Figure 120: Recommended Axis of Exploration
Grey dashed line ellipse outlines the area in which mineralized biotite-feldspar porphyry dykes may core a porphyry copper system.
Drawn by the author in ArcGIS 9.3 and InDesign, November, 2022.

represents nearly 100% of the Ti in the rock, but cannot be used to discriminate between Ti in rutile or sphene. Aqua regia is a not a good choice for accurate representation of most of the rock forming elements even accepting the partial dissolution because the degree of extraction is highly variable. Analysis of tungsten by whole rock and 4-acid methods shows a high degree of variability, but is distinctly high in the Main Zone FP dykes (Table 5: 45 to 194 ppm by 4-acid, and 16 to 126 by aqua regia). However, in more peripheral dykes of the same suite 4-acid analyses of tungsten are still distinctly higher than ones for the stock, but by aqua regia there is no distinction (see Table 5) suggesting some mineralogical variability akin to that for Ti.

The lithogeochemical data can be used to first identify dykes of the biotite-feldspar porphyry suite, along with mineralogical data, and then vector in on the more altered sections of individual dykes on the basis of high K_2O (or K) and copper content (independent of veins), and low aqua regia Ti, and possibly higher aqua regia gold. Potassic alteration within the biotite-feldspar porphyritic granodiorite dykes should be researched to determine the origin of the altering fluids and why potassic alteration appears to be channeled and confined to the dykes and not apparently channeled along stockwork fractures in the main stock.

The nomenclature for the intrusive rocks should be resolved. Many different rock type names are used for the Troitsa stock including granodiorite, quartz diorite and quartz monzonite. These names were probably variously based on modal mineralogy from petrographic work, normative mineral calculations from limited whole rock analyses, and general field characteristics. A good suite of whole rock analyses should be used to establish a true range of composition and in the same rocks modal mineralogy should be established and used consistently in order that real variations can be observed.

Ground geophysical surveys of the entire area of the Troitsa stock and its marginal zones would be an ideal, but impractical goal limited by extremely steep terrain and glacial ice cover. However, the gap between the south side of the existing IP grid and exposed areas of rock in steep terrain to the southeast should be surveyed by IP and ground magnetometers to potentially track the zone of mineralization.

To expedite geological mapping, the Silver Standards map from 1967 shows many precisely mapped features such as intersections and bifurcations of dykes such as those in the Cirque-Trogold area. The Silver Standards map used in the field was georeferenced by the author, but inaccurately based on some rather generalized geographic features and a lack of plotted coordinates. Revising the georeferencing using now precisely located identifiable features would be advisable to make the remainder of the map more useful in continued mapping and exploration.

Logistics for the Troitsa program are important because of its remote location and rugged terrain. Helicopter access is essential, but would be expensive on a casual basis from bases in Smithers or Terrace/Kitimat and a camp based helicopter should be considered. A field camp for the work should be considered in the upper valley of the Main Zone, but otherwise negotiating rentals at Surge Copper's Seel/Ox camp or the Huckleberry Mine site might be advisable if daily access to the site required helicopter support regardless of field camp location. One potentially useful logistical approach is to use a single helicopter flight each day either for a setout from camp or a pickup and use the daily flights for supplies.

18.2 Recommended Program and Budget

18.2.1 Logistics

The remoteness of the Property, climate, historical results and the recent exploration logistics inform the recommended exploration program. Helicopter access is necessary but nearest helicopter bases are in Terrace and Smithers, both of which are about 1.5 hours flying time return, which would amount to a minimum of 3 hours a day just for one crew flight from either base or a ferrying flight to a local camp. With a crew size requiring two flights in a 4 to 5 seat machine (plus room for gear and samples) such as an A-Star B-2 a base camp nearby might require a total of 4 flying hours per day. For a two week program with a 6 to 10 person crew operating out of Smithers, helicopter support could be the largest cost. Various alternatives to mitigate helicopter cost might be found by sharing with other crews in the area, working from a nearby base camp rather than Smithers, or building an on site camp. Although an on-site camp could save considerable daily flight costs, the major cost in camp building and demobilization in this remote location is helicopter time, which for short duration projects with small crews may add up to the same as daily, 2 way flights.

