

**NI 43-101 TECHNICAL REPORT**

**On the**

**Vent Copper Property  
Alberni Mining Division, British Columbia, Canada  
NTS Map 092F03W**

**Prepared for:**

**VITAL BATTERY METALS