NI 43-101 TECHNICAL REPORT

on the

Adam West Property

Northern Vancouver Island,

British Columbia

Latitude: 50° 16’ 29”**N, Longitude:** 126° 03’ 5” **W**

UTM Zone 9: 710084 E, 5573344 N, NAD83

for

Altum Resource Corp.

3148 Highland Blvd.

North Vancouver, British Columbia

V7R 2X6

by

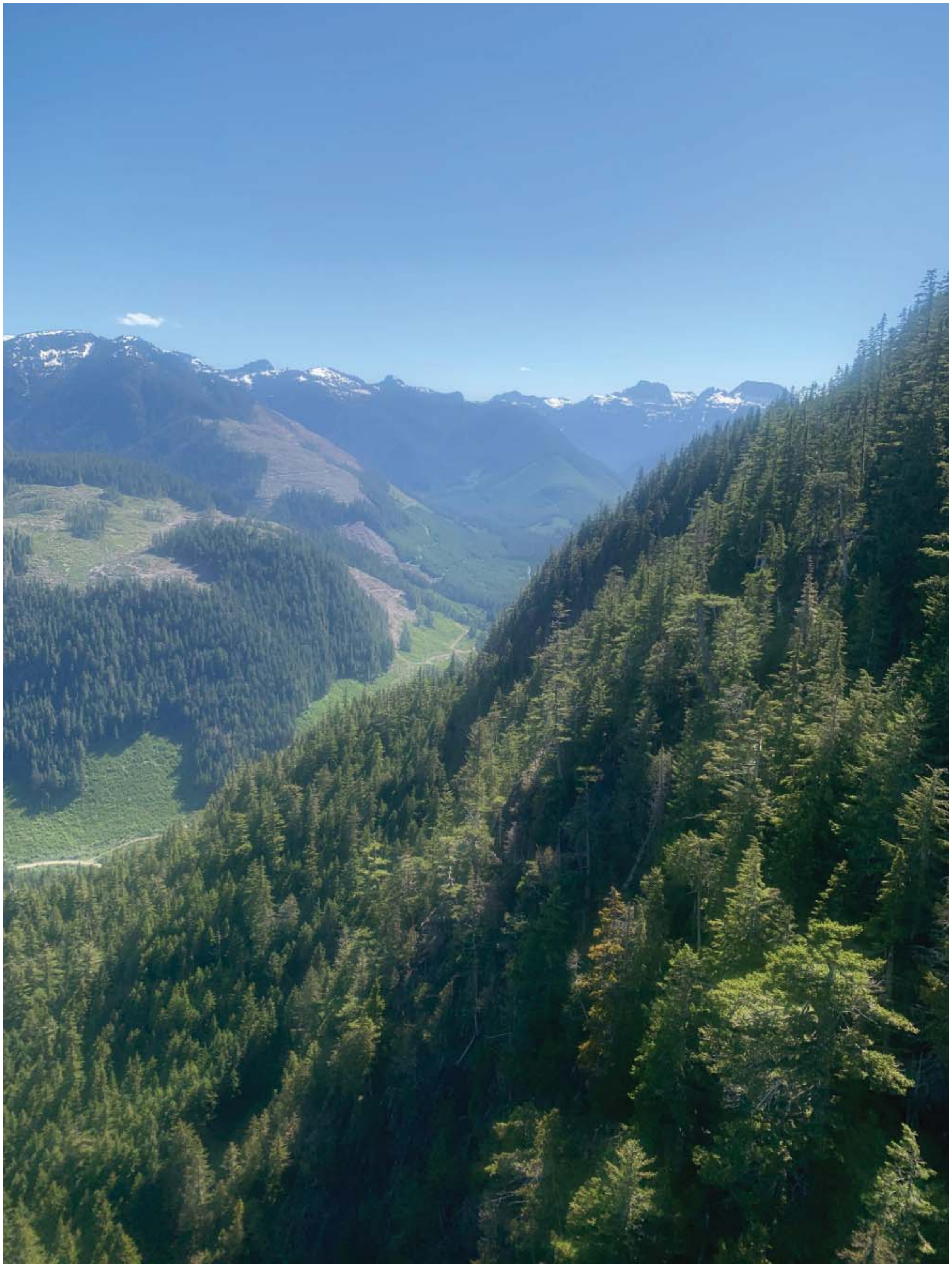
Hardolph Wasteneys, Ph.D., P.Geo.

Bravewolf Consulting

PO Box 2160

Campbell River, British Columbia

Effective Date: July 25, 2019



Frontispiece

The photo was taken from a helicopter along the east side of the Adam West ridge looking southeast. The Adam River is in the valley near the visible logging road. Logging slashes are in the southeast of the claim group. Photo taken by Alex Walcott on June 18, 2019 during the airborne magnetometer survey by Peter E. Walcott and Associates.

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1.0 Summary

The Adam West Property (the “Adam West Property” or the “Property”) is located about 60 kilometers (‘km”) northwest of Campbell River and 15 km southwest of Sayward on Vancouver Island, British Columbia. It constitutes 5 contiguous mineral claims numbered 1049417, 1057922, 1057924, 1057941, and 1058977 amounting to 3097.6 hectares in the British Columbia Mineral Title Online cell system which lists Richard John Billingsley as the sole owner of each. The center of the Property, located at a cell claim corner, is at 50° 16’ 29” N latitude by 126° 03’ 5” W longitude or in UTM Zone 9 coordinates, 710084 E and 5573344 N in the NAD83 datum. There are no other adjoining claims. The Adam West Claims straddle the Upper Adam River south of British Columbia Highway 19 for about 9 km, and are readily accessible on a network of active Forest Service Roads (Figure 1).

Figure 1: Roadside outcrops on the Adam West Main logging road.
View looks south along the Upper Adam River Valley obliquely towards the ridge at the southern extent of the Property on the right. The outcrop is within the Island Intrusive Suite, Adam River Pluton on the east side of the Property. Photo by the author, May 13, 2019.

The Property is the subject of a Property option agreement between Altum Resource Corp. (“Altum” or the “Optionee”) and Richard Billingsley and Gaye Richards (the “Vendors”) dated April 2, 2019 (the “Property Option Agreement”). This technical report is written for the purpose of supporting an Initial Public Offering (“IPO”) by Altum.

The Adam West Claims are underlain in the west by Triassic Karmutsen Formation tholeiitic basalts that were deposited as a submarine plateau by flood type eruptions above a mantle plume. The Karmutsen Formation is as much as 6 km thick. The base is marked by sills intruding Doanella bearing cherts that are exposed in a few fault blocks including in Schoen Lake Provincial Park 15 km south of the Property. Above the base are thousands of meters of pillowed flows, then coarse pillow breccias all of submarine deposition. The Karmutsen

Formation eventually became emergent and thick subaerial flows are indicated by amygdules and variable oxidation. Towards the top, hiatuses in volcanism are marked by thin limestone beds indicating subsidence below sea level. Final cessation of eruptions is marked by a cap of platformal limestones of the Quatsino Formation which marks the route of the Adam River in the Property. The Property is principally underlain by the upper, subaerial section of the Karmutsen Formation. Gradual resumption of volcanic arc activity in the Jurassic is indicated by deposition of the Bonanza Group beginning with carbonate sediments and tuffs of the Parson Bay Formation, overlying the Quatsino limestones, and evolving to calc-alkaline volcanics exposed south east of the Property in a fault block. The intrusive equivalents of the Bonanza Group volcanics are represented by the widely exposed voluminous plutons of the Island Plutonic Suite exposed in the northeastern part of the Property. Cretaceous compression followed by extension in the Tertiary resulted in a series of block faults, one of which runs northerly through the center of the Property.

The area of the Property has a long history of exploration activity documented back to 1918 at the Lucky Jim Showing along the Adam River. Exploration documented in assessment reports dates from the 1960s through to recent times and has involved extensive prospecting, highly detailed geological mapping, geophysical surveys, soil geochemistry, minor drifting, several diamond drilling campaigns.

Numerous occurrences or showings of copper-rich mineralization are found in the basalts of the Karmutsen Formation on the Property and in various other areas of Vancouver Island. These are characteristically veins, fracture and amygdule fillings with assemblages of bornite, chalcocite and chalcopyrite associated with epidote and prehnite-pumpellyite metamorphic alteration assemblages. The Adam West showing is a concentration of amygdules and fractures at the top of thick basalt flows that are mineralized with bornite-chalcocite and chalcopyrite. A limestone horizon occurs above the basalt. A few km south at Boyes Creek, a shallow, north dipping fault structure is eroded out to form a steep V-shaped canyon exposing in the footwall of the fault thick lenses, up to 30 cm thick, of nearly pure sulphides of bornite, chalcocite and chalcopyrite, from which hand samples grade up to 42% copper. Along the Adam River in a canyon, the Lucky Jim skarn showing was discovered in 1918 and extensively prospected and drilled over many decades, High gold grades up to 69 g/t were reported mainly from a chalcopyrite-pyrrhotite mineralized skarn within or adjacent to a porphyritic dyke that intrudes a fault bounded wedge of limestone, probably an internal lens within the Karmutsen.

Exploration of the Property by Altum started in the fall of 2018 with a 3.5 km test line of Induced Polarization ("IP") geophysics that ran across the Boyes Creek and Adam West Showings. Significant chargeability anomalies that probably are a response of disseminated and vein type sulphide mineralization were recorded along the line near the two showings. Exploration field work in April 2019 confirmed high grades of copper mineralization in grab samples at the Adam West showing where grades up to 2% Cu were obtained in basalts with chalcopyrite, chalcocite and bornite infilling amygdules and fractures and at Boyes Creek where massive bornite lenses up to 30 cm thick yielded grab samples with up to 39.6% Cu. The Boyes Creek showings are characterized by fracture networks in massive basalt flows in the footwall of the fault that forms the locus of the eponymous creek. The Adam West Showings are in amygdaloidal basalt flows directly underlying a 15 m thick limestone layer that was conformably deposited on the emergent basalt flows. The Lucky Jim showing was also relocated along the Adam River in the fall of 2018 and 7 grab samples from a chalcopyrite-pyrrhotite mineralized skarn yielded between 0.27 g/t Au with 0.11% Cu and 24.9 g/t Au and 5.31% Cu. Three samples also yielded high silver grades between 43 and 101 g/t. Exploration in April 2019 at Lucky Jim involved intensive prospecting on both sides of the river and confirmed the grab sample grades.

The Lucky Jim showing is skarn or metasomatic mineralization proximal to an intermediate composition dyke that runs parallel to steep fault structures cutting the Karmutsen Fm basalts and an interflow limestone bed along the Adam River. Reactions between the dyke the basalt and the limestone have resulted in intensive replacement and fracturing of the dyke and replacement by massive and fracture controlled sulphide mineralization.

A Property examination by the author in May 2019 confirmed the high grades of copper at the Boyes Creek (check sample assayed 42% Cu) and Adam West showings and gold at the Lucky Jim (check sample graded 4 g/y Au) showing. The author's assessment of the 175 rock samples analysed by Altum, indicates consistently lower Ag:Au and Cu:Ag metal ratios in the Lucky Jim showing mineralized samples than in those from Boyes Creek and Adam West showings. This difference reflects the gold-rich nature of the Lucky Jim skarn mineralization and the copper-rich nature of the Boyes Creek and Adam West fracture and amygdule filling copper mineralization indicating two fundamentally different types of mineralizing systems. The basalt hosted bornite-chalcocite is the result of metamorphic fluids in prehnite-pumpellyite facies metamorphism remobilizing copper from lower parts of the basalt pile and redepositing them as bornite-chalcocite-chalcopyite and perhaps native copper in the structurally higher, subaerially deposited upper Karmutsen Formation.

An airborne magnetometer survey, conducted in June 2019, covered the entire Property and revealed a large N-S fault structure along the Adam River as well as subsidiary NE trending structures in the Karmutsen Formation on the west side of the river. The Karmutsen Fm has a very high total magnetic intensity, while the Quatsino Limestone Fm is very low.

The Property warrants continued exploration. The first phase of exploration should begin with survey grade detailed geological mapping at the Lucky Jim showing to establish exact geometry of the skarn system and to confirm the controls on high grade gold mineralization. At the Boyes Creek showing, a similarly detailed mapping and sampling program is recommended to determine the structural controls on mineralization and to realign previous highly detailed mapping of veins. IP Geophysics has been shown to respond to mineralization at Boyes Creek and Adam West and a broader survey should be considered. A second phase of exploration including drilling should be undertaken once the structure is determined at the Lucky Jim showing. The only known previous drilling campaign, undertaken in a prior historical exploration program by the Consolidated Mining and Smelting Company in 1926 and 1927, was not well reported in Annual Reports of the Minister of Mines for 1927 through 1929 and subsequently only a few assays from the drilling have been reported. The author could not verify the results of the Cominco drilling and no other information is available.

2.0 Introduction

The Adam West Property is a mineral claim group on northern Vancouver Island shown on Figure 2. The Adam West Property is subject to the Property Option Agreement, dated April 2, 2019, between Altum and the vendors, whereby Altum can acquire 100% of the interest in and to certain mineral claims comprising the Property. The author was retained by Altum 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 Adam West Property (the "Technical Report" or the "Report"). Richard Billingsley is the sole owner of the Adam West mineral claims near Sayward on Vancouver Island in the Nanaimo Mining Division.

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.

The author has relied on a personal field inspection of the Property and a variety of information sources available in the public domain and from Altum's exploration programs in preparation of this Report. 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 since about 1964. Information prior to that was obtained from several volumes of the Annual Report of the Minister of Mines for British Columbia. A list of reports, maps and other information sources used in the preparation of this report is provided in the Item 19 References of this Report.

The author has referred to the work of various geological experts in the preparation of this 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 this work and knowledge of the companies involved, the author believes this earlier work was carried out to high industry standards of the time. The author has also relied on the work of various other sub-contractors including ALS Labs for analysis of the samples.

In order to prepare this report, the author personally visited and examined the Adam West Property on May 13th, 2019 to investigate the geology of the Property. The author made personal inspection of the three important Minfile showings (Lucky Jim, Adam West and Boyes Creek) and many outcrops in the vicinity of known mineralization on the Property and in the local area to observe and understand the relevant geology of the area. The author also collected mineralized rock samples from the showings to compare with results from current exploration on behalf of Altum. All UTM coordinates referred to in the Report are in the North American Datum of 1983 ("NAD 83") and in UTM Zone 9, which has an eastern geographic boundary at the 126° East meridian and extends 6 degrees of longitude west to the 132° W meridian. (i.e. lies between 126° E and 132° W). This is worthy of note because the 126° W meridian lies just a few km east of the Property and coordinates in UTM Zone 10 jump from e.g. 713000 E at the line in zone 9 to to 286000 E in zone 10. 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 Altum that quote this Report and the work of the author.

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

Measurement Units:

C	Celsius
cm	centimeter
g/t	g/t
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
Cd	Cadmium
Ce	Cerium
Cu	Copper
Eu	Europium
La	Lanthanum
Mo	Molybdenum
Mn	Manganese
Pb	Lead
Pd	Palladium
Pt	Platinum
Sb	Antimony
Yb	Ytterbium
Zn	Zinc

Minerals:

bn	bornite
cc	chalcocite
cpy	chalcopyrite
po	pyrrhotite
py	pyrite
sp	sphalerite

Geological Terms

Fm	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	Geographic Positioning System
Mag	Magnetometer
N-MORB	Normal Mid-Ocean Ridge Basalt
NTS	National Topographic Series
QA	Quality Assurance
QC	Quality Control
REE	Rare Earth Element
RGS	Regional Geochemistry Survey
TMI	Total Magnetic Intensity
UTM	Universal Transverse Mercator

3.0 Reliance On Other Experts

In the matter of Property ownership, the author is not relying on a report or opinion of any experts. The ownership of the Property claims has been taken from the British Columbia Mineral Titles Online database. The data on this site is assumed to be correct and was last checked on May 10, 2019.

4.0 Property Description and Location

The Adam West Property is located about 60 km northwest of Campbell River British Columbia on Vancouver Island (Figure 2) in the Nanaimo Mining Division and lies just west of the dividing line between UTM zones 9 and 10 straddling NTS 1:50,000 topographic maps sheets 92L 01 and 08. It constitutes five (5) mineral claims numbered 1049417, 1057922, 1057924, 1057941, and 1058977 (the "Adam West Claims") amounting to 3097.6 hectares in the British Columbia Mineral Title Online cell system which lists Richard John Billingsley as sole owner of each. The center of the Property is at 50° 16' 29" N latitude by 126° 03' 5" W longitude or in UTM Zone 9 coordinates 710084 E and 5573344 N, NAD83 datum. There are no other

Figure 2: Location of the Adam West Claims on Northern Vancouver Island.
Map drawn in ArcGIS by the author using National Geographic Topographic base map and current Mineral Titles files for May, 2019.

adjoining claims.

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*") Richard John Billingsley's Adam West 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 a physiographic

Table 2: Claim Status

Title Number	Owner	NTS Map	Issue Date	Good To Date	Status	Area (ha)
1049417	Billingsley, Richard John (100%)	92L 01, 08	2017/Jan/24	2020/Sep/28	GOOD	82.6
1057922	Billingsley, Richard John (100%)	92L 01, 08	2018/Jan/25	2020/Sep/28	GOOD	289.1
1057924	Billingsley, Richard John (100%)	92L 01, 08	2018/Jan/ 25	2020/Sep/28	GOOD	1548.4
1057941	Billingsley, Richard John (100%)	92L 01, 08	2018/Jan/ 26	2020/Sep/28	GOOD	62.0
1058977	Billingsley, Richard John (100%)	92L 01, 08	2018/Mar/01	2020/Sep/28	GOOD	1115.6

map in Figure 4.

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 author believes that there are no significant factors that would impede expeditious granting of the required permits by British Columbia Ministry of Energy, Mines and Petroleum Resources. The Adam River is a salmonid spawning river with all of the required environmental regulations attached to such rivers. The author is unaware of other liabilities, environmental or otherwise, on the Adam West Claims.

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 in British Columbia and proponents of projects are advised to consult with and maintain relations with local indigenous groups. Logging rights are maintained under Timber Farm Licenses (TFLs) and roads are considered part of the provincial Forest Service Road network and thus not subject to closure by the TFL owner, Western Forest Products, except locally during logging operations for safety reasons. Future access via the road system may be affected by eventual cessation of logging activity in the area and maintenance of the roads by Western Forest Products, however the existence of provincial recreation sites in the headwaters of the Adam River may be a good indication that the province will continue to maintain the Adam River Main forest service road. There are no known environmental liabilities, significant factors and risks that affect access, title, or the right or ability to perform work on the 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 Altum the Vendors, which is further discussed below.

4.1 Property Option Agreement

Pursuant to the Property Option Agreement, Altum purchased the sole, exclusive and irrevocable option to acquire the 100% undivided right, title and interest to the Adam West Claims (the "Option") subject to the Gross Smelter Returns Royalty (the "GSR Royalty") described below. In order to exercise the Option, Altum paid to the Vendors a sum of $5,000 on April 2, 2019 and must make additional cash payments to the Vendors as follows:

- $10,000 on or before the date Altum's common shares are listed for trading on the Canadian Securities Exchange (the "Listing Date");
- $10,000 on or before the first anniversary of the Listing Date;
- $20,000 on or before the second anniversary of the Listing Date;
- $30,000 on or before the third anniversary of the Listing Date; and
- $30,000 on or before the fourth anniversary of the Listing Date.

In addition to the above listed payments, Altum must issue and deliver common shares without par value in its capital (the "Common Shares") to the Vendors as follows:

- 100,000 Common Shares within 15 days of the Listing Date;
- 300,000 Common Shares on or before the first anniversary of the Listing Date;
- 400,000 Common Shares on or before the second anniversary of the Listing Date;
- 600,000 Common Shares on or before the third anniversary of the Listing Date; and
- 600,000 Common Shares on or before the fourth anniversary of the Listing Date.

Upon the commencement of commercial production, the Altum shall pay to the Vendors the GSR Royalty, being equal to 1.8% of Gross Smelter Returns, where Gross Smelter Returns means the actual proceeds received from any mint, smelter, refinery or other optionee for the sale of gold, ores, base metals, precious metals, rare earth metals, elements and any other minerals normally subject to smelter returns or concentrates produced from the Adam West Claims.

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

5.1 Accessibility

The Adam West Property (Figure 2) is located straddling the Upper Adam River (Figure 3) in an active logging district accessed by well-maintained Forest Service Roads (Figure 1). Access to the Upper Adam River logging road system is directly from the south side of Highway 19 about 8 km west of Sayward Junction near Keta Lake and about 60 km northwest of the coastal city of Campbell River. The south edge of the Property is 10 km from Highway 19 by Upper Adam Main. The west side of the Property is accessed by a branch road leading west from a junction on Adam Main 500 m south of Highway 19 and ascends the west side of the ridge above Adam River. Helicopter access is available through various contract helicopter companies based in the Campbell River area, but landing sites are mainly along logging roads or in slashes. Within the Property the logging road network is currently being expanded along the ridge underlying the west side of the Adam West Claims and to the south (Figure 4).

5.2 Climate and Vegetation

The climate is typical of the central areas of Vancouver Island Insular Mountain ranges having high annual amounts of precipitation and moderate to mild elevation dependant temperatures. Annual precipitation totals vary depending on the effect of alpine rain shadows, but typically range from 1 to 2.5 m with significant amounts falling as snow between December and April. Climate is highly dependant on Pacific Ocean weather patterns and particularly the El Nino Southern Oscillation (ENSO) resulting in decadal fluctuations in snow pack depths and duration. Freezing levels typically fall below 1000 m in mid-November and fluctuate during the winter season as low as sea level with mild excursions well above the 2200 meter summits of local mountains. Snowpacks are highly elevation and ENSO dependant and can range from a few meters to several meters in the alpine above 1000 m and remain until late April in low snow years to June or July in high snow years. In the immediate area, the snow pack typically remains until early May above 500 m, particularly on north aspects of mountains and in steeper sided valleys. Summer weather can also vary widely, but typically is characterized by periods of clear weather up to 3 weeks long interspersed with rainfall events.

The Property is subject to variably heavy snowfall from December through April, and the length of the operating season is typically 10 months between early March and late November in the lower elevations and approximately 7 months on the ridge crest.

The Property and surrounding land are all below tree line and vary from Douglas Fir in lower elevations to mixed Yellow Cedar (Nootka False Cypress) and Amabalis Fir on the ridge tops. Recent clear cut logging has opened up much of the southern part of the Property east of the Adam River and in numerous 10 hectare blocks on the ridge. Much of the timber on the ridge is original old growth, but probably of less than 300 years in age.

The climate has resulted in the development of Humo-Ferric Podzols because soils are usually moist to humid year round. This results in leaching of upper mineral horizons (pH of 4.0 to 5.0) and causes translocation of iron and aluminum. Organic matter is not readily absorbed into the lower mineral soils (translocated), hence a reddish brown Bf-horizon develops which may exceed 1 meter in thickness (Lett, 2008).

5.3 Local Resources

The main local resources are logging infrastructure in the form of active, well maintained logging roads, and aggregate sources from the extensive till and glaciofluvial deposits of the area. Campbell River has many industrial services available to serve logging, mining and fishing operations.

5.4 Infrastructure

There is no existing infrastructure on the Property apart from the logging road system.

5.5 Physiography and Surficial Geology

The Property is located about 15 km southwest of the coastal town of Sayward in mountainous terrane bisected by the Adam River (Figure 3). The most prominent geographic feature of the Property is a steep sided north-south oriented timbered ridge with summit elevations of 1200 m shown on the topographic map in Figure 4. The Property lies on the eastern slopes of the ridge which is cut by a nearly straight northerly flowing reach of the Adam River. The river flows alternately through bedrock canyons up to 30 m wide (Figure 3) or broad shallow areas of glaciofluvial gravels. To the east of the Adam River the Property exhibits more subdued topography and that has been largely exploited by at least one phase of logging during the past century.

Figure 3: The Upper Adam River within the Property
Looking downstream along the Adam River from outcrops on the east bank of the river at the Lucky Jim Showing. Rock outcrops on the west bank (left) are basalts of the Karmutsen Formation. On the right bank, basalts are cut by porphyritic dyke probably from the Jurassic Island Plutonic Suite. Photo by the author on May 13, 2019.

The steep west side of the Adam River valley (Figure 3) is underlain by volcanic rocks of the Karmutsen Formation that have been sculpted by valley glaciation of the blocky fractured subhorizontal flows. The lower reach of the river valley itself has incised limestone and sedimentary rock of the Quatsino Formation and Parsons Bay Formation that are adjacent to a large plutonic mass to the east underlain by rugged terrane. In the southern area of the claim block the river valley remains linear and appears to follow a N-S fault structure such as is common elsewhere on the island such as the alignment of Buttle Lake approximately 60 km to the south.

The steep slopes above the Adam River are heavily treed, but underlain by colluvial deposits in the form of blocky talus. Steeper slopes above the talus expose thick sequences of

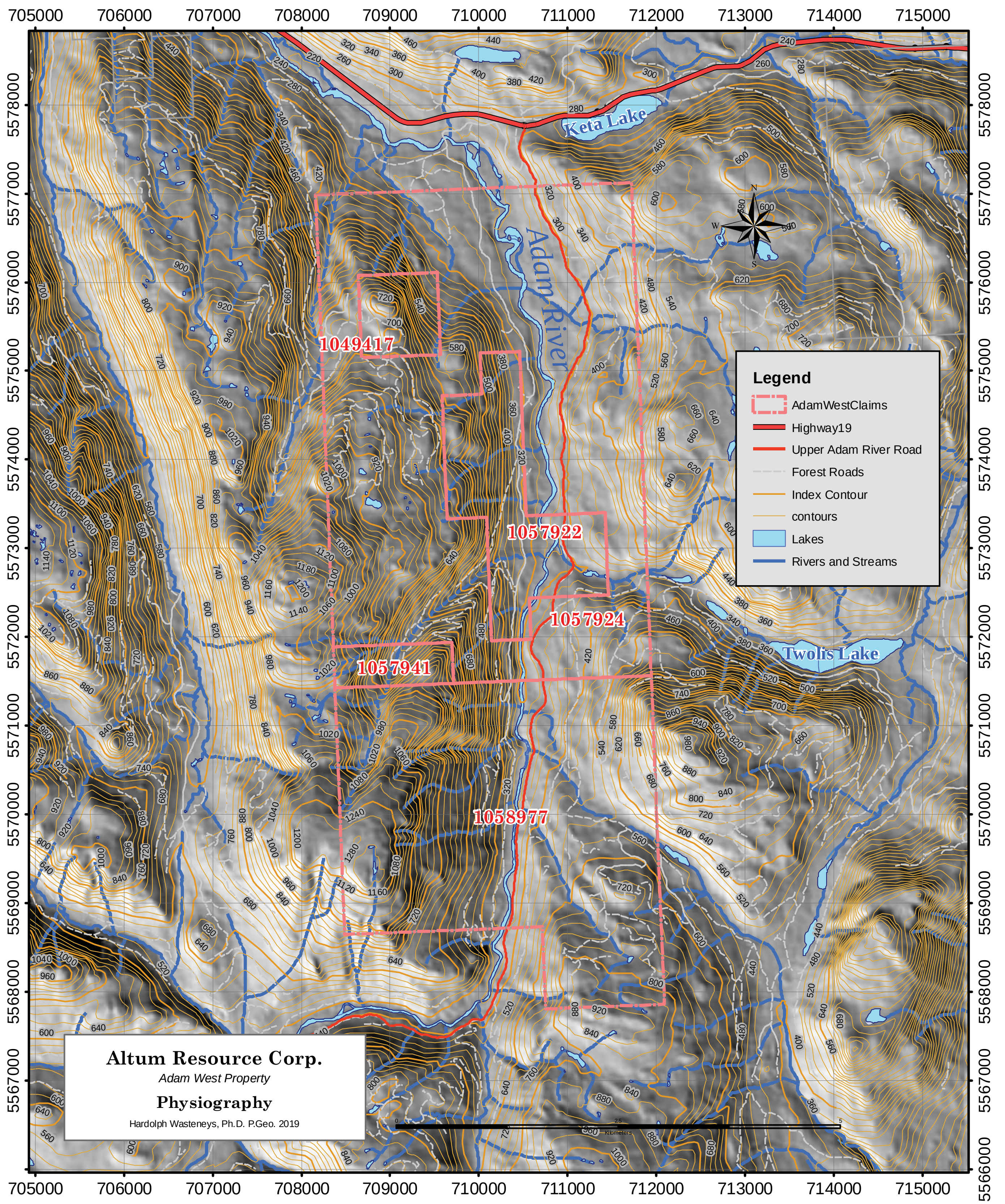

Figure 4: Physiography of the Adam West Claims
Contours are from Natural Resources Canada Canvec databases in metric intervals: north side of map (NTS92L-08) is at 20 m and south part (NTS92L-01) at 40 m. The base map is a hillshade raster. The Adam West Claims are outlined in red. Island Highway 19 is north of the Adam West Claims and the turn off to Adam Main is at about kilometer 220. Map drawn by the author in ArcGIS (June, 2019) using current British Columbia government sources for streams and logging roads.

flows of Karmutsen Formation basalt. Surficial deposits in the area range from bare rock in higher sub-alpine areas to thin (1 to 2 m) till and colluvium primarily found on middle to upper slopes. Lower valley floors are covered in thicker (> 10 m) till, colluvium and glaciofluvial sediments. Thick deposits of glaciofluvial gravels may be identified in the northern part of the Adam West Claims east of the river (Figure 5). Similar deposits are typical of major valleys such as the Nimpkish River (10 km to the NW) where very thick sequences of glacial advance deposits, till, recessional outwash, post-glacial lacustrine and fluvial deposits are present (Figure 5).

The landscape was modified through three separate glacial and non-glacial intervals that are recognized on Vancouver Island (Lett, 2008). The last and unconsolidated sediments were

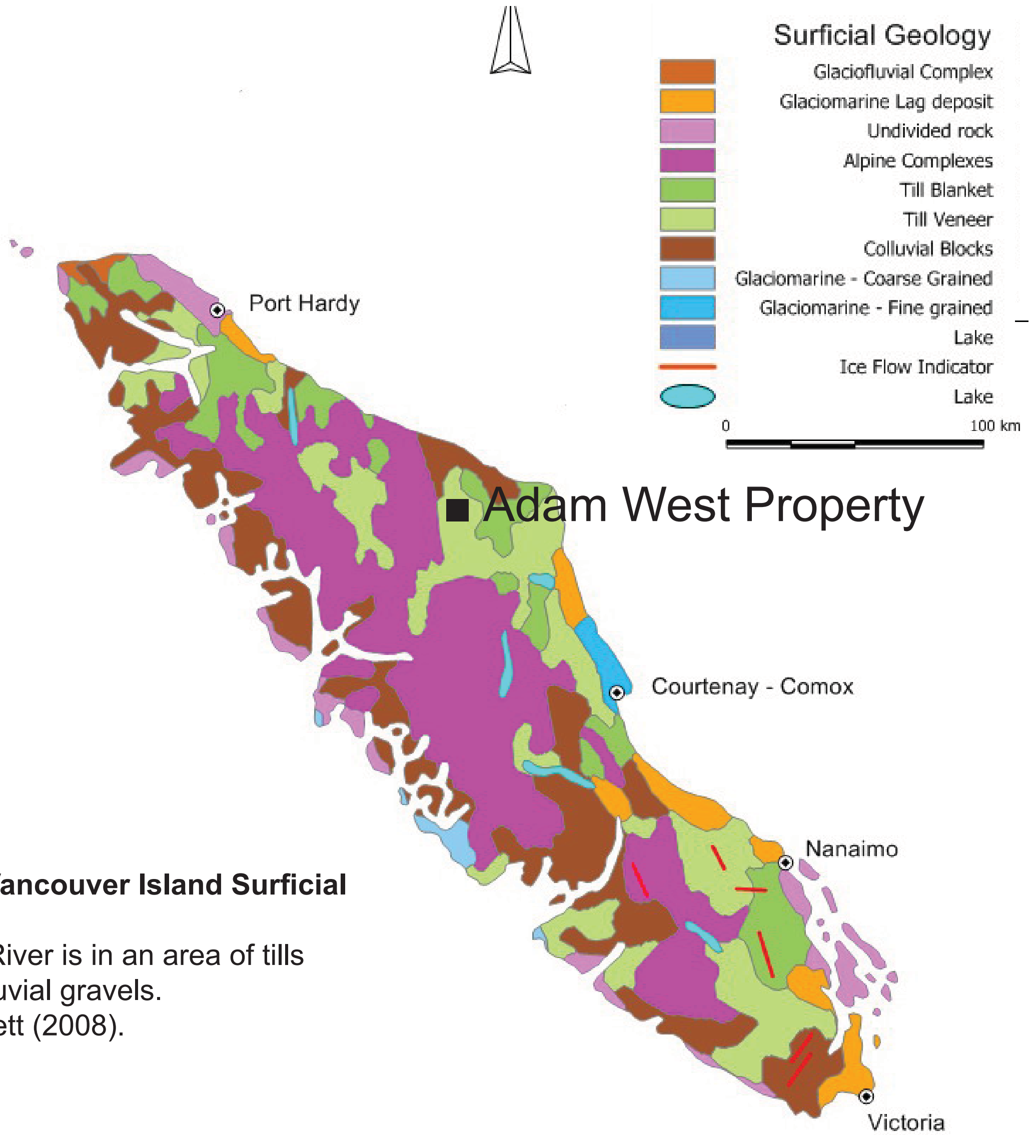

Figure 5: Vancouver Island Surficial Geology
The Adam River is in an area of tills and glaciofluvial gravels.
Map from Lett (2008).

deposited during, or subsequent to the recent Fraser Glaciation. Onset of the Fraser Glaciation was diachronous from north to south on Vancouver Island between 29,000 and 19,000 years before present. In the early alpine glaciation phase, ice flowed through preexisting valleys either towards the Strait of Georgia or towards the Pacific Ocean and then, when it had reached 1500 m thickness in the Strait, was dominantly southwest across all but the highest peaks such as Mounts Warden and Victoria, located approximately 25 km to the south of the Property.

Deglaciation commenced approximately 13,000 years before present first returning glacial activity to alpine glaciation and then, eventually causing ice stagnation blockage of alpine valleys resulting in deposition of glaciolacustrine and ice contact tills. Discrete valley and alpine glaciers replaced the continental ice sheets that formerly covered all but the highest peaks.

Numerous alpine tarns in the massifs south of the Adam West Claims are the result of isolated alpine glaciers. Further glacial downwasting prior to 9500 years before present resulted in stagnation of the ice masses from which large quantities of meltwater deposited thick sequences of ice contact material, such as kame terraces on valley sides and recessional outwash in major valleys. Final deglaciation was rapid, opening valleys to marine incursions until isostatic uplift raised the eastern side of Vancouver Island by as much as 175 m relative to sea level and resulting in the emergence of thick glaciofluvial deltaic deposits such as those prominent around Campbell River.

5.6 Suitability for Mining Operations

There is ample low relief terrane underlain by thick tills and glaciofluvial deposits in the northeast part of the Property adjacent to Highway 19 and adequately removed from the Adam River. The glaciofluvial sediments are currently sourced for road construction in the area, and could provide ready construction materials for mine infrastructure and tailings disposal facilities, if permitted. The terrane on the ridge west of Adam River is steep on the eastern aspect potentially being advantageous for underground operations within the ridge. However, the Adam River runs close to the steep slopes along the eastern base of the ridge and so there is little room for operations. The crest of the main ridge is rugged, and there are existing logging operations and a road system that is being expanded to the south.

Hydro power generating facilities are located in a series of three dams between Upper Campbell Lake (at 220 m elevation) and the town of Campbell River (sea level). A 138 kV branch of the high tension transmission line grid runs from the 64 MW capacity Strathcona Dam on Upper Campbell Lake west to Gold River (line IL120) and then NW to the north island towns of Port McNeill and Port Hardy (line IL137). This line is located about 30 km SW of the Property. A lower capacity branch line runs from the 138 MW John Hart generating station at Campbell River north to Sayward, which is about 15 km northeast of the Property.

The Adam River is a source of water on the Property, although it is a fish bearing river which will entail restrictions on amounts available. Alternatively, Keta Lake and Twolis Lakes are located within a kilometer of the Property.

Sea port facilities are located in Campbell River and currently handle mineral concentrates from the Myra Falls polymetallic mine.

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6. History

6.1 Sources

The history of mineral exploration and development on and in the vicinity of the Property dates back at least a century and is recorded in several publicly available sources including: 1. the British Columbia Assessment Report Information System (“ARIS”), a Geographic Information System (“GIS”) based reference to mineral exploration reports dating back to the 1960s and providing links to pdf copies of the field reports; 2. Property Files, which are usually private mineral exploration and geological reports donated to the British Columbia Geological Survey Branch (“BCGSB”) by individuals and companies. 3. Minfile records also available as GIS files with links for descriptions of mineral showings and occurrences of significance as determined by assessment report reviewers and British Columbia Geological Survey Branch geologists; and 4. Annual Reports of the Minister of Mines of British Columbia for the period between the late 1800s and the 1950s.

The current Minfile showings in the vicinity of the Property are shown on Figure 6. Names of the showings have changed over time and on the map the current nomenclature is used. In the text below various additional historical names are mentioned in their historical context.

Previous mineral tenures do not correspond to the present Property boundaries and the provincial claims system changed in 2004 from ground based, variably-oriented two post and perimeter staked claims to the present geographically predefined cell claims that facilitates online staking. Consequently, many historical descriptions in assessment reports are either for small fractions of the present area or for overlapping and adjacent areas. However, as showings became known over time and established as Minfile showings, successive stakers of mineral claims tended to restake them, thus, restaking the same ground in attempts to augment or reinterpret old data to make a new discovery. Where old properties are referred to in the following descriptions their location is approximated with respect to the current Property boundaries and Minfile showing rather than exhaustively remapping them. Previous claims staked under the current British Columbia Mineral Titles Online cell claims system can readily be referenced using GIS files available for claim history.

Of the sources researched for the Property, 22 assessment reports, 7 Property Files, and 9 Minfile records were located by geographic location within the bounds of the Property and several citations in the Annual Reports were found by searching indexes to reports for the period 1874 to 1936 (reports for 1918, 1926, 1928, 1929 found in Nation, 1938) and 1937 to 1943 (found in Nation, 1944). General geological information on the Property was gleaned from geological survey maps and reports by provincial (BCGSB) and federal (Geological Survey of Canada) geologists. Assessment reports are used below as a basis for the chronology of exploration.

6.2 Early History

The earliest mention of exploration activity within the vicinity of the Adam West Property is from the Annual Report of the Department of Mines for 1918 (reproduced as Figure 7) which cited the Lucky Jim showing as a new discovery near the headwaters of the Adam River. The report described the Lucky Jim showing as consisting of a zone 10 feet wide and 50 feet long at the contact of granodiorite and limestone where replacement had resulted in an assemblage of pyrite pyrrhotite, marcasite and chalcopyrite in a gangue of hornblende and calcite. An assayed sample showed: Gold 0.9 oz/ton; Silver 1.4 oz/ton; and Copper 4.35%. Adits, existing in riverside cliffs today on the east bank of the Adam River were described as “*one 70 feet long and some*

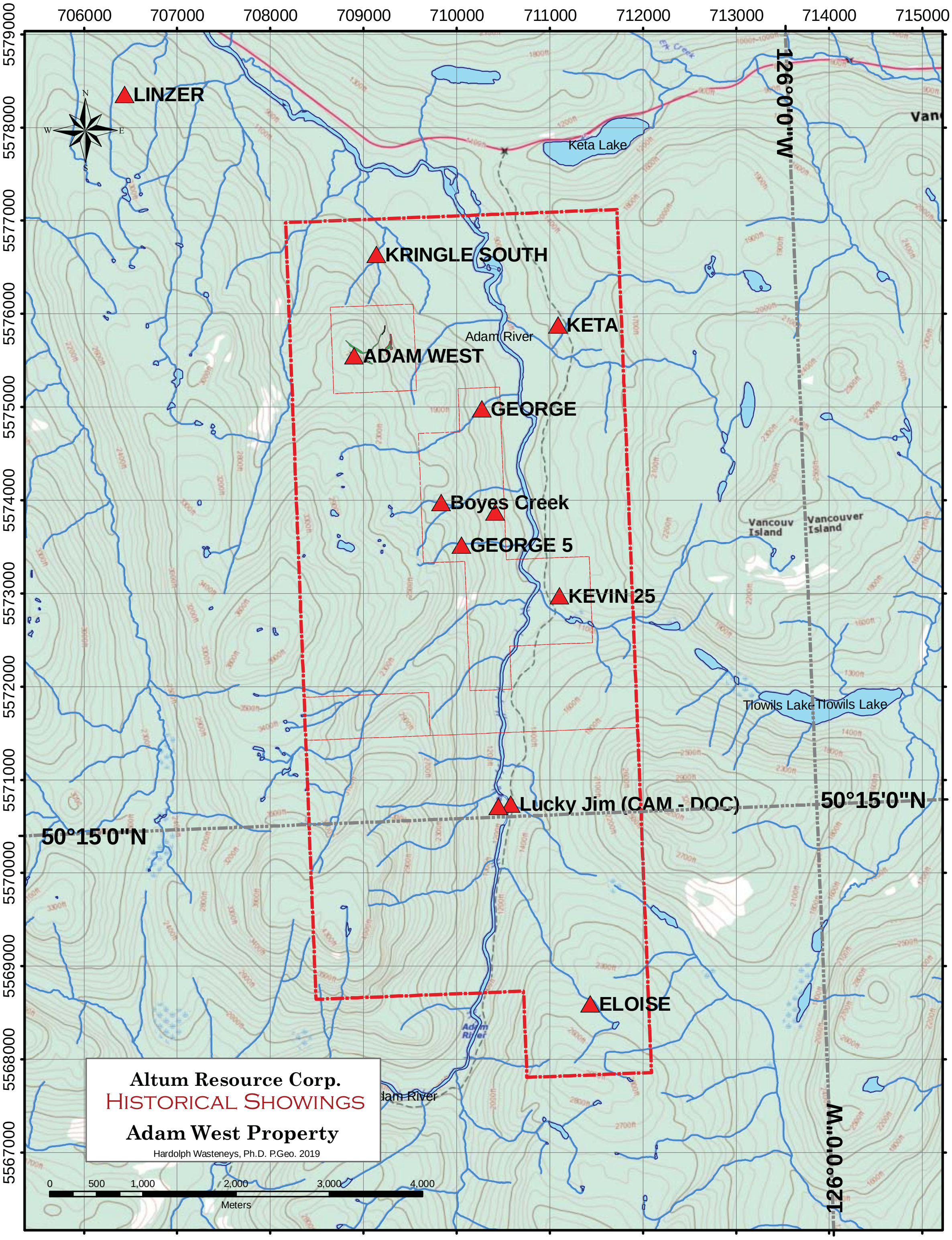


Figure 6: Historical Mineral Showings of the Property Area.
Red triangles mark Minfile classified historical showings labeled with names in current use. Base map is Toporama series 1:50,000 NTS sheets 92L 01 and 08. Map drawn by the author in ArcGIS 9.3, July 2019.