A basic field camp for 10 people could be readily established in the flat, open ground at the Main Zone for a two week project of mapping, prospecting and geophysical surveying. A basic camp would use perhaps three industry standard 14 by 16 foot frame tents erected on the ground (with ground sheets), lightweight Roll-A-Cots™, small fuel oil heaters, lightweight propane cooking equipment and a 2 kW inverter generator. The proposed site is centrally located within easy hiking distance of much of the recommended area of focus on the Property without helicopter support. However, a single flight each day is recommended to extend the range of traverses either by a morning set-out or an afternoon pickup with the additional consideration of daily resupply of food and fuel and periodic shipping of rock samples. A single daily flight would also allow a member of the crew to return to town overnight to do the expediting or other business. Communications would use InReach satellite devices and perhaps a satellite internet transceiver. A on-site camp obviates the need for setting out emergency packs each day and may save considerable time for each crew member flying back and forth to Smithers, along with the added logistical cost of staggered setout and pickup times if only one helicopter is available. The basic camp proposed also has the significant advantage of not requiring permitting. IP surveys require permits, but in most areas of the province an IP survey gets deemed approval.

Costs are laid out in Table 7 below. The cost of mobilization flights is estimated at 12 hours at $2000. hour for $24,000. Daily support flights for 14 days at the same rates add up to 30 hours for $60,000. Camp rentals and supplies would cost $20,000 for two weeks for 10 people.

18.2.2 Geophysical Surveys

Extending the IP survey to the gap between the Main Zone and the Cirque-Trogold area is probably the main way of exploring this covered area short of diamond drilling. Depending on the type of array used, and therefore either a 5 or 6 man crew, the daily contract cost would likely be about $4130 to cover perhaps 1.5 line kilometers per day depending on bush and terrain. For ten days of surveying this adds up to $54,000 for daily survey fess to which must be added geophysical crew mobilization at perhaps $5000, plus the cost of reprocessing data and producing inversions, which appear necessary in this steep terrain.

18.2.3 Geology

A program of geological mapping focused on differentiating and tracking the various suites of dykes, and sampling rocks for lithogeochemical characterization would probably require two professional geologists experienced in mountainous terrain and porphyry exploration. Along with two assistants this component would cost about $2600 per day for two weeks, which amounts to $36,400. Add to this planning and interpretation by a lead geologist and the total for the geological fees comes to $52,400.

Many uncertainties remain to be resolved for a program of the proposed nature to be accomplished during the 2023 field season. Helicopter rates may be higher as result of increased exploration activity, inflation including significantly higher fuel costs. Permitting for the proposed IP program may be delayed by factors such as indigenous consultation, although generally IP surveys may fall under provisions of deemed approval by the Ministry. Helicopter support for Smithers base accommodation rather than a field camp, would likely add $25,000 to $30,000 over the estimated $84,000, but Silver King Helicopters in the 2022 program were remarkably resourceful and accommodating resulting from sharing costs with other business in the area.

The recommended total budget for the proposed on-site camp - exploration program amounts to $235,800 as itemized in Table 7.