SALMON RIVER SECTION.

The Salmon River section is so named because, although there have been no occurrences of metalliferous minerals reported from the immediate vicinity, yet the wharf at the mouth of Salmon river is the point of debarkation to reach the Adams river, on which mineral deposits occur.

Lucky Jim Group. This group contains three mineral claims known as the *Lucky Jim*, *Lucky John* and *Marjorie*. The group is located on Adams river, which flows into Johnstone strait about fifteen miles north-westerly from the mouth of the Salmon river. The property is reached by means of a poor trail from the junction of the Salmon and White rivers, about seven miles from the Salmon River wharf. The trail follows the east bank of the White river for about half a mile; then takes a south-westerly direction across a comparatively flat country, with several small lakes, beaver meadows, and swamps, for a distance of about ten miles to the headwaters of the Adams river. The property is owned by Alec and Walter McKay, of Vancouver.

Geology.—The rocks on the *Lucky Jim* group are granodiorite and limestone, and occur in a zone of metamorphism in which shearing action has been very pronounced. Several narrow quartz stringers are noticeable in the shear-planes, but none of them appear to carry any mineral.

Characteristics of the Ore-deposit.—The deposit of ore which occurs on the *Lucky Jim* claim of the group belongs to the contact-metamorphic type, with copper minerals occurring at the contact of granodiorite and limestone. The mineralization consists of pyrrhotite, iron pyrite, marcasite, and chalcopyrite in a breccia gangue containing much hornblende and some calcite. Apparently the ore occurs as a partial replacement of the metamorphic rocks in the contact-zone.

The main outcroppings occur in the bed and along the bank of the river, where they show for about 10 feet wide and 50 feet long. The line of strike is north-easterly and dip from 64 degrees to nearly vertical to the south-east. A sample taken from the workings assayed: Gold, 0.9 oz.; silver, 1.8 oz.; copper, 5.35 per cent.

Development-work.—The work on the *Lucky Jim* group of mineral claims is confined to the *Lucky Jim* claim, and consists of a series of prospect-adits driven into the outcrops in the river-bank. The longest is about 70 feet long; the others are each about 10 feet long. The short adits are crosscuts and the long one is presumed to be a drift.

Conclusions.—The examination of this property suggests that, if the transportation facilities were good, instead of being quite difficult, the possibilities are promising, and warrant further development-work, which might result in proving up a mining property of commercial value.

Figure 7: Report on the Lucky Jim Showing from the Annual Report of the Minister of Mines for 1918.

cross cuts". Access to the Property in 1918 was by about 15 miles of trails from the mouth of the Salmon River on the north coast of Vancouver Island near Sayward. The next mention of the Property is in the Annual Report for 1926 when the Consolidated Mining and Smelting Company ("Cominco") had reportedly optioned the 3 claim Property. By the annual reports for 1928 and 1929 (Clothier: 1928, 1929), the Property had been diamond drilled, but the Cominco option was dropped. No other information was available about the Cominco drilling other than three drill core assays and hole orientations reported in Taylor (1980) and shown in Figure 11. No other parts of the Property are mentioned in the Annual Reports for this period. Subsequently the Lucky Jim showing, which is located at 710560 East by 5570730 North (Zone 9, NAD 83) has been referred to as the Cam-Doc occurrence in Minfile record 92L-180 after various claim names over the area.

6.3 Historical Assessment Reports

6.31 Report 01993; Sharp (1969), Bethlehem Copper Corporation Ltd.; Boyes Creek

The present assessment report system was established in the mid 1960s and the first report on a part of the Property is from 1969 in British Columbia Department of Mines assessment report 01993 (Sharp, 1969). The Boyes Creek showing was worked on by doing outcrop stripping, trenching a soil sampling through which they defined a structure along the bed of Boyes Creek. The site is now documented as Minfile site 92L-165, which reports a weighted average in the western, or upper reaches of the creek, of 3.9% copper over a 4 foot width. Trench results are more revealing with high results of 3' at 13.75% Cu and 20.6 g/t Ag

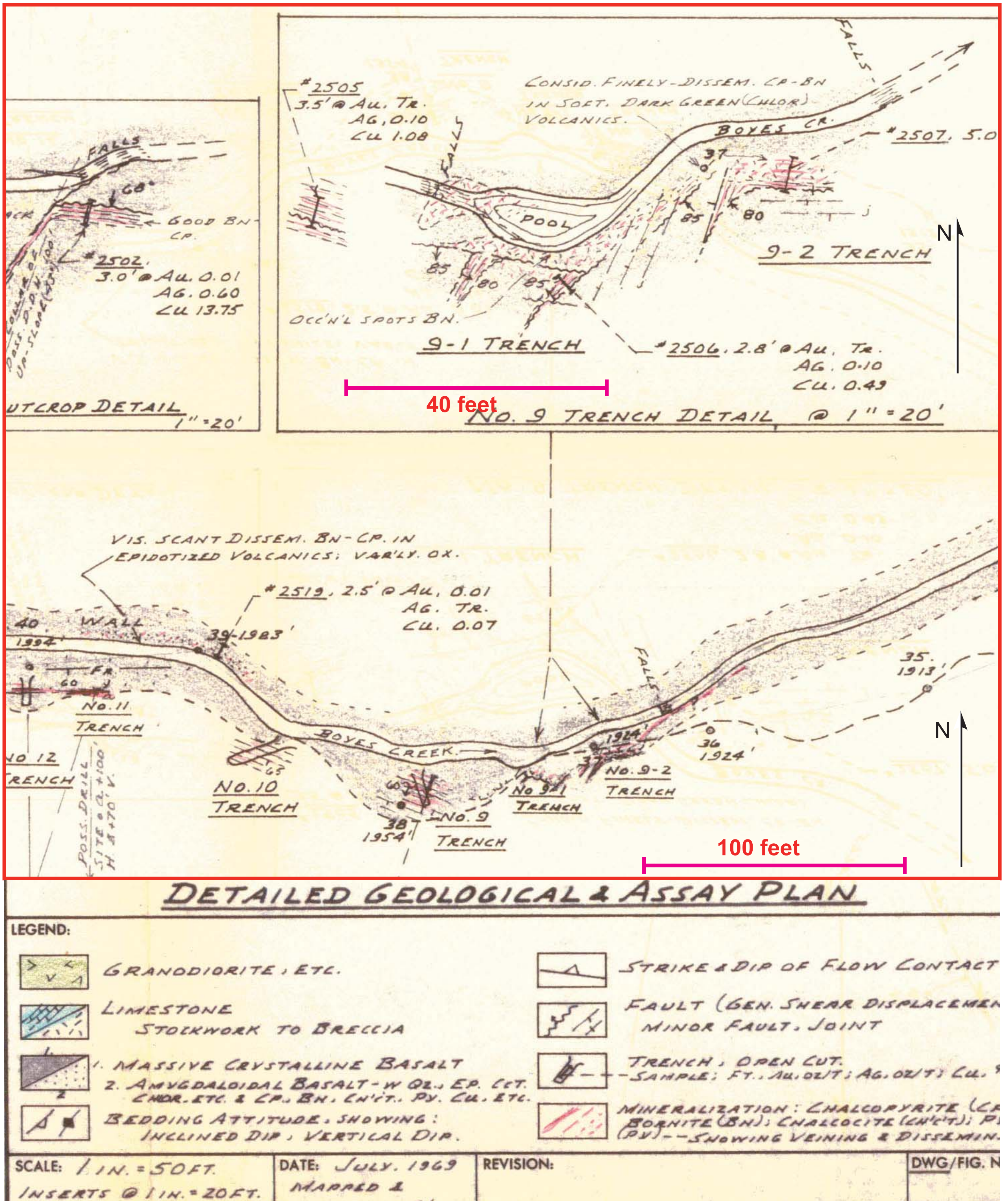


Figure 8: Geological Map of the Boyes Creek Showing (Sharp, 1969).
Part of the map of Boyes Creek by Sharp (1969) showing details of fracture sets hosting mineralization. The creek appears to be eroding along a fault in many sections. The mineralized fractures are mainly in the footwall on the south slope and contain thick, but discontinuous lenses, of massive sulphides, mainly bornite, chalcocite and chalcopyrite.

and in another trench 2' width of 4.11 % Cu, 26.7 g/t Au, and 202 g/t Ag. The structure was described as a *"braided lode containing stringers, lenses and disseminations of chalcopyrite and bornite, with minor chalcocite and native copper"* over a length of 1,000 feet. The lode also included sulphide cemented breccias caused by intersecting fracture sets. Sharp mapped the creek canyon in a high degree of detail as indicated in a short section of his longitudinal map in Figure 8. However, Sharp observed strong magnetic field variations in the canyon that affected the true representation of the alignment of successive sections of the creek on his map.

To the south of the Boyes Creek showing the George 5 showing was discovered, but not as well defined and included a 5 foot wide section with an average grade of 0.90% Cu, 0.69 g/t Au and 6.9 g/t Ag.

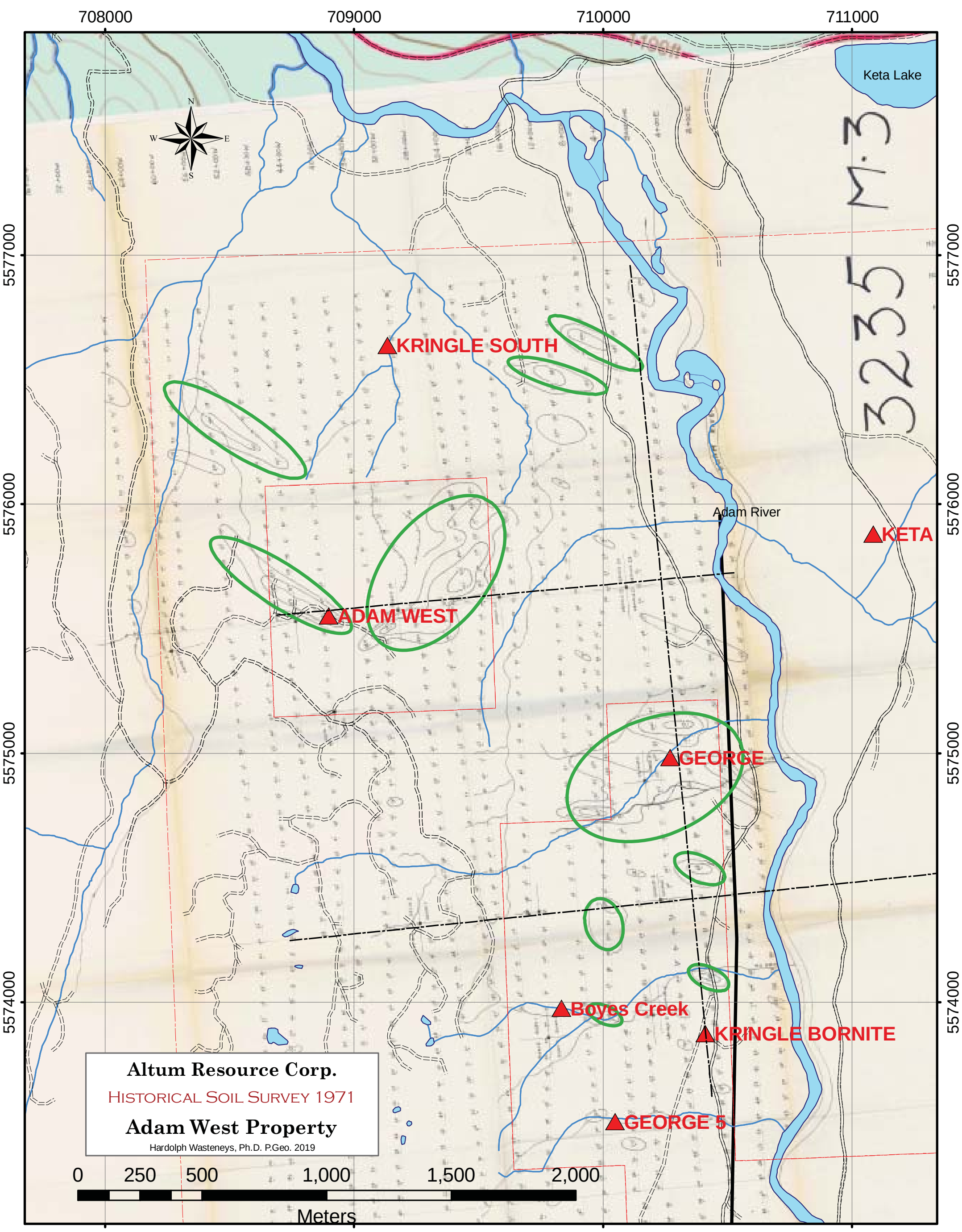


Figure 9: Georeferenced 1971 Copper in Soils Geochemistry Map
Map is approximately georeferenced to current river and stream features, as shown in blue.
The 1971 soil survey map consists of labeled copper concentrations at sampling points. Anomalous areas are defined on the original map by contours. These have been highlighted by the author with green ellipses.

Current Property boundaries, forest service roads and Minfile showings are overlaid on the old map for reference. Map georeferenced from Report 03235 (Mottershead, 1971 page 21) by the author in ArcGIS 9.3 June 2019.

6.32 Report 03235; Mottershead (1971); Conoco Silver Mines Ltd., 1971; Boyes

During the 1971 field season Concoco Silver Mines Ltd ("Concoco Silver Mines" or "Conoco") explored the Bruce-Dennis-Kevin group of claims as the Sayward Property (Mottershead, 1971), which corresponds approximately to the northern two thirds of the present Adam West Property. Mottershead (1971) describes conducting a soil geochemical survey along N-S grid lines at 4000 foot spacings with sample spacing of 200 or 100 feet. Approximately 1300 samples were collected, but were analysed only for copper except one locality where molybdenum was also reported. Anomalous copper geochemical results were described in the vicinity of an informally named "North Creek" associated with north striking mineralized faults, and in the northern part of the Property with volcanics on the periphery of a flat lying limestone unit interleaved within the mafic volcanic flows. Pyrite and "minor copper" mineralization was mentioned along the fault. Approximate georeferencing of the anomaly map from the report shown in Figure 9 shows that the anomalous areas included, the Adam West showings where a shallow dipping interflow limestone layer had been mapped, and the vicinity of informally

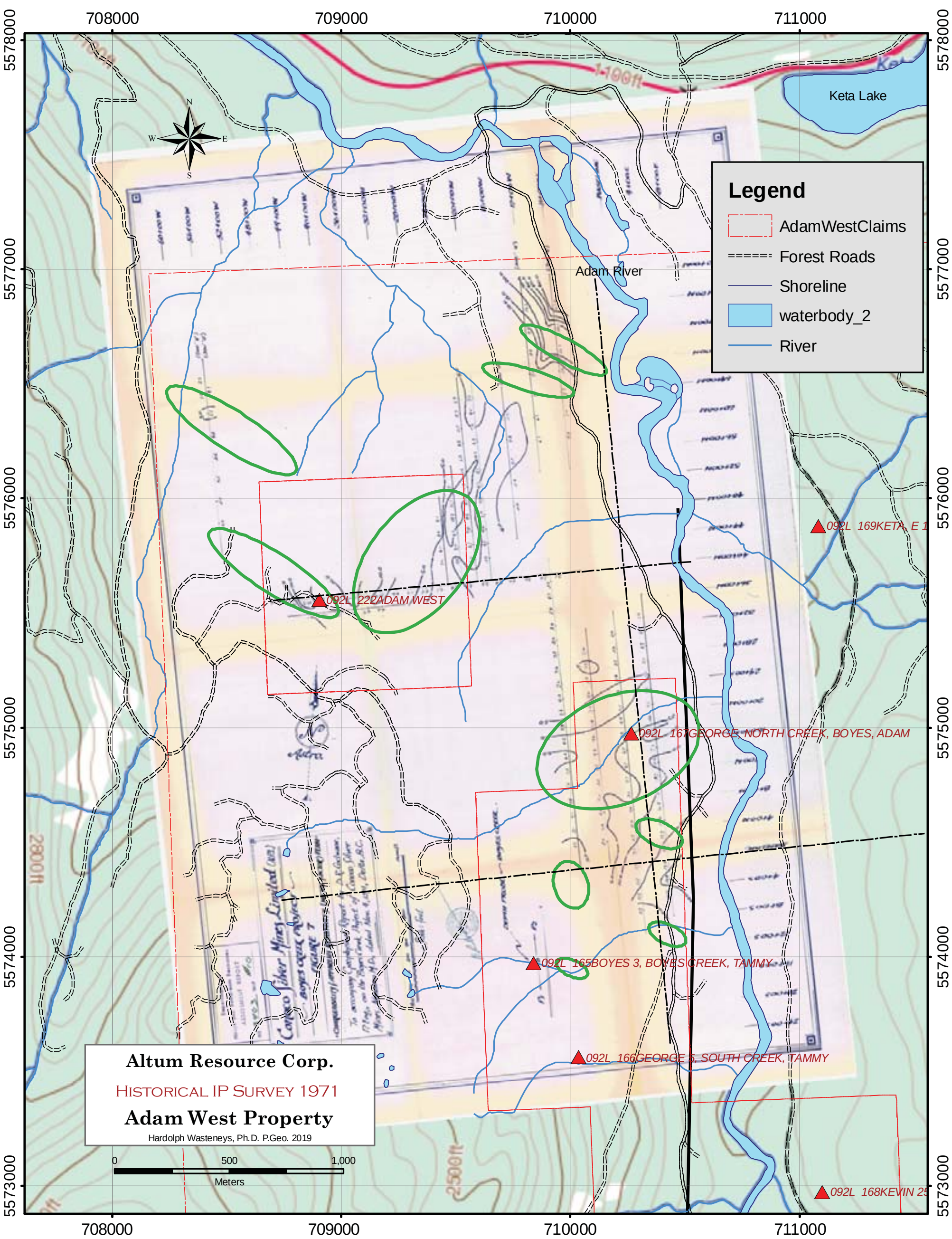


Figure 10: Historical IP survey, Cochrane (1971) The original map shows contours of "metal factors" calculated from ratios of chargeability and resistivity. The IP survey grids were located in areas of anomalous copper soil geochemistry (see Figure 9). The green ellipses are carried over from Figure 7 to outline the areas of geochemically anomalous copper. Dot-dash black lines are the baselines of the 1971 survey grid used in georeferencing. Georeferencing approximated by the author in ArcGIS 9.3, June 2019 from report 3403 (Cochrane, 1971).

named "North Creek" (Mottershead, 1971), and current Minfile reference 092L-167. This latter site is approximately 1 km north of the Boyes Creek showings that are a subject of current exploration by Altum. Interestingly the Boyes Creek area only registered a small anomalous area.

6.33 Report 03306; Sharp (1971), Western Standard Silver Mines Ltd.; Boyes

Sharp (1971) reported on two properties for Western Silver Standard Mines, the Tammy Group NW of the Conoco claims (and the current Adam West Property), and claims called the M1-37 Group adjoining the south border of the Conoco Boyes Group claims reported on by Mottershead (1971). The M1-37 Group occupied an area in the middle quarter of the Adam West Property. Sharp (1971) mapped the geology of both claims and collected 188 soils samples from the M1-37 Group and 60 samples from the Tammy Group. His mapping showed that Karmutsen Formation basalts occupy much of the section west of the river. Intrusive rocks of dioritic and granodioritic compositions occupy much of the ground to the east of the river separated from the Karmutsen Formation by a 400 foot wide band of limy basaltic tuffs and dark carbonaceous limestone metasomatically altered in places to "pyroxene-rich migmatites" and recrystallized limestone forming a locus for the river. The conclusions from the copper geochemical survey was that the few defined "3rd-order" anomalies did not warrant further work.

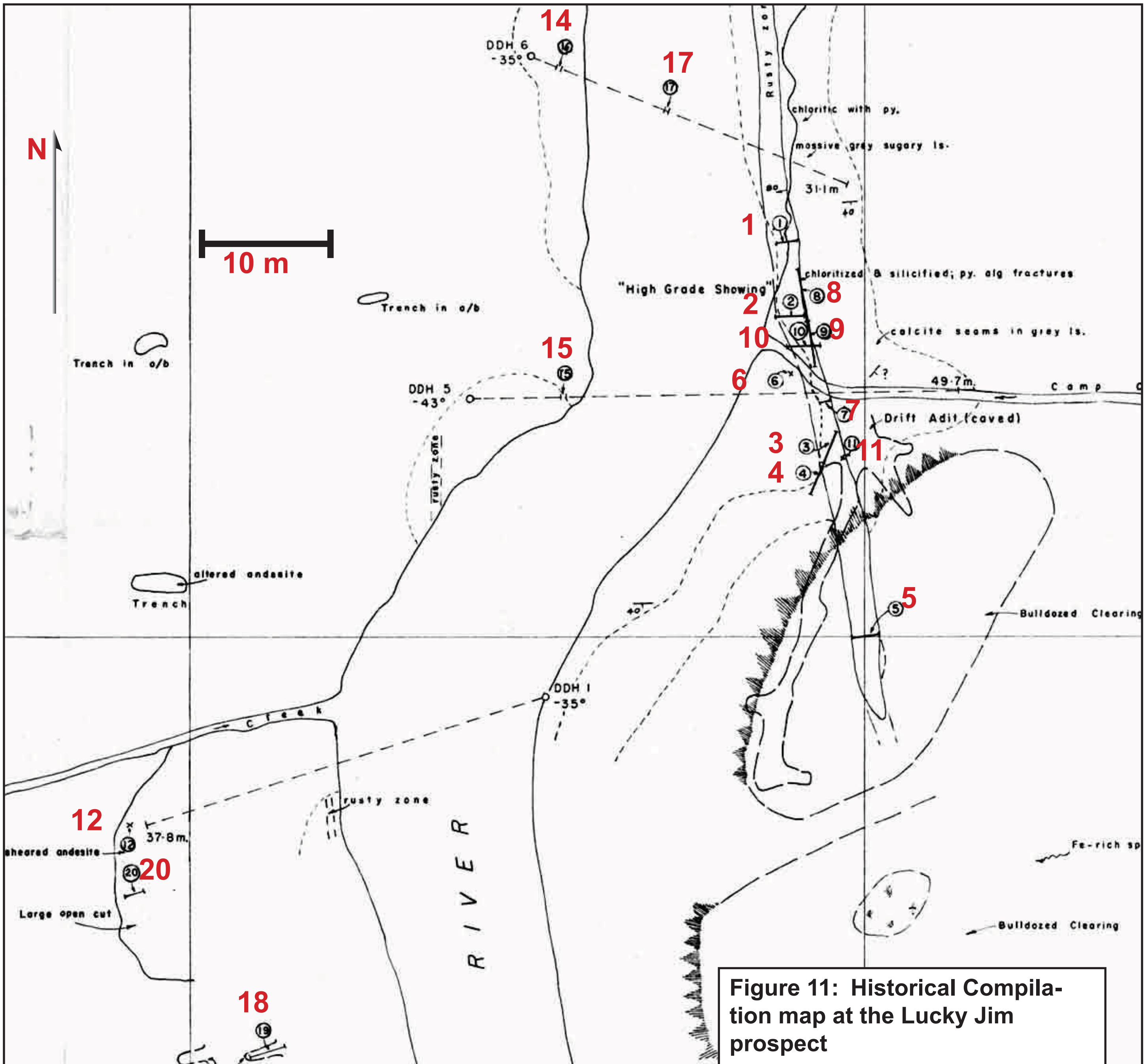
6.34 Report 03403; Cochrane (1971), Conoco Silver Mines Ltd., 1971; Boyes Group

Conoco (Cochrane, 1971) conducted an IP survey within the Boyes Group consisting of several N-S survey lines, an E-W baseline and a single "depth probe" line above the fork in Boyes Creek. In present terms the survey grid occupied the northern part of Altum's claim 1057922 between Boyes Creek and North Creek. The purpose was to evaluate the geochemically anomalous areas outlined in Figure 9. They produced self potential, resistivity and chargeability contour maps as well as a "metal factor map" derived from ratios of chargeability and resistivity. The metal factor map is georeferenced in Figure 10 and overlaid with the geochemical anomalies defined in Figure 9. The metal factor maps show anomalous areas, but Cochrane's evaluation of them by correlation factors showed a "*very weak tendency for apparent resistivity values to increase as chargeability increases*". Similarly he noted that the "*coefficient of correlation between copper geochemical values and metal factors" .... "indicating a very weak tendency for geochemical values to decrease in areas of high metal factors"*. From this he concluded that the geochemical highs reside on the flanks of the metal factor peaks. In the author's opinion, the displacement of soil geochemical anomaly from a related geophysical anomaly may be caused by

Sample No.	Width (m)	Au oz/ton	Ag oz/ton	% Cu
86276	1.83	.058	.60	1.66
86277	2.44	1.298	.72	.93
86278	2.44	.042	.28	.69
86280	2.44	.192	.91	1.89

Table 3: Lucky Jim surface assays from Taylor (1980)

downslope movement of anomalous soils or hydromorphic dispersion.



Number	Sampler	Date	Type	Width (meters)	Au (oz/ton)	Ag (oz/ton)	Cu %
1	H. Taylor	May '79	chip	1.88	0.058	0.60	1.66
2	"			2.44	1.298	0.72	0.93
3	"			2.44	0.042	0.28	0.69
4	"			2.44	0.003	0.04	0.12
5	"			2.44	0.192	0.91	1.89
6	W. Taylor	1959	dump	-	0.85	0.73	2.07
7	"		chip	1.22	0.07	1.40	3.79
8	"			3.81	0.17	2.20	5.45
9	"			3.66	0.03	0.05	0.36
10	G.A. Dirom	1942		2.44	0.52	4.00	6.70
11	"		dump	-	0.56	1.30	2.00
12	"		grab	-	0.04	1.50	0.70
13	"		chip	1.22	0.10	2.50	5.40
14	"			2.72	0.08	1.50	1.70
15	Cominco	1926	drill core	0.18	1.13	0.10	-
16	"			0.31	0.50	tr	2.80
17	"			0.31	0.04	0.01	0.92
18	H.A. Oliver	1924	chip	9.14	0.09	0.03	-
19	"			3.00	0.12	-	3.00
20	"			1.50	0.75	2.00	4.00

Figure 11: Historical Compilation map at the Lucky Jim prospect

The map is from Taylor, (1980) assessment report 8190. It shows location and orientation of drill holes from the 1927 Cominco drilling, and several sets of sample assays numbered in the table and keyed to the map. Red numbers on the map replicate the original numbered sample labels (enclosed in small circles) which are keyed to the table. Note: analyses 13, 16 and 19 are outside the cropped area.
Table retyped by the author July 2019.

6.35 Report 08190; Taylor (1980); Dik

The next report for parts of the Property appeared in 1980 as assessment report number 08190 (Taylor, 1980) after a period during which most exploration activity in the province had been discouraged by a significant change in provincial government policies.

Taylor (1989) reported on the DIK and DOK claims in the south-central part of the present Adam West Property, which were staked to in 1979 to cover the Lucky Jim mineral occurrence at the confluence of Camp Creek with the Adam River. The showing was geologically mapped and a ground magnetometer survey was completed in the vicinity. They reported that the mineralized zone was about 2 m wide and could be traced for 57 m along the river bank with a strike of 350° and a dip of 80° west. Recalculating results, the highest grade is 2.44 m at 44.5 g/t Au, 24.7 g/t Ag and 0.93% Cu. They described the mineralized zone as a "silicified, in places skarny, vein in... limestone of the Quatsino Formation" near the contact with Karmutsen basalt, and mineralized with assemblages of pyrrhotite, pyrite and chalcopyrite that weather rustily. They suggest that there might be three other veins.

Importantly, the report provides a thorough compilation map (Figure 11) of previous work apparently from an unpublished report by W.J. Weymark P.Eng. in 1968 that shows the location and traces of diamond drill holes and adits, and lists assays both from drilling and surface samples dating back to the Cominco drilling in the 1920s. Sampling cited in the compilation table includes 20 assays (tabulated in Figure 11) from programs in 1924 (H.A. Oliver: 3 samples Au 0.05 to 0.75 oz/ton; Ag 0.03 to 2.0 oz/ton; Cu 3 to 4 %), 1926 (Cominco drill core: 3 samples: Au 0.04 to 1.13 oz/ton; Ag 0.1 to 01.4 oz/ton; Cu 0.92 to 2.8 %), 1942 (G.A. Dirom: 5 samples: Au 0.04 to 0.62 oz/Ton, Ag 1.3 to 4.0 oz/ton; Cu 0.7 to 6.7%), and 1959 (W.M. Taylor, 4 samples: Au 0.03 to 0.85 oz/ton; Ag 0.05 to 2.2 oz/ton; Cu 0.36 to 5.65%) and the 1980 report itself (B. Taylor; assays in Fig 9). Locations and intervals are shown on the compilation map, but the labels in the copy available in assessment report files (Taylor, 1980) were not easily legible and have been annotated by the author in Figure 11 Only the Taylor (1980) report is publicly available and the author was not able to confirm the data presented from the older reports.

The magnetometer survey interpretation indicated that the limestone was about 120 m wide east to west in the vicinity of the showing, but that mineralization was only weakly indicated. Perhaps the spacing of magnetometer readings at 15 m stations and 75 meter lines was too wide to resolve the narrow feature.

6.36 Report 09065; Five M Resources Inc., Sheppard (1981); DIK Claim

Work by the same company as reported in Taylor (1980) continued with a drill program at or near the Lucky Jim showing in December 1980 when 5 BQ diamond drill holes targeted the contact between limestone and Karmutsen volcanics. All holes were drilled from 2 pads on the east side of the river angled steeply to the west. From the map and report it was not clear how the holes related to the showing except that minor mineralization was cut only near surface with the deeper parts of the holes barren. However, the mineralized lens or horizon was postulated to dip steeply west in the Taylor (1980) report, which would not be appropriately tested by west dipping holes unless on a very shallow angle. The best result was 1.4' at 0.35% Cu.

6.37 Report 10479; Taylor (1982); Eloise

Taylor (1982) reported on a ground magnetometer survey on the Eloise claim (owned by H.M. Jones) located in the present southeastern corner of the Adam West Property southeast of the Lucky Jim showing. The survey was conducted in an area of Karmutsen Formation basalt ("amydaloidal andesite" in the report) with notable limestone interflow beds several meters thick. Taylor reported that the history of the claim area included staking in 1966 by the Adam River Syndicate and brief exploration including geochemical surveys by Rio Tinto Canadian and then Emperor Mines Ltd. Rip Van Mining optioned the ground in 1969 and completed trenching, sampling, geochemical surveys and airborne magnetometer surveys and an IP survey. The 1969 work included 15 excavated pits scattered over a 900 m trend that exposed 1-2 m of mineralized "andesite" grading 0.3 to 2% Cu along Lois Creek.

The mineralized zone was interpreted as related either to a flow top or fault controlled zone, and the 1982 work hoped to resolve this through a magnetometer survey. However, the survey proved inconclusive and failed to define any structural trends.

6.38 Report 11730; Acadian Gold Ltd., Smitheringale (1983); Eloise

Subsequent work on the Eloise Property was undertaken by Bill Smitheringale for Acadian Gold who had optioned the Property from J.R Billingsley after he had purchased title from H.M. Jones in 1983. Smitheringale mapped the Property and collected 404 soil samples for analysis of Cu and Zn. Smitheringale (1983) calculated threshold values based on the 97.5% cumulative frequency of concentrations in the samples concluding that anomalous levels were above 155 ppm for copper and 70 ppm for Zn in areas underlain by the Karmutsen basalts. No significant anomalies were identified and Smitheringale (1983) concluded that mineralization responsible for spot anomalies was confined to erratic fractures.

Mineralization occurs as fractures in basalt in pits along Lois Creek (locations georeferenced). Smitheringale (1983) observed thin (1 meter thick) bands of limestone interbedded with Karmutsen Fm volcanic flows that seemed to concentrate the sparse mineralization in amygdules and fractures below the limestone beds. The Karmutsen consisted mainly of amygdaloidal flows with pillowed flows and flow breccias less common. Flows were observed to be several meters thick with contacts marked by abrupt increases on amygdule concentration and to conform to a structurally simple north dipping sequence. Quatsino limestone outcrops in the NE part of the claim and displays karst features including sinkholes.

6.39 Report 14284; Craven Resources Inc., Ikona (1985); Adam Claim

The Adam claim was situated in the northern quarter of the Adam West Property on the west side of the Adam River at the north end of the main ridge covering an area of about 3 square km. Craven Resources did geological mapping, contour line soil geochemical sampling, and examination and resampling of old drill holes located on the upper part of the ridge west of the Adam River. Mapping revealed minor copper mineralization consisting of disseminated bornite, chalcopyrite, chalcocite and minor native copper in amygdaloidal basalt and at contacts with interbedded limestone. A limestone unit was mapped as an interbed within Karmutsen Fm on the basis of conformable top contacts with overlying pillowed flows, and with its base apparently overlying pillowed and amygdaloidal flows.

The 38 soil samples were analysed for Cu, Ag, and Au and ranged in Cu from 32 ppm to 1032, in Ag from 0.4 to 2.1 ppm and in Au from detection limit of 1 to 54 ppb (with most below 8 ppb). Thirteen rock samples were collected by resampling core from 6 relocated BQ drill holes left by a previous program and 4 from outcrops. The samples were generally selected by observation of chalcopyrite, bornite or chalcocite mineralization and analyses varied from a 129 to 7639 ppm Cu, 0.1 to 3.1 ppm Ag and 1 to 65 ppb Au. Mineralization was commonly observed to consist of bornite associated with epidote and quartz veining or silicification in amygdaloidal basalt.

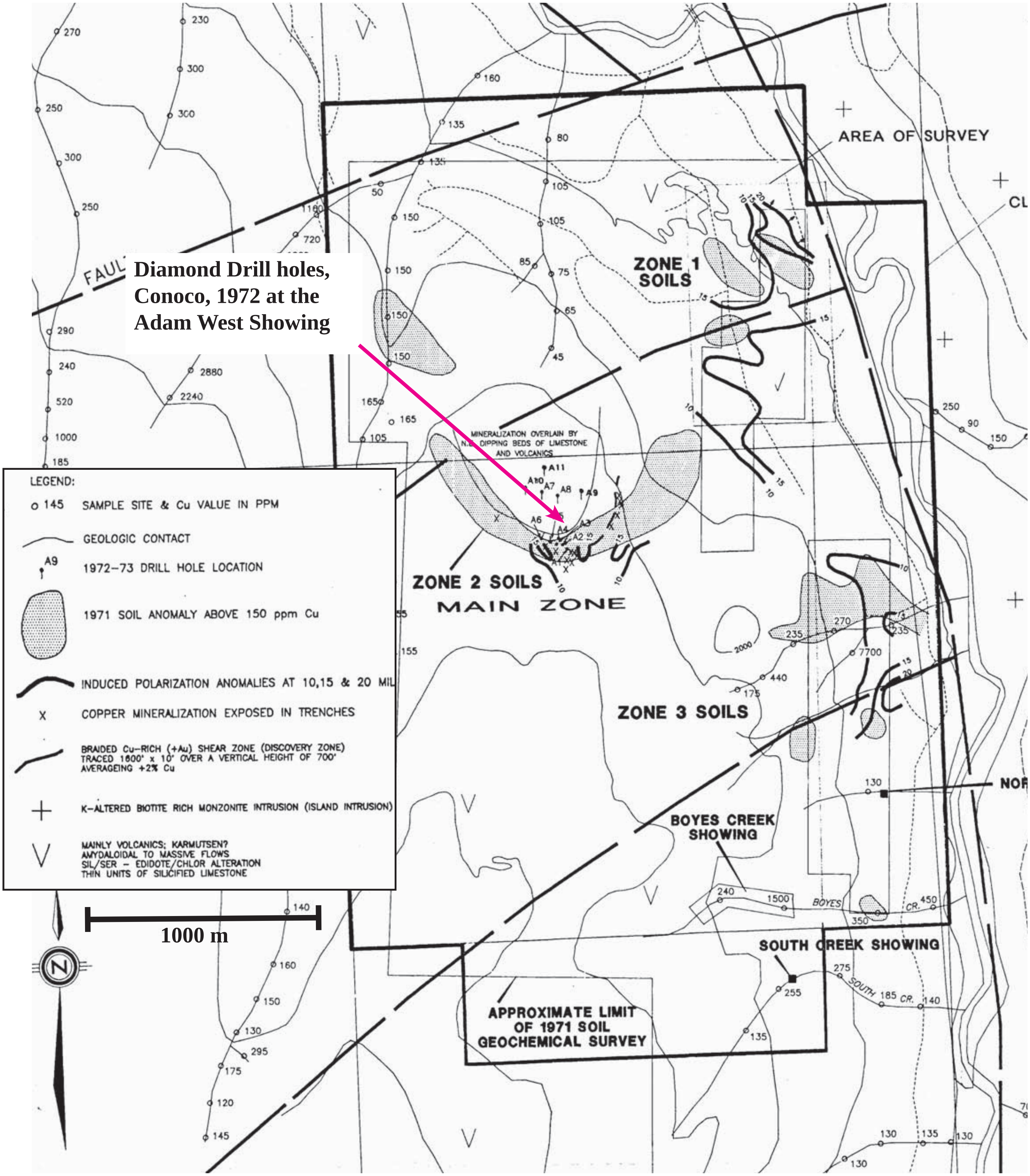


Figure 12: Compilation Map from Leriche (1995) showing soil Geochem, IP and drill collars. Soil anomalies (grey fill) are from Mottershead (1971) and the IP chargeability contours (curved, solid black lines) are from Cochrane (1971). Long-dash black lines are interpreted faults. The location of the Conoco drill holes is indicated by a pink arrow. Map from Leriche (1995) with annotations by the author.

6.310 Report 17449; Henneberry (1987); Lucky Jim

Henneberry (1987) reported on prospecting over the Lucky Jim showing, within what was then the Dave claims, and documented assay results from two topographic levels east of the river. Results included a best result of 1.1 m at 11.2 g/t Au. Henneberry (1987) interpreted the mineralized rock at Lucky Jim as being developed by replacement and in fractures within an "andesitic dyke". On the plateau above the river, seven samples ranged in gold concentration from 0.008 in a weakly mineralized dyke rock to 0.279 oz/ton in a moderately fractured rock with 30% sulphides in siliceous pods. Generally, the mineralized rock consisted of an average of 15% sulphides, mainly pyrite with minor chalcopyrite.

On the river side level, outcrops of mineralized rock averaged 2 to 2.5 m in width and ranged in composition from 2 to 10% sulphides with chalcopyrite predominating over pyrite commonly. Assays ranged from 0.008 in fractured dyke rock with 2% sulphides to 0.327 oz/ton gold in heavily fractured dyke rock with 15% sulphides disseminated and in replacement pods located near the collar of the main adit.

6.311 Report 17755; Welcome North Mines Ltd., Roberts (1988); Lucky Jim

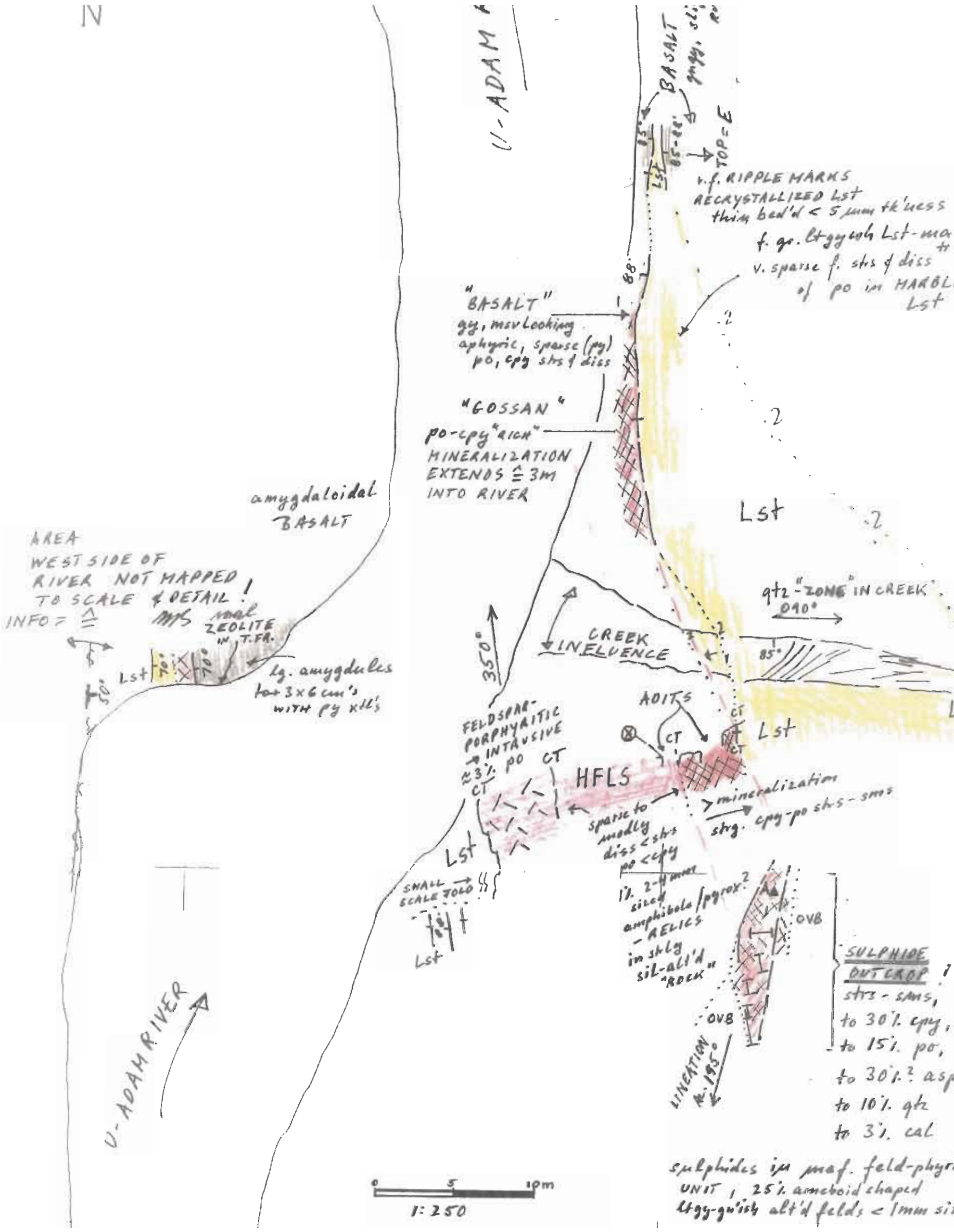
Roberts (1988) described historical work on the Lucky Jim showing and suggested that most of the holes were drilled down-dip of the mineralization. The description of Lucky Jim is as follows: "*Mineralization consists of pyrite, pyrrhotite, chalcopyrite, lesser sphalerite and rare galena occurring in massive pods and a stockwork like network of fracture fillings and disseminations. On surface the zone has a variable width from 1 meter to 4 m and can be traced continuously along strike for 50 m. The zone is exposed on a cliff face over a vertical distance of 15 m. The zone which is replacement skarn type mineralization localized along the contact between limestone and pyritic feldspar porphyry strikes N 10°W and dips 70 to 80° to the west.*" Prospecting samples from the claims in the vicinity of Lucky Jim included fracture controlled pyrite and chalcopyrite mineralization ranging in assays from 0.01 to 0.66% Cu, 1.6 to 0.4 g/t Ag, and 0.02 to 2.16 g/t Au. The high gold sample was located 500 m from Lucky Jim.

6.312 Report 22409; West Pride Industries Ltd., Leriche (1991); Boyes 3

Leriche (1991) reported on a large land position (2000 ha) staked as the Boyes 1 through 5 claims by West Pride Industries Ltd that extended from Highway 19 south for about 6 km on the west side of the river. This area corresponds to the northern half of the Adam West Property west of the river. Leriche (1991) extensively compiled previous work augmented by reconnaissance geology and geochemistry. Core that had been resampled by Craven Resources in 1985 (Ikona, 1985) from the Adam West showing (drilled by Conoco in 1971 Cochrane (1971)) was resampled again with reference to drill logs obtained from Conoco records. They described the Adam West showing as having chalcopyrite, bornite, chalcocite, and native Cu in fractures and disseminations in basalt, with grades varying up to 10' at 2.7% Cu in trenches and 17' at 2.96% Cu in drill holes. Leriche (1991) estimated that the limestone layer at the Adam West showing is about 10 m thick and suggested that it had formed a trap for ascending mineralizing fluids. The sampling at Boyes Creek yielded up to 3.1% Cu.

6.313 Report 23906; Lucky Break Gold Inc., Leriche (1995); Adam West to Boyes 3

Leriche (1995) reported on the results of a 6.6 line km magnetometer and VLF survey over an area of anomalous soils 1.2 km NE of the Adam West showing. He defined a north trending VLF conductor at the approximate western contact of the main intrusion. The report includes



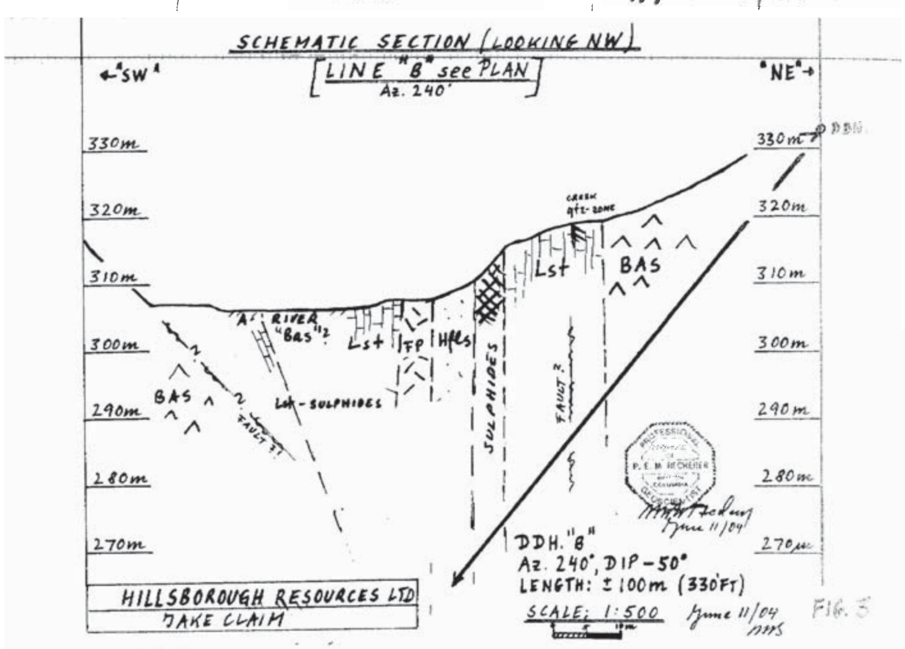


Figure 13: Sketch map and section of the Lucky Jim Showing by Mike Becherer.

The map and section, from Gardner and Becherer (2004), is one of the most geologically detailed maps available for the showing. In the map Becherer identifies a hornfels zone "HFLS" with stringers of cpy less than po. The hornfels has relict mafic phenocrysts, and is adjacent to a feldspar porphyritic dyke on the west and a skarn zone on the east containing po-cpy stringers and semi-massive mineralization. In a zone near the road, Becherer observed up to 30% cpy, 15% po, possible arsenopyrite, 10% quartz and 3% calcite.

The cross-section is looking north and shows the limestone ("Lst") as a fault bounded block within Karmutsen basalt ("BAS"). The dyke ("FP") is altered to hornfels on the right and is mineralized against the limestone. The section shows a proposed drill hole oriented from the NE to SW.

a map, reproduced as Figure 12, superimposing the Conoco drill holes, and geochemical and IP anomalies.

6.314 Report 27491; Hillsborough Resources Ltd., Gardner and Becherer (2004); Lucky Jim

Gardner and Becherer (2004) worked on the Lucky Jim showing, remapping it and doing some saw cut channel sampling. They obtained grab samples with up to 34.2 g/t Au and 5.4% Cu (different samples). The map of the Lucky Jim prospect by Becherer, although a sketch, appears to be precise and highly observant (Figure 13). It delineates a sulphide-rich zone of stringers of chalcopyrite, pyrrhotite, and calcite in a hornblende skarn (into which the adits were driven) enveloped by limestone to the east and a hornfels to the west, with a porphyritic intrusive dyke running along the river separating this from more limestone on the west. The hornfels (labeled "HFLS" on the map) has sparse stringers of chalcopyrite and pyrrhotite with relics of amphibole or pyroxene. Becherer also produced a cross section interpreting the geology of the Lucky Jim occurrence and recommending two drilling orientations.

6.315 Report 27745; Schau (2005b); Boyes, George 5

From about 2005 through 2012, Schau, staked much of the ground in the northern half of the Property and filed a series of assessment reports many of which were based on testing different theories on the origin of copper mineralization in the area by analogy with new or evolving deposit models in the field of porphyry copper deposits, IOCGs etc. These are the last reports of work in the area of the Property prior to the present tenure.

Schau (2005b) reported prospecting work on the Klejne 1-2 claim group that included the Boyes and George 5 showings. No new information was reported, but Schau speculated on the presence of a hydrothermal system responsible for the Boyes Creek mineralization and the idea that limestone lenses within the Karmutsen acted as impermeable cap rocks to focus deposition of copper mineralization. He also analysed a few basaltic rocks for Pt and Pd without significant results.

6.316 Report 28327; Schau (2006a); Boyes, George 5

Schau had a 5 claim group amounting to 2229 hectares going from the Kringle South showing in the northwest, extending south to the creek draining from Tlowils Lake into the Adam River (Figures 4 and 6), which covers the northern half of the present Adam West Property.

He assayed 56 samples, getting mostly low values on the Property. The best values were at the Kringle Bornite showing of 0.61% Cu, 0.2 g/t Au and 0.49 g/t Au at the Kringle South showing. He also obtained 0.34% Cu and 0.15% Cu from different places in the west part of the Property, and up to 0.18% Cu from the Kringle South showing. He also obtained a sample with 21% Cu near the Linzer showing which is northwest of the Property that is the subject of this Technical Report. The reader is cautioned that mineralization off the Property is not necessarily indicative of mineralization on the Property. Schau measured the magnetic susceptibility of numerous rock samples as part of an investigation into the origin of magnetite in the rocks. Schau analysed 6 samples of the Karmutsen basalt for major, trace and REE elements.

6.317 Report 28927; Schau (2007)

Schau describes work in a large area (57 sq km), about half of which overlaps the northern half of the Property with the remainder situated to the northwest of the Property that is the subject of this Technical Report. He took a sample of 0.37% Cu and 101 ppb Au and another of 0.14% Cu near the Adam West showing. He did alteration studies, magnetic susceptibility studies and density studies. Schau collected 21 rocks on which he completed whole rock major, trace and REE analyses in order to evaluate a hypothesis that hydrothermal circulation had altered the rocks and deposited mineralization as a result of magmatic -hydrothermal activity perhaps in an Iron Ore Copper Gold ("IOCG") or porphyry copper deposit setting. The analyses would be useful in lithogeochemical assessment of the Karmutsen Formation and the Island Plutonic Suite rocks on the Property.

6.318 Report 30121; Schau (2008)

This report discusses alteration in the southern part of Schau's claim group, within the present Property, in the area of the granitoid pluton on the east side of the Adam River. Schau's reason for the work was to investigate the origin of a regional magnetic low over the pluton that might indicate an area of phyllic alteration related to a porphyry system. The work reported entailed magnetic susceptibility and specific gravity measurements on some quartz diorites and gabbros and petrographic descriptions of the measured samples. Schau concluded that there is no hydrothermal alteration related to intrusive rocks that the magnetic low (in the NE of the Property) is the result of physical factors like overburden cover and general low relief compared to the high relief area to the west underlain by Karmutsen basalts. Schau noted the presence of magnetite veins and stringers and suggested that the granodiorite is an I-type intrusion with high magnetite content.

6.319 Report 31516; Schau (2010)

This report deals with prospecting and geochemical sampling including of stream silt, hemlock branches, and stream water in the Boyes 3 showing area (Figure 6) within the Property. He obtained a grab sample with 0.12% Cu where he previously obtained 0.61% Cu. He did not obtain useful results from the biogeochemical sample analyses.

6.320 Report 32553; Schau (2011)

This report discusses work on a large claim block with a southern boundary near the confluence of the stream draining Tlowils Lake and the Adam River (Figure 6) and extending to the northwest beyond the present Property. Schau discussed characteristics of local magnetite veins and mineralized breccias in the context of various deposit types including alkalic porphyry copper deposits, IOCG, and volcanic red bed copper. He also discussed orogen parallel faults followed by transverse faulting. Northwest of the present Property he found samples with up to 6.6 g/t Au and greater than 25% Cu. He presented two maps showing numerous Cu and Au values, but all results are NW of the present Property and the best results are on adjacent properties. The reader is cautioned that the occurrence of mineralization off the Property is not necessarily indicative of mineralization on the Property.

6.321 Adam West Property (2018)

The present Property was staked by Richard John Billingsley following the lapse of claims held by Schau.

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7.0 Geological Setting and Mineralization

7.1 Regional Geology

Vancouver Island is a significant transect across the southern part of the Mid-Paleozoic to Early Mesozoic Wrangellian tectonostratigraphic terrane that extends northward though the Queen Charlotte Islands into southern Alaska. The stratigraphy of northern Vancouver Island (Figure 14) is founded upon the Triassic tripartite sequence of Karmutsen flood basalts dominating the northeastern side of the island and overlain to the west in series of homoclinal fault blocks by Quatsino limestone, Parson Bay Formation and Bonanza Group, LeMare Lake Volcanics, which are diagnostic of Wrangellia. On Vancouver Island, Wrangellia is intruded to the east by subduction related rocks of the Coast Plutonic Complex and tectonically sliced to the west by accreted terranes overlying an active subduction zone, named the Pacific Rim Terrane and the Westcoast Crystalline Complex (Wheeler and McFeely, 1991).

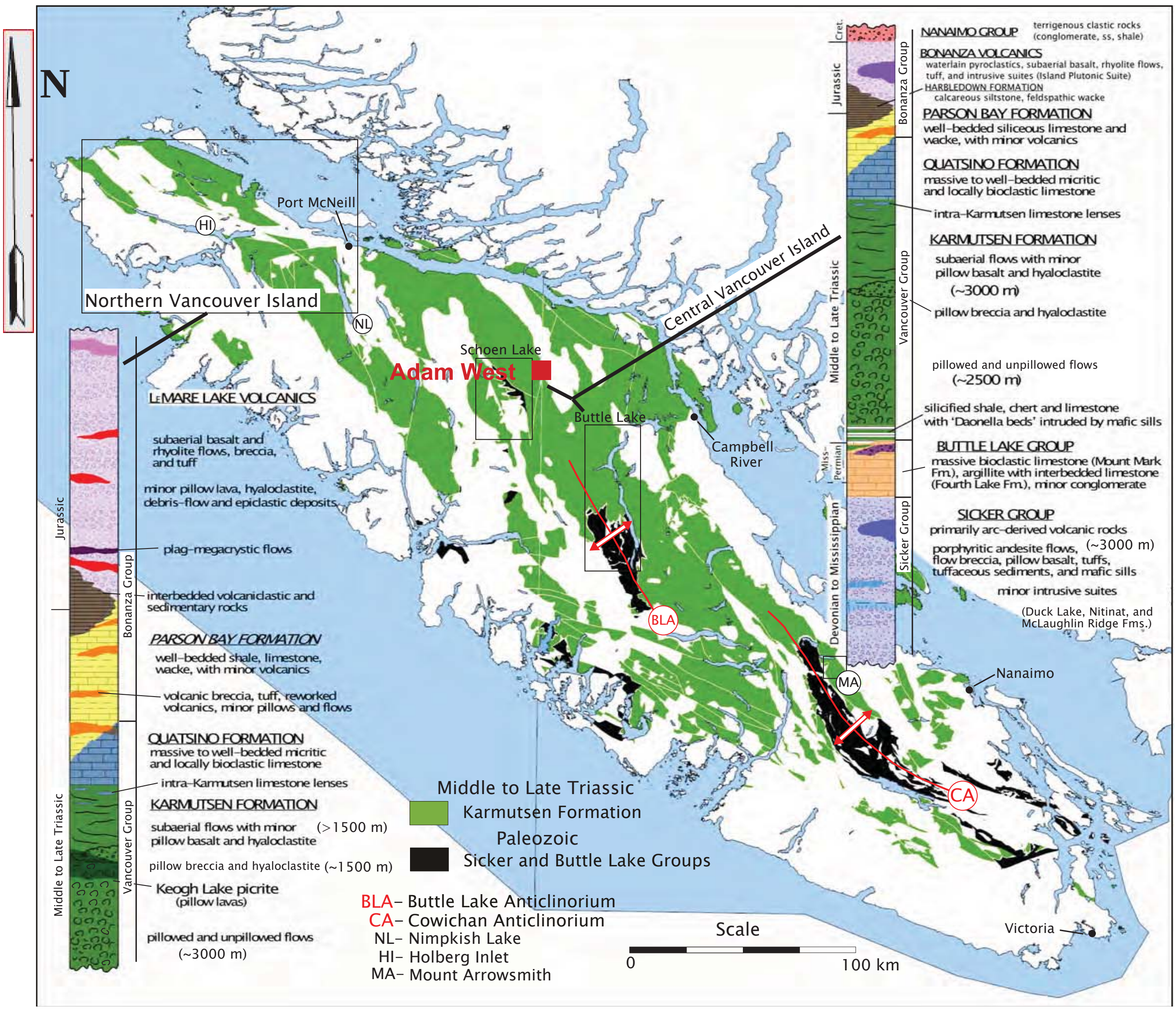


Figure 14: Karmutsen Formation distribution on Vancouver Island.
Map highlights the distribution of Karmutsen Formation (green) and underlying Paleozoic Sicker and Buttle Lake Groups (black). The stratigraphic column for Central Vancouver Island is relevant for the geology of the Adam West Claims (marked in red). The Adam West section is at the upper part of the Karmutsen Fm. Map from Greene et al. (2008).

The Wrangellian terrane on Vancouver Island is essentially composed of two oceanic volcanic arcs separated by voluminous flood basalts that formed an oceanic plateau. The earliest volcanic arc is within the Devonian to Early Permian Sicker Group Figure 15), which forms the basement of the island geology and is exposed in several fault-bounded tectonic uplifts in the central part of the island (Figure 14). The prolific volcanogenic massive sulphide deposits at Myra Falls at the southern end of Buttle Lake are within several thick felsic volcanic units. The basement uplifts are engulfed by the voluminous flood basalts of the Karmutsen Formation (Figure 14), which are the lower part of the Vancouver Group that dominates the alpine skyline

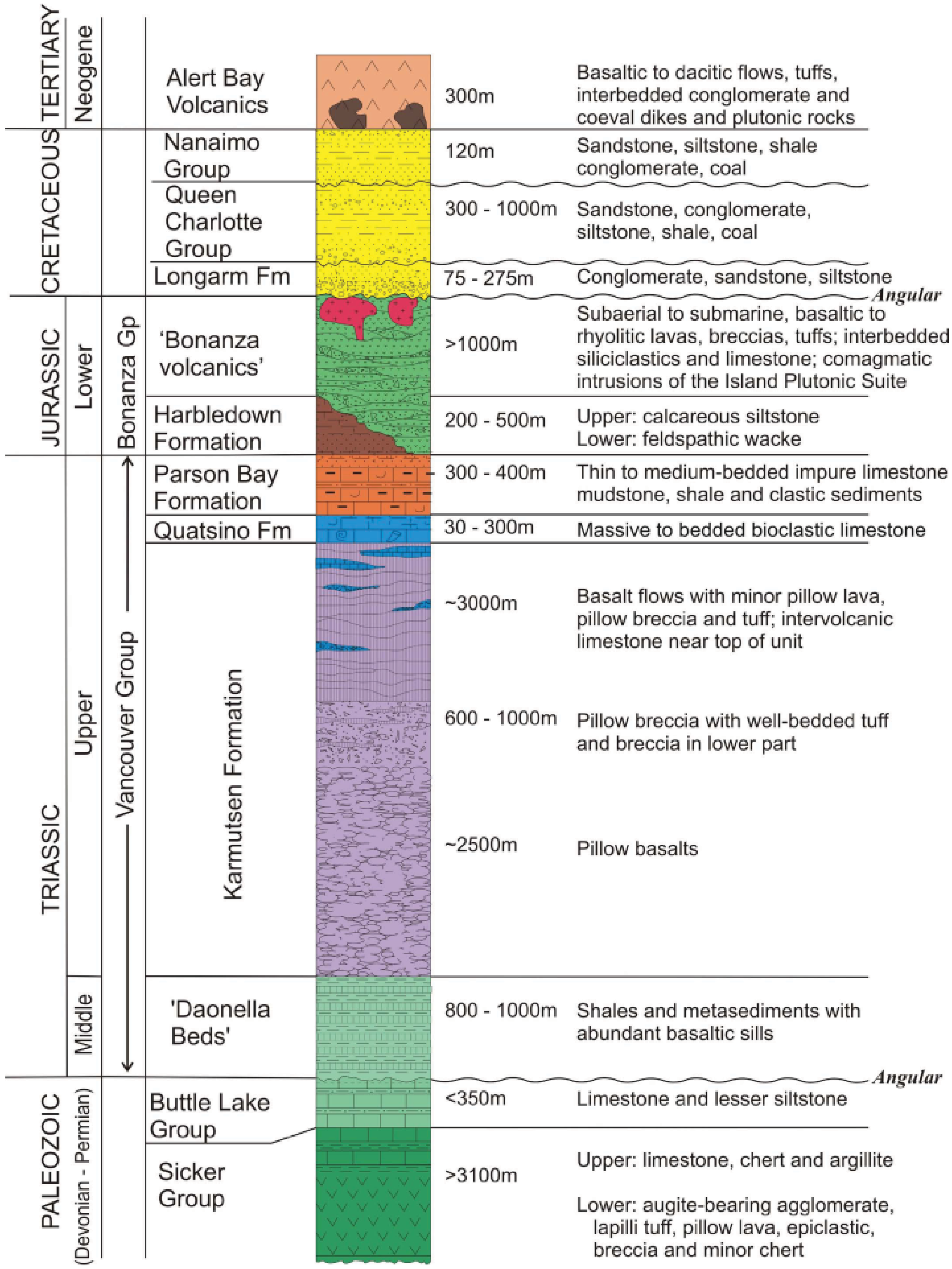


Figure 15: Stratigraphic nomenclature for northern Vancouver Island.
Stratigraphy of northern Vancouver Island. Notably, the upper Karmutsen Fm includes intervals of limestone such as those observed within the Adam West Property. The group subdivisions shown here have been revised recently by Nixon & Orr (2007) to include the Parson Bay Formation as the lowest formation in the Bonanza Group.

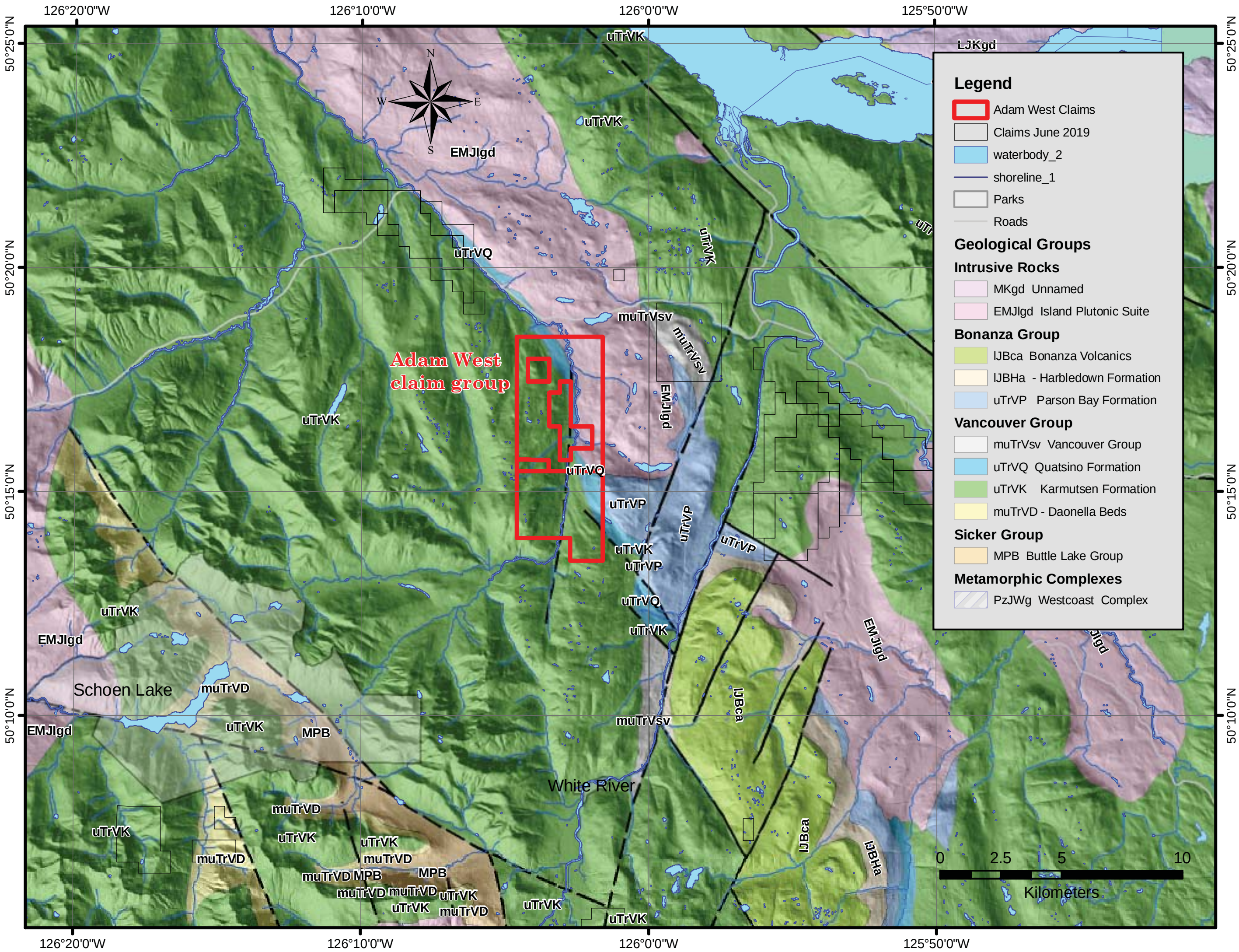


Figure 16: Geological Map of the Adam River Area
Geological units are subdivided on formational basis showing subdivision of a down-dropped block of Bonanza Group to the east of the river. Plutonic rocks of the Jurassic Island Intrusive Suite, in pink, are calc-alkaline in composition and occur in contact with the Quatsino Fm in the claims group. Map drawn in ArcGIS by the author (June, 2019) using current geological, mineral title and geographic GIS data from the British Columbia Mapplace website.

of much of central Vancouver Island with peaks up to 2300 m exposing thousands of meters of basalt flows, pillows and pillow breccias. These basalts formed an oceanic flood basalt plateau generated above a large mantle plume.

The Karmutsen Formation is capped by platformal limestones of the Quatsino Formation (Figures 14 and 15) marking the upper part of the Vancouver Group. Above the Vancouver Group, deep water limestones and clastic sedimentary strata, intermixed upward with an increasing component of volcanic tuffs indicate the beginning of the second calc-alkaline volcanic arc in the Wrangellian Terrane. The base of the Bonanza Group is the Parson Bay Formation, a mixed carbonate-clastic-volcanic succession with a significant island-arc volcanic and volcaniclastic affinity that separates it conformably from the earlier limestone strata of the Quatsino Formation (Nixon & Orr, 2007). The preserved volcanic strata of the Bonanza Group Volcanics are found in a fault block a few kilometers southeast of the Property and in north-western Vancouver Island around Quatsino Sound where they are named the LeMare Lake Volcanics.

Bonanza Group volcanics are not preserved in the fault blocks in the Property, which are eroded below the volcanic/Parson Bay contact. However, the intrusive equivalents of the Bonanza Group volcanics are extensively distributed throughout the island in the granitoid plutonic rocks of the Island Plutonic Suite. The granitoids intrude rocks of the Karmutsen Formation as well as those of the Bonanza Group and result in both porphyry copper deposits and, where intruding limestones, significant skarn deposits of magnetite and locally copper sulphides. The Bonanza volcanic arc rocks were eroded following a major Jurassic contractional event and the eroded surface covered by clastic sedimentary rocks of the terrigenous Nanaimo Group that includes coal bearing conglomerates in sedimentary basins preserved along the eastern side of Vancouver Island.

The structural deformation history of northern Vancouver Island is complex and embodies Cretaceous transpression followed by Tertiary extension. The present crustal architecture exhibits a dominant northwesterly-trending structural grain manifested by the distribution of major lithostratigraphic units and granitoid plutons (Figures 14 and 16). Numerous fault-bounded blocks of homoclinal, Early Mesozoic strata generally dip to the south-west and west whereas Jura-Cretaceous clastic strata are preserved as isolated, fault bounded remnants of formerly more extensive Cretaceous basins on the north side of Quatsino Sound, the northern end of Vancouver Island (Nixon and Orr, 2007).

7.2 Stratigraphic Units of the Adam West District

7.21 Karmutsen Formation

The geology of Central Vancouver Island, the region of the Adam West Property, is dominated by outcrops of the Triassic Karmutsen Fm., that form a series of massive and pillowed basalts up to several km thick. The base of the Karmutsen Fm lies on a distinctive, thin bedded black argillite unit, containing Middle Triassic (Ladinian) Daonella bivalve fossils, that is informally named the Daonella Beds (Figure 15). Thick diabase sills, which intrude the argillite, have the same composition as basalts of the Karmutsen Formation and mark the onset of Karmutsen volcanism. The combined sills and argillites are known as the Sediment Sill Unit of the basal Vancouver Group and occur in fault blocks only 15 km southwest of the Property in Schoen Lake Provincial Park (Figure 16).

The type section for the Karmutsen Formation is preserved in the Buttle and Upper Campbell Lakes on the flanks of the Buttle Lake Anticlinorium ("BLA" in Figure 14), where a total stratigraphic column of about 6 km is measured (Figure 15). The basal units at Buttle Lake are sills that intrude limestone of the Permian Buttle Lake Group, a series of limestones that capped the marine volcanic arc of the Sicker Group (Figure 15). Above these are the basal volcanics of the Karmutsen, which are spectacularly pillowed flows with individual pillows up to 4 m in size viewed in cliff faces on the west shore of Buttle Lake. Many show drainage cavities in the core of the pillows, formed as the crust hardened and cracked allowing molten lava to drain out leaving flat bottomed cavities indicating original, or paleo-horizontal. The cavities in many pillows outcropping along logging roads on Elk Mountain (SW side of Upper Campbell Lake) are filled with comby quartz and calcite and the paleo-horizontal markers indicate tilting to the north. Massive flows alternate with thick sections of pillowed flows and appear to have formed as lateral feeders for pillowed basalt sections. The pillowed flow section measures up to 3 km in thickness.

Above the pillowed flows section is a 1.5 kilometer thick section of coarse pillow breccias and hyaloclastites (Surdam, 1967). Thick and spectacular, well bedded exposures of this unit form cliffs on the upper ridges of Kings Peak in Strathcona Provincial Park southwest of

Upper Campbell Lake. The hyaloclastite consists of poorly-sorted blocks of broken pillowed basalt in a finely-comminuted matrix of basaltic glass shards, fragments, and pillow rinds. High-Mg picritic pillow lavas have been identified in the lower part of the Karmutsen Formation (Greene et al., 2006; Nixon et al., 2008) near the transition between the pillowed lavas and the overlying hyaloclastite unit (Nixon et al., 2008).

Figure 17: Ammonites from a sedimentary interflow layer in the Karmutsen Fm. Specimen of Upper Triassic-Jurassic ammonites collected east of Upper Campbell Lake by the author.

The upper part of the Karmutsen is an emergent sequence up to 2 km thick of subaerial flows that vary in flow thickness, grain size (5 mm), and proportion of amygdules and generally have a well-layered, planar appearance. Rarely, thicker flows show columnar jointing and paleosols (or weathered tops surfaces) are generally absent indicating a rapid succession of flows. However, towards the top of the subaerial section, interflow lenses of sedimentary rocks, mainly limestone increase in frequency. These lenses are commonly associated with pillowed flows and hyaloclastite indicating submergence. Small scale emergent sequences above the limestones consist of pillowed basalt, pillow breccia and hyaloclastite, finally a return to massive flows. Some of the limestone lenses have identical fossil assemblages to those characteristic of the overlying Quatsino limestone and the author (Figure 17) has collected well-preserved ammonites from a sedimentary lenses east of Upper Campbell Lake. A few subaerial flows near the top of the Karmutsen Formation contain abundant, aligned plagioclase megacrysts (1-2 cm laths), that distinguish the flows as good stratigraphic marker units (Nixon et al., 2006, 2007).

7.22 Quatsino Formation

The Quatsino Formation is dominantly a shallow water marine limestone. The lower part is typically a dark to medium grey, predominantly massive, fetid micritic limestone that weathers pale grey to white where recrystallized to marble. Ammonites have been collected at several localities. The upper most part of the Quatsino Formation is generally composed of thinly laminated to medium or thickly bedded micrite to (rarely) calcarenite sequences that locally contain laminae enriched in bioclastic debris. Normally graded beds are observed locally and attest to deposition by the action of turbidity currents. Transported shell fragments, largely gastropods up to 1 cm across and thin-shelled pelecypods up to several centimetres across (predominantly Halobia sp.) occur in both the more massive and the well-bedded horizons but are more common near the top of the unit (Nixon et al. (2006). Locally, the limestone is pervasively silicified or exhibits dark grey chert concretions that developed during diagenesis.

In proximity to large intrusions the Quatsino Formation is extensively recrystallized to a white and pale grey marble with local darker grey and green varieties caused by hydrothermal interaction with crystallizing granitoid bodies. In the vicinity of intrusive contacts, a dark grey and white layering is observed in areas of skarn development along with finely disseminated sulphide minerals and thin (<1 mm) stringers of pyrite (Nixon et al., 2006).

7.23 Parson Bay Formation

Parson Bay sedimentary rocks include grey to black, thinly laminated to thickly bedded, impure micritic limestone, mudstone, siltstone, shale, and grey-brown to pale buff, fine to coarse-grained feldspathic sandstone Nixon et al. (2006). Tuffaceous beds are observed locally and may reflect the regional onset of volcanism, the recognition of which prompted Nixon et al. (2006) to reassign the Parson Bay Formation to the Bonanza Group. Volcanogenic rocks, including feldspathic wacke, breccia and rare conglomeratic beds, are a distinctive component of the Parson Bay succession. These deposits are intercalated with typical and locally fossiliferous, Parson Bay strata, and were obviously deposited in the same shallow marine environment. Clastic beds are commonly calcareous and shale beds may be distinctly carbonaceous. Bedding is predominantly planar, and some beds are strongly silicified and pyritic. Finely disseminated diagenetic pyrite, and in places hematite, is widespread. Near intrusive granitoids of the Island Plutonic Suite impure limestone beds are bleached and recrystallized. Most of these strata probably represent a low-energy, shallow-marine environment, although mudstone at one locality exhibits desiccation cracks, which is indicative of intertidal conditions.

7.24 Island Plutonic Suite

The volcanic strata of a late Triassic to Jurassic volcanic arc have been largely eroded away, but the intrusive source plutons are well exposed throughout much of Vancouver Island including in the Property area. Specifically, the Adam River pluton occupies the northeastern part of the Property east of the Adam River where it intrudes Parson Bay and Quatsino Fm. The pluton is largely dioritic to granodioritic in composition and medium grained indicative of mesozonal emplacement. The rock are described by Schau (2006a) as mainly medium to fine grained biotite hornblende granodiorite and quartz diorite with a locally elevated content of mafic minerals. Contact zones in host rocks are commonly homfelsed for short distances and limestones exhibit local skarn development.

7.3 Geology of the Adam West Property

Basalts of the Karmutsen Formation dominate the western part of the Property (Figure 16). The basalts are stratigraphically and structurally in contact with a sinuous band of Quatsino limestone and Parson Bay sediments that separates the basalts from a large granodioritic pluton of the Island Plutonic Suite. Where exposed near the intrusion, such as in outcrops along Highway 19, the limestones are strongly recrystallized to grey marble.

The stratigraphic position of the Karmutsen Formation on the Property is within the uppermost subaerially deposited flows of the Karmutsen. This is indicated firstly by the dominantly massive, amygdaloidal basalt flows, and secondly by increasingly evident intervals of limestone occurring within the section such as at the Adam West showing, leading up to a final contact with the Quatsino Formation limestone. The interflow limestone beds are diagnostic of hiatuses in volcanism. At the Adam West showing, the limestone bed conformably overlies amygdaloidal basalt, and in turn is itself overlain conformably by pillowed flows and hyaloclastite, followed by amygdaloidal flows. This sequence indicates a pause in volcanism, subsidence into shallow marine conditions and then a return to volcanism and reemergence.

Structural deformation includes gentle northerly tilting of the Karmutsen flows and significant down-to-the east block faulting partly along a north-south oriented fault aligned with the Karmutsen - Quatsino Formation contact. The block faulting is probably Cenozoic and represents structural relaxation following a compressive event.

7.4 Lithogeochemistry of the Adam River Basalts

The lithogeochemistry of the Karmutsen Formation has been the subject of significant research because of its predominance in the Wrangellian Terrane as one of the most voluminous flood basalts on the planet. Research by Greene (2008) and Greene et al. (2008) in the Schoen Lake area, 30 km south of the Adam West area, has documented high MgO and picritic basalt (ultramafic) phases of the tholeiitic basalts, which have been considered prospective for platinum group element deposits.

The volcanic strata in the Adam River area have been assigned to the Triassic Karmutsen Formation by regional mappers from the British Columbia Geological Survey Branch and the Geological Survey of Canada ("GSC"). The strata are relatively little deformed with only a NE tilt of about 15 degrees and are cut by numerous upright faults and dykes. Six whole rock analyses of basalt from the area of the Property were compiled from an assessment report by Schau (2006) and evaluated by comparison to Karmutsen basalts collected by the author from an area near Stewart Lake at the south end of the White River (Wasteneys, 2019). The Stewart Lake basalts are typical amygdaloidal basalts of the Karmutsen Formation, but generally devoid of the epigenetic copper sulphide mineralization that is a subject of this Report. Stewart Lake is not a part of the Property that is the subject of this Technical Report. Further, the reader is cautioned that mineralization in the Stewart Lake area is not necessarily indicative of mineralization on the Property. The samples collected by Schau (2006) were variously epidote altered and in places hematized and collected from amygdaloidal and pillowed flows. His purpose in analysing the basalts was to discern a pattern of alteration that might be the result of a large hydrothermal mineralizing system that might explain the presence of magnetite veins and magnetite concentrations in the basalts that might reflect an early stage porphyry system such as the early stage magnetite veins at Island Copper (Arancibia and Clark, 1996) or to an Iron Ore Copper Gold (IOCG) system. However, Schau (2006) did not classify the basalts geochemically and much of his work was focused on petrographic study looking for alteration minerals.

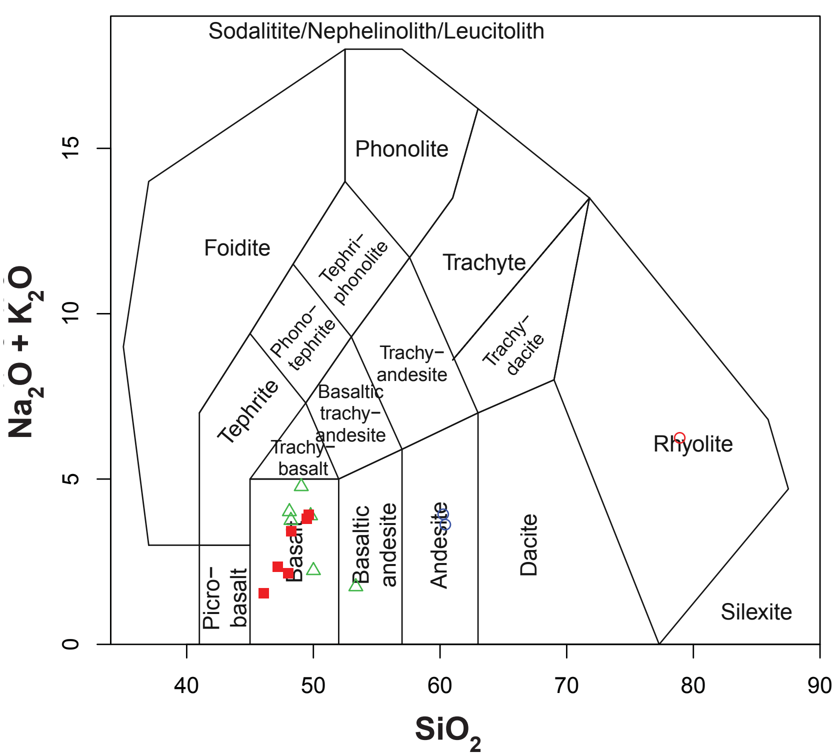
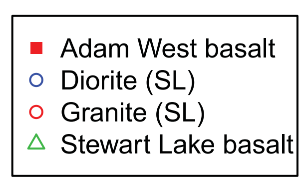


Figure 18: Total Alkali Silica Plot of Middlemost, 1994) for classification of volcanic rocks.