Table 7: ***Troitsa 2023 Recommended Program Budget***

ITEM	units	rate	COST
Geologist	22	$800.00	$17,600.00
Geologist	14	$800.00	$11,200.00
Assistants (2 for 15 days)	28	$500.00	$14,000.00
IP Survey days	12	$4,500.00	$54,000.00
Mob-demob geophysics	2	$2,500.00	$5,000.00
IP inversions	1	$2,000.00	$2,000.00
Camp supplies	140	$100.00	$14,000.00
Camp rentals (tents, heaters, generator)	1	$5,000.00	$5,000.00
Communications equipment rental	1	$1,000.00	$1,000.00
Geochemistry (minlzn samples)	200	$50.00	$10,000.00
Lithogeochemistry	60	$140.00	$8,400.00
Helicopter mobe/demobe flights	12	$2,000.00	$24,000.00
Helicopter daily support flights	30	$2,000.00	$60,000.00
Interpretation	12	$800.00	$9,600.00

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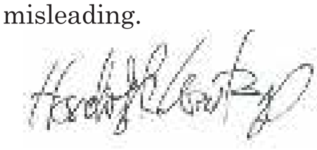
20. Certificate of Qualified Person

Statement of Qualifications: Hardolph Wasteneys Ph.D., P.Geo.

I, Hardolph Wasteneys, Ph.D, P.Geo., resident near Strathcona Park Lodge, Upper Campbell Lake at 40960 Gold River Highway, Campbell River, British Columbia, do hereby certify that my qualifications, stated below, apply to the National Instrument 43-101 F1 Technical Report on the Troitsa Property, Central British Columbia (the "Technical Report") authored by me as of the effective date of November 17, 2022.

1. I am a self employed Professional Geoscientist registered as a member of the Association of Professional Engineers and Geoscientists of British Columbia, member number 32102, and have worked primarily in mineral exploration, mining, geological and U-Pb geochronological research, and geological education since 1976.
2. I graduated with the degree of Bachelor of Science in Geological Engineering, Mineral Resources option from the Faculty of Applied Science, Queen's University, Kingston in 1979 by which date I had 10 months of geological field experience in Ontario, British Columbia and NWT.
3. My degree of Doctor of Philosophy was granted by Queen's University, Kingston in 1990 in the field of economic geology with research specialized in the study of epithermal ore deposits and shoshonitic volcanics of southern Peru under the supervision of Prof. Alan H. Clark. My research work involved 3 months of field work at a remote mine.
4. In post-doctoral research I worked at the Jack Satterley Geochronology Laboratory in the Royal Ontario Museum directed by Dr. T. E. Krogh from 1990 to 1997 in the field of U-Pb geochronology and completed numerous independent studies on the timing of ore deposition and regional metamorphism in collaboration with university and government survey geologists and resulting in several publications in peer reviewed international journals.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Properties ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
7. Relevant field experience for evaluation of the Troitsa Property includes exploration and research in volcanogenic massive sulphide deposits at Palmer (Haines AK, 2006 to 2009 and 2020), in magmatic hydrothermal deposits at Brynnor (iron skarn 2008-2009 Vancouver Island), copper skarns and porphyries (Galore Creek, 2011; Vancouver Island, ongoing), molybdenum porphyries (Cassiar, 1979) and exploration for porphyry copper deposits in the Dease Lake area (2013-2014). My recent exploration work has focused on epithermal and precious metal vein deposits in the Terrace - Smithers area, skarns on Vancouver Island and in the BC interior. My Ph.D. thesis research was on establishing connections between magmatic hydrothermal ore deposits and shoshonitic/alkalic magmatism.
8. I have no beneficial interest in New Energy Metals Corp., am independent of the entities applying all of the tests in Section 1.5 of NI 43-101 and hold no interests in any aspects of the Troitsa Property.
9. I have not had prior involvement with the Troitsa Property that is the subject of the Technical Report.
10. I am responsible for all aspects of the Technical Report including my presentation and interpretation of the New Energy Metals Corp. field data
11. I visited the Troitsa Property from August 2 to August 9, 2022 for the purposes of this Technical Report.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.



November 17, 2022

Date and Signature Page

Effective Date of this Report: November 17. 2022
Last Revision Date: November 17, 2022

Date of Signing: November 17, 2022

Hardolph Wasteneys

Hardolph Wasteneys Ph.D. P.Geo.