The six basalts collected by Schau (2006) from basalts on the Property are indicated by red squares. Open green triangles are basalts from Stewart Lake Karmutsen Formation and green open circles from dioritic and granitic dykes cutting the basalts. All of the Adam West rocks plot in the field of basalts precisely in the compositional range defined at Stewart Lake.



Schau's rocks were analysed at Acme Analytical Labs in Vancouver for major elements using Li-borate fusion and ICP-ES analysis (Acme method 4A) and for trace elements and REEs by Li-Borate fusion and ICP-MS analysis (Acme method 4B). The author's suite of rocks from Stewart Lake (Wasteneys, 2019) were analysed by comparable methods at ALS Canada Ltd. The author compiled the analyses from certificates of analysis in Schau (2006) and applied them in GCDkit 4.1 plotting them for comparison with the Karmutsen Formation basalts and crosscutting granitoid dykes from Stewart Lake. The dykes are probably of Jurassic age and related to the Island Intrusive Suite that forms the pluton in the northeast of the Property.

The Adam West and Stewart Lake rocks show little effects of alteration (except one Stewart Lake basalt which is carbonate altered). All of the basalts have typical tholeiitic compositions with low amounts of K_2O and moderate amounts of Na_2O and TiO_2, but have a wide range of MgO from 4.8 to 11.8 %. The two basalts with the highest MgO content are from Adam West, are classified as "High-MgO" basalts because they lie in the 8 to 12 % MgO range and are transitional to ultramafic compositions or "picrites" (Green, 2008).

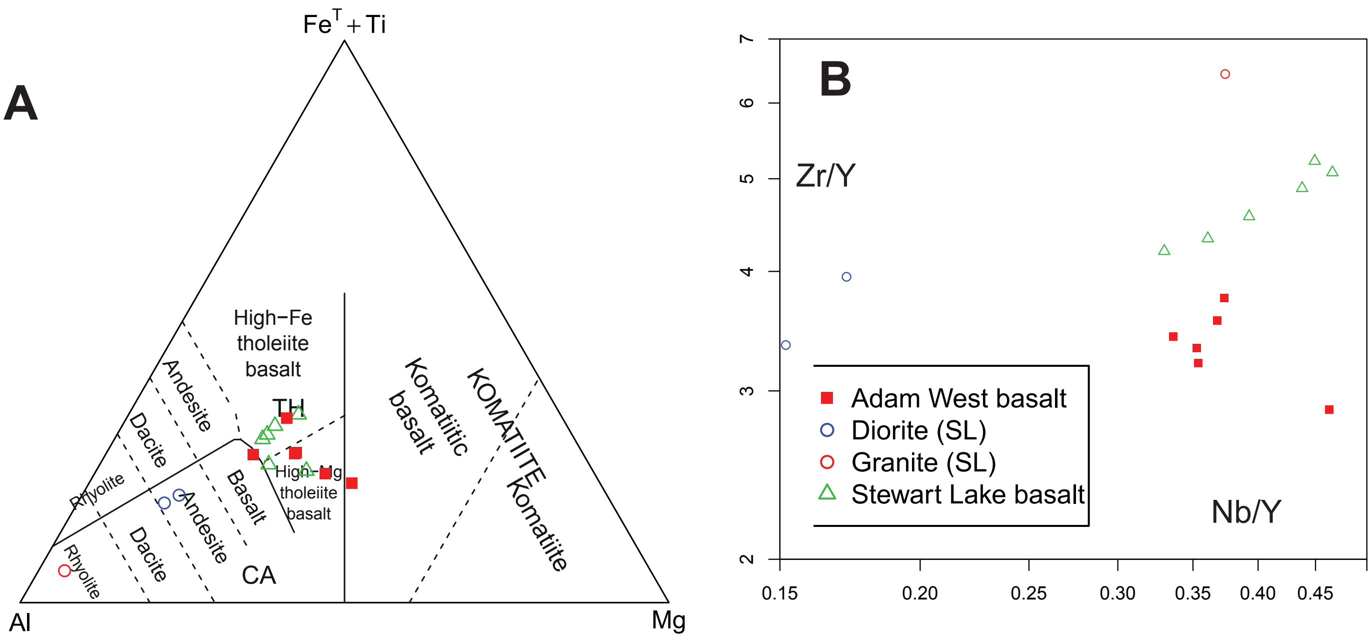


Figure 19: distinctions between the Adam West basalts and the Stewart Lake Karmutsen Fm.
A. The Adam West basalts plot (red squares) in the Jenson (1976) cation ternary diagram overlap fields of High-Fe and High-Mg tholeiites in common with the Karmutsen basalts from Stewart Lake (green triangles), but two Adam West basalts are significantly more Mg- rich and one crosses the vertical line into the ultramafic field (komatiitic).
B. Nb/Y - Zr/Y binary plot showing separate groupings for the basalts at Stewart Lake and Adam West. The Stewart Lake granite and diorites are plotted for comparison.

The combined set of 15 rocks is classified on a standard total alkali silica (TAS) diagram in Figure 18 (Middlemost, 1994), which subdivides the rocks into basalts and rhyolites. The Adam West and Stewart Lake basalts overlap in the "Basalt" field (with the altered Stewart Lake basalt plotting in the basaltic andesite field). The high MgO basalts can be distinguished from "High-Mg" basalts on the Jenson (1976) ternary diagram Figure 19A, with one Adam West basalt plotting over the line into the field of komatiitic basalts (ultramafics). A distinction between the compositions of the Adam West and Stewart Lake basalts is highlighted on a binary logarithmic plot of Nb/Y vs. Zr/Y In Figure 19B, which shows a similar range of Nb/Y ratios in both, but distinctly lower Zr/Y ratio in the Adam West basalts.

The similarity of the Adam West and Stewart Lake basalts and their distinction as tholeiitic basalts from the calc-alkaline Stewart Lake diorites is shown further by Rare Earth Element ("REE") spidergrams in Figures 20 and 22. Figure 20 is a Primitive Mantle REE -normalized spidergram (McDonough and Sun, 1995) showing parallel, moderately negative sloping trends of Light REE ("LREE") enrichment *vs.* Heavy REE (HREE) for the Adam West

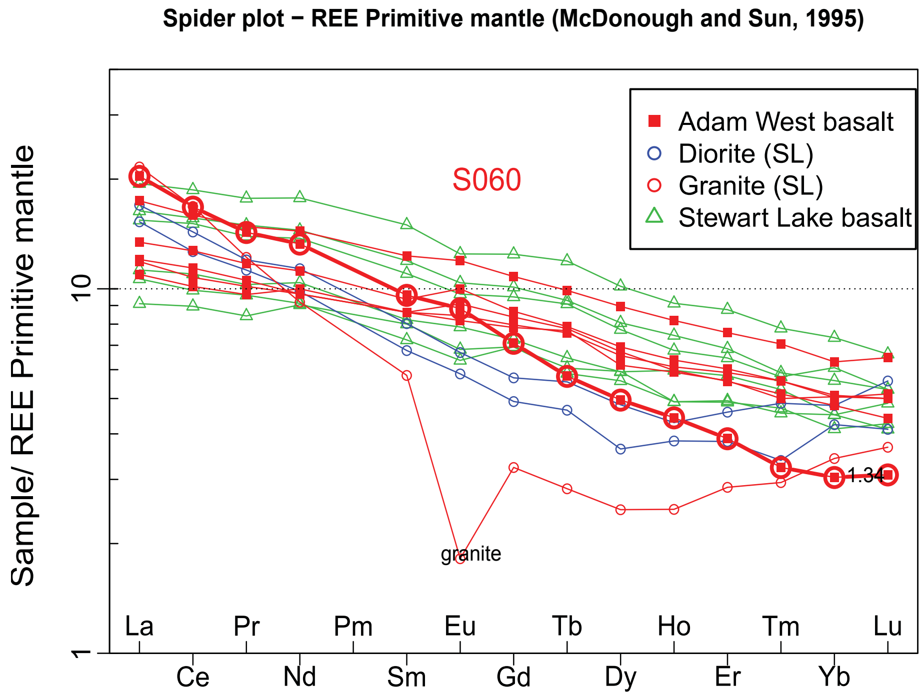


Figure 20: Spider plot normalized by REE primitive mantle concentrations in the Adam West vs Stewart Lake basalts. The diagram plots REE concentrations measured in the rocks normalized by REE concentrations defined by McDonough and Sun (1995) from primitive mantle rocks. Near parallel trends are displayed for the Karmutsen Fm basalts from Adam West and Stewart Lake (symbols in legend). One basalt, S060 is highlighted with a steeper trend.
Calc-alkaline diorites and a granite from Stewart Lake are shown for contrast. Plotted by the author in GCDkit4.1 Janousek et al. (2006).

and Stewart Lake basalts. The pattern is typical of tholeiitic rocks. The diagram uses averaged REE concentrations in primitive mantle rocks determined by McDonough and Sun (1995) to normalize the compositions of the same elements in the samples.

The variation amongst the basalts is the result of either varying degrees of partial melting of the mantle peridotites that formed the source of the Karmutsen Formation oceanic plateau basalts, or, indistinguishably, by crystal fractionation. The increase in absolute REE contents in the melts at constant ratios of LREE to HREE (commonly the Ce/Yb ratios) is because of the incompatible element behaviour of REEs, which concentrate in residual melts as compatible minerals are fractionated away by crystal settling.

For contrast against the tholeiitic patterns shown by the basalts from Stewart Lake it is instructive to look at the pattern for the granite dyke on Figure 20, which shows a markedly steeper LREE to middle-REE (Tb, Dy) depletion trend as a result of LREE enrichment and a slight reversal in the HREEs trend. The granite also displays a typical negative Eu anomaly resulting from the depletion of Eu by plagioclase fractionation in the parental magma because of the anomalous partitioning of Eu into plagioclase at lower pressure condition in the crust. The two dioritic dykes from Stewart Lake show a similar pattern of LREE enrichment relative to primitive mantle and then a leveling off in the HREEs. Granitoid rocks of similar compositions have not yet been documented in the pluton or dykes on the Adam West Property, but analysis of REE patterns in dykes associated with mineralization may be useful in identifying their source especially in skarn environments.

However, one of the Adam West basalts (S060) stands out from the others by having a much steeper negative LREE to HREE trend measured by the normalized La/Yb ratio. This rock identified as sample S060, and highlighted on Figure 20, is the basalt with the highest MgO content at 11.76% (compared to a range of MgO = 4 to 8.5) that plots as borderline komatiitic basalt in the Jenson cation ternary in Figure 19A. Its steep LREE-HREE trend on Figure 20 is measured as La/Yb = 6.64 whereas the other five Adam West basalts range from La/Yb = 2.15 to 2.79 as graphically indicated by parallel REE trends in common with the Stewart Lake basalts. The Adam West trends are, however, at slightly lower overall REE concentrations (shown by parallel lower lines) and indicative of higher degrees of partial melting from the peridotitic (*spinel lherzolite*) mantle plume source. The contrast in origin of the S060 high-Mg basalt is corroborated by the systematics of Zr and phosphorus (as P_2O_5) that display linear trends in igneous fractionation. A binary plot of P_2O_5 *vs* Zr (Figure 21) reveals that both the Stewart Lake and Adam West basalts share similar fractionation trends, but that the High-Mg basalt (S060) plots significantly off either trend indicating an origin from a different source.

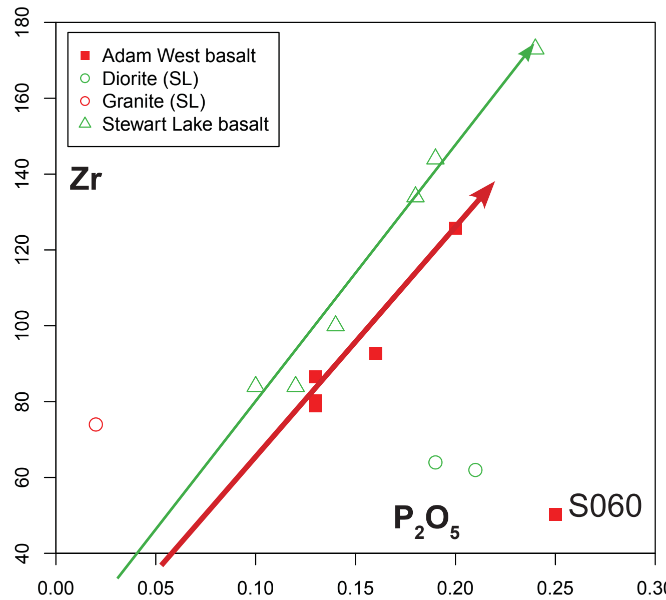


Figure 21: P_2O_5 vs Zr diagram showing igneous fractionation trends.
Arrowed lines show trend of fractionation for each of the basalt groups except High-Mg basalt S060.

Although, the origin of the high Mg basalt S060 can be inferred from the steeper LREE to HREE trend on Figure 20 to be different from the other basalts in the Adam West Group, Greene et al. (2009) noted that a similarly steep discrepant REE normalized La/Yb ratio was shown by a mineralized sill from the Schoen Lake area, which he surmised was the result of sediment contamination in the melt. Greene (2006) and Greene et al. (2009) also show that on normalized REE spider diagrams, the high-Mg and picritic lavas from the Karmutsen Formation have distinctly LREE depleted patterns with negative La/Yb slopes compared to the LREE enriched patterns for the tholeiitic basalts. Therefore, the S060 basalt does not share a picritic basalt type origin and it is not clear whether contamination by sediments has affected it.

In addition to REEs, LILE (Large Ion Lithophile Elements Cs, Rb, Ba Th, and U), HFSEs (High Field Strength Elements: Ta, P, Zr, Ti, and Y) that are incompatible in melts show greater contrast amongst the basalts and the three calc-alkaline rocks because of their contrasting behaviours in crystallizing magmas. Figure 22 shows a spider plot using the normalizing data from McDonough and Sun (1985) for primitive mantle for the 15 rocks. The dioritic and granitic dykes from Stewart Lake show the characteristic calc-alkaline depletion patterns of HFSEs and enrichment in LILEs. Figure 22 also shows a scattering of concentrations of LILEs Cs, Rb, Ba, Th and U that may be a result of their mobility in alteration and weathering environments. The variability of the profiles of these elements compared to other samples indicates that weathering or alteration has affected the rocks to differing degrees. The High-Mg basalt, S060, shows highly contrasting behaviour of various elements from enrichment in LILEs (Cs, Th and U) and depletion in some HFSEs (Nb, Ta, Zr) similar to a calc-alkaline pattern, and enrichment in LREEs and depletion in HREEs relative to the other basalts.

The first conclusion from the preceding lithogeochemical evaluation is that the Adam River basalts are very similar to basalts throughout the region that have been classified as

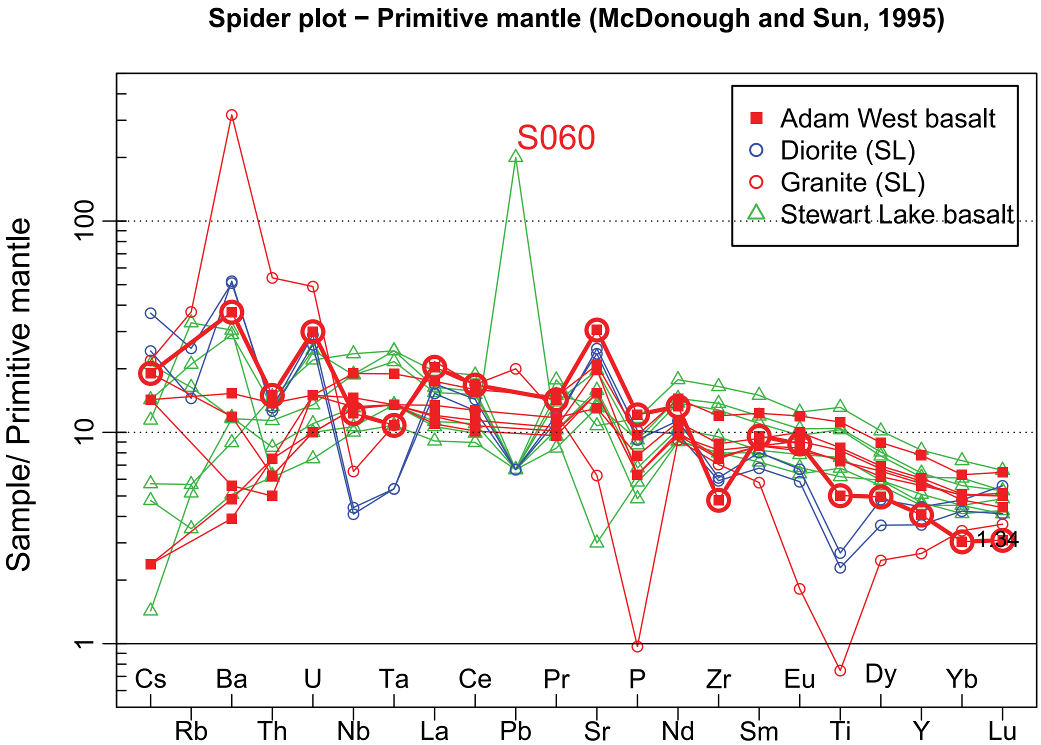


Figure 22: Spider plot of Primitive Mantle normalized elements in Adam West basalts compared to Stewart Lake Karmutsen basalts and Island Plutonic Suite dykes The diagram shows tholeiitic REE fractionation patterns in the Adam West and Stewart Lake basalts. For contrast, diagnostic calc-alkaline patterns are displayed by the dioritic and granitic dykes indicated by the strong depletion in Nb, Ta, and Ti. Adam West sample S060 is highlighted by circles. Plotted by the author in GCDkit4.1 Janousek et al. (2006).

Karmutsen Formation. Greene et al. (2009) have observed that the range of compositions in the Karmutsen Formation basalts is narrow and limited, that variations are not correlated with type of flow or stratigraphic levels in the very thick plateau basalt pile. In some case the range of variation is just as significant between cores and rims of pillows in pillowed basalts or between massive flows and and hyaloclastites.

However, although the basalts show a relatively narrow compositional range there are also the High- Mg tholeiitic basalts and the picrites which have been documented by Greene (2006). Significantly, the Adam West basalts' (except for sample S060) compositional range in both major element and REE geochemistry is nearly identical to the Stewart Lake basalts and characteristic of tholeiite geochemistry. Their origin as submarine plateau basalts renders them unlikely hosts for VMS deposits since they are distinct from MORBs (Mid-Ocean Ridge Basalts) that are implicated in Cyprus-type volcanogenic massive sulphide deposits (MORBS typically show LREE depletion patterns on REE spider plots). Another implication of their tholeiitic origin is that the observed high magnetite content is a primary magmatic feature and not a result of hydrothermal alteration, which might be associated with porphyry type deposits. However, in contrast with the Stewart Lake basalts, in which no copper vein deposits have yet been located, the Adam West basalts host numerous high grade copper showings of bornite, chalcopyrite, and chalcocite. The similarity in composition and common origin of the two suites of basalts requires that the copper occurrences are the result of other factors at play in the Adam West metallogenesis, most likely during metamorphism as documented by Surdam (1967) and Lincoln (1981) and discussed below in Item 8 Deposit types.

7.5 Mineralization on the Property

In addition to the observations at various mineralized sites on the Property by Altum in and the Author in Item 9 Exploration (below), a common sources of information on showings and occurrences in British Columbia are Minfile records created by BCGSB researchers reviewing assessment reports and geological surveys. Minfiles are GIS-based and accessible online through the Mapplace website and by web links available in offline GIS files. There are an unusually high concentration of Minfiles within the Property boundaries. Much of the information in the

Minfiles has been previously reviewed in the History section, but they are useful site specific records that augments the historical chronology based on properties and exploration campaigns. Minfiles included below have been edited to reduce the amount of redundant information and in some cases the geographic position has been corrected either as a result of more accurate GPS coordinates available for the described site or to correct mix-ups in names. This is particularly the case for the Lucky Jim showing as it was known for many decades after it was discovered in 1918, but somehow became known as the Cam-Doc showing and the position confused perhaps by an error in description of the position relative to unnamed geographic features. The showings, occurrences and prospects are reviewed in order of their Minfile number, which comprises the NTS mapsheet (092L) and a sequential number arbitrarily resulting from the order in which the showing was established by a reviewer, but usually reflecting the chronology of discovery. Original text from the Minfile listings is italicized. Historical exploration activity may be repeated in some of the descriptions to provide context for the showing,

Unless specifically noted, all of the Minfile showings reviewed below are within the Property.

7.51 Minfile Number 092L-165: Boyes Creek

This prospect has been referred to variously as the Boyes 3, Boyes Creek (Figure 6), Tammy, Klejni, and Kringle South. The Boyes 3 occurrence is located along Boyes Creek, an east flowing tributary of the Adam River, at an elevation of approximately 590 m. The deposit type is unclassified by the British Columbia Minfile deposit type system but commodities indicated are copper, silver, and gold.

The occurrence is hosted by amygdaloidal basalt directly below a thin limestone bed contact and is associated with a 280 degree striking, steeply south dipping fault structure in which a sheeted or braided zone of stringers, lenses and disseminations of chalcopyrite and bornite, minor chalcocite and native copper occurs. Fault-offsets and weak chlorite-epidote alteration occur.

In 1969, the occurrence was explored by 13 trenches over a strike length of 305 m, ranging from 0.3 to 4.6 m in width. On the western- most section, 7 channel samples over 116 m averaged 3.9 % copper over an average width of 1.2 m. Associated silver and gold values are low, with maximum values of 18.66 g/t and 0.62 g/t respectively, but averaging much lower (Assessment Report 1993).

7.52 Minfile Number 092L-166: George 5

The prospect is variously named George 5, South Creek, Tammy, Boyes 1-5, Klejni, and Kringle South. The George 5 (South Creek) occurrence is located west of the Adam River at an elevation of approximately 530 m and is shown on Figure 6. Commodities are classified as copper, gold and silver

The area is "*1 kilometer west of Jurassic Island Intrusions granodiorite. Locally, chalcopyrite with pyrite is present over 3.6 m. This mineralization occurs in a pod of calcite-epidote breccia in basalt. In 1969, a sample over 1.5 m assayed 0.9 % copper, 0.6 g/t gold and 6.2 g/t silver*" (Sharp, 1969).

7.53 Minfile Number 092L-167: George 1

The showing has been variously named George, North Creek, Boyes, Adam, and most recently, Kringle South by Schau 2007. The George 1 (North Creek) occurrence is located west of the Adam River at an elevation of approximately 380 m. Its coordinates are UTM zone 9, NAD 83, Northing 5574982 and Easting 710267. The commodity is listed as copper and it is classified by the British Columbia system of deposit types as Type D03 : Volcanic redbed Cu.

The showing *"is underlain by volcanic rocks and minor sediments of the Upper Triassic Vancouver Group and crystalline rocks of the Jurassic Island Intrusions. Locally, massive and amygdaloidal basalts are faulted and exhibit quartz, epidote, calcite and chlorite alteration. Chalcopyrite and bornite mineralization occurs as veinlets, small lenses and as disseminations. Chalcocite may be present. In 1969, a visual estimate of 4 trenches averages 0.25 % copper over a width of 1.6 m".*

7.54 Minfile Number 092L-168: Kevin 25

"The showing is variously named Kevin 25 (as indicated on Figure 6)*, M28, M29, E 2, Tammy, Boyes, Kringle South It is located in UTM zone 9 (NAD 83) at Northing 5572974 and Easting 711100. The Kevin (E-2) occurrence is located the north side of a west flowing tributary of the Adam River, approximately 4.6 km south of Keta Lake. It is classified as a copper skarn.*

The area lies at the contact of Jurassic Island Plutonic Suite granodiorite and an assemblage of limy basaltic tuff and limestone of the Upper Triassic Parson Bay Formation (Vancouver Group). Contact metamorphism of sediments is evident from re-crystallization of limestone and carbonate alteration of volcanic rocks. Upper Triassic Karmutsen Formation basalts lie west of Adam River. Locally, minor chalcopyrite occurs in quartz impregnations and veinlets."

7.55 Minfile Number 092L-169: Keta

The showing is variously named Keta (Figure 6), E 1, Dennis 22, Bruce 20, and Kringle South The Keta (E-1) occurrence is located on an west flowing tributary of the Adam River, approximately 1.6 km south of Keta Lake at coordinates in UTM zone 9 (NAD 83) Northing 5575880 and Easting 711084.

The area is underlain by strongly sheared and fractured hornblende diorite and migmatized volcanic rocks, at the western contact of the Adam batholith of the Jurassic Island Plutonic Suite with Upper Triassic Vancouver Group Karmutsen Formation volcanic rocks. Conspicuous epidote and potassium feldspar alteration are present, minor chloritic alteration also occurs. Locally, minor chalcopyrite is present in fractures.

7.56 Minfile Number 092L-180: Lucky Jim

The showing is variously named CAM - DOC, DIK, DOK, DAVE, M, JAKE and Lucky Jim. The Lucky Jim showing is located on the east side of the Adam River, approximately 2.5 km west- south west of Tlowils Lake (Figure 6). Minfile records incorrectly placed it 2.5 km to the north where it is principally assigned the name Cam-Doc. It is classified as a Cu skarn with main commodities being copper, silver, and gold. Cam-Doc West, below at 092L-222 is also misplaced on Minfile records and records describe the main Lucky Jim showing.

It was originally known as the Lucky Jim showing when it was discovered in 1918. *The area is underlain by Upper Triassic Vancouver Group, Quatsino Formation limestone that overlies Karmutsen Formation andesitic flows and tuffs. The limestone is intruded by a dacite porphyry dike that is chlorite altered and heavily oxidized. Weak bleaching of the limestone occurs up to 1 meter from the dike. Locally, skarn-like siliceous replacement zones of limestone adjacent to the contact with a pyritic dacitic feldspar porphyry dike is mineralized with pyrite, pyrrhotite, chalcopyrite, lesser sphalerite and rare galena. The sulphides occur as massive pods and stockwork like networks of fracture fillings and disseminations.*

1.) The River Level zone strikes 350 degrees and dips 80 degrees west. It has been traced for 57 m with an average width of 2 m and was explored by two short adits before the 1950's. One adit follows the footwall for about 5 m, the other (shorter one) crosscuts the 2 to 2.5 meter wide zone. The zone averages 5 % pyrite, 0.5 to 2.5 % chalcopyrite and variable amounts of pyrrhotite.

In 1979, four samples taken over a width of 2.3 m from the main zone averaged 1.27 % copper, 17.77 g/t silver and 11.85 g/t gold (Taylor, 1980). *In 1988, samples assayed from 0.27 to 11.2 g/t gold* (Henneberry, 1987). *Later the same year, an average grade of the zone was reported as 7.55 g/t gold, 34.3 g/t silver and 2 % copper across an average width of 2.1 m* (Roberts, 1988).

2.) The Plateau Level zone has been traced intermittently for 30 m and is 0.45 to 1 meter wide. This zone averages 10 % pyrite and only minor chalcopyrite. In 1987, sampling yielded values ranging from 0.27 to 9.5 g/t gold (Henneberry, 1987).

In 1919, Cominco completed a program of surface trenching and 21 m of drifting on the area. In 1926 and 1927, six diamond drill holes were completed. In 1980, Five M Resources completed a program of soil sampling, geological mapping, a magnetometer survey and five diamond drilling, totalling 450 m of BQ wire line core.

7.57 Minfile Number 092L-222: Adam West

The showing is variously named Adam West, Boyes 1-5, Kringle South. Its location is shown on Figure 6. The prospect is classified as a showing is classified as Type D03 : Volcanic redbed Cu with main commodities copper, silver, and gold. The Adam West occurrence is located on a north south trending ridge, south west of the Adam River and approximately 3 km south west of Keta Lake.

Locally, an east- west trending mineralized zone occur in volcanic rocks is stratigraphically below a 12 m thick limestone unit and has a strike length in excess of 450 m, as identified by trenching. The zone has been partially tested by drilling over a 150 meter strike length and for 200 m down dip. Mineralization consists of chalcopyrite and bornite with minor chalcocite and native copper. The copper minerals are found replacing amygdules in the amygdaloidal lavas as well as along fractures lacking any alteration aureoles.

Drilling in 1972 returned assays that included 0.84 % copper over 23.5 m (GCNL # 95, 1973). Other intercepts returned up to 2.11 % copper over 4.5 m (Hole A-6; Assessment Report 22409).

In 1984, a sample taken from old drill core assayed 0.5729 % copper, 1.4 g/t silver and 0.016 g/t gold (Sample 18705, Ikona, 1985*). The same year a sample (18703) of mineralized outcrop assayed 0.764 % copper and 3.1 g/t silver* (Ikona, 1985). *In 1991, select grab samples yielded up to 4.59 % copper* (Leriche, 1991).

7.58 Minfile Number 092L-224: Eloise

The ELOISE showing is located in the southeastern section of the Property on the east side of the Adam River (Figure 6). A deposit classification was not assigned by the Minfile writer, but is consistent with E02: Volcanic Redbed. It was most definitively explored by Smitheringale (1983) who concluded that mineralization was erratically distributed in fracture and amygdules in Karmutsen basalts underlying thin limestone lenses.

The Eloise occurrence is located in the head waters of Lois Creek, approximately 1.2 km east of the Adam River. Mineralization at the Eloise occurrence consists of chalcopyrite, bornite, hematite and pyrite as fine disseminations or localized in small fractures, veinlets or lenses in amygdaloidal basalt of the Karmutsen Formation. The attitudes of the mineralized fractures vary.

One set, striking 110 degrees and dipping 30 degrees east, is thought to be parallel to flow contacts in the basalt. A minor intercalated limestone band, averaging 1.0 m in thickness, reportedly controls localized mineralization (Assessment Report 11730; Smitheringale, 1983).

In 1969, fifteen test pits were dug along a 900 meter strike length, across mineralization which averaged between 1 and 2 m. Assay results ranged from 0.3 to 2.0 % copper (Assessment Report 10479; Taylor, 1969).

7.59 Minfile Number 092L-402: Lucky Jim (Cam-Doc West)

The Minfile location for the Cam-Doc West is incorrect and the showing as described is actually the same as Lucky Jim on the east side of the river (Figure 6). The occurrence is located on the west side of the Adam River, approximately 2.8 km west-southwest of Tlowils Lake at (corrected) coordinates 5570730 North by 710559 East. The Minfile record states that "*the area is underlain by Upper Triassic Quatsino Formation (Vancouver Group) limestone, which overlies Karmutsen Formation andesitic flows and tuffs. The limestone is intruded by a dacite porphyry dike that is chlorite altered and heavily oxidized.*" However, the limestone at the site appears to be sandwiched between Karmutsen basalts along a N-S striking normal fault coincident with the Adam River and so is more likely to be a lens of limestone within the Karmutsen Formation unless the fault structure forms a graben.

The mineralized skarn system is described as "*Weak bleaching of the limestone occurs up to 1 meter from the dike. Locally, skarn-like siliceous replacement zones of limestone adjacent to the contact with a pyritic-dacitic feldspar-porphyry dike that is mineralized with pyrite, pyrrhotite, chalcopyrite, lesser sphalerite and rare galena. The sulphides occur as massive pods and stockwork-like networks of fracture fillings and disseminations. In 1942, a chip sample (No.14) assayed 2.7 g/t gold, 51.5 g/t silver and 1.7 % copper over 2.74 m. Another chip sample (No.13), taken from a short adit located a few hundred m to the north, assayed 3.4 g/t gold, 85.8 g/t silver and 5.4 % copper over 1.22 m (Assessment Report 8190). In 1988, sampling of the area yielded up to 0.66 % copper, 13.7 g/t silver and 2.16 g/t gold (sample 17704; Assessment Report 17755).*

7.510 Minfile Number 092L-403: Kringle Bornite

The Kringle Bornite occurrence is located near a logging road junction, west of the Adam River and approximately 3.4 km west-northwest of the Tlowils Lake and is within the Property, but not labelled on Figure 6. The showing was discovered in 2006 but the area has been historically explored in conjunction with the Boyes 3 (MINFILE 092L 165) occurrence.

Locally, mineralized quartz veins with epidote and calcite cut massive beds of an aphanitic basalt. Mineralization consists of bornite and pyrite. In 2006, a sample (KL040T) assayed 0.613% copper, 4.8 g/t silver and 0.216 g/t gold (Assessment Report 28327). In 2006 through 2012, M. Schau prospected the area as part of the Kringle South Property.

7.512 Minfile Number 092L-404: Kringle South

The Kringle South occurrence (Figure 6) is located on north east facing slopes over-looking the Adam River to the north east and approximately 2.1 km southwest of Keta Lake at 5576620 North by 709137 East (NAD 83 UTM Zone 9). The occurrence was discovered in 2006. The area has been previously explored in conjunction with the Adam West (MINFILE 092L 222) occurrence. *Locally, steep, north trending chlorite veins and smaller, more complex veins of feldspar, quartz and epidote are hosted in gabbro. In 2006, sampling yielded values up to 0.49 g/t gold, 3.1 g/t silver and 0.167 % copper (Schau, 2006a).*

8.0 Deposit Types

The mineral occurrences and showings of the Property can be subdivided, in the author's opinion, into two types of mineral deposits: the Lucky Jim occurrence is characterized by gold-enriched sulphide mineralization forming a replacement lens in proximity to limestones and intrusive granitoids whereas Boyes Creek and Adam West exemplify copper-rich sulphide deposited in cavities, both structurally created and as fluid pockets in flows. Lucky Jim is readily classified as a skarn type deposit. The Boyes Creek and Adam West occurrences appear to be the result of late stage low-grade metamorphogenic remobilization of copper and silver within a thick

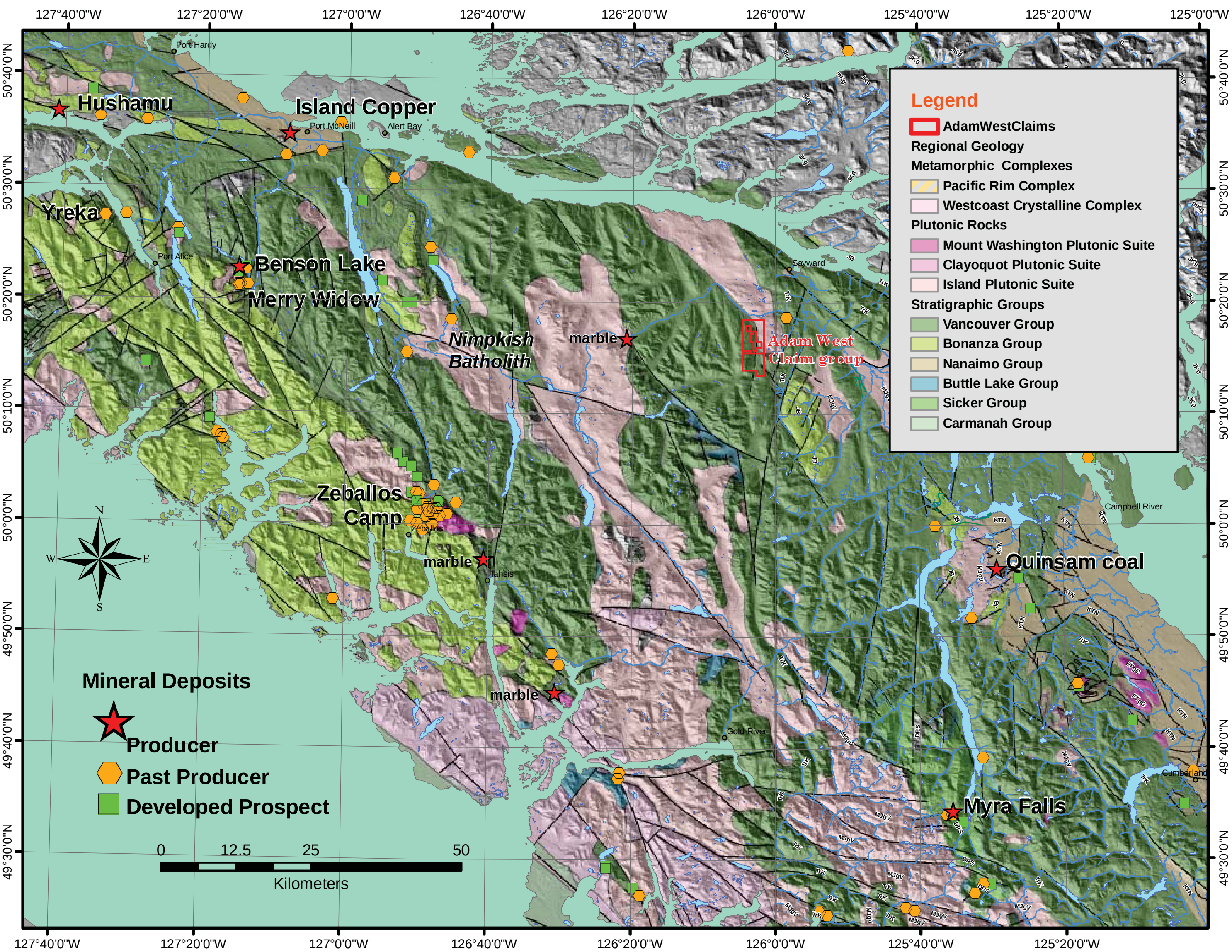


Figure 23: Regional geology and ore deposits of northern Vancouver Island.
Island Copper and Hushamu are porphyry copper deposits associated with the Jurassic Island Intrusive Suite. Merry Widow, Benson Lake and Yreka are skarns also associated with the Island Intrusives. A cluster of mineral occurrences 50 km west of the Adam West Property around the Nimpkish Batholith includes many skarns hosted by Quatsino limestone and Parsons Bay Formation (Bonanza Group: pale green) near the margins of the Island Plutonic Suite (pink). The Zeballos Camp is mainly epithermal precious metal deposits. Myra Falls is volcanogenic massive sulphide deposit hosted by Paleozoic Sicker Group island arc volcanics. Other currently producing deposits are either coal or building stone quarries. Base map from British Columbia Geological Survey GIS files on the Mapplace website, drawn by the author in ArcGIS, June, 2019.

mafic volcanic pile and redeposition of the metals at higher stratigraphic/structural levels where the metals be became less stable.

Regionally, Northern Vancouver island (Figure 23) is home to a number of significant mineral occurrences in the magmatic hydrothermal clan of deposits including: Cu-Mo-Au porphyries and high sulphidation epithermal occurrences in the Port Hardy porphyry copper area; a number of skarn Cu-(Fe) occurrences at Yreka, Nimpkish Lake, and Benson Lake (Merry Widow camp); and epithermal Au-quartz and Cu-Ag vein mineralization in the Zeballos district.

The most significant deposit in the region is the Island Copper mine (MINFILE 092L 158) which that produced from 1971 to 1995, the mine produced over 1.2 billion kilograms of copper, 31.4 million kilograms of molybdenum, 33,591 kilograms of gold, 345,535 kilograms of silver and 27,000 kilograms of rhenium from about 361 million tonnes of ore from 1971 to 1995. Other porphyry copper deposits in the Port Hardy area include advanced stage exploration projects such as Hushamu (Figure 23) with reserves of 173 Mt grading 0.27% copper, 0.009 % Mo and 0.34 g/t Au and the Red Dog, with 25 Mt of reserves. These porphyry deposits are associated with granodiorite and quartz diorite of the Island Plutonic Suite, which has intruded volcanics of the contemporaneous Bonanza Group.

Magnetite skarn and copper skarn commonly occur at the contact between Quatsino limestone and Jurassic granodiorite and can be of significant size. The Merry Widow (092L 044), and associated deposits produced over 1.7 billion kilograms of iron in the 1950s and 1960s. The nearby Old Sport (092L 035) mine produced 488 million kilograms of iron, 41 million kilograms of copper and almost 4 million grams of gold and 12 million grams of silver. The Iron Crown iron skarn deposit (092l 034) near Nimpkish Lake produced almost 1.3 billion kilograms of iron in the late 1950s and early 1960s. Smaller deposits such as Yreka (Port Alice) consisted predominantly of a chalcopyrite-pyrrhotite assemblage replacing limy tuffs in the Parsons Bay Formation.

These deposits are not necessarily indicative of the mineralization on the Adam West Property, but are examples illustrating favourable regional metallogeny related to the Jurassic intrusive suite.

The Lucky Jim is dissimilar to the majority of the skarns in being more iron sulphide - enriched rather than having magnetite as a major component (although this might be similar to Yreka) and being relatively gold-enriched. Alteration phases typically characterizing proximity to skarn metal deposits have not yet been documented at Lucky Jim, possibly the consequence of a lack of exposure.

The Boyes Creek and Adam West occurrences conform to the characteristics commonly observed in parts of the upper Karmutsen Formation of high oxygen fugacity, low-temperature copper rich assemblages including chalcocite-bornite and native copper. Vein fill gangue associated with these occurrences is typically epidote and quartz and alteration is commonly confined to epidote commonly forming large epidosite masses in basalts. The origin of these deposits has been attributed to remobilization during low grade prehnite-pumpellyite facies metamorphism from large volumes of subaerially deposited basalt (the Menzies member of the Karmutsen Fm after Surdam, 1968) in which primary magmatic magnetite has been altered by deuteric process to hematite (Lincoln, 1981). Redeposition is postulated to have occurred higher in the volcanic pile resulting from redox reactions with magnetite that had not been deuterically oxidized to hematite (Surdam, 1968; Lincoln, 1981). Generally, this results in only small scale, but often high grade enrichments of copper in veins, fracture fills and amygdules in the rocks forming uneconomic deposits.

Examples have been observed by the author not only elsewhere in the Karmutsen

Formation of Vancouver Island (Wasteneys, 2009) but also in the Hazelton Group rocks of the Terrace area (Wasteneys, 2013, 2016) and east of the Hotailuh Batholith near Dease Lake (Wasteneys, 2014). However, similar ore depositional processes are attributed to the formation of significant native copper and associated bornite - chalcocite deposits in the White Pine District on the Keweenaw Peninsula of Michigan (Brown, 2006), the Sustut deposit in northern British Columbia, and the Virginilia District of West Virginia (Kish and Stein, 1989). The widespread bornite-chalcocite-epidote veins of the Property are interpreted as being indicative of deposition during late stages of low grade metamorphism associated with epidote formation.

Similar geochemical conditions have been documented in many districts where chalcocite-bornite veins are associated with the epidote to pumpellyite transition of low grade metamorphism including the Keweenawan district of Michigan (Brown, 2006), the Virgilina District of North Carolina (Kish and Stein, 1989), or the Karmutsen formation of Vancouver Island (Surdam, 1968). The economic deposits of sediment hosted disseminated sulphides at the White Pine deposit and native copper lodes in basalts in the Keewenaw Peninsula formed as a result of large scale fluid movement through a huge continental rift basin interacting with metamorphic dehydration fluids that leached copper (Brown, 2006) (Figure 24).

In general mobilization of copper from basalt in which it is relatively concentrated, required oxidation of the copper to a soluble species and transport by meteoric or metamorphic fluids through permeable conduits, such as occurs in red-bed copper and uranium deposits and deposition by a progressive reduction mechanism of the transporting fluid. In a basalt pile the transition from epidote subfacies to the retrograde pumpellyite facies results from the

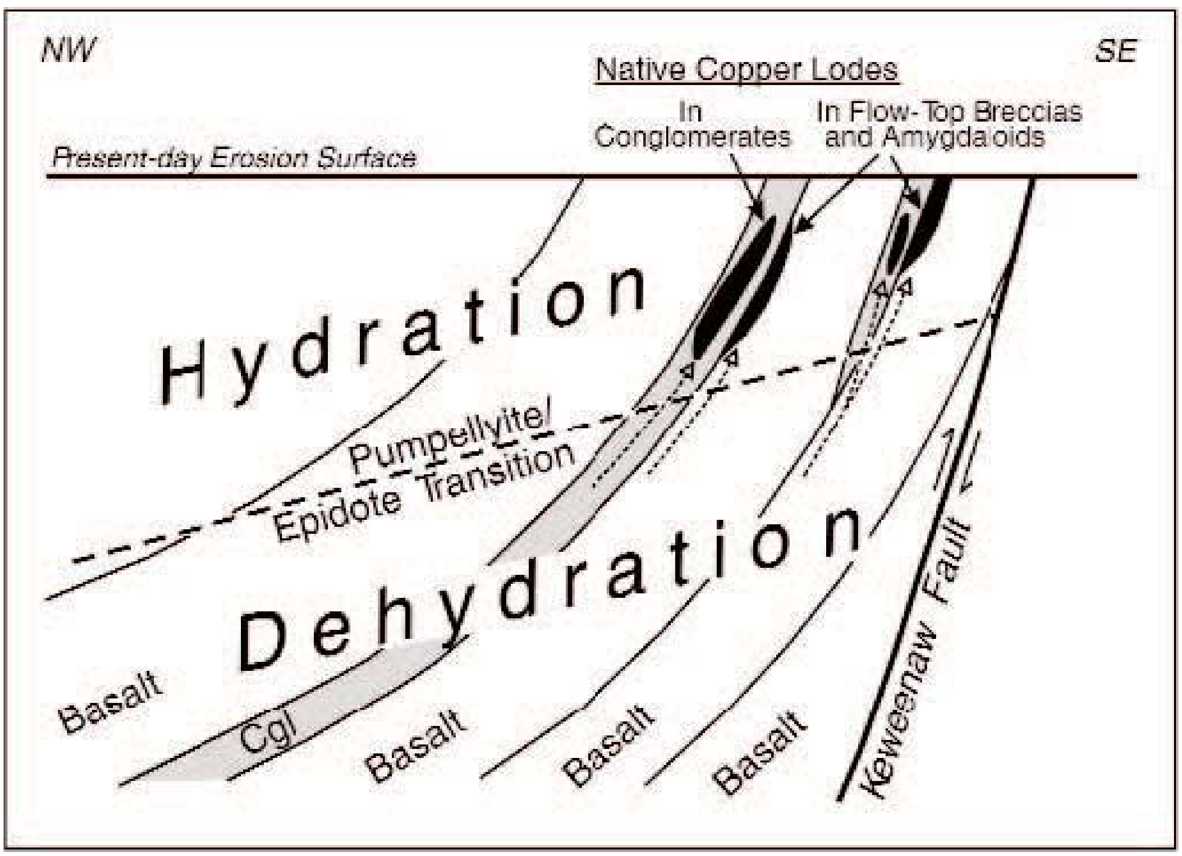


Figure 24: Native copper lodes in the Keweenaw peninsula (Brown, 2006).

rehydration of epidote by loss of fluids to the rock and consequently oversaturation of copper and the corresponding divide between chalcocite-bornite in the epidote-rich rocks and native copper deposition with pumpellyite (Figure 23). In the Keweenaw peninsula native copper is the predominant copper mineral in basalts of the Portage Lake basalts, while less notably spectacular, but, non-intuitively, more economic chalcocite-bornite deposits occur in the overlying Nonesuch Shale where the copper fluids are thought to have reacted with, and replaced pyrite with chalcocite and bornite by redox reactions.

In contrast, the much smaller scale bornite-chalcocite lode deposits in the Virgilina district are considered to have formed from leaching of copper from surprisingly small volumes of metavolcanics proximal to the deposits (Kish and Stein, 1989). In the Karmutsen, Surdam (1968) showed that native copper, ubiquitously associated with amygdular prehnite, was deposited in deuterically oxidized basalt flows during low-grade metamorphism. His model, based on textural and mineralogical observations, suggested that amygdular copper was derived from the rock immediately adjacent to the amygdule, and thus implying that little or no large scale redistribution of copper had occurred. This is on an even smaller scale than that postulated by Kish and Stein (1989) for some minable lenses of copper sulphides in the Virgilinia district. However, Lincoln (1981) showed that distribution of copper in unweathered flows of the upper Karmutsen along Buttle Lake and Johnstone Straight varied bimodally with much lesser or greater concentrations of copper than in underlying subaqueously deposited sections of the Karmutsen, which average about 175 ppm. This suggested that redistribution had in fact occurred on a broad scale.

In British Columbia the well-known Sustut copper deposit, which has resource (uneconomic) of 8.5 Mt of 1.65% Cu (Wilton, 1978), formed by fracture filling copper minerals associated with epidote, calcite and quartz. The deposit is in the upper section of a pile of volcaniclastics metamorphosed under prehnite-pumpellyite facies conditions and is zoned outward, with sequentially arranged copper rich assemblages from native copper, chalcocite, bornite, chalcopyrite through pyrite in veinlets, fracture fills and open space cementing volcanic breccias (Wilton, 1978). In common with the Adam River area of the Karmutsen the copper concentrations are associated with prehnite-pumpellyite grade metamorphism in the upper part of a volcanic pile

The Adam River chalcocite-bornite deposits at Adam West and Boyes Creek can thus be interpreted in light of the mechanisms proposed by Surdam (1968) and Lincoln (1981) for metamorphic redistribution of copper in the Karmutsen Formation. The similarity of mineral assemblages to those in large deposits at White Pine (Brown, 2006) and Sustut (Wilton, 1978) suggest that metamorphogenic, low temperature remobilization can result in significant copper deposits if the right physico-chemical structures exist. At Adam West, previous exploration has observed that copper mineralization as bornite, chalcocite and chalcopyrite is mainly prevalent below a 15 m thick lens of limestone that appears to be conformable within the volcanic flows. This has been postulated to form an impermeable barrier trapping mineralizing fluids, but in the author's opinion it may have more of a chemical effect raising the pH of fluids resulting in precipitation reactions or decreased solubility.

9.0 Exploration

9.1 Introduction

Three exploration programs were conducted on the Adam West Property on behalf of and for Altum between December of 2018 and May of 2019. In December 2018 an IP survey along a single 3.5 kilometer test line was completed by Peter E. Alcott and Associates Limited ("Alcott") for Altum. Coincidentally, a brief Property examination was undertaken by Drs. T.N. Setterfield and D. Lefebure who sampled a few known showings. In April of 2019, field geological and geochemical surveys were completed by Dr. T.N. Setterfield. The work consisted of mapping, prospecting, rock sampling, and a limited soil geochemical survey around one prospect. In June 2019 an airborne magnetometer survey was completed over the whole of the Property by Alcott and contour maps of the magnetic field and various derivatives were produced.

The author visited the Property on May 13th, 2019 after the geological exploration program had been completed, but before analytical results had been received for Altum samples. The author's Property visit included independent examination of three mineralized sites known from historical assessment reports and Minfile records. These showings are identified as the Lucky Jim, the Adam West, and Boyes Creek. The author collected check samples for analysis from the vicinity of the sites based on his own assessment of important features to analyse, although he also observed the marked sites of Altum's samples.

The April 2019 exploration program by Altum was directed by Dr. T.N. Setterfield who collected 175 variously mineralized or altered rock samples from the vicinity of several showings, and 64 soil samples from a small grid at Lucky Jim showing. The main focuses of the exploration sampling were the documented showings particularly the showings known as Lucky Jim, Adam West, and Boyes Creek. New logging roads with rock cuts were mapped and prospected particularly in the vicinity of the main showings (Figure 6).

9.2 Mineralized Rock Sampling Methods

Rock samples collected by Altum were typically selected as single grab samples, or smaller chunks of rock from mineralized zones in outcrops making up a weight of about 1 kg. The samples were principally selected to represent unique styles of mineralization to differentiate the concentration of elements in observable mineral assemblages. A small number of sample were taken as chips across measured intervals where the rock was more homogeneously mineralized or where a planar mineralized lens or vein structure of significant width was identified. Samples were located using hand-held GPS units and sample sites were marked with flagging tape numbered with the sample number. The density of sampling was varied to thoroughly represent all aspects of mineralized structures.

The author did not observe any significant sampling bias in the Altum sample data set. At the Adam West showing, mineralized rocks typically were massive basalts with disseminated amygdules containing bornite or chalcopyrite as well as some narrow veins of sulphides in fractures. In this type of rock many kilogram-sized individual samples might reproduce similar results because of the homogenous distribution of sulphide bearing amygdules. In contrast, at the Boyes Creek showing, many zones consist of widely spaced mineralized fractures some of which are up to 30 cm wide. At these outcrops it was readily possible to obtain single 1 or 2 kilogram sized samples of solid bornite or, equally readily, completely barren basalt from the margin of the lens. Samples collected by Altum are representative of the different rock types, including high grade massive sulphide lenses, and are not blends of mineralized and unmineralized rock.

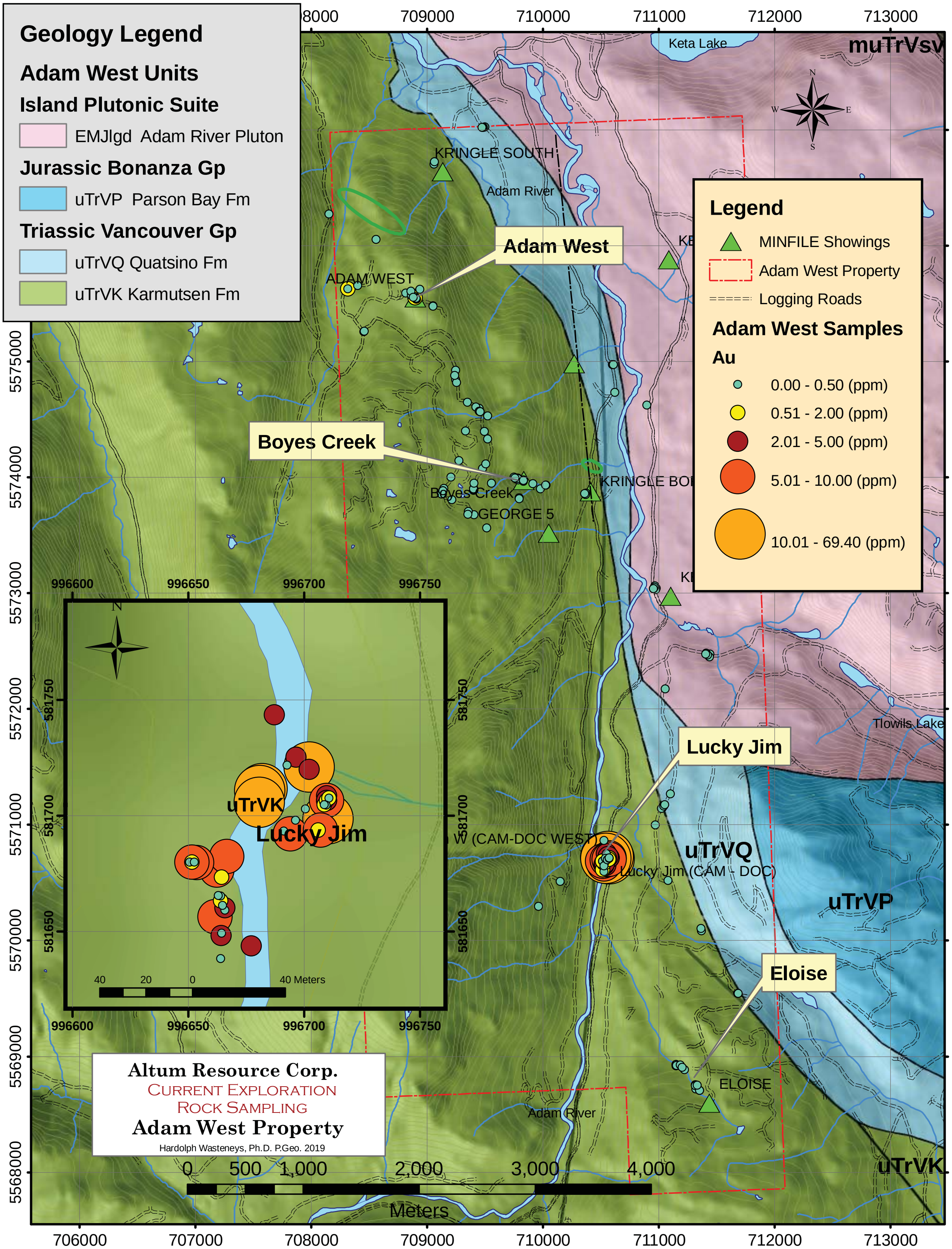


Figure 25: Gold in rock samples from the Adam West Property: Lucky Jim Inset Map
Ranges of gold in mineralized rock samples from the Altum 175 sample dataset plus 6 check samples. Values are in ppm. The inset map shows the distribution of samples at the Lucky Jim showing. Positions approximate because of line-of-sight obstruction of GPS signals in the river canyon. Map constructed by the author in ArcGIS 9.3, June, 2019.

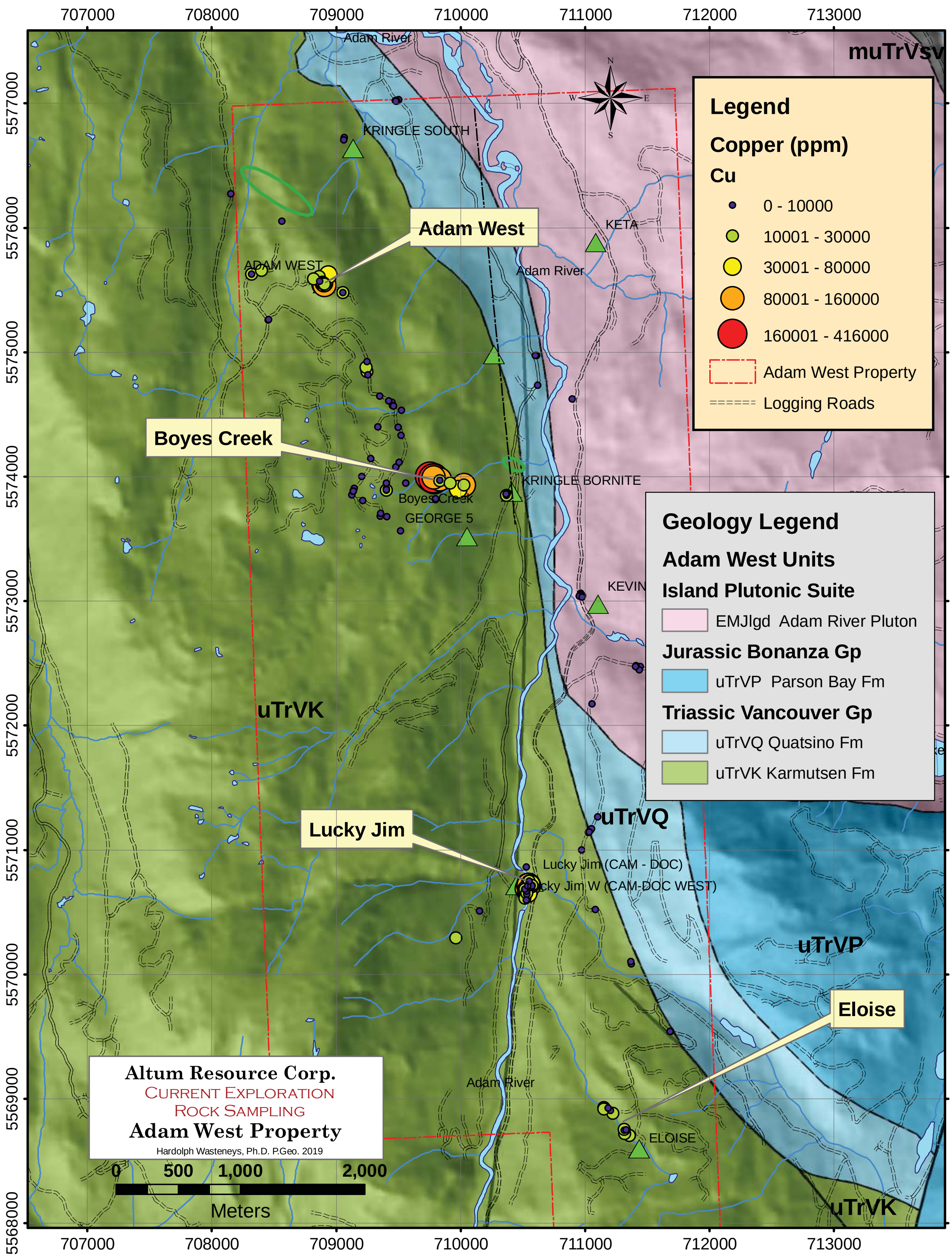


Figure 26: Copper in rock samples
Ranges of copper in mineralized rock samples symbolized as shown in the legend from the Altum 175 sample dataset plus 6 check samples. Values are in ppm. Green triangles are Minfille showing locations. Map constructed by the author in ArcGIS 9.3, June, 2019.

At Lucky Jim, where the main commodity is gold, the sampling was aimed mainly at contrasting rock types, but boundaries between skarn facies are difficult to discern and six of the samples were taken as 1 meter chips across mineralized zones. The sampling, as described in Altum's sample notes, appears to be representative of the various rock types observed to be associated with mineralization at the showings.

9.3 Significant Results of the Adam West Property Exploration

Many high grade assays of copper and gold were obtained from the 175 samples collected by Altum in the April 2018 survey. Anomaly maps symbolized to show ranges of copper and gold at sample sites throughout the Property are shown in Figures 24 and 25. The distribution of anomalous gold in rocks samples is dominated by samples from Lucky Jim (Figure 24) where of 50 samples of mineralized and unmineralized rock, 4 fall in the range from 10.0 to 69.4 ppm Au. The copper distribution on the Property in the rock dataset shows several anomalously high grade assays at Boyes Creek in the 160,001 ppm (16 wt%) to 418,000 ppm (41.8 wt%) range. Both Adam West and Lucky Jim have several samples in the next lower range of 8 wt% Cu to 16 wt% Cu..

The geology and sample assay results from each of the 3 showings, Lucky Jim, Adam West and Boyes Creek and the remainder of the Property are disclosed in sections below.

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9.4 Geology of the Lucky Jim Prospect

The Luck Jim prospect was the subject of several historical exploration programs dating back to 1918 (Figure 27) that were documented in Item 6.0 History. Historical geological maps of the vicinity of the showing are in Figures 11 and 13. Figure 11 includes a compilation of drill hole and surface sampling assays. These data were recompiled by Dr. T.N. Setterfield in Figure 28 and augmented by Altum's initial sampling at Lucky Jim in 2018. To put the samples in context, the author compiled geological data from the maps of Taylor (1980) shown in Figure 11, and Gardner and Becherer (2004) shown in Figure 13 together with Altum's sample stations data and the author's own observations from his site visit. This mapping is used as a base for the historical sample data in Figure 28.

Altum's 2019 exploration results included analyses of 50 mineralized rocks and rock chips sampled from the two Lucky Jim showings on the east and west sides of the river. These were tabulated by the author with UTM coordinates and capsule mineral assemblage descriptions condensed from field notes in Table 4. Because of the narrow sky view in the river canyon at the Lucky Jim site GPS reception was poor and consequently high errors were observed on many sample coordinates during the Altum survey in April, 2019. To compensate, the samples were

Figure 27: Lucky Jim adits on the east bank of the Adam River.
Photos shows the portals to a short adit across the strike of the orangy rusted skarn mineralized layer on the left and a longer adit on the right that follows the mineralized dyke. A 5 foot steel bar rests against orange weathering calcareous precipitates above the left portal. A hammer for scale is right of the adits. Orange flags are Altum sample sites. The view is looking to the south, up stream on the river. Photo by the author May 13, 2019

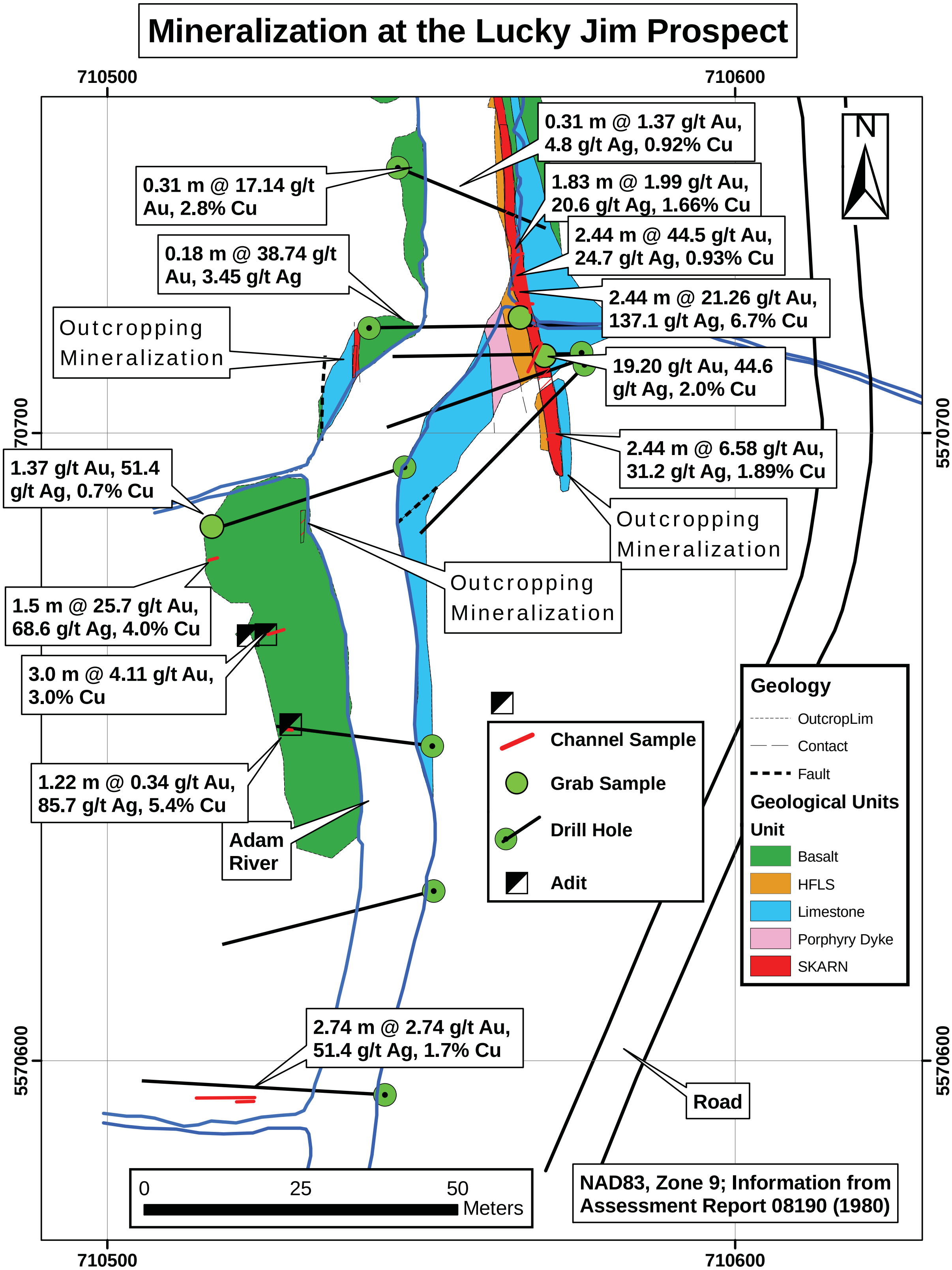


Figure 28: Map compilation of historical and drill locations at Lucky Jim.
Historical sampling, drilling and drifting from Taylor (1980) with supplementary initial sampling results (Altum 2018 exploration) from T.N. Setterfield on the mineralized zone. Geological compilation by the author using maps from Taylor (1980), Gardner and Becherer (2007) and the author's field observations.

SAMPLE	Northing	Easting	Mineralization	Au	Ag	Cu	Pb	Zn	Fe	Mo	S	Mn	Co	As
19069	5570686	710531	cpy 4-9%mal 0.05-5%	6.92	128.0	138500	14	2680	20.1	0.5	10.0	1060	111	96
19067	5570715	710544	mal 2-6%, cpy 5-7%	46.90	94.9	95400	16	1610	18.3	0.5	10.0	2290	118	207
19068	5570716	710545	mal 2-3%, cpy 5-7%	69.40	77.2	81000	7	1550	16.3	1.0	10.0	2860	97	178
19074	5570660	710527	mal 0.0-4%, chalco 5-8%	6.84	129.0	73200	13	3580	20.6	2.0	10.0	1800	139	104
19022	5570726	710565	s-msv cpy-po	14.80	95.0	58900	5	5300	24.6	1.0	10.0	963	186	143
19013	5570712	710573	s-msv cpy, po & py b&ed	5.62	79.3	47900	17	6310	28.5	3.0	10.0	461	296	78
HW1582	5570730	710559	msv py-po-cpy	4.07	62.5	44500	9	2800	30.3	1.8	10.0	523	417	108
19019	5570714	710573	5% to s-msv po, cpy, py, sp	4.70	65.2	44000	10	3910	26.2	4.0	10.0	614	226	78
19035	5570680	710527	5-10% cpy, 5-15% py	7.79	76.0	41500	4	2090	24.6	1.0	10.0	1285	270	221
19010	5570710	710572	15% py, 5% cpy	1.41	38.0	37900	11	2750	20.3	4.0	10.0	1610	140	184
19065	5570648	710543	6-8%	3.18	59.1	32600	13	11850	18.4	1.0	10.0	1605	202	43
19021	5570725	710565	10-20% cpy, 3-5% po	2.59	49.2	31100	6	2020	15.6	1.0	8.0	1005	152	94
19025	5570612	710517	3-5% cpy	1.06	32.6	23800	2	1070	8.7	1.0	3.4	2430	40	701
19029	5570748	710549	20-30% cpy	3.91	28.4	22500	3	1020	12.3	2.0	5.7	1390	63	94
19038	5570664	710531	20% cpy & py	2.33	27.8	19350	7	1020	19.3	1.0	8.9	3070	187	66
19012	5570712	710573	s-m po, 5% cpy, ?sph	2.86	30.4	19150	7	2550	32.1	0.5	10.0	211	272	55
19060	5570713	710574	0.5-4% suls	0.41	22.0	17400	6	1100	15.9	9.0	8.7	1230	145	107
19064	5570652	710530	6-8%	2.37	30.6	17050	5	21900	15.5	1.0	10.0	2270	96	14
19033	5570677	710529	5-7% cpy, 3-5% py	1.46	31.2	15350	2	701	10.1	1.0	6.6	1285	112	121
19073	5570683	710518	py	5.71	19.0	14850	2	468	16.7	1.0	4.2	3220	61	26
19036	5570683	710516	5-7% py	5.52	19.1	14650	2	478	17.0	1.0	10.0	1710	142	139
19014	5570712	710573	5% py, 3% cpy, min sph	3.90	17.9	14250	21	4640	14.1	4.0	10.0	690	267	191
19063	5570653	710530	1-5%	0.38	19.6	13800	1	577	7.1	1.0	1.4	2300	24	18
19018	5570713	710574	5% s-msv po, cpy, py, sph	0.83	12.6	9500	5	1880	9.7	2.0	3.0	1380	53	57
19058	5570703	710560	mal	0.37	10.9	8900	6	469	9.9	2.0	2.9	1025	54	93
19030	5570667	710529	5-7% cpy, 3% py	0.79	11.2	7570	1	544	10.3	0.5	2.4	3700	56	37
19027	5570663	710531	0.5% f py	0.36	11.8	6810	5	598	14.4	1.0	5.9	3890	66	36
19024	5570699	710571	0.5-15% py	5.16	17.1	5980	2	305	13.5	2.0	2.9	2590	39	207
19023	5570699	710570	0.25% py	0.50	9.7	5180	4	294	9.6	1.0	1.1	2310	18	9
19066	5570665	710530	1-4%mal, 1-3% cpy	0.14	6.9	5060	2	633	11.4	0.5	1.6	4280	41	20
19071	5570683	710516	py	0.72	5.0	3580	2	371	14.0	1.0	1.4	3670	48	14
HW1583	5570726	710555	sulphide vnlets	0.09	3.6	2830	3.3	186	8.4	3.5	1.3	1630	21	61
19056	5570710	710544	cpy-py, 2-4%	12.20	13.5	2390	9	204	17.0	0.5	5.7	2120	71	399
19037	5570683	710515	5-7% py, 1-4 mm sms py	0.18	3.9	1910	1	259	11.6	3.0	3.7	2450	64	81
19059	5570708	710564	2-4% suls	0.16	1.9	1670	5	196	8.8	3.0	3.5	1030	39	132
19072	5570683	710517	py	0.04	0.9	1660	2	337	10.6	1.0	0.2	3760	30	5
19031	5570669	710529	5-7% py	0.28	2.3	1550	1	283	9.4	1.0	1.3	3140	37	19
19026	5570642	710530	1-2% mgt, 3% vf cpy	0.02	0.7	1320	1	115	7.8	0.5	0.1	1400	39	3
19011	5570710	710573	2-4 mm sms of sul	0.02	0.9	1150	3	138	8.7	2.0	4.0	1040	25	24
19032	5570669	710528	5-7% py	0.11	1.8	1130	1	277	14.1	7.0	5.5	3060	200	86
19055	5570697	710558	cpy-py, 2-4%	5.31	1.3	1050	2	143	18.6	1.0	10.0	1340	217	1140
19070	5570683	710515	py	0.10	1.5	898	1	255	12.9	1.0	1.8	3470	47	49
19057	5570698	710555	0.5-2% suls	0.02	0.6	677	1	137	5.1	0.5	0.9	753	13	8
19017	5570712	710573	py seams, 1%?	1.38	1.3	672	5	260	7.6	1.0	1.6	1465	48	69
19015	5570710	710572	0.1-0.5% py	0.01	0.3	577	2	202	5.5	1.0	0.6	1250	19	6
19016	5570711	710572	0.1-0.5% py	0.00	0.3	374	4	208	4.7	2.0	0.2	1120	12	3
19034	5570861	710527	5-7% py, 1-4mm sms of py	0.23	0.7	355	3	220	14.7	1.0	5.0	3020	120	131
19028	5570748	710549	5% vf py	0.03	0.5	220	4	69	9.1	0.5	2.0	850	81	5
19062	5570594	710527	0.05-2%	0.03	0.3	107	1	23	2.1	1.0	0.3	399	8	3
			Average	4.76	28	20240	5	1849	14.3	1.7	5.4	1878	107	118
			90%ile	7.79	79	58900	13	4640	24.6	4.0	10.0	3670	267	207
			Median	1.06	14	8900	4	544	14.0	1.0	5.0	1605	66	78

Table 4: Selected elements for 50 mineralized samples from the Lucky Jim showing. Samples were selected by proximity to the Lucky Jim showing. The table is sorted by copper concentration. All elements are reported in ppm except Fe and S which are in %. S has an analytical maximum of 10% shown as 10.0. The author's two check samples are highlighted in blue. Table compiled by the author June, 2019. Noticeable are correlations between copper, silver, gold, iron, and zinc (see Figure 39 below). Chalcopyrite is the dominant sulphide mineral in the descriptions of higher grade sample while pyrite increases in prevalence towards the bottom of the table. Mo, Pb, As, Co, and Mn all show a high degree of variability and lack of correlation with copper. (Abbreviations in Mineralization column: cpy- chalcopyrite; bn - Bornite; vn - vein; mal - malachite; msv - massive; s-m semi-massive; f - fine grained; cc- chalcocite; sul sulphides; car carbonate; py pyrite,; mgt magnetite; Az azurite).

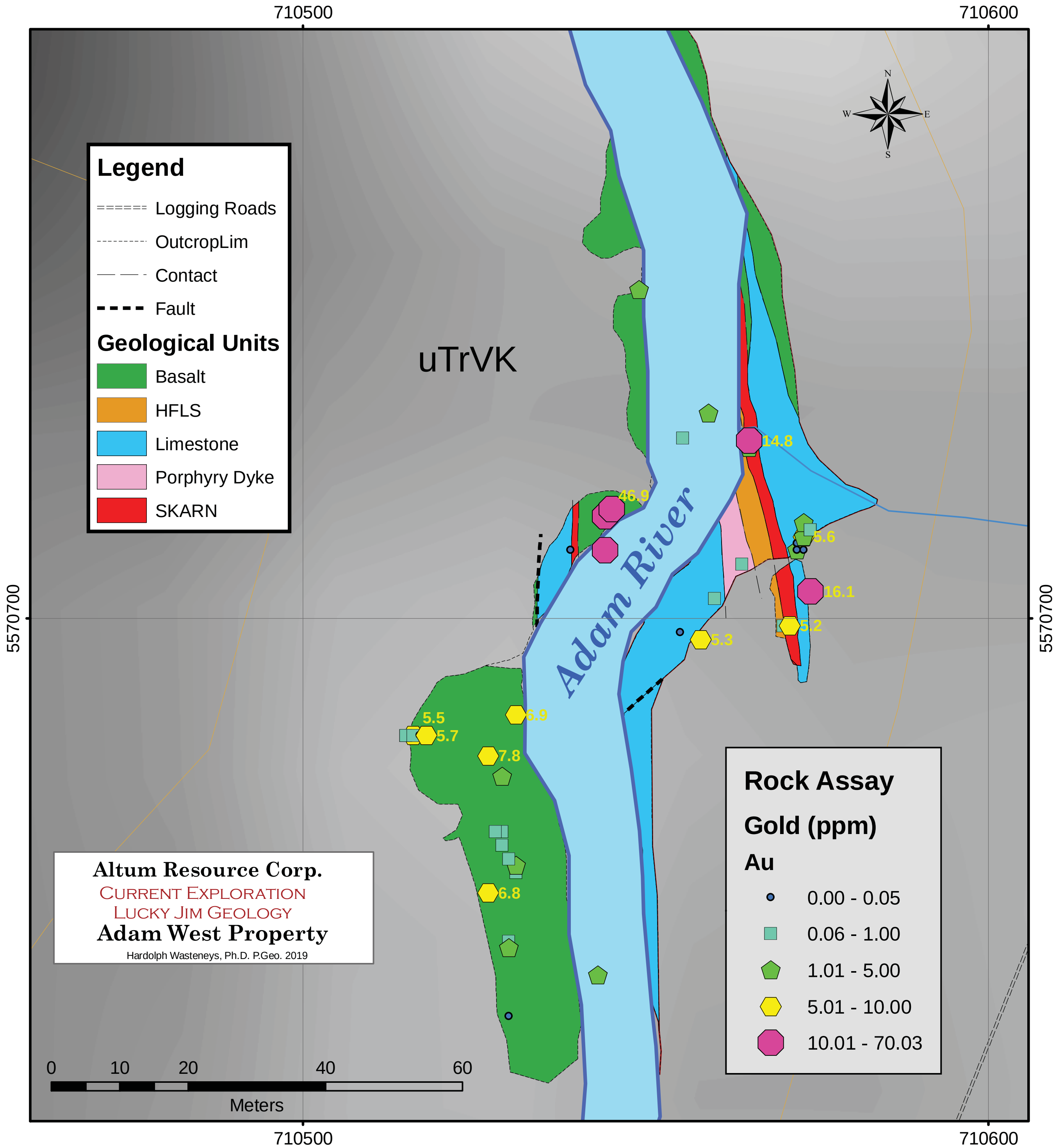


Figure 29: Geology Map of the Lucky Jim Showing with Gold Assays
Geology compiled by the author from historical maps in Figures 11 and 13 (Taylor, 1980; Gardner and Becherer, 2004), sampling descriptions from Altum's 2019 and 2018 exploration, and the author's personal observations on May 13, 2019. HFLS is hornfels according to Gardner and Becherer (2004). The Basalt outcrops and surrounding area, labelled "uTrVK", are assigned to the Karmutsen Formation. uTrVK is a geological acronym for upper Triassic, Vancouver Group, Karmutsen Formation.
Gold assay from rocks samples include Altum's 2018 and 2019 data as well as the author's check samples. Values plotted for gold above 5 ppm. Positions of samples have been approximated to compensate for poor GPS in river canyon (some plot in river). Map drawn by the author in ArcGIS 9.3 June 2019.

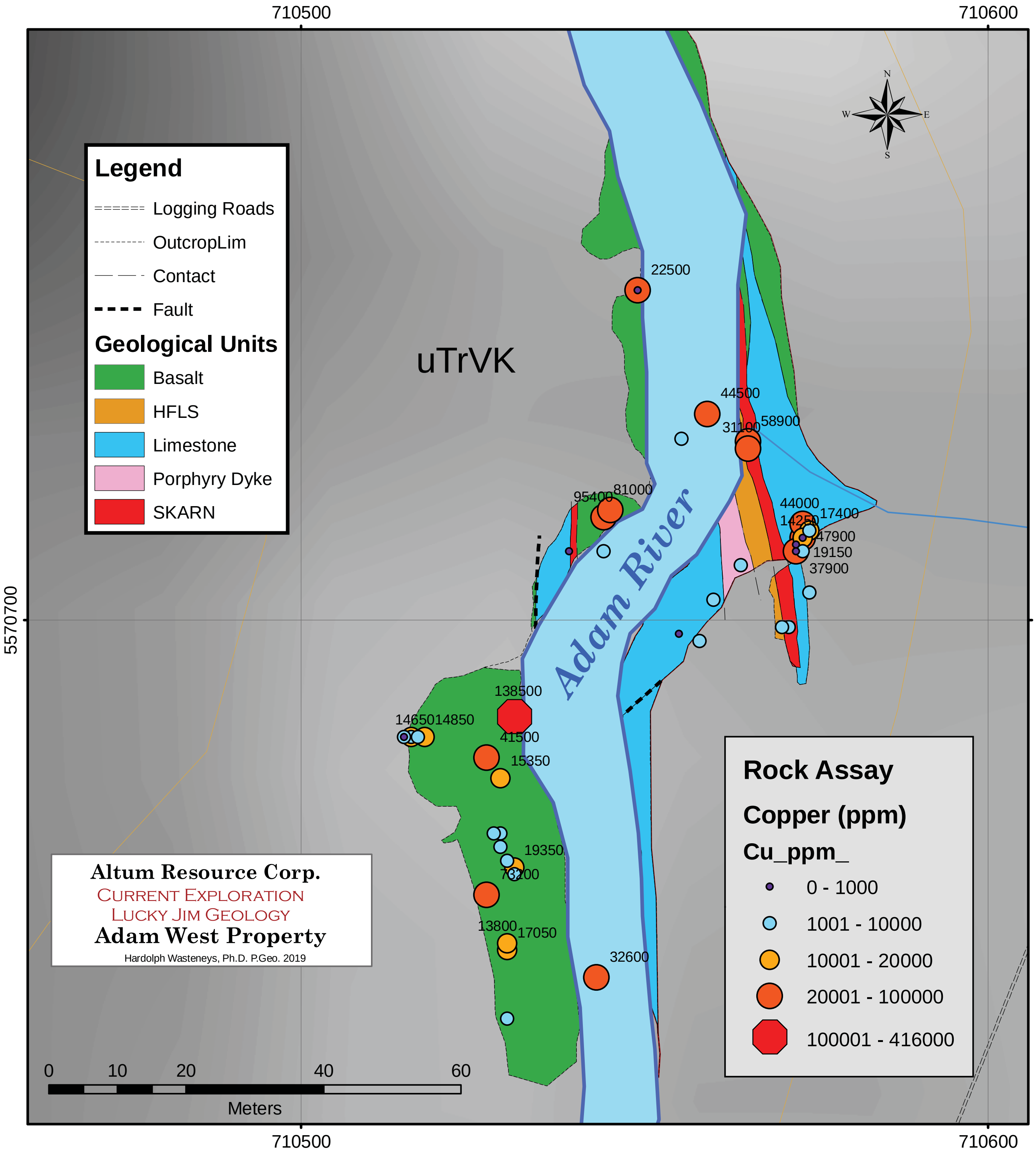


Figure 30: Geology Map of the Lucky Jim Showing with Copper Assays
Geology compiled by the author from historical maps in Figures 11 and 13 (from Taylor, 1980; Gardner and Becherer, 2007), sampling descriptions from Altum's 2019 and 2018 exploration, and the author's personal observations on May 13, 2019. Copper assays from rocks samples including Altum 2018 and 2019 data and author's check samples. Values plotted for copper above 10,000 ppm (1%). Positions of samples have been approximated to compensate for poor GPS in river canyon (some plot in river). Map drawn by the author in ArcGIS 9.3 June 2019.

located on the accurately scaled map of Taylor (1980) (Figure 11), after the map was georeferenced in a GIS program and the revised coordinates recorded in Table 4.

Assay results in Table 4 are represented with proportional symbols on the geological map base of the Lucky Jim showing in Figures 29 and 30. Figure 29 shows gold assays with values above 10 g/t Au labeled adjacent to the symbol. Gold grades in the 50 samples average 4.9 g/t and range between background and 69.4 g/t Au. On the map it is apparent that the highest gold grades correspond to the skarn zones on both sides of the river. Many samples with gold assays ranging from 5 to 10 g/t Au occur in quartz-carbonate veins cutting basalt on the west side of the river and particularly near old adits.

Copper is shown by proportional symbols on Figure 30. Assays in the 50 sample set range from 220 to 138500 ppm (~14%) and average about 2% Cu. Higher grades of copper occur in chalcopyrite-pyrite veins, mainly on the west side of the river and in various types of skarn where the assemblage chalcopyrite-pyrrhotite with lesser pyrite is common. The skarn mineralization is associated with a feldspar porphyritic dyke that cuts limestone and basalt at the eastern Lucky Jim showing. The dyke is mineralized and altered with sulphides appearing in replacement masses and in fracture networks.

9.41 Soil Geochemistry at the Lucky Jim Showing

As part of Altum's exploration program around the Lucky Jim showing, 63 soil samples were collected from a 200 by 400 meter area (Figure 31) spanning the Adam River centered on the historical adits at the river level (Figure 27). Samples were collected at 25 m intervals on line spaced at 50 m. B or C horizon mineral soils were targeted. Samples were analysed at ALS Canada Ltd laboratories in North Vancouver by ME-ICP61 for 33 four acid soluble elements and by Au-AA23. The author examined the QA/QC data files provided by ALS and is satisfied that the results represent natural variations in the analysed elements at reasonable levels of precision and accuracy.

The geochemical analyses are represented on a combined proportional symbol map for copper and gold to correlate anomalous values shown in the map in Figure 31. The data set is too small for confident use of statistics to predict anomalies and intervals were chosen by comparison with results from previous surveys elsewhere in the area and arbitrarily by observable concentration groups in the data. Of the 33 elements analysed, copper and gold are of the most interest and show the most variation. Many potential tracer elements are either below detection limit by ME-ICP61, such as tungsten, or not reported such as tellurium and mercury. Anomalous levels of copper are generally expected to be above 150 ppm in areas of the Karmutsen basalts although historical surveys with large data sets determined that 75 ppm was the anomalous threshold in the area (Smitheringale, 1983). Using 150 ppm Cu as threshold, about 18 of the 62 samples would be classified as having anomalous copper concentrations. For gold, analyses show a range from 0.36 ppm to below detection limit of 0.005 ppm (10 samples 0.005 or less). The next lower below 0.360 ppm is 0.049 and then 0.025.

Corresponding anomalies for copper and gold are observed in Figure 31 near the main showings at the base of Camp Creek and in one anomaly at the NE corner of the grid. No observations are available for the NE anomaly. Steep slopes, road building, and previous logging activity may have resulted in transported and disturbed soil horizons.

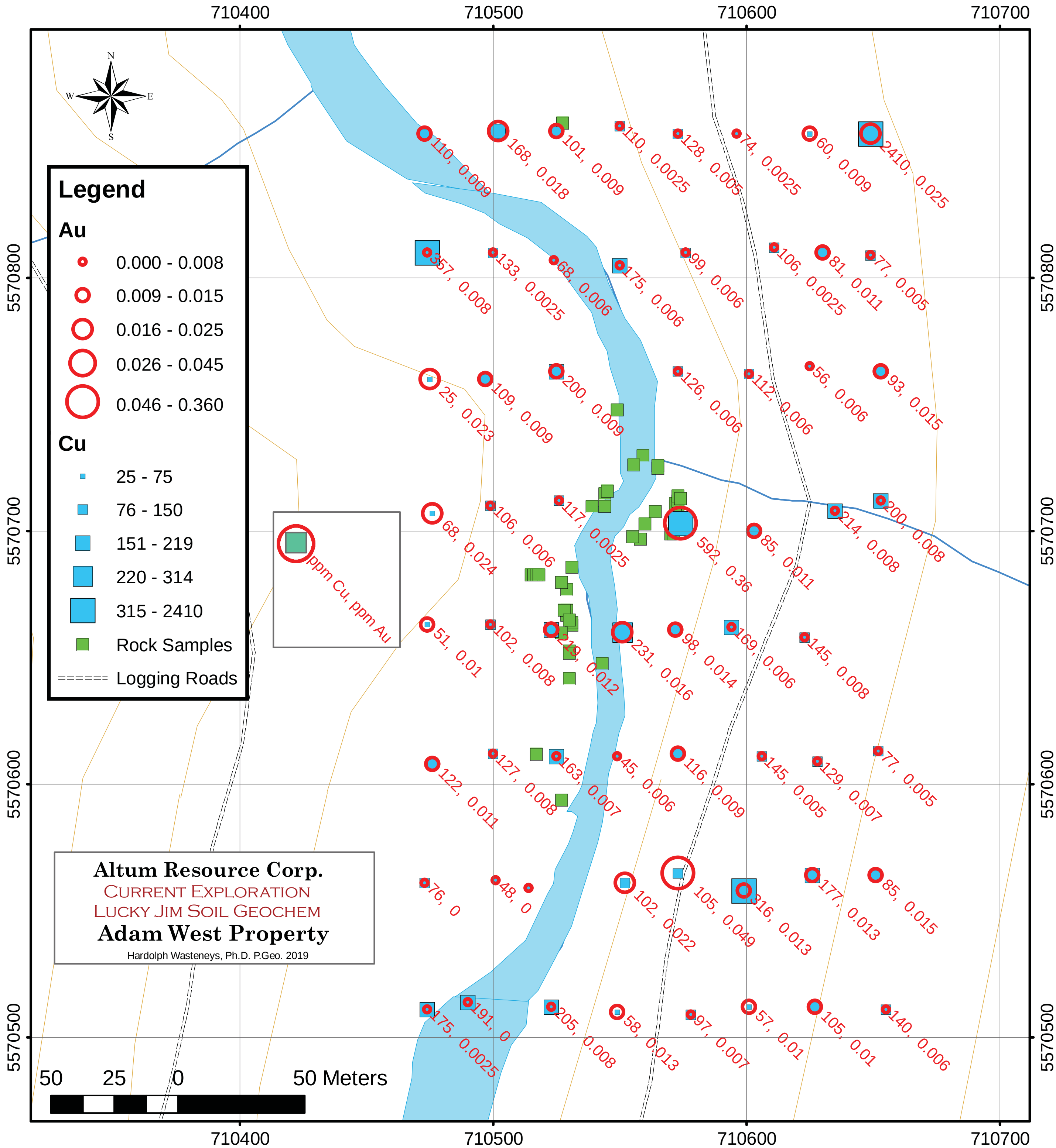


Figure 31: Copper and Gold in Soils in the Lucky Jim showing area.
Symbols for Au (red open circles) overlap Cu (blue squares). Point labels: Cu, Au; concentrations all in ppm. Current exploration rock sample locations shown by green squares. Map drawn by the author using spatial files and geochemical data from T.N Setterfield (July, 2019).

9.5 Exploration at the Adam West showing.

At the Adam West showing Altum's 2019 exploration program focused on several objectives including confirming the style of mineralization, confirming the geological setting of the principal zones of mineralization, and locating evidence of previous drilling. Access to the Adam West showing is via new logging roads that skirt a broad easterly trending ravine that runs transverse to the main ridge. The ravine is underlain by limestone, found by Altum geologists and previously noted in historic reports to have small karst features. The upper contact of the limestone was observed to be conformable with the overlying pillowed basalts shown in the photograph in Figure 32. The main area of mineralization was reported historically to be below the limestone unit, and this was confirmed by Altum. As well old drill core was found on site in the ravine, but the boxes and labels were not well preserved. Traverses followed the main road cuts and the edges of the ravine where a few outcrops were located. In one part of the newer roads many chunks of malachite and azurite stained rocks were found in the road fill, but could not be confidently traced to an outcrop source. The trace of the new road appears to have been blasted through the recorded site of the main showing, which may explain the prevalent mineralization.

Figure 32: Pillowed flows at the Adam West showing
The photo was taken looking north across a ravine to an escarpment exposing pillowed flows that overlie a limestone lens in the Karmutsen Formation. Bedding dips shallowly to the northeast. Taken by the author May 13, 2019.

A total of 33 mineralized samples were taken from outcrops and float in the area for analysis. Assays for selected elements, coordinates, and descriptions are tabulated in Table 5. Locations of the samples and copper and gold assay values are symbolized in Figure 33 A and B. Geological features and contoured copper anomalies were compiled for Figure 33 by the author from maps in Mottershead (1971), who conducted exploration for Conoco.

Copper assays range from 368 ppm to 134,000 ppm (13.4%). Silver ranges from 0.5 ppm

A

B

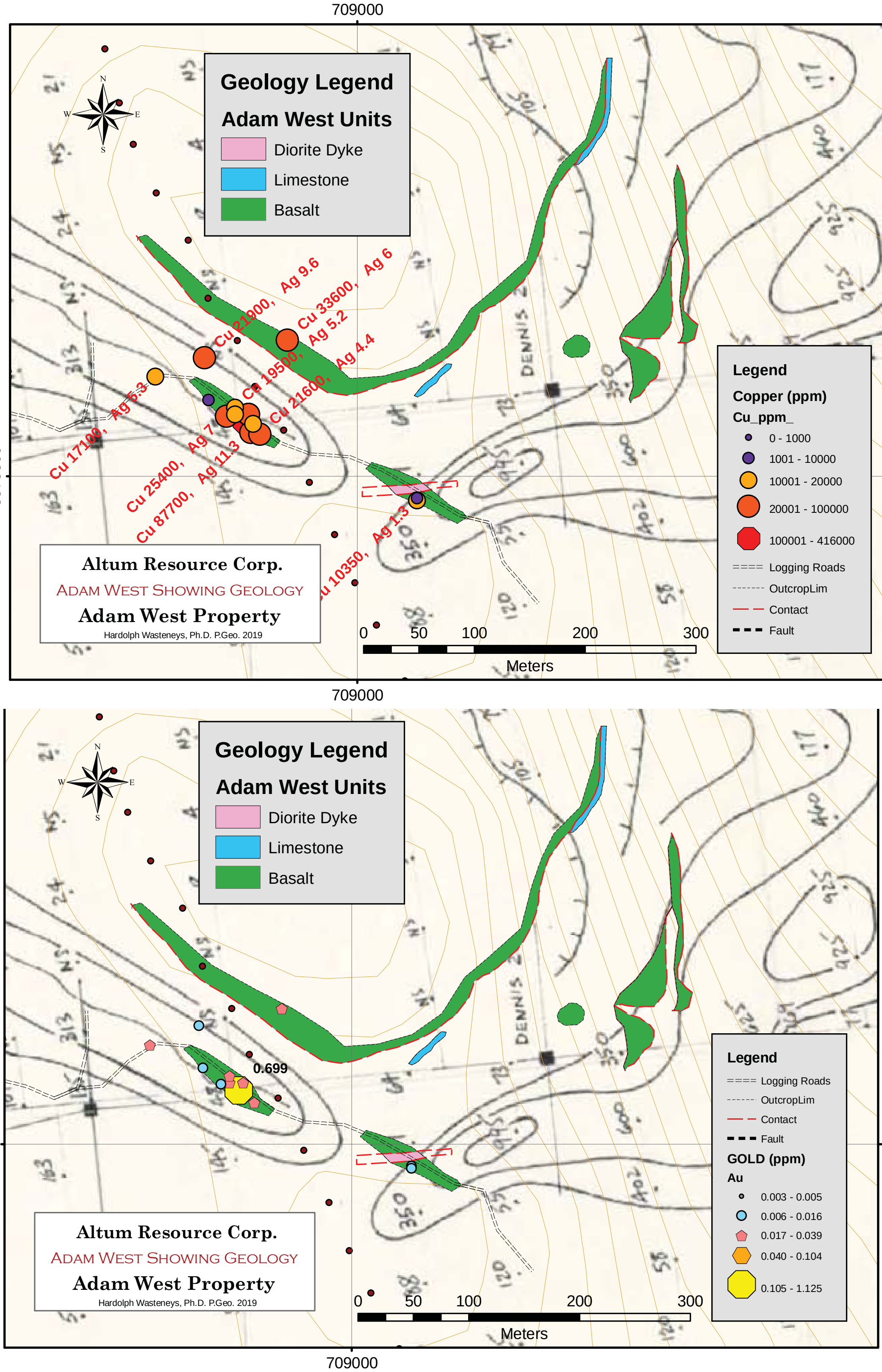


Figure 33: Adam West Showing Geology and Rock Sample Geochemistry
Geological mapping compiled from Leriche (1971) by the author shows a persistent limestone unit below pillowed basalts that are visibly exposed in a cliff face above a karsted ravine. Basalts are present to the south, presumably stratigraphically below the basalt.
Samples in map A: Copper distribution around the Adam West Showing. Underlay is a map from Mottershead (1971) showing contoured copper in soils reflecting the base of the limestone unit. Samples in map B: gold.

SAMPLE	Northing	Easting	Mineralization	Au	Ag	Cu	Pb	Zn	Fe	Mo	S	As	Sb
19079	5575549	708898	mal 1-4% bn 1-6% a	0.699	21.9	134000	1	37	6.1	0.5	3.0	2.5	2.5
HW1598	5575540	708904	1 cm bn-cc vn	0.015	11.3	87700	4.3	55	7.6	0.5	2.3	1.6	0.1
19008	5575556	708902	5-7% f sul	0.026	9.8	40000	3	49	7.4	1.0	0.8	2.5	2.5
19052	5575623	708937	Az, mal	0.019	6.0	33600	6	66	9.1	1.0	0.7	2.5	2.5
19054	5575554	708882	Az, mal	0.008	7.0	25400	1	71	6.8	0.5	0.7	2.5	2.5
19009	5575556	708902	5-7% f sul	0.021	3.4	23700	1	64	8.2	1.0	0.4	2.5	2.5
19098	5575626	708318	1% f bn	1.125	13.2	23000	1	14	5.3	0.5	0.5	2.5	2.5
19004	5575607	708862	2-3% cpy	0.009	9.6	21900	4	43	7.4	0.5	1.0	2.5	2.5
19047	5575538	708912	3-5% bn	0.019	4.4	21600	3	22	8.6	1.0	0.3	2.5	2.5
19048	5575562	708890	1% bn	0.021	5.2	19500	1	30	7.6	0.5	0.2	2.5	2.5
19007	5575556	708890	5-7% f grey sul	0.035	4.1	19050	1	74	7.0	0.5	0.3	2.5	2.5
19182	5574845	709246	mal	0.133	3.4	18200	5	61	9.5	1.0	0.1	8	5
19003	5575590	708818	1-2% mgt, 0.5% cc c	0.039	5.3	17100	3	114	7.6	1.0	0.4	2.5	2.5
19175	5575656	708400	1-3% f bn	0.019	7.2	15950	12	45	6.6	1.0	0.2	2.5	5
HW1594	5575547	708906	bn in amygdules	0.011	1.7	14450	1.9	106	7.0	0.6	0.3	1.5	0.09
19183	5574878	709240	mal	0.009	0.7	11400	1	125	8.1	1.0	0.2	2.5	2.5
19006	5575478	709054		0.007	1.3	10350	1	65	7.6	1.0	0.2	2.5	2.5
19184	5576274	708152	1% bn	0.009	1.1	9820	3	90	9.1	1.0	0.3	2.5	7
19176	5576055	708561	0.25% f cpy	0.008	4.0	7080	5	118	9.2	16.0	0.7	9	2.5
19053	5575480	709054	Az, mal	0.008	1.0	6900	1	88	8.3	1.0	0.1	2.5	2.5
19177	5574596	709450	1% bn	0.290	3.2	6860	5	56	5.5	1.0	0.2	2.5	7
19005	5575569	708866	3% cpy	0.016	6.3	5130	2	49	7.6	0.5	0.2	2.5	2.5
19208	5574571	709451	0.5% cpy	0.020	1.1	4640	1	64	6.3	0.5	0.3	2.5	2.5
19099	5575626	708318	1% f cpy	0.112	2.1	4610	1	66	7.4	0.5	0.3	2.5	2.5
19178	5574608	709421	0.5-1% cpy-bn	0.068	0.9	4220	2	124	8.7	0.5	0.1	2.5	2.5
19051	5574923	709247	0.5-1% f grey sul	0.010	1.0	2980	1	206	8.2	1.0	0.1	2.5	2.5
19205	5574531	709523	0.5% f cpy	0.020	0.3	2870	1	88	10.3	2.0	0.3	2.5	2.5
19206	5574567	709459	0.5% cpy	0.012	0.8	2600	1	53	5.9	1.0	0.1	2.5	6
19181	5574819	709256	0.25% f bn	0.088	0.3	2270	1	41	8.1	1.0	0.1	6	2.5
19207	5574567	709459	0.5% cpy	0.003	0.3	1120	6	93	9.1	1.0	0.1	2.5	14
19001	5575259	708454	1-2% rx sul	0.005	0.3	657	2	103	7.3	1.0	0.0	5	2.5
19002	5575262	708457	1-2% rx sul	0.003	0.3	463	2	79	7.6	1.0	0.1	2.5	2.5
19179	5574648	709348	0.25% f cpy-py	0.003	0.3	368	1	38	7.8	1.0	0.0	2.5	5
			Average	0.088	4.2	18166	3	73	7.7	1.3	0.4	3.0	3.3
			90%ile	0.227	10.7	37440	6	122	9.2	1.0	0.9	5.6	6.6
			Median	0.019	3.2	10350	2	65	7.6	1.0	0.3	2.5	2.5

Table 5: Selected element concentrations in 33 mineralized rocks from the Adam West showing. Samples were selected by proximity to the main showing. The table is sorted by copper concentration. All elements in ppm except Fe and S in %. The two check samples are highlighted in blue. Table compiled by the author June, 2019. (Abbreviations in Mineralization column: cpy- chalcopyrite; bn - bornite; vn - vein; mal - malachite; msv - massive; s-m semi-massive; f - fine grained; cc- chalcocite; sul sulphides; car carbonate; py pyrite; mgt magnetite; Az azurite)

to 21.9 ppm and correlates with copper with an average Cu:Ag ratio of 4962 (examined in more detail in section 9.8). In the highest 15 copper values Cu:Ag is 4448. Gold is erratic with two anomalous value for 0.669 and 1.125 ppm with an average of 0.038 ppm. Most of the samples in the dataset were collected at the main Adam West showing depicted by the cluster of high copper assays in Figure 33A. Other samples for the set were collected in the vicinity along logging roads ranging north in the dip direction of the host basalt flows and the overlying limestone layer.

The sampling confirms that significant concentrations of copper occur as veinlets and amygdule fillings in the low-grade metamorphic rocks of the Karmutsen Formation at the Adam West showing and in scattered outcrops through the area. Further work will need to be completed to determine the importance of the contact with the overlying limestone as a depositional mechanism. The historical copper anomaly in soils from the Conoco exploration is coextensive with the high grade copper samples at the main showing and suggests more detailed soils geochemistry is warranted to explore the area. Historical IP surveys also produced anomalous results roughly coincident with the soil anomalies.

9.6 Exploration at the Boyes Creek Showing

Exploration of the numerous mineralized zones in Boyes Creek was guided by the excellent detailed map of Sharp (1969) that shows individual mineralized fractures, faults and styles of mineralization along the length of the 1.5 km creek. Part of Taylor's map and legend are shown in Item 6 History, Figure 8. Unfortunately, for utilization of the map in exploration, Sharp (1980) observed that magnetic declination varies along the creek as a result of the high magnetic susceptibility of many of the Karmutsen basalt flows and the influence on his compass in the narrow canyon (Figure 34). This made it impossible to determine true azimuths of sections of the creeks resulting in angular distortion between them when drawn on the map. Consequently, attempting to align the map with geographic features to determine coordinates is not possible with better than a hundred meters of precision. This is because of a lack of geographic features on existing topographic maps that can be correlated with the features drawn on the map. Few features are certain, the confluence of two branches of the creek being one, so the map could only be used approximately by matching descriptions of creek features and veins as they were observed in traverses. Figure 35 shows an example of the correlation of a series of

Figure 34: Boyes Creek Canyon.

Looking downstream in Boyes Creek above showings on the right side of the creek. The left wall may be a bedding dip slope fractured below a fault structure followed by the creek. On the left (north) the slopes are dominantly cliffs cutting across basalt flows. The topography in this view is typical of Boyes Creek from its confluence with the Adam River at 260 m upstream to its headwaters at 760 m.
Photo by the author May 13, 2019.

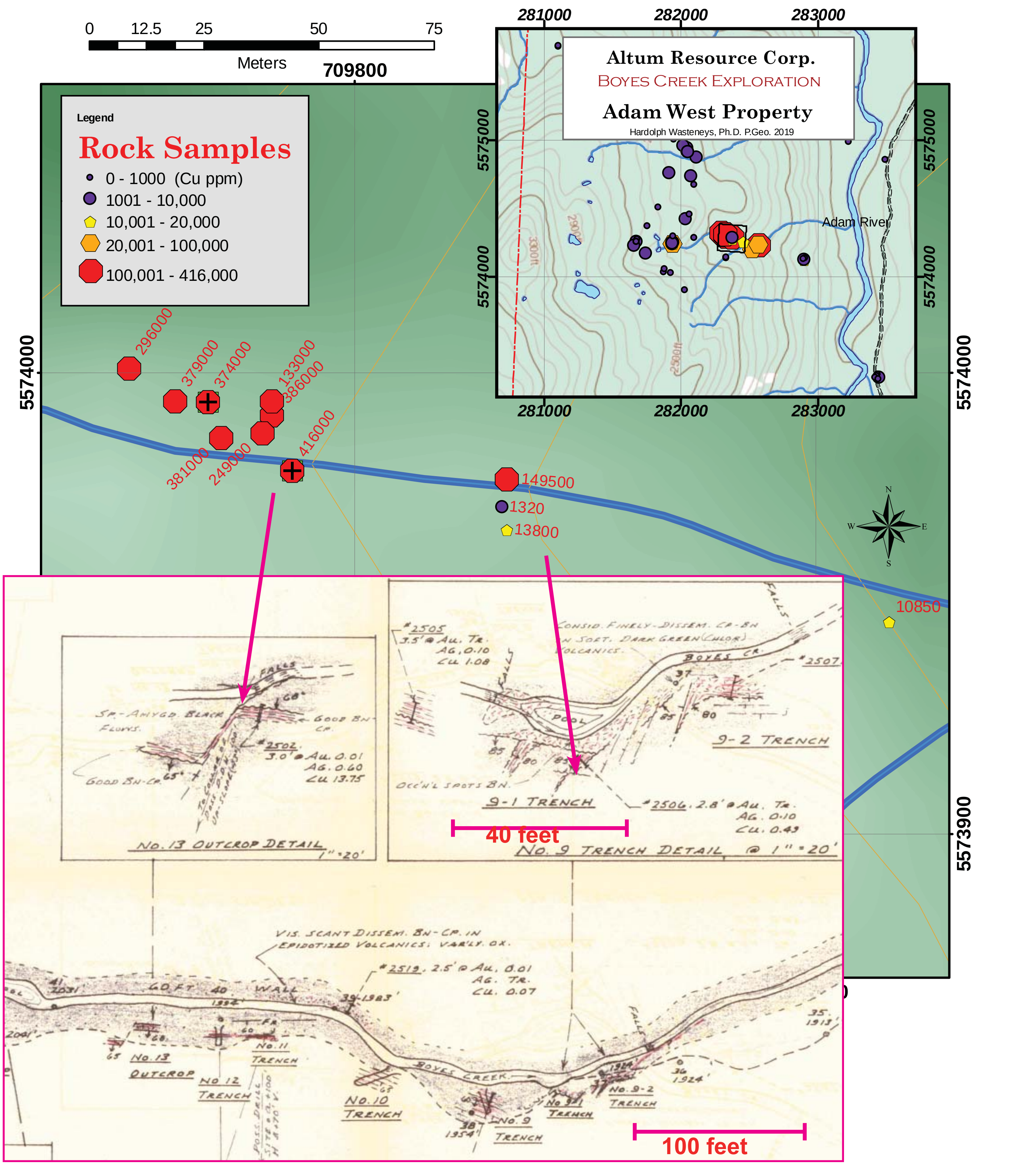


Figure 35: Boyes Creek High Grade Bornite Veins
The topographic map in the inset shows the position of the high grade bornite-chalcocite samples symbolized in the main map. Red labels on the data points show Cu in ppm. Black crosses are the author's check samples. The main cluster of high copper samples is from veins in the "No 13 Outcrop Detail" sketch (Sharp, 1980). The second group of 3 samples correlates with the "No. 9 Trench" sketch.
Map constructed by the author in ArcGIS 9.3 with overlays in InDesign, June, 2019.

high grade samples with a particular section of the creek on Sharp's map.

Further complicating efficient exploration, the terrane along the creek is steep, dropping from 760 to 280 m elevation in 1.5 km to the Adam River. As well the creek occupies a narrow "V"-shaped canyon shown in Figure 34, along much of its extent and particularly in the mineralized zones. Traverses could rarely be done continuously near the creek bed. Small waterfalls, in the order of 5 m, occur at regular intervals. The north slope was commonly a 15 meter rock cliff, while the south was shallower, but still dangerously steep in many places requiring diversions uphill around the obstacles.

Figure 36: Massive bornite lens in altered volcanic rocks at Boyes Creek.
The lens of bornite dips steeply to the right orthogonal to the hammer handle under the 20 cm of pink taped shaft. The lens continues for a few meters parallel to the hammer head. The sample at this site HW1602 graded 41.6 % Cu, and 145 g/t Ag.

However, several good matches with the old map were found and resampled for comparison with old data (Sharp, 1980). Twelve of these sites are symbolized on Figure 35 including the author's check samples. The samples were taken from veins or lens of massive bornite, chalcocite and lesser chalcopyrite with sharp contacts with a slightly altered volcanic rock. Samples were selected to represent the vein material and not measured intervals except for vein thicknesses. In places the lens were over 20 cm thick (Figure 36) and it was readily possible to extract kilogram-sized chunks of rock of nearly pure massive bornite with mixed amounts of chalcocite. Assays of such samples yielded from 14 to 41.6 % copper depending on the proportions of chalcocite to bornite or chalcopyrite. Bornite contains 63 wt% copper, chalcocite 80% and chalcopyrite 35%. Spot analyses with a handheld Niton XL3t XRF analyser yielded up to 63 wt% copper on the high grade sample indicating that the spot was pure bornite or an intergrowth with chalcocite. Other spot XRF analyses from the same rock: 51.2% Cu, 9.4% Fe, 15% S, 112 Mo; and 49.0% Cu, 11.4% Fe, 19.0% S, 98 Mo. The lower values from the grab sample assay indicate that rock fragments are suspended in the sulphides. This is confirmed in the assay by several wt% of Al, Mg and Na, all elements from silicate minerals (silicon is not reported by ICP methods utilizing chemical dissolution). Grab and chip samples for narrower veins and seams with wall rock attached yielded the lower copper contents. The thirteen samples, shown in Figure 35, averaged 22% Cu and 54 ppm Ag. Unusually, compared to other samples from the Property, Mo averaged 57 ppm in these samples ranging from 1 ppm to 128 ppm. The anomalously high Mo concentrations are graphically illustrated as outliers in the box plots for Boyes Creek in Figure 38 (below in section 9.8). For all of the rocks in the Boyes Creek sample set copper ranges from 459 to 416,000 ppm with a mean value of 110,000 ppm (11%).

SAMPLE	Northing	Easting	Mineralization	Au	Ag	Cu	Pb	Zn	Fe	Mo	S	As
HW1602	5573979	709786	cpy-bn vn 20 cm	0.036	145.0	416000	23	61	11.6	97.4	10.0	4.3
19045	5573991	709782	5-10% bn	0.022	167.0	386000	33	66	9.2	51.0	9.4	2.5
19077	5573986	709771	bn 10-15% mal 5-1	0.056	116.0	381000	21	79	9.0	85.0	10.0	2.5
19095	5573994	709761	msv bn, s-m cpy	0.021	63.8	379000	38	13	23.2	107.0	10.0	2.5
HW1601	5573994	709768	msv bn-cpy pod	0.025	67.4	374000	43	33	21.1	128.0	10.0	3.1
19094	5574001	709751	s-msv cpy, 10% br	0.040	37.3	296000	28	26	16.1	125.0	10.0	11.0
19078	5573987	709780		0.046	108.0	249000	14	58	7.2	58.0	7.2	2.5
19091	5573977	709833	10% cpy, 5% bn, c	0.051	26.2	149500	3	18	8.1	10.0	5.7	2.5
19088	5573934	710028	5% f bn, 3% f cpy	0.422	25.9	134500	3	34	6.5	4.0	4.6	2.5
19046	5573994	709782	7% cpy, 4% bn	0.032	20.7	133000	19	80	12.3	73.0	7.7	2.5
19089	5573898	709979	2-3% bn	0.039	6.6	44600	2	40	5.8	1.0	0.5	2.5
19087	5573934	710025	5% bn	0.027	4.0	27000	1	75	9.4	4.0	0.7	2.5
19076	5573889	709401	bn 5-10%	0.030	6.0	22800	1	75	8.5	0.5	0.8	2.5
19093	5573966	709833	5% cc	0.009	5.0	13800	1	58	5.6	0.5	0.3	2.5
19039	5573892	709404	sul %	0.135	25.7	12450	1	59	9.8	1.0	0.2	2.5
19090	5573946	709916	1% bn	0.016	6.0	10850	1	51	5.1	1.0	0.3	2.5
19075	5573889	709401	bn 5-10%	0.029	1.4	7340	1	101	9.5	0.5	0.8	2.5
19042	5573897	709401	cpy carb vns	0.014	2.1	7010	2	62	9.5	1.0	0.6	2.5
19050	5573900	709403	malachite	0.012	5.0	6980	1	47	9.1	1.0	0.4	2.5
19049	5573899	709402	malachite	0.009	3.6	5770	1	76	9.7	1.0	0.1	2.5
19041	5573900	709404	3% bn	0.014	4.3	4170	1	36	8.3	1.0	0.3	2.5
19043	5573898	709402	bn	0.015	0.7	2380	1	41	8.4	1.0	0.2	2.5
19201	5573894	709402	5% py-cpy	0.029	0.3	1640	2	63	10.0	0.5	0.5	2.5
19092	5573971	709832		0.006	0.3	1320	1	47	6.8	1.0	0.1	2.5
19096	5573816	709798	5-7% py	0.005	0.3	797	3	112	11.3	1.0	0.4	2.5
19097	5573821	709798	0.1% f cpy-py	0.011	0.3	542	1	165	9.5	1.0	0.0	2.5
19202	5573947	709404		0.006	0.3	513	2	192	12.1	1.0	0.0	2.5
19044	5573949	709558	0.25% cpy	0.017	0.5	459	1	66	9.1	1.0	0.1	2.5
			Average	0.042	30.3	109586	9	66	10.1	27.1	3.2	2.9
			90%ile	0.053	110.4	379600	30	104	13.4	100.3	10.0	2.7
			median	0.024	5.5	13125	2	60	9.3	1.0	0.6	2.5

Table 6: Selected elements for 28 mineralized samples from Boyes Creek
Samples were selected by proximity to the main showing in ArcGIS. The table is sorted by copper concentration. All elements in ppm except Fe and S in %. The author's two check samples are highlighted in blue. Table compiled by the author June, 2019. (Abbreviations in Mineralization column: cpy- chalcopyrite; bn - Bornite; vn - vein; mal - malachite; msv - massive; s-m semi-massive; f - fine grained; cc- chalcocite; sul sulphides; car carbonate; py pyrite)

Silver ranges from below the detection limit for Ag by ME-ICP61 of 0.5 ppm, to 167 ppm. The ratio of copper to silver in samples across the Property, displayed in Figure 42, is much lower in Lucky Jim than at Boyes Creek and Adam West. At Boyes Creek the Cu:Ag: ratio ranges from 212 to 7936 and averages 3455. Cu:Ag ratios a generally higher in the copper-rich samples with and the top 12 averaging 4563. The consistency of the Cu:Ag ratio at Boyes Creek and Adam West suggests that silver is a substitute for copper in some sulphide minerals rather than forming discrete silver-rich minerals. Gold was generally assayed at low concentrations ranging from 0.006 to 0.056 ppm and averaging 0.030 ppm Au.

The samples from Boyes Creek were collected from different components of the mineralized rocks and aid in representing the mineralogy. Historical sampling by Sharp (1969) appears to have been across measured intervals, resulting in much lower averaged Cu values indicated on the map. The present results show that further exploration on Boyes Creek is warranted to determine controls on, and the distribution of mineralization. Much of the known mineralization appears to be in the eroded foot-wall of a fault structure or the top of a thick flow.

Exploration should determine if mineralization is confined to a single planar structure or if it continues to lower structural levels.

9.7 Exploration in Other Parts of the Property

Many other known and newly discovered showings were sampled by Altum in addition to the Boyes Creek, Lucky Jim and Adam West prospects that were the focus of the Property visit. Some are documented in the Minfile records and others were found along new logging road rock cuts. Most of the exploration work was focused on prospecting and mineralized rock sampling. Systematic geological mapping was not done. The analysed rocks, outside of those from the main showings, were tabulated by the author in Table 7 and locations shown on Figure 37.

SAMPLE	Northing	Easting	Mineralization	Au	Ag	Cu	Pb	Zn	Fe	Mo	S	As
19222	5568927	711152	5-7% cpy	0.082	10.7	27900	11	128	9.0	0.5	1.6	3
19230	5568704	711355	2-5% bn-cpy	0.054	5.5	26000	2	69	10.0	1.0	0.9	3
19224	5568920	711153	1-3% cpy	0.030	2.9	21900	4	85	8.7	3.0	1.8	14
19166	5570292	709961	1% mal, az	0.071	4.3	17950	1	25	4.1	2.0	0.5	3
19225	5568883	711224	1% cpy	0.026	2.7	15700	3	37	8.3	1.0	0.9	8
19221	5568927	711152	3-5% f cpy	0.089	7	13900	6	118	10.1	1.0	1.0	3
19187	5573850	710368	5% cpy, 1% bn	0.089	2.1	12500	8	117	5.8	0.5	0.8	3
19229	5568704	711355	1% bn-cpy	0.011	2.5	12300	1	85	9.5	1.0	0.5	3
19228	5568716	711319	5% bn	0.097	1.3	12250	1	20	7.9	0.5	0.4	3
19223	5568915	711152	3-5% cpy	0.082	2	11850	5	28	7.8	3.0	0.8	13
19226	5568753	711316	0.5% cpy-bn	0.030	1.9	10200	1	73	8.9	0.5	0.4	3
19172	5568743	711316	min cpy/mal/bn	0.016	1.9	9010	1	54	7.0	0.5	0.4	3
19186	5573850	710368	10% cpy, min bn	0.028	0.7	6710	5	189	8.1	0.5	0.5	3
19167	5574395	709497	2% cpy	0.064	1	5700	1	63	9.2	0.5	0.2	3
19231	5569540	711687	0.5% f cpy	0.009	0.7	4680	1	78	8.3	0.5	0.1	3
19232	5569540	711682		0.019	1.6	4650	1	65	8.7	0.5	0.1	3
19209	5574401	709334	0.5-2% f cpy	0.067	0.25	4590	1	62	8.0	1.0	0.4	3
19213	5573882	709136	1% f cpy	0.006	1	3010	1	198	11.1	1.0	0.3	3
19212	5573854	709126	0.25% bn	0.012	0.9	2400	1	133	7.6	1.0	0.1	3
19215	5573806	709214	0.5% vf cpy	0.039	0.9	1770	1	33	4.8	1.0	0.1	3
19085	5573043	710979	0.1% f cpy, msv p	0.007	1.2	1600	1	76	14.9	10.0	5.6	607
19203	5574075	709480	0.25% bn	0.018	0.25	1210	3	125	10.9	0.5	0.0	3
19165	5570509	710150	0.5% cpy	0.005	0.25	966	4	176	11.3	1.0	0.1	3
19227	5568750	711331	0.5% cpy	0.006	0.7	791	1	125	9.5	0.5	0.1	3
19211	5573905	709144	0.25% bn	0.003	0.6	783	1	102	10.1	1.0	0.0	3
19170	5573678	709407	1% cpy	0.003	0.5	761	1	136	9.0	1.0	0.1	3
19235	5570519	711082	0.25% fg py	0.005	0.6	536	3	73	7.9	1.0	0.5	3
19214	5573882	709136	2% fg cpy	0.006	0.5	529	1	84	5.7	1.0	0.0	3

Table 7: Mineralized samples from “Other” areas within the Property.
Samples are those not in close proximity to the 3 mains showings within the Property. The table contains 28 samples with greater than 500 ppm Cu out of the 71 in the “other” dataset. Records are in order of decreasing copper concentration Fe and S are in % all other elements in ppm. S has an analytical maximum of 10% Table compiled by the author June, 2019.

9.8 Analysis of the Adam West Rock Sample Data

In order to analyze the large rock sample data set, the samples were separated into 4 groups on a map of the Property shown in Figure 37, according to proximity to the three main showings, Lucky Jim, Boyes Creek and Adam West, and the remainder of the area. Statistical relationships in the 4 sample datasets are then shown graphically in box plots calculated using GCDkit 4.1 (Janousek et al. 2006) and displayed in Figure 38. The division into the four groups on Figure 37 shows, graphically, differences in the ranges of concentrations, median concentrations and anomalous outliers at each of the 3 showings and the other sample sites.

The data for each occurrence group were tabulated in Tables 4 to 7 where capsule descriptions of the mineralization can be compared to the geochemical analyses. For many of the elements such as copper there should be a predictable correlation between field description and analysis, whereas values for silver and gold are less predictable because of the lack of visible Ag and Au minerals. To explore the correlation between elements, a chart of correlation coefficients and graphical binary plots of Au, Ag, Cd, Co, Cu, Fe, Mo, Pb, S, Sb and Zn was constructed in GCDkit 4.1. This is displayed in Figure 39 which is symbolized to indicate samples from the three main showings (Lucky Jim, Adam West and Boyes Creek). Several good correlations are apparent both from high coefficients and from linear patterns in the corresponding binary plots: these include expected correlations such as Ag-Cu (0.73), Cd-Zn (0.94), and Fe-S (0.73). Some of these are common element substitutions such as Cd for Zn in sphalerite and Fe in many sulphide minerals such as pyrite and pyrrhotite, which can be readily identified in samples. Some other high correlations Co-Fe (0.82), Cu-Mo (0.84), Cu-Pb (.77), Mo-Pb (0.73), Ag-Pb (0.66) and Ag-S (0.70) do not have as obvious a link to mineral assemblages and imply associations in the rocks such as chalcopyrite and galena, which were not observed commonly. Co and Fe are both transition metals with some similarities in chemical behaviour in the 2+ state. Molybdenite was not observed in any samples, but using the binary plot of Cu-Mo shows that samples from the Boyes Creek area are responsible for the correlation possibly indicating some chemical substitution. Similarly, examining the binary plots in Figure 39, the Co association with Fe is strongly correlated at the Lucky Jim showing, and to a lesser degree at the Adam West, but not at Boyes Creek. Important correlations that could be of predictive value include those with gold which include Au-Ag (0.42), Au-Fe (0.35), and Au-S (0.39). Unfortunately, all are relatively weak correlations expressed by only a few samples for the Lucky Jim showing by examination of the binary plots in Figure 23. A higher correlation coefficient for Au and Ag would be obtained from the Lucky Jim data alone, and this is shown in more detailed binary plots.

Binary plots of economically important elements Au, Ag and Cu are shown in Figures 40 and 42. Plotting Au vs Ag on logarithmic scales reveals a strong correlation between Au and Ag at Lucky Jim and a separate strong correlation at different ratios of Ag:Au for Boyes Creek and Adam West indicated by linear trends of points. Check samples at each of the showing fit within the respective fields of variations for the three showings indicating that the check samples are representative of the same material sampled by Altum. Average ratios of Ag:Au differ greatly between the two types of mineralization with a 4000:1 ratio in Boyes Creek and Adam West compared to about 4 : 1 at Lucky Jim. Conversely, Lucky Jim is a much more gold-rich type of mineralization than the others.

A similar relationship is shown in Figure 42 between Cu and Ag, which has a high correlation coefficient of 0.73 for samples from all types of mineralization combined on Figure 39. Like the Ag-Au relationship, there are actually two separate dispersion trends, which when combined lowers the bulk correlation coefficient for Lucky Jim compared to Adam West and Boyes Creek. Lucky Jim samples show a very strong linear trend on the logarithmic graph that is parallel to a mixed trend for the Boyes Creek and Adam West. The difference in trend

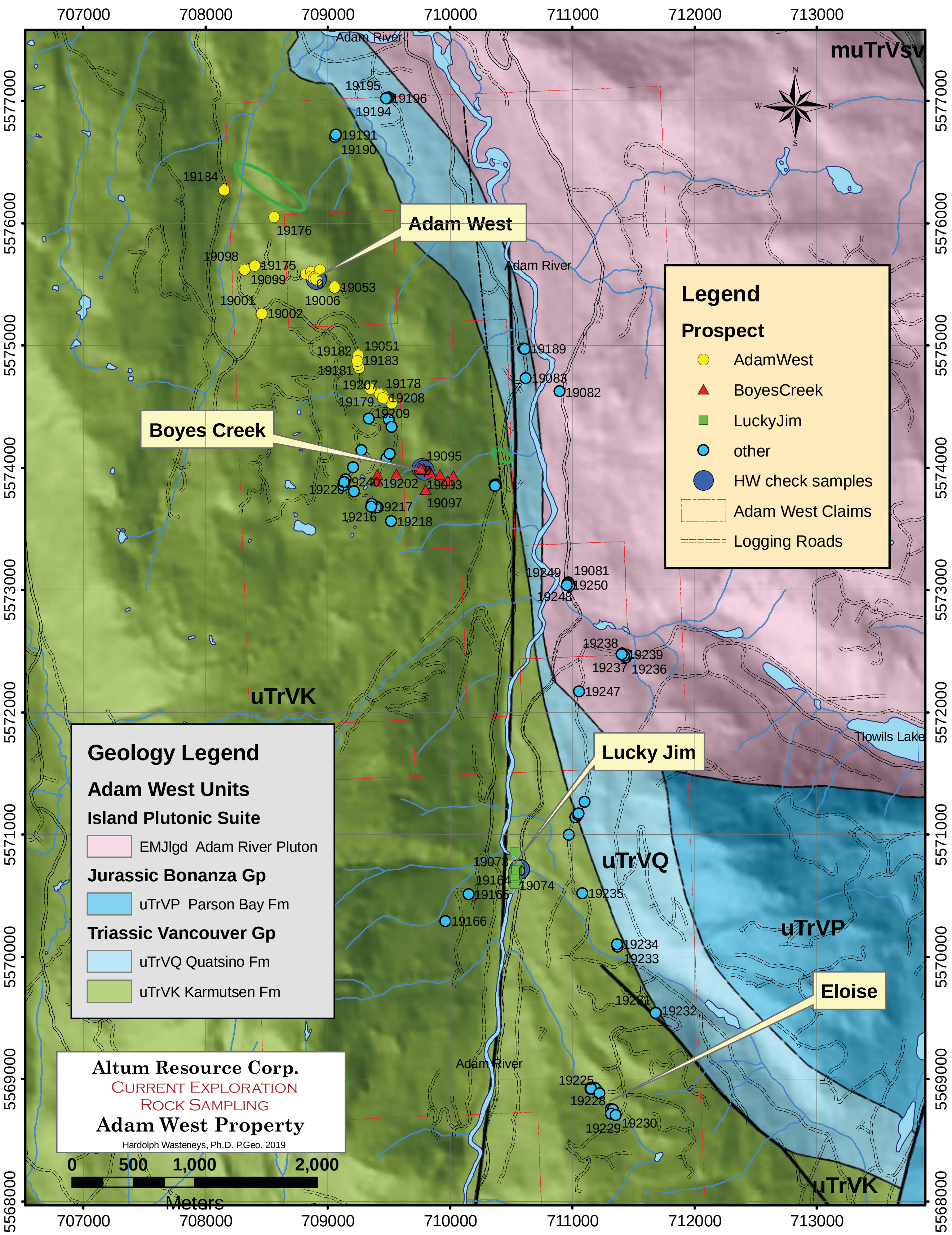


Figure 37: Sample Locations on the Adam West Property
Symbols show locations of samples grouped by proximity to the Lucky Jim, Boyes Creek, and Adam West showings. Blue circles are unclassified samples peripheral to the showings, but may be geologically similar. Dark blue circles are the author's check samples. Drawn in ArcGIS 9.3 by the author, June, 2019.

lines indicates a higher silver to copper ratio in mineralization in Lucky Jim type pyrrhotite-pyrite chalcopyrite skarn mineralization than in the copper dominated chalcopyrite - bornite - chalcocite mineral assemblages at Boyes Creek, Adam West and related mineralization in Karmutsen basalts. At Lucky Jim the Cu:Ag ratio of samples is about 500:1, whereas at Adam West and Boyes Creek the average Cu:Ag ratio is about 2500:1. Silver is probably contained as a

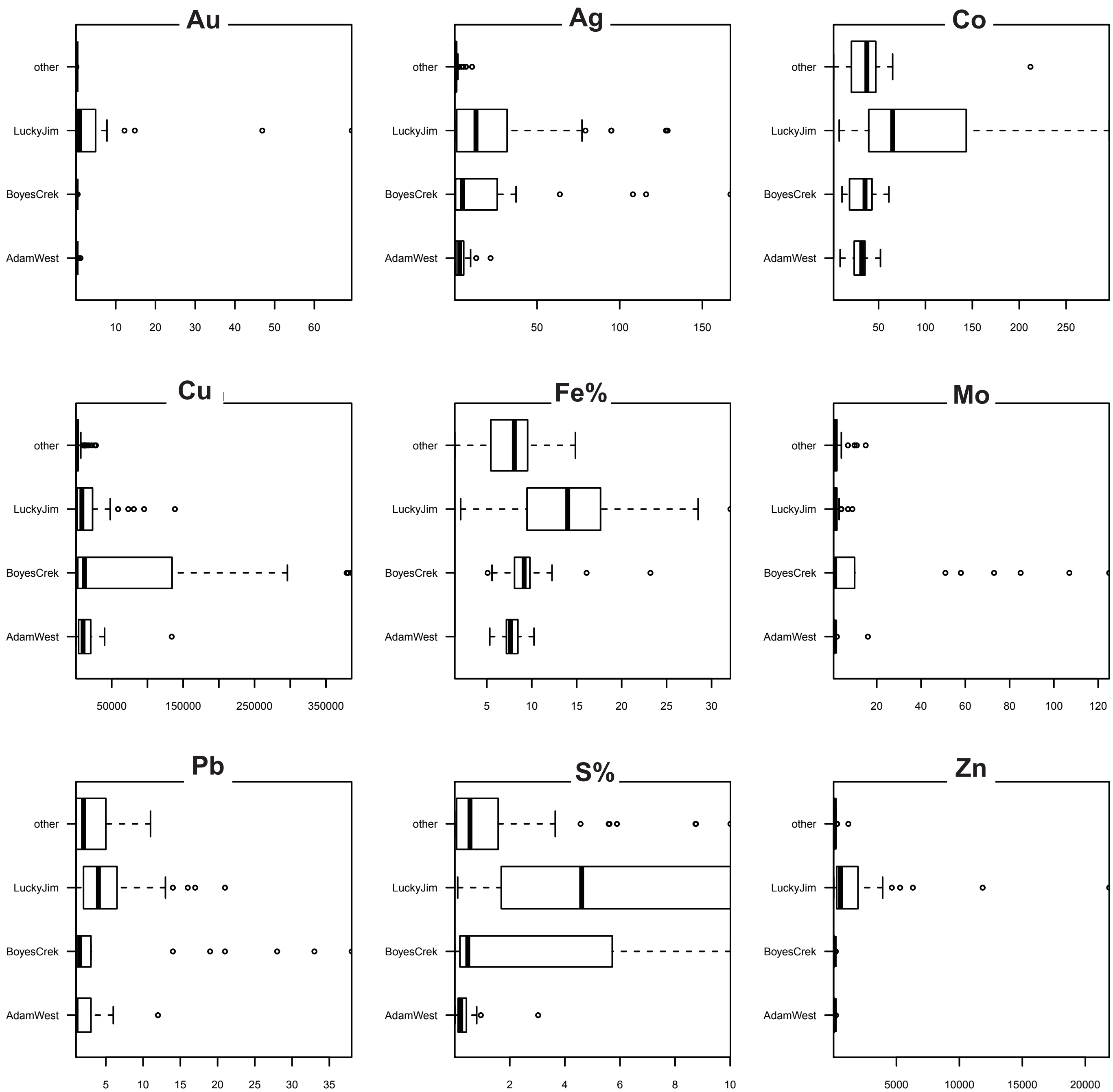


Figure 38: Boxplots for 9 selected elements in the rock data set grouped by occurrence.
The boxplots provide a visual profile of the statistical distribution of concentrations of mineralizing elements for each of the Boyes Creek, Adam West, Lucky Jim and other sites. All base axes in ppm appropriate to the range of concentration of each element except S and Fe which are in %. 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 time the IQR, and outliers are spots beyond the whiskers. Boxplots drawn in GCDKit 4.1 (Janousek et al., 2006) by the author June, 2019.

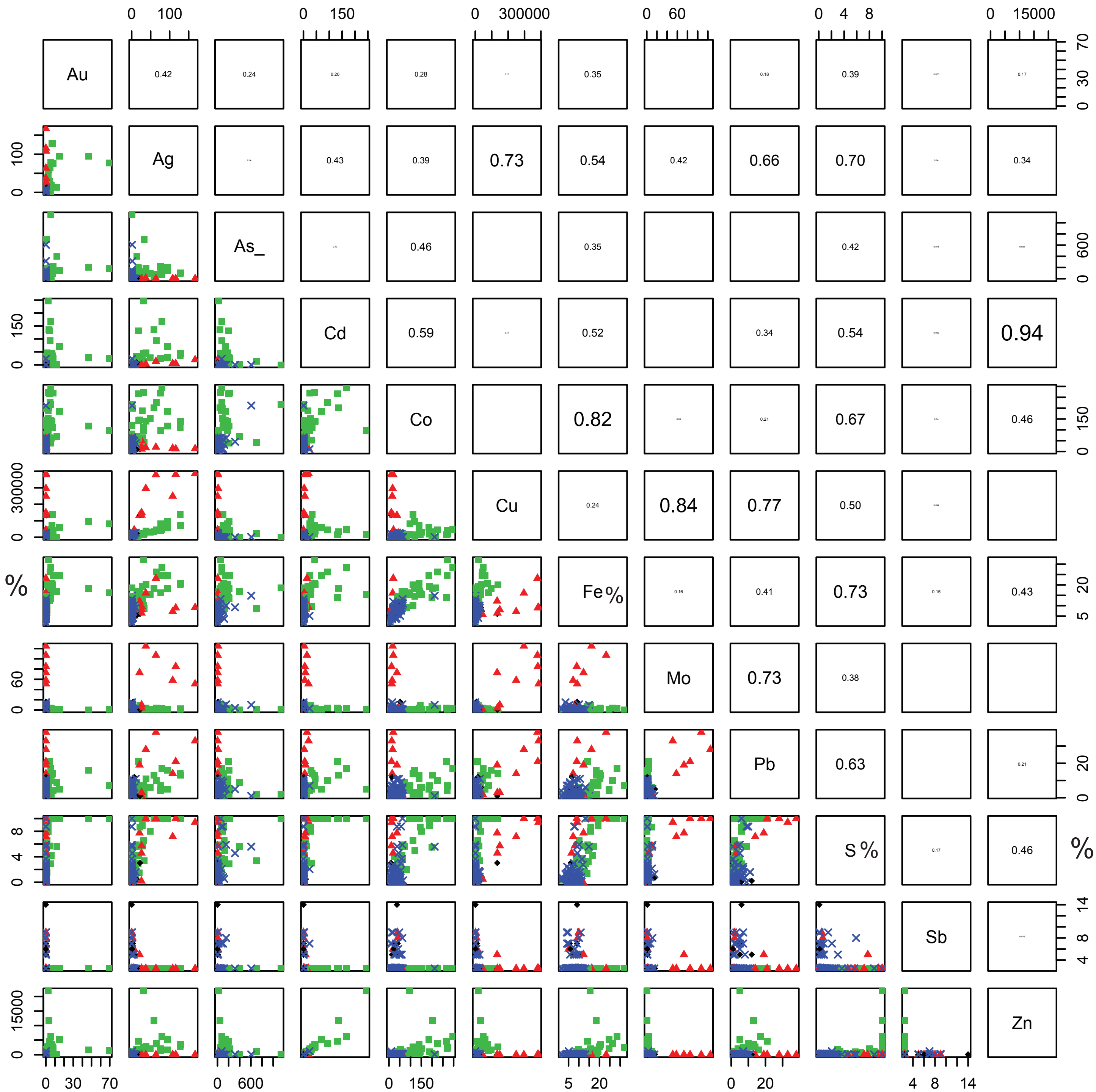


Figure 39: Element Correlation chart for the Adam River rock samples

A selected subset of elemental correlations relevant to mineralization is shown. Axes are in ppm, except S and Fe in %. Symbols in the graphs identify samples from the Adam West, Lucky Jim, and Boyes Creek occurrences indicating similarities and differences in element relationships. Correlation coefficients are shown in the upper right in text size proportional to strength of correlation. For example Cd has very similar chemical behaviour to Zn and has a 0.94 correlation coefficient, but the graph reveals that higher concentrations of Cd and Zn are only observed in the Lucky Jim mineralization. Cobalt (Co) and iron (Fe) are also strongly correlated mainly at Lucky Jim, but one sample from another location fits the trend and may indicate similar mineralization. Copper and Silver are strongly correlated at both Boyes Creek and Lucky Jim, but follow different trends.

Calculations and graphing by the author using GCDKit 4.1 (Janousek et al., 2006)

◆ AdamWest
▲ BoyesCreek
■ LuckyJim
× other

copper substitution in bornite and chalcocite in the basalt hosted chalcopyrite-bornite-chalcocite assemblage. At Lucky Jim, most silver may be in electrum resulting in the strong correlation with Au and mineralogically associated with pyrrhotite indicated by the Fe-Ag correlation.

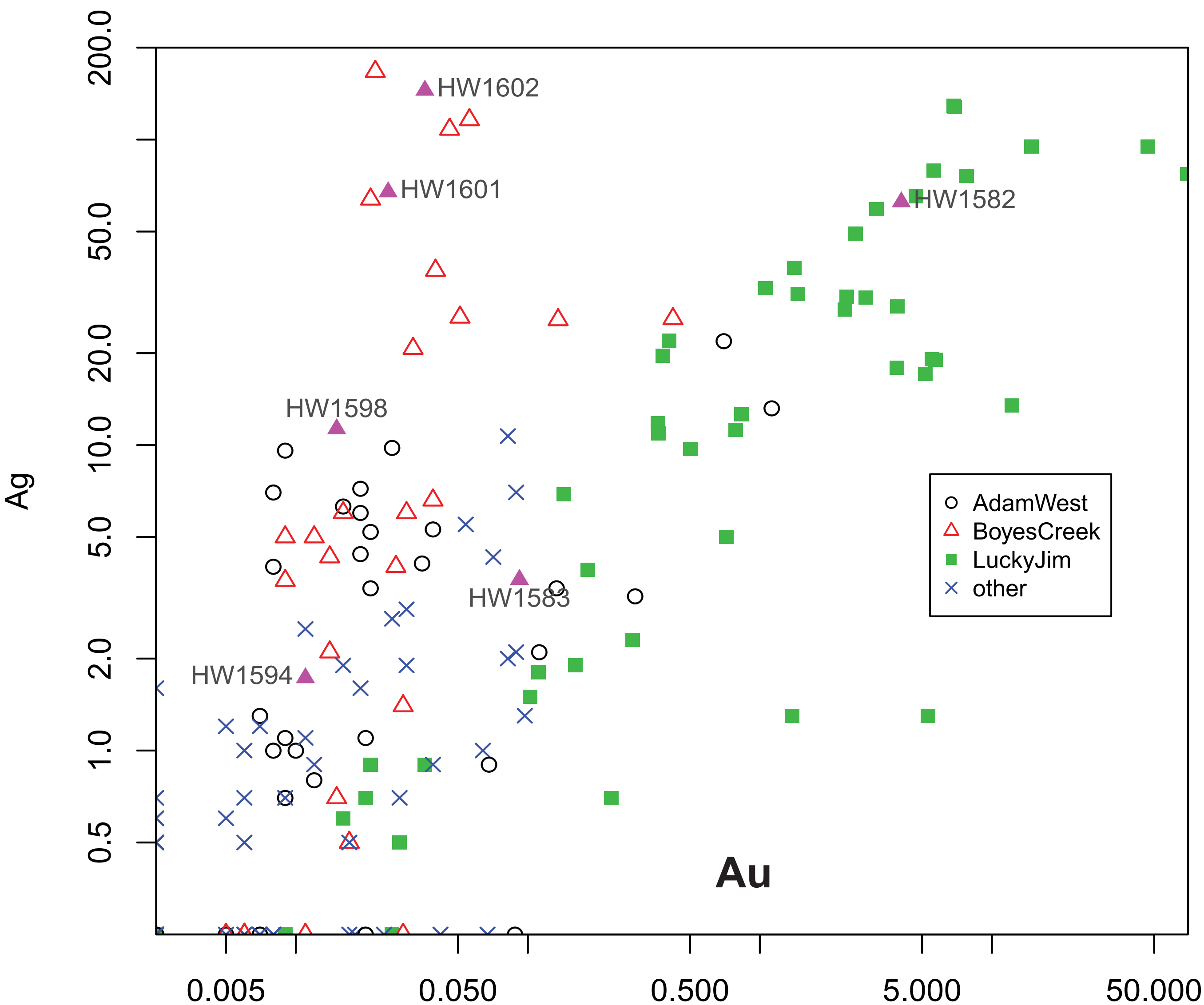


Figure 40: Graph of gold vs silver in rock sample from the Adam West Property
Samples are classified by occurrence using symbols in legend. Concentrations of Au and Ag in ppm are plotted on logarithmic scales. The author's check samples are indicated in solid pink triangles. Green squares and check samples HW1582 and HW1583 are samples from Lucky Jim, black open circles and checks HW1594 and HW1598 are from Boyes Creek, and red triangles and checks HW1601 and HW1602 are from Adam West. The blue crosses, "other", are from all areas of the Property outside of the main showings typically rock cuts on logging roads and some other documented showings. Lucky Jim samples show higher Au:Ag ratios forming a distinct field from the other 3 categories.
The geochemical data-set shown here is 175 samples collected by Dr. T.N. Setterfield for Altum. Field blanks not included in this plot. Graph rendered in GCDkit 4.1 (Janousek et al. 2006) by the author, June, 2019.

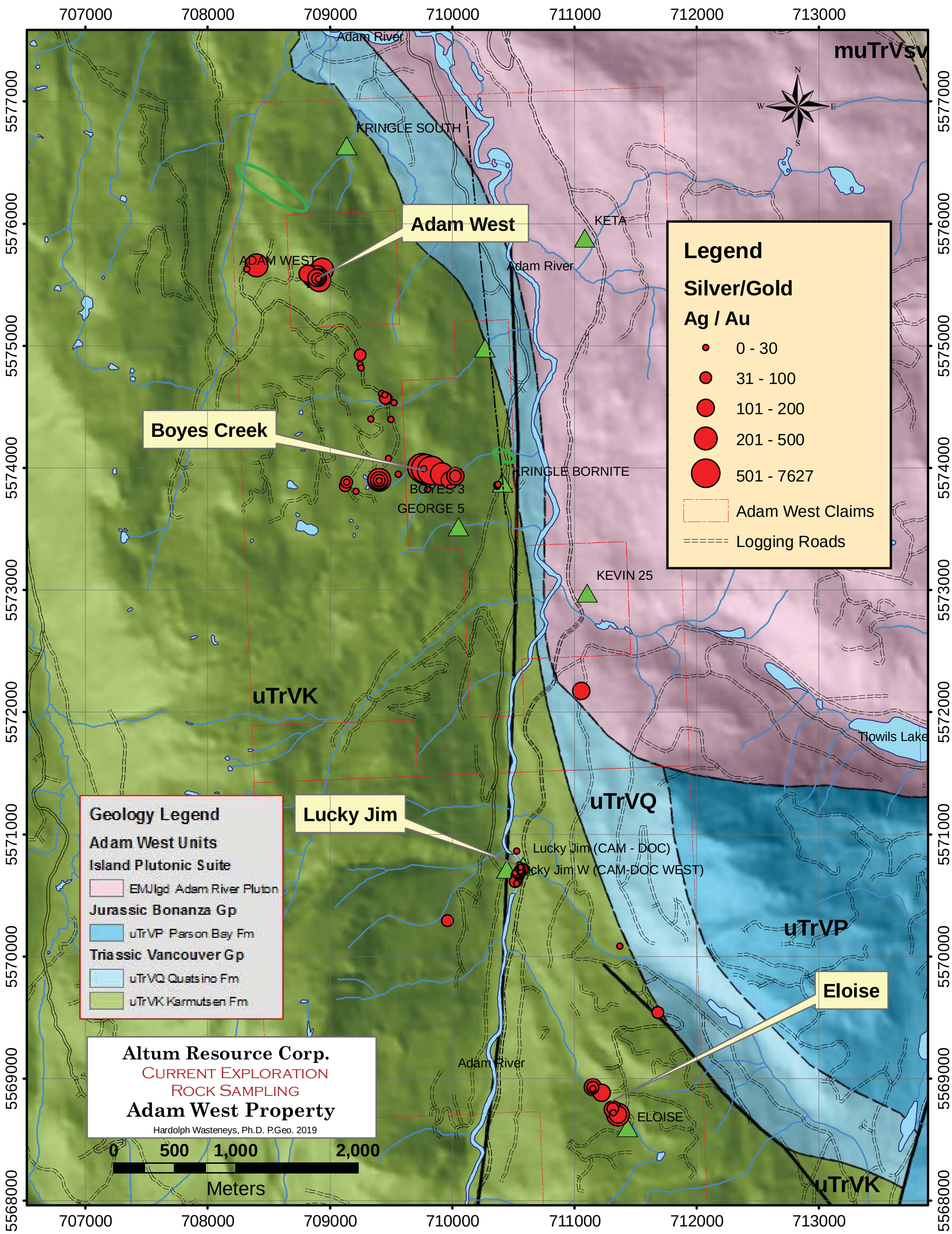


Figure 41: Silver:Gold ratios in samples from the Adam West Property

The diameter of the red symbols indicates intervals of Ag:Au ratio for samples with Au greater than 0.010 ppm from the 175 samples collected by Altum. The cluster at Boyes Creek is the main showing of massive bornite and chalcocite. Map drawn by the author in ArcGIS 9.3 June 2019.

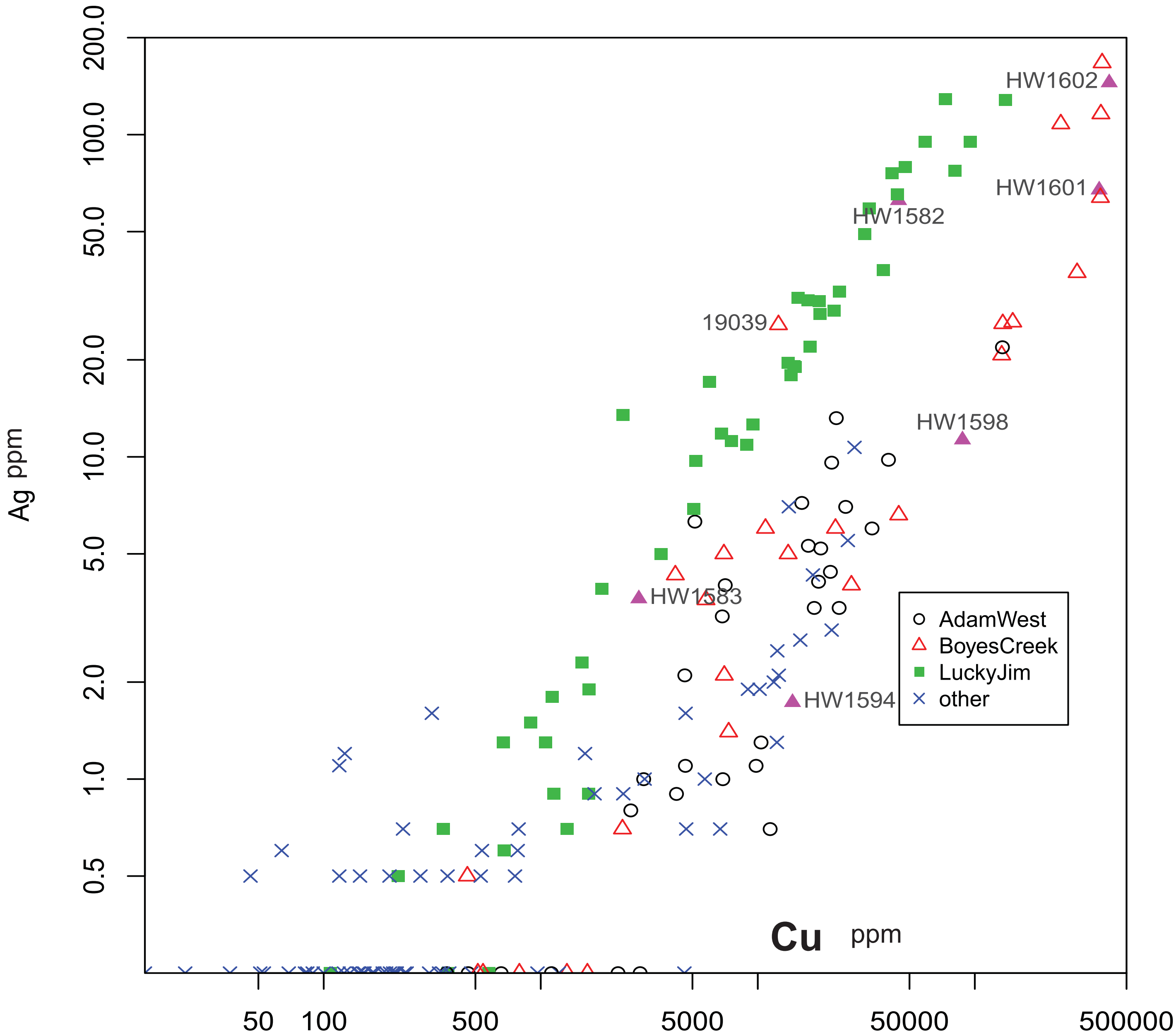


Figure 42: Graph of copper vs silver in rocks from the Adam West Property.
Concentrations of Cu and Ag in ppm are plotted on logarithmic scales. The author's check sample are indicated in solid pink triangles. Green squares and check samples HW1582 and HW1583 are samples from Lucky Jim, black open circles and checks HW1594 and HW1598 are from Boyes Creek, and red triangles and checks HW1601 and HW1602 are from Boyes Creek. The blue crosses, "other", are from all areas of the Property outside of the main showings typically rock cuts on logging roads and some other documented showings. A clear distinction is shown between Lucky Jim Ag:Cu ratios and the other 3 categories. One sample from Boyes Creek anomalously plots in the Lucky Jim field.
The geochemical data-set shown here is from Altum and included field blanks. Graph rendered in GCDkit 4.1 (Janousek et al. 2006) by the author June 2019.

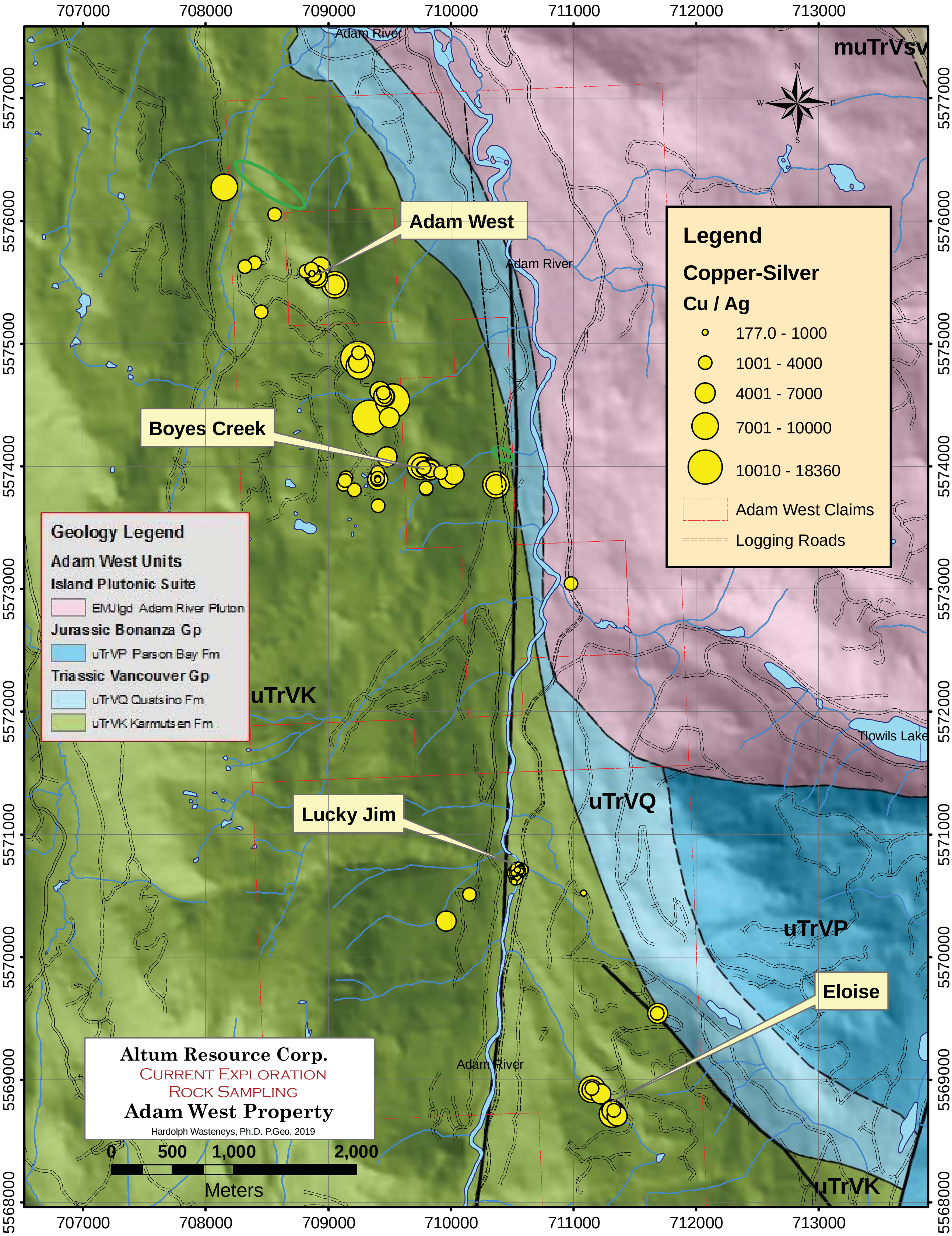


Figure 43: Adam West Property Copper : Silver Ratio in rock samples.
The diameter of the yellow symbols indicates intervals of Cu:Ag ratio for samples with Cu greater than 500 ppm from the 175 samples collected by Altum. From this it can be seen that much higher Cu:Ag ratios are prevalent in the Boyes Creek and Adam West type of mineralization than at Lucky Jim.
Map drawn by the author in ArcGIS 9.3 (June, 2019).

9.9 Induced Polarization Survey At Boyes Creek and Adam West

An Induced Polarization (IP) survey on the Adam West Property was conducted by Peter E. Walcott & Associates between December 1st and 4th, 2018. The following text is summarized from their report on the survey available as an assessment report (Walcott, 2018).

9.91 Survey Specifications

The survey utilized the “Pole-Dipole” method of IP surveying in which all combinations of potential voltages between pairs of 6 potential voltage receivers in an array spaced at 50 meter intervals are measured as current is pulsed through a current electrode that is moved on the area. The surveying was carried out using the “pole-dipole” method of survey utilizing a pre-laid receiver array remaining stationary, the current C1 is moved along the survey lines at a spacing of “a” (the dipole) apart, while the second current electrode, C2, is kept constant at “infinity”. The distance, “na” between C1 and the nearest potential electrode generally controls the depth to be explored by the particular separation, “n”, traverse. On this survey a 50 meter dipole separation was utilized and the 1st to 6th separations. A total of approximately 3.5 km of line was surveyed in a NW direction from a creek just south of Boyes Creek to a spot NW of the Adam West showing.

The electrical system IP survey was conducted using a pulse type system, consisting of a GDD® receiver, a Walcer® 10.0 kW transmitter, and a Walcer 20 kW motor generator. The transmitter pulses DC current in two 2 second cycles of current on, then off, then reversed polarity with a maximum of 10 kW relative to ground. The receiver measures the current (I) in amperes flowing through the current electrodes, C1 and C2, the primary voltages (V) between any two potential electrodes, P1 through P5, through each current phase and the apparent chargeability (Ma).

Apparent chargeability readings consist of twenty consecutive 50 millisecond readings (totalling 1000 milliseconds) and a 200 millisecond delay. Apparent resistivity (Ohm-meters) is proportional to the ratio of the primary voltage and the measured current and is dependent on the geometry of the electrode array. Chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

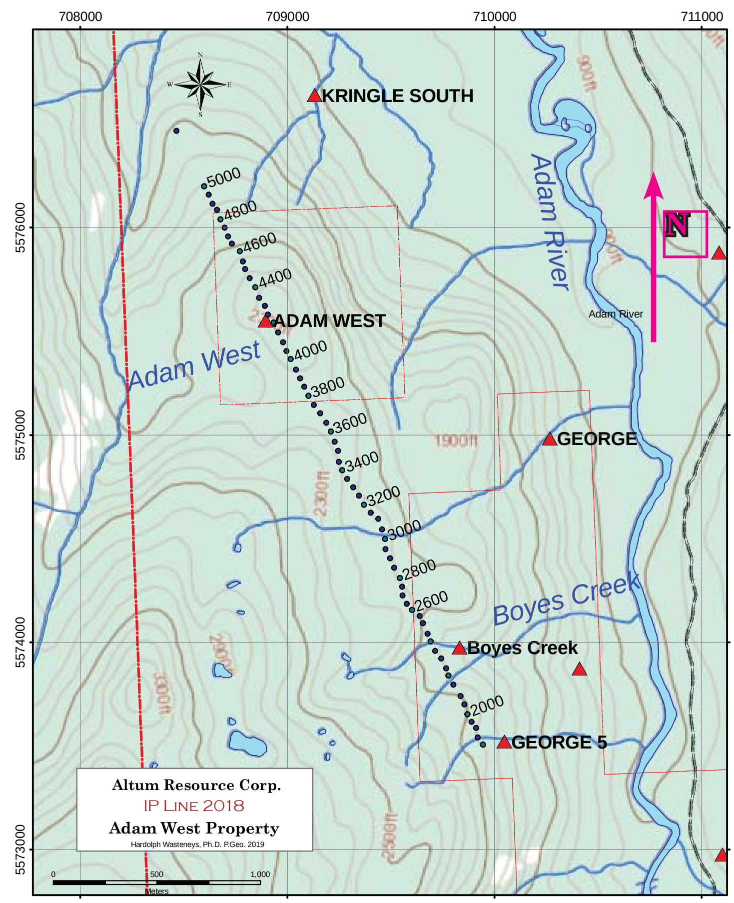


Figure 44: GPS Stations on the 2018 IP survey line

Base map is NTS 092L-08 Toporama series. The south branch of Boyes Creek is indicated on the Inversion in Figure 45.
Map produced by the Author from GPS files supplied by Walcott (2018).

9.92 Data Presentation.

The data were presented as individual pseudo section plots of apparent resistivity and apparent chargeability shown in Figure 45A. The data were also subjected to a 2D inversion using a 2-D

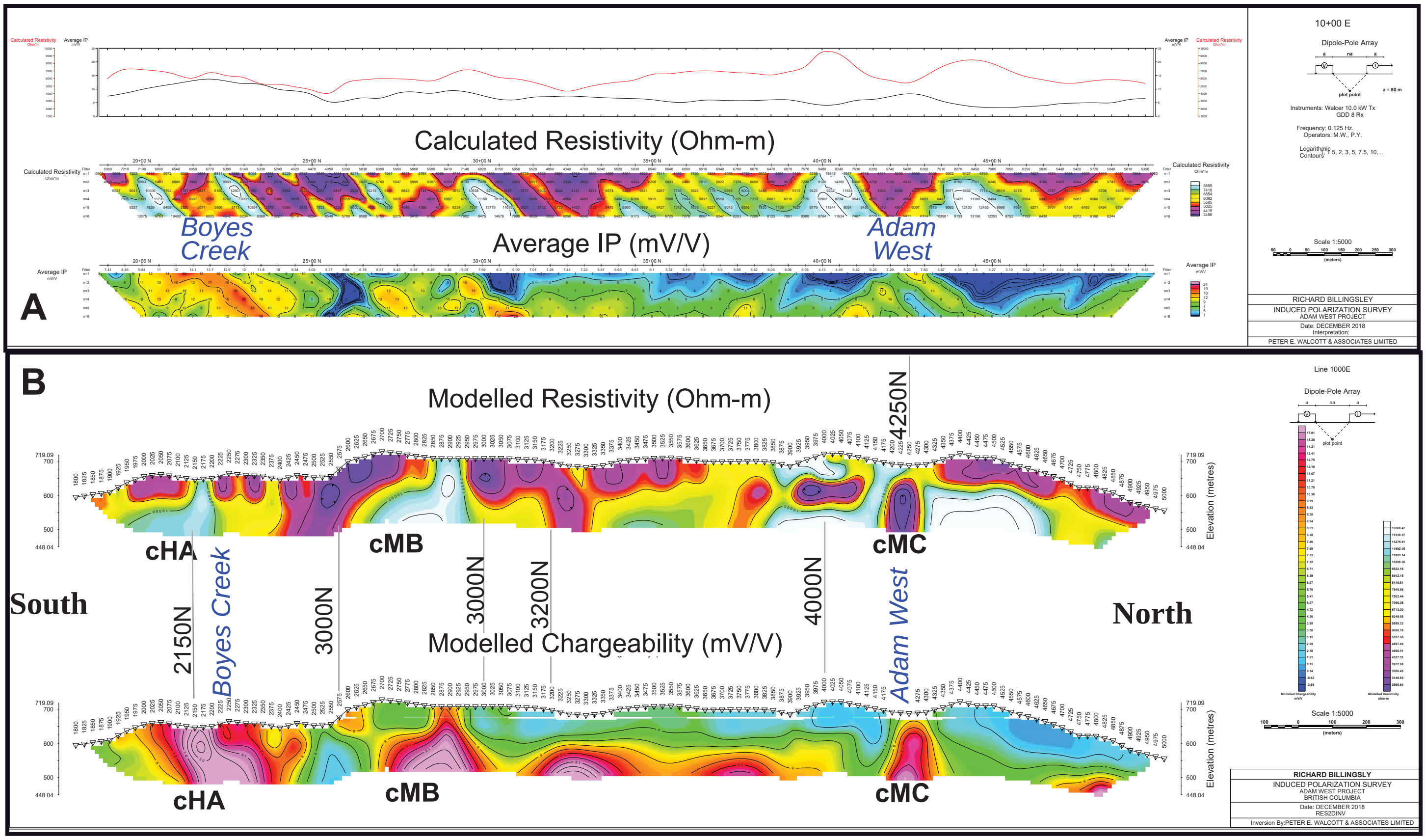


Figure 45: IP Pseudo sections and 2D Inverted Resistivity and Chargeability

Three discrete anomalies are marked on the inverted sections. Anomaly cHA is situated in the southern portion of the survey line centered at 2150N just south of Boyes Creek. This moderate to high intensity anomaly is associated with elevated resistivity. The core of the anomaly lies between the Boyes Creek and South Creek Showings. Anomaly cMB is situated between 2600N and 3000N. The broad anomaly observed within the inverted results is likely a composite anomaly from several weaker anomalies. Two distinct chargeability anomalies can be observed on the pseudo section at 2700N and 2950N respectively. Between 3200N and 4000N several weak deeper chargeability can be observed however these features cannot be reliably interpreted due to the limited information. Anomaly cMC, is a moderate chargeability zone centered at 4250N. Like Anomaly cMB the anomaly appears to be somewhat disjointed suggesting multiple features whereas the inverted response yields a single body associated with a confined zone of reduced resistivity.

finite element method in the Geotomo RES2DINV Algorithm and presented as model sections of inverted Chargeability and Resistivity. The inverted data incorporate topographic data, actual GPS station positions and other properties using a model that is iteratively processed to converge on the actual data. The results removed the effect of directional bias in dip of features on the pseudo sections that results from the direction and position of the current electrode with respect to the potential electrode array. The inverted data results are shown in Figure 45B.

9.93 Induced Polarization Survey Results

The inverted resistivity and chargeability section are shown in Figure 45B with interpretation of anomalous data indicated in 3 places cHA, cMB, and cMC. Anomaly cHA corresponds to Boyes Creek and may reflect the bornite and chalcocite mineralized fracture systems that lie on the east side of the creek below a thin, north dipping limestone layer that is the locus of the creek bed. The anomalies at cMB are of less certain origin. The anomaly at cMC corresponds to the location of the Adam West showing and may be a reflection of the chalcopyrite and bornite in amygdules and small fractures that is notable at that location. The survey appears to have detected mineralization at the two showings and may be worth considering for future exploration.

9.10 Airborne Magnetometer Survey of the Property

Altum contracted Peter E. Walcott & Associates to conduct an airborne magnetometer survey of the full extent of the Property in June 2019. The job was completed on June 14, 2019 and 4 contour maps were delivered including a Total Magnetic Intensity (TMI), First Vertical Derivative (1VD), Tilt Derivative and Analytical Signal.

9.101 Airborne Magnetic Survey Specifications

The airborne magnetic survey was conducted using a bird type system towed on a 65 foot line by an A-Star B2 operated by 49 North Helicopters of Campbell River. The bird unit consists of three main components – C-824 Cesium Magnetometer, an AR3000 Laser Range Finder for determining clearance height, and a Garmin 19x GPS unit for recording the track position line and position of readings. The magnetometer has a sensitivity of up to 0.01 nanotesla ("nT") and sampling rates up to 1000 Hz. On this survey a sampling rate of 10 Hz was employed. The bird was connected to data logging units in the helicopter by a shielded multi-conductor cable attached to the tow line. The helicopter pilot navigated the grid lines using a monitor displaying positional data from a Hemisphere R330 GNSS receiver with a 10 Hz update rate. Magnetometer data was recorded using MagLogPro software. The ground station consisted of two GSM 19 Overhauser magnetometers to measure variations in the total intensity of the earth's magnetic field to an accuracy of plus or minus one nT during the period of the survey. The survey coverage consisted of some 93 east-west orientated flight lines and 4 orthogonal tie lines. The survey was carried out with a mean bird height of approximately 55 m.

9.102 Data Processing and Presentation

The survey data was processed using Geosoft Oasis Montaj software, utilizing base station data to correct for diurnal magnetic drift and then corrected for positioning errors due to instrument delay (lag). The data from the four tie lines was used to level (adjust) the main flight line data after which the data was "gridded" on a 20 meter cell size using Geosoft Bigrid software algorithm. The gridded data was filtered using Geosoft MagMap software module for evaluation and presentation. The magnetic data for the survey is presented as Contours of Total Magnetic Intensity ("TMI"), Contours Calculated First Vertical Derivative ("1VD", and Contours of the Tilt Derivative at a scale of 1:10,000. Results of the TMI and 1VD are presented below for interpretation.

9.103 Interpretation

In general TMI images are negatively affected by increases in clearance height of the sensor above the ground. Within the Property, tall old growth fir trees and steep slopes prevented close profiling compared to open clear cuts and relatively level terrane. This results in over-expression of topographically high bedrock features, which in this case also have known high magnetic susceptibility from direct measurements by Schau (2007, 2008) resulting from the presence of authogenic magnetite in the dominantly basaltic Karmutsen Formation. This effect is partially compensated for interpretive purposes by the first vertical derivative image measured in nT/m which displays the gradient of the magnetic field being measured.

The most prominent features on the TMI image are two magnetic highs, one in the north on the ridge west of the Adam River and one in the south east of the Adam River. A strong linear magnetic low corresponding to the Adam River areas underlain by Quatsino and Parsons

Bay Formation limestone appears to truncate the northern high along a north south line on the TMI. The southern high magnetic zone is juxtaposed against a magnetic low to the west, which also truncates it along a north south line.

Several structural features are interpreted from the TMI and 1VD images in Figures 46 and 47. The most obvious is a prominent north south fault that is aligned with the Adam River and truncating the magnetic highs. On the geological map this fault is probably a structural contact between Karmutsen basaltic flows on the west and the Quatsino Fm limestone on the east. The Karmutsen strata are shallow dipping to the north northeast while the limestone are variously deformed, but dominantly east dipping. The map pattern on the TMI image of this fault suggests about 5 km of dextral offset if it is assumed that the two magnetic highs on the west and east side of the fault were original contiguous. However, this amount of apparent offset can be readily accommodated by perhaps 1000 m of actual down-to-the-east dip slip motion because of the shallow north dip of the Karmutsen volcanic flows. The fault appears to be very straight on both the TMI and the 1VD image and aligned sharply with the east side of the northerly magnetic high and the west side of the southerly magnetic high.

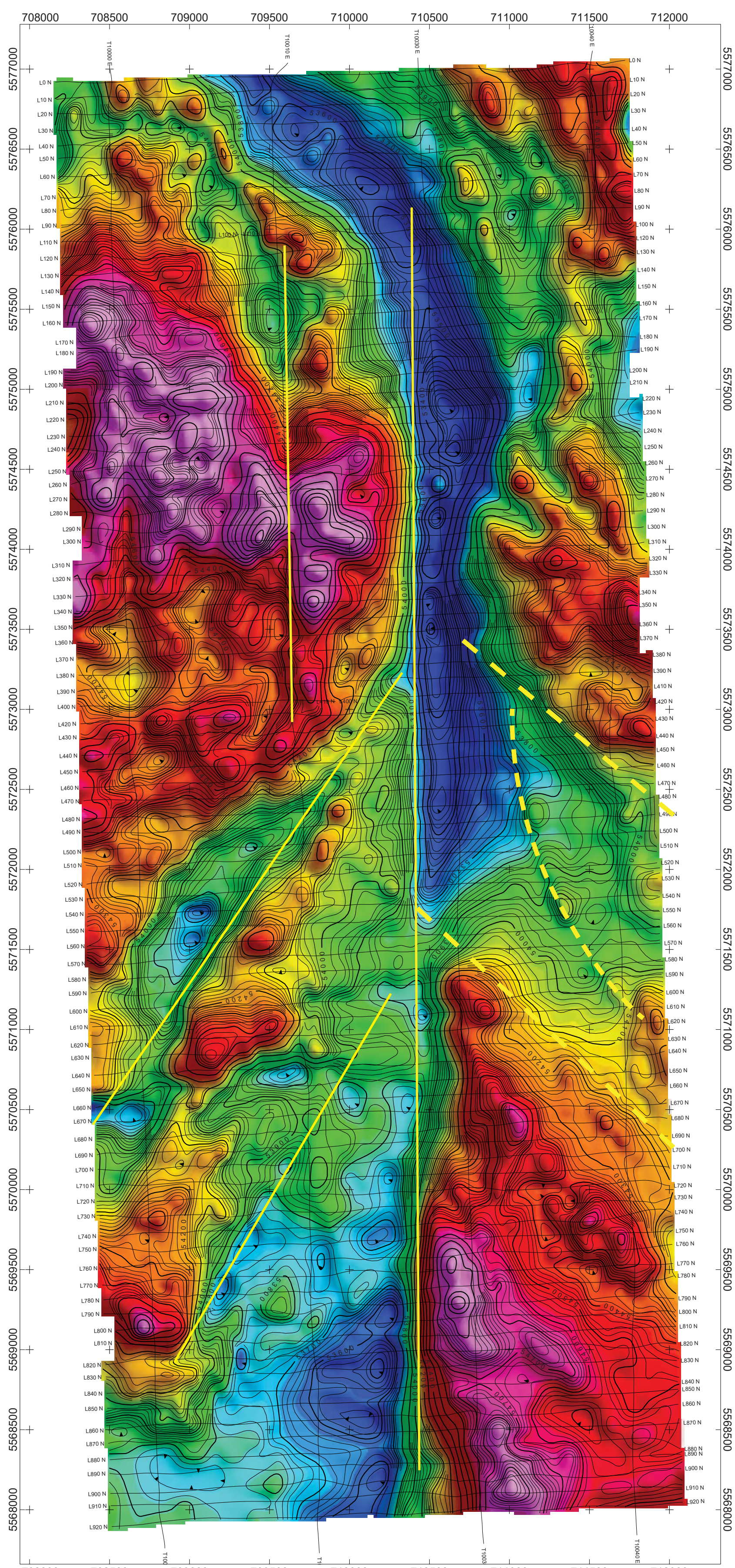
A subdued north south fault is also apparent about 950 meters west of the main fault within the north magnetic high on the TMI image. This feature appears to continue for perhaps 2.5 km.

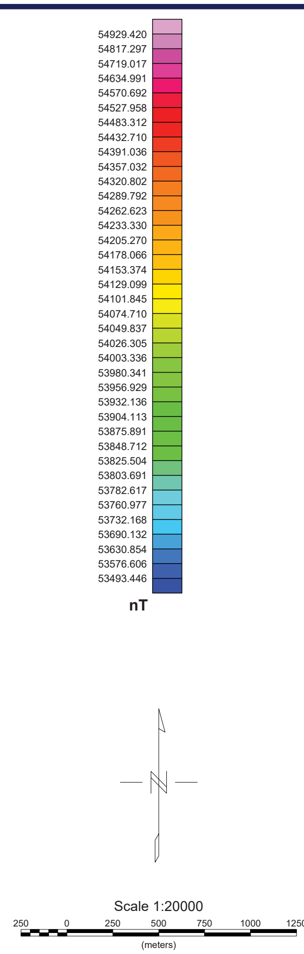
Northeast oriented faults structures are also apparent on the west side of the Adam River Fault on both the TMI and 1VD image. The most prominent of these NE structures corresponds to a deep cleft in the western ridge that intersects the Adam River midway on within the Property, which would have forced an increased clearance height of the sensor, thus enhancing or creating the magnetic low on the TMI image, However, the feature is more prominent on the 1VD image indicating that it is probably real. Similar features are apparent on the 1VD image to the south of this feature.

North-East directed faults were inferred to be present by Leriche (1971) and are shown on a historical compilation map in Figure 11. However, these inferred structures are not corroborated by structures on either the TMI or 1VD images in Figures 46 or 47.

On the east side of the Adam River Fault a large NW-SE magnetic low that is approximately 2 km wide corresponds to outcrops of Quatsino limestone and overlying Parsons Bay Formation. The south contact has been mapped as conformable with the underlying Karmutsen Fm and the northerly and intrusive contact with the Adam River intrusion, a large areas of diorite to granodiorites that has variable magnetic responses. The magnetic low intersects the Adam River Fault in a broad magnetic low that is truncated sharply on the west side at the exact location of the Fault, but the east side continues to the north in the Adam River valley corresponding to the known extent of the Quatsino Formation.

Figure 46: Total Magnetic Intensity from the Airborne Magnetometer Survey.
Solid yellow lines are interpreted faults from the TMI and 1VD image. Long dashed lines are contacts between the sediments of the Quatsino limestone and Karmutsen basalts (south line) and intrusive contact with Island Plutonic Suite (north) from the 1VD and TMI. The short dashed yellow line is an interpreted dyke cutting the limestones most evident on the 1VD. Map is from Peter E. Walcott & Associates Ltd. Interpreted structures by the author, June 2019.





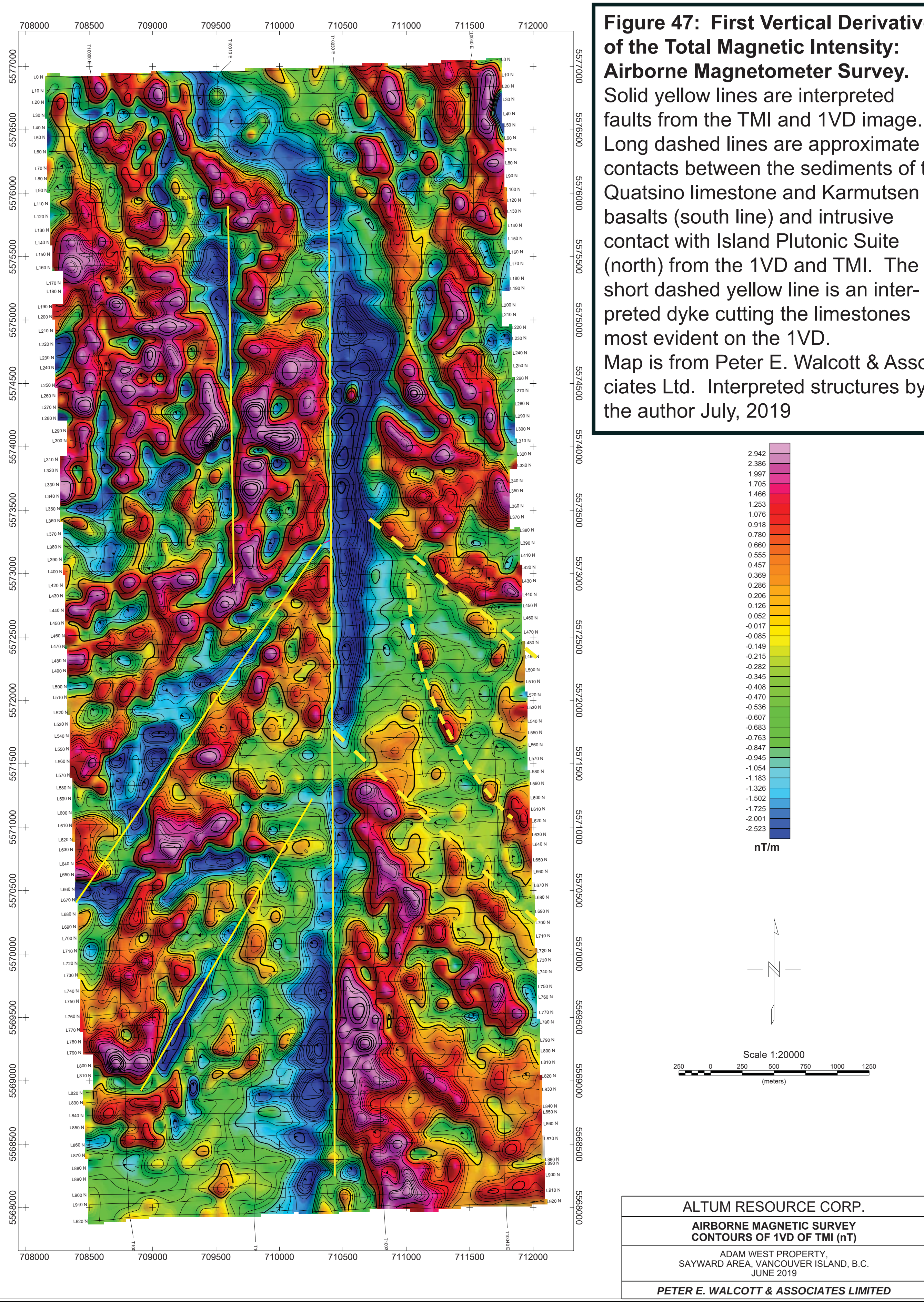
ALTUM RESOURCE CORP.

AIRBORNE MAGNETIC SURVEY
CONTOURS OF TMI (nT)

ADAM WEST PROPERTY,
SAYWARD AREA, VANCOUVER ISLAND, B.C.
JUNE 2019

PETER E. WALCOTT & ASSOCIATES LIMITED

Figure 47: First Vertical Derivative of the Total Magnetic Intensity: Airborne Magnetometer Survey. Solid yellow lines are interpreted faults from the TMI and 1VD image. Long dashed lines are approximate contacts between the sediments of the Quatsino limestone and Karmutsen basalts (south line) and intrusive contact with Island Plutonic Suite (north) from the 1VD and TMI. The short dashed yellow line is an interpreted dyke cutting the limestones most evident on the 1VD. Map is from Peter E. Walcott & Associates Ltd. Interpreted structures by the author July, 2019



10. Drilling

Historical exploration diamond drilling has been undertaken at the Adam West and Lucky Jim occurrences on the Property as early as the 1920s. All of the results of the drilling that are available are disclosed in Item 6 History, above.

11. Sample Preparation, Analyses and Security

11.1 Geochemical Analyses

Altum collected 175 mineralized and significantly altered specimens from several showings previously known or discovered by prospecting and mapping within the Property. Collection sites were clearly marked as observed by the author in his Property visit and recorded by GPS coordinates and field notes that were compiled in a spreadsheet. Samples were collected into 6 ml plastic sample bags with sample number tags and sealed with plastic zip ties. Locations were recorded by the crew using handheld Garmin GPS units and marked on outcrops with flagging tape. During the exploration program Altum's rock samples were stored in locked hotel rooms to prevent public tampering until shipped. Rocks were shipped directly to ALS Canada Ltd ("ALS") on Dollarton Highway in North Vancouver by Altum personnel. Reasonable security measures were taken for the exploration samples, given that none of the results are being relied upon for resource estimates. As a quality control measure, Altum inserted 8 field blanks at 20 sample intervals into the sample stream, consisting of pieces of commercially available marble. Soil samples amounted to 64 samples collected entirely around the Lucky Jim occurrence from B and C horizon soils. The author's field examination included collecting 6 mineralized rocks, 2 from each of 3 main areas (Figure 37). The author delivered his rock samples directly to ALS.

At the ALS laboratory, the samples were catalogued, dried, crushed, split and pulverized using standard rock and soil preparation procedures. The rocks collected by Altum were analysed for 33 elements by ALS protocol ME-ICP61 (Inductively coupled plasma - atomic emission spectroscopy "AES") and for gold by method Au-AA23 using a 30 gram split. The author's field examination rocks were analysed by ALS protocol ME-MS61 (Inductively coupled plasma - mass spectrometric analysis), which provided results for 48 elements at lower detection limits than by ME-ICP61 varying from 1 to 2 orders of magnitude (details in ALS Schedule of Services and Fees). Gold was also analysed by method Au-AA23 from a 30 gram split of the pulp. Both protocols, ME-MS61 and ME-ICP61, involve 4 acid dissolution (H_3ClO_4 -HNO_3 - HCl; dry down and re-dissolution in HCl) and common crushing (70% <2 mm), riffle splitting, and pulverizing (85%< 75µm) specifications.

ALS quality control methods included inserting into the laboratory sample stream a series of appropriate certified rock standards that allow a statistical assessment of accuracy relative to established concentrations of various elements. 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. Furthermore, ALS inserts a series of blanks in the laboratory analytical stream to detect contamination. Elements that returned concentrations above the analytical limit for ME-ICP61 or ME-MS61 were reanalysed using a sequence of quantitative methods for higher concentrations of base and precious metals as required.

The data provided to the author by Altum included sample site coordinates, material descriptions, site coordinates, and ALS data files and certificates of analysis of all analytical results as well as QA/ QC data. The author compiled the analytical and sample coordinate data into ArcGIS and checked coordinates for map plotting. The author's QA/QC review initially involved scanning the laboratory analytical data in tabular form for unusual trends indicative of laboratory cross contamination such as observing high concentrations of an element at the beginning of an analytical series (assuming that samples were run in order) that declined exponentially in successive samples. No unusual trends were observed, which was further confirmed by a lack of significant departure from normal values in the laboratory and marble field blanks.

From reviewing the QA/QC data the author concluded that the analyses were statistically accurate and precise. It was therefore concluded that the data set results were representative of natural element concentrations in rocks.

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.

ALS is a certified commercial lab with ISO 9001:2000 certification and no connection to Altum or the author other than 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). ALS is a subsidiary of ALS Global, which is a leading testing, inspection, certification and verification company head quartered in Brisbane, Australia that services multiple industries globally and employs over 13,000 staff in over 65 countries.

The author acknowledges that reasonable sampling methodology and secure chain-of-custody were adequately maintained during the course of the project. As mentioned above Altum's samples were stored in locked facilities until shipped, and the author's samples were in his custody until directly submitted to ALS personnel. The author's samples were analysed under the author's own account at ALS and results delivered directly to the author. 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 data that is represented in this report.

12. Data Verification

The Technical Report includes data from the following categories:

1. Historical exploration data including field geological descriptions, geochemical data for rocks and soils, geophysical data from an Induced Polarization survey and an airborne magnetometer survey.

2. Current exploration data including 175 rock samples from the Property and 64 soil samples from a small survey area on the Property.

3. Current exploration data on an IP survey from a single 3.5 km line on the Property.

4. Current exploration data from a Property-wide airborne magnetometer survey.

The author reviewed the historical exploration data in assessment reports available in the public domain on the British Columbia Assessment Report Information System and assessed their reliability by their internal consistency with respect to quality controls described and in relation to known geology of the areas surveyed.

The author verified the Altum rock geochemical data by analysis of 6 check samples collected from outcrops at significantly mineralized locations reported by Altum and shown on Figure 37. Two samples were collected from outcrops judged by the Author to be representative of the showings at Lucky Jim, Adam West and Boyes Creek, and these were analysed by the a method with lower detection limits than used by Altum at the same laboratory. Results of the author's check analyses are well within the range of element concentrations obtained in Altum's samples. One sample from Boyes Creek (HW1602) exceeded the highest copper concentrations obtained from 33 rocks collected by Altum from that showing.

The combined check sample and Altum exploration geochemical data was also examined by the author in statistical plots (box plots and correlation diagrams) and variation diagrams for trends and patterns that might highlight both natural variations and unusual inconsistencies in the individual data points. All of the variations and trends appeared to be of natural origin revealing important aspects of the geology. The data were also examined in binary plots of Au vs Ag (Figure 40) and Cu vs Ag (Figure 42 and Figure 48) that show distinct trends indicative of metal ratios in the deposit type. Figure 42 is reproduced here as Figure 48 with an additional line dividing the main trends of Cu:Ag compositions. Exploration samples for Lucky Jim

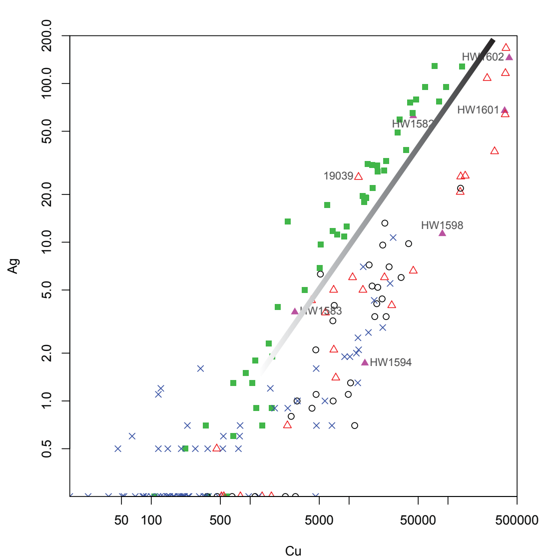


Figure 48: Distinct fields of Cu:Ag in copper-silver binary graph
Fields of Cu and Ag are divided by a line in a logarithmic graph of Cu vs Ag (from Figure 42 above). The authors check samples (pink labelled triangles) from Lucky Jim (green squares above the line) and those from Boyes Creek and Adam West (below) fall in the appropriate fields verifying that samples are representative of the showing.

consitently plotted in a field distinct from samples taken from the Boyes Creek and Adam West showings and the Author's samples fall within the appropriate fields.

Subsequently, the author analysed the data by plotting sample stations in a GIS platform and interpreting spatial geochemical variations in the context of previously mapped geology and new observations by the author. The author verified the location of Altum sample stations observed in the field by comparison with the author's station coordinates. The author also checked the coordinate data set for gross errors in location, which revealed 5 non-critical samples plotting well outside the area. These were found to be caused by simple typographic errors in the coordinate data spreadsheet in two cases, and misclassification of UTM zone 10 coordinates as zone 9 in others. Correction of the data was corroborated by communication with Dr. T.N. Setterfield.

Sample coordinates at the Lucky Jim showing were difficult to establish because the spacing between samples generally was much less than the known error in the individual GPS readings for each, which were abnormally high for a lack of line of sight to satellites. The coordinates listed in the data set were the result of relocating the positions of samples from GPS coordinates to logical sites on the map in Figure 11 (Taylor, 1980) and georeferencing the map to a reasonable approximation. The exact geographic positions of these samples are acknowledged by Altum to have an unknown degree of accuracy, but relative precision with respect to Taylor's map. The author checked the georeferencing of the Taylor (1980) map and numerous carefully taken GPS points and concluded that a more accurate positioning could not be achieved without more sophisticated surveying methods. For the present purposes the author considers the samples are well positioned with respect to geological units in Figures 28 to 30.

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.

Geochemical data, incorporated from previous work, were verified by the same procedures as for the current data, by examining QA/QC information where available and generally reviewing the data sets for unusual non-natural trends indicative of lab contamination. As well, where multiple data sets were available using different analytical procedures than being used in the current exploration programs, elements of material interest were cross checked to discern patterns of under- or over-reporting by the different methods. For older data, prior to the advent of certified commercial labs, the data was verified by the author by comparison with current data.

In the author's opinion the quality of the data collected is wholly adequate for the purposes of early stage exploration of the Adam West 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.

The geophysical data was verified by examining the internal consistency of the maps and sections and reading the logistics and methodology reports accompanying the data. The author also directly communicated with the geophysicist supervising the IP and Magnetometer surveys to inquire about conditions on the surveys, equipment issues, and characteristics such as sensor height.

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 Adam West Property.

14. Mineral Resource Estimates

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

15. Adjacent Properties

There are no immediately adjacent/contiguous properties. Few showings on other properties in the region have similarly elevated gold grades as those observed at Lucky Jim. One possibly example comparable in assay grades is the Flan and related showings on Schoen Creek in a Property owned by Mikkel Schau about 18 km to the southwest. From Minfile records (Minfile No. 92L 396) the Flan is described as *"thin, steep, gold-bearing, vuggy quartz-sulphide veins cutting steeply across a 30 centimeter wide epidote-chlorite, pyrite, sphalerite and chalcopyrite vein in a fault zone cutting a gabbro sill hosted by Paleozoic cherts. Fine grains of electrum are reported to occur with chalcopyrite and are associated with high gold values. Sampling of vuggy quartz veins in 2001 yielded up to 67.8 g/t gold, 25.7 g/t silver and 0.554 % copper (Assessment Report 26793). In 2007, sampling of several large boulders, located near the showing, yielded values up to 135.09 g/t gold, 71.4 g/t silver and 4.53 % copper."*

The description does not indicate a skarn type of mineralization and the author has been unable to verify the Minfile information on the Flan and related showings. The mineralization is hosted by cherts that are part of Doanella Beds of the upper Vancouver Group and intruded by sills consanguinous with the overlying Karmutsen Fm. These showing are not considered indicative of mineralization on the Adam West Property, but are the nearest high grade gold occurrence in Minfile records.

The Kringle and associated properties lie to the NW of the Property on the south side of Highway 19. They are reported to host showings in Karmutsen basalts of bornite, chalcocite and chalcopyrite occupying fractures and amygdules. The current properties associated with the Kringle are residual from former properties that included the current Adam West Property. The author has not been able to verify the information regarding the Kringle and its associated properties. The reader is cautioned that the information regarding the Kringle and its associated properties is not necessarily indicative of the mineralization on the Property.

Report 28747; Schau (2006b); NW of Adam West:

Schau had a claim block NW of the Property that is now staked by Rich River Exploration as the Red Metal Property. Some high grade copper samples were obtained including 21% Cu noted above, at the Linzer showing and he obtained up to 2.7% Cu in other places. No new information is available yet in assessment reports from Rich River Exploration who explored the Red Metal Property in 2018. The author has not been able to verify the information regarding the Red Metal Property. The reader is cautioned that the information regarding the Red Metal Property is not necessarily indicative of the mineralization on the Property.

Report 33012; Schau (2012):

Schau reported magnetic susceptibility measurements, thin section examination and Terraspec® / PIMA® analyses. All work was completed NW of the present claims in the ground now held by Rich River Exploration as the Red Metal Property.

16. Other Relevant Data and Information

There is no additional relevant data or information known to the author that is not disclosed on the Adam West Property.

17. Interpretation and Conclusions

The Adam West Claims are underlain by tholeiitic basalts of the Triassic Karmutsen Formation, stratigraphically overlying limestones of the Quatsino Fm, and carbonaceous sediments of the Jurassic Parson Bay Formation. These rocks were intruded in the Jurassic by Island Plutonic Suite calc-alkaline plutons that occupy much of the northeastern part of the Property. The Cretaceous and early Tertiary structural compression and extension resulted in block faulting that disrupted strata throughout the region exemplified by a significant fault that runs along the straight north-south reach of the Adam River through the center of the Property. The fault appears as a distinct straight, north trending line on the TMI and 1VD contour maps of the magnetometer survey that truncates the two broad east-west trending magnetic highs underlain by the top of the Karmutsen Formation. The magnetic highs appear offset dextrally and this corresponds to the offset of the contact between the Karmutsen Formation and the overlying Quatsino Limestone. In fact the offset pattern is probably caused by east side down motion of the fault offsetting the fault-plane trace of the shallow north dipping Karmutsen-Quatsino contact. At the present erosion level, the intersection point of this contact with the line of the fault is offset along the fault by about 5 km, but this can be accommodated by about 800 m of dip-slip motion.

The Lucky Jim prospect is located along the southern section of the fault where both sides of the fault are Karmutsen basalts and thus below the Karmutsen-Quatsino contact. However, there are limestone units of stratigraphic position at Lucky Jim that appear to be block faulted. The limestone is intruded by a north-trending intermediate porphyritic dyke that is also of unknown age. If the limestones are part of the Quatsino Formation it requires the fault to be a graben zone into which a block of Quatsino Formation has dropped. Alternatively the limestone could be an interflow lens within the Karmutsen Formation such as that which occurs at the Adam West showings. The dyke strikes parallel to the fault zone cutting the limestone unit and resulting in skarn type mineralization. The age and magmatic affiliation of the dyke are not known. If it is an apophysis of the Adam River Island Plutonic Suite pluton in the NE of the Property then it intruded the limestones prior to the Tertiary extensional fault along which it appears. If contemporaneous with Tertiary faulting then its magmatic affiliation is unknown, but might be related to the Eocene Mount Washington suite of intrusives. Elsewhere this suite of intrusions is commonly associated with porphyry and epithermal types of mineralization including near the summit of Mount Washington. Work completed by Altum and previous explorers has already indicated multiple mineralized skarn horizons at Lucky Jim and exploration of these and additional horizons will be important economically.

Mineralization at Boyes Creek and at Adam West is related to late stage prehnite-pumpellyite metamorphism of the volcanic pile that resulted in remobilization of copper and deposition as assemblages of bornite-chalcocite and chalcopyrite in subaerially deposited basalts at higher structural levels of the volcanic pile. The interflow limestone lens Adam West may have acted as a chemical barrier, or precipitation screen that resulted in the characteristic concentration of copper mineralization in amygdule and brittle fractures in the basalts below the limestone. At Boyes Creek, previous work has identified a limestone lens in the fault zone at the bottom of the creek canyon. Some of the lenses at Boyes Creek appear to be hosted by basaltic hyaloclastite that is also indicative of subsidence below sea level. Mineralization has been mainly located in the dip-slope on the east side of the creek of the coextensive fault, but the extent of mineralization down dip to the west and laterally up and down the creek is unknown. At the Adam West showings the limestone is an indicator of a hiatus in subaerial deposition of lavas flows and subsidence below sea level with resumption of volcanism in a shallow submarine setting indicated by the pillowed flows above the limestone. The hiatus may have resulted in significant weathering and fracturing of the flow tops which may have improved redox conditions in the rock to be more receptive to depositing copper minerals.

The risks associated with exploration of the prospects on the Adam West Property are inherent in the deposit types that appear be present. The Lucky Jim is clearly a metasomatic or skarn type occurrence and skarns are typically discontinuous. Previous exploration drilling at Lucky Jim was relatively unsuccessful in intersecting what appears to be a simple steeply dipping planar mineralized body. However, the high-grade gold-rich polymetallic Lucky Jim mineralization was only tested by drilling to shallow levels in what other workers considered were poorly-conceived drill holes. Hence, historical exploration work may have demonstrated the consequences of a lack of preparatory work.

The risk associated with the interpreted metamorphically remobilized copper deposit type at Boyes Creek and Adam West is that while there is a good theoretical basis for copper mobilization and redeposition in higher subaerial parts of the basalt pile, there is no clear concentrating trap to create an economic ore deposit. Other bornite-chalcocite-chalcopyrite deposits in British Columbia with geological similarities have not proven economically viable although, some such as Sustut, in northern British Columbia have calculated resources. In spite of this risk, copper grades at Boyes Creek are spectacularly high in large samples.

18. Recommendations

18.1 Exploration Priorities

Further exploration work is warranted to fully delineate the geology of the main showings on the Adam West Property and the author recommends as follows:

1. The Lucky Jim occurrence should be mapped accurately utilizing a high standard of surveying including possible use of drones flown along the river to produce a base map. The various host rocks should be studied to determine the source and mechanism of mineralization, which appears to be related to the felsic dyke intruding limestone. The skarn should be evaluated by lithogeochemistry to determine the affinity of the igneous dykes in order to identify them in other areas.

To evaluate the structure of the Lucky Jim showing as a narrow fault bounded wedge of limestone bordered by a dip slip fault against basalt on both the east, will require precise mapping of the river valley. However, the valley at the site of Lucky Jim is a fairly tight canyon which makes ordinary GPS measurements difficult because valley walls and trees block the line of sight to GPS satellite. Precise geological mapping of the river valley and determining exact locations of the marked samples sites is a prerequisite for generating a structural model. For example, previous diamond drill holes are suspected of being oriented incorrectly on the basis of incorrect assumptions about the dip and extent of the skarn zones and because of topographic compromises that forced poor drill positions.

It is recommended that at least a 300 m stretch of the river valley be mapped. Options for a precise 3-D map base should be investigated and the following should be considered: 1. a drone photo survey that can produce a detailed map possibly with a photographic base; 2. a standard ground based laser survey possibly with photo draping on 3-D surfaces to aid in mapping; or 3. use of a highly precise differential GPS unit to relocate sample sites. However, obtaining a precise map base for further geological mapping is the recommended priority. With this in hand a 3-dimensional model of the showing, or at least several interpreted structural cross sections, should be created and the sampling data base augmented. Understanding the type of skarn mineralization could be improved by lithogeochemical study of the porphyry dyke and it altered phases, including the hornfels and the sulphide enriched skarn. Whole rock analyses with complete characterization including REEs on a small suite of skarn and intrusive rocks could reveal the origin of the ambiguous altered phases to an experienced geologist.

Further delineation of the mineralized skarn might be aided by ground based induced polarization or electromagnetic geophysical surveys at the site. This may be difficult because the known mineralization runs parallel to the steep river canyon making it very difficult to runs survey lines across strike.

2. Mineralization at Boyes Creek should be mapped using similar precise survey methods such as those suggested at Lucky Jim, but should consider utilizing the highly detailed map of the creek drawn by Sharp (1969). This might be accomplished by surveying a series of precise points from the notable features on the Sharp (1969) map that can also be identified on the ground. Accurate determination of the coordinates of the points may then allow relatively precise rubber-sheet georeferencing of the map and subsequent checking a digitization. A thorough structural interpretation of the Boyes Creek fault and fracture system should be completed to determine if the mineralization is concentrated below a fault or if some chemical trap such as a limestone lens is present in the apparent structure.

3. The Induced Polarization geophysical survey that was conducted across the Boyes Creek and Adam West showings appeared to indicate mineralization at both showings. Expansion of the survey to cover an area around both showings might be used to show continuity of the mineralization to the north below the limestone contact at Adam West and the fault plane at Boyes Creek.

4. As a result of the success of the April 2019 prospecting program in finding numerous, and widespread high grade samples at the three main showings, Lucky Jim, Boyes Creek and Adam West, another program of sampling would be beneficial.

18.2 Recommended Program and Budget

A two phase program is recommended for the Adam West Property. Drilling is warranted at Lucky Jim, but only in a second phase program after sufficient structural details are established to guide drilling. Drilling may be warranted at Boyes Creek and Adam West, but this step is contingent on identifying a target amongst the many dispersed, but in some places high grade showings. IP surveys appear to be effective at detecting mineralization at the Adam West and Boyes Creek showings. Effectively, two different deposit types are being explored at the Lucky Jim gold-rich skarn and the combined Boyes Creek - Adam West disseminated copper in basalts showings, respectively.

However, some common exploration techniques are applicable especially for Boyes Creek and Lucky Jim. Precision surveying methods are required to create base maps for geological mapping at Boyes Creek and Lucky Jim. Concurrently, IP surveys could be run at Boyes Creek and the same contractor could run some test surveys at Lucky Jim. The terrane at both showings is a potential obstacle to continuous IP lines transverse to structure, but more of a problem at Lucky Jim where the river also need to be crossed. An initial IP test line at Lucky Jim might be run along the logging road parallel to the structure and using tight dipole array spacing such as "a"= 25 m measured at n= 1 to 6 separations, which would image to about 150 m depth. A tighter "a" spacing may be warranted and if run along the road with good GPS reception inversion of the data would compensate for curvature of the road facilitating multiple test passes. At Boyes Creek it may be no easier to do IP lines across structure than parallel to it, but it is not yet clear if the mineralized zone is planar, dipping with the top of the flows or if it has any vertical component. An IP survey running several test lines leading to in-fill lines might amount to about 10 line km and take perhaps 10 days to run with a 5 man crew at a cost of perhaps $42,000 for the contract plus accommodation.

Surveys by one of the methods discussed above should be run concurrently or before the IP survey and would be estimated to take 3 days at an approximate cumulative cost of $6,000 including digital and paper base maps. With a surveyed map and ground referencing system in place, additional prospecting and precise geological mapping should be undertaken at all the showings. Mapping and prospecting might take two weeks for a geologist and assistant. Involvement in reporting, supervising IP and land survey might add another 10 days for the geological crew. Analyses of 100 rock samples with a budget about $48 each amounts to $4800. Gold analyses are critical at the Lucky Jim showing and should be run by fire assay such as ALS method Au-AA23. A Boyes Creek and Adam West only a few samples have returned gold values of interest and assaying of this type of mineralized rock might dispense with gold, but focus on more precise lower detection limit ICP by mass spectrometric methods rather than AES in order to obtain other associated elements such as tellurium, which may be useful pathfinders.

Exploration by soil sampling has proven less effective in the area as indicated by the lack of responses at Lucky Jim, but the present soil geochemistry was limited by the use of ME-ICP61 rather than lower limits methods such as ME-MS41 which would include a number of potential pathfinder elements as well as semi-quantitative gold. Small orientation surveys should be contemplated at Boyes Creek and Lucky Jim using narrow sample spacings (15 m) and attention to obtaining C horizon soils to avoid disturbed B horizons. At Lucky Jim samples should be collected along a few contours parallel to the river. At Boyes Creek, terrain is an additional challenge and samples should be collected at random sites that have good soils and can be located on the survey plans accurately. The soil sample assays should be examined for potential pathfinder elements that may be more mobile than gold and augment exploration at Lucky Jim. The up-dip (to the south) extent of copper mineralization at Boyes Creek is the target of the soil surveys as well as the IP survey. About 200 soil samples, at an average cost of $43 each, should be provided for in the budget.

A budget table is presented below showing a cumulative cost for Phase 1 of $113,505.00

ITEM	days	rate	Cost
Geologist	25	$ 1,000.00	$ 25,000.00
Assistant/prospector	25	$ 420.00	$ 10,500.00
Accommodation	16	$ 250.00	$ 4,000.00
IP & mag Survey	10	$ 4,130.00	$ 41,300.00
Mob-Demob Geophysics	2	$ 600.00	$ 1,200.00
Camp/accommodation IP	10	$ 200.00	$ 2,000.00
transport crew	2	$ 2,050.00	$ 4,100.00
Geochemistry: soils	200	$ 42.95	$ 8,590.00
Geochemistry: rocks	100	$ 48.15	$ 4,815.00
Surveying	3	$ 2,000.00	$ 6,000.00
Administration	6	$ 1,000.00	$ 6,000.00
TOTAL			**$ 113,505.00**

Table 8: Budget Table for Phase 1
IP survey budget is based on a 5 man crew covering 6 to 10 line km.

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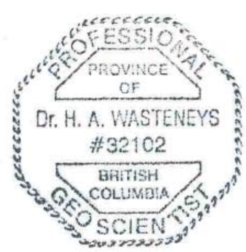
20. Certificate of Qualified Person

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 Adam West Property, Northern Vancouver Island, British Columbia (the “Technical Report”) authored by me as of the effective date of July 25, 2019.

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 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 Adam West Property includes exploration and research in the Karmutsen Group volcanics of Vancouver Island near Port Alberni, Ucluelet, Port Alice and Buttle Lake, and by virtue of being resident for 16 years on Upper Campbell Lake where type sections of the Karmutsen Group have been defined. I have experience in volcanogenic massive sulphide deposits at Myra Falls (2004-2005), Granduc (2006) and Palmer (Haines AK, 2006 to 2009), in magmatic hydrothermal deposits at Brynnor (iron skarn 2008-2009 Vancouver Island), porphyry copper deposits (Galore Creek, 2011), 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.
8. I have no beneficial interest in Altum Resource 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 Adam West Property.
9. I have not had prior involvement with the Adam West 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 Altum Resource Corp. field data
11. I visited the Adam West Property on May 13, 2019 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.

July 25, 2019



21. Consent Form

To: British Columbia Securities Commission

Alberta Securities Commission

Canadian Securities Exchange

Dear Sirs/Mesdames:

Re: Altum Resource Corp. (the “Issuer”)

I, Hardolph Wasteneys, Ph.D., P.Geo, do hereby consent to the public filing of the technical report entitled “NI 43-101 Technical Report on the Adam West Property, Northern Vancouver Island, British Columbia” and dated effective July 25, 2019 (the “Technical Report”) by the “Issuer” with the securities regulatory authorities referred to above. I do further hereby consent to the use of extracts from, or a summary of, the Technical Report, in the preliminary prospectus of the Issuer dated December 12, 2019 (the “Preliminary Prospectus”) and to being named in the Preliminary Prospectus.

I confirm that I have read the Preliminary Prospectus and that the disclosure in the Preliminary Prospectus fairly and accurately represents the information in the Technical Report that supports the disclosure in the Preliminary Prospectus.

I have no reason to believe that there are any misrepresentations in the information contained in the Preliminary Prospectus that is derived from the Technical Report or that are within my knowledge as a result of the services performed by me in connection with the Technical Report.

Hardolph Wasteneys, Ph.D. P.Geo.

December 12, 2019

Date and Signature Page

Effective Date of this Report: July 25, 2019
Last Revision Date: July 25, 2019

Date of Signing: July 25, 2019

Hardolph Wasteneys

Hardolph Wasteneys Ph.D. P.Geo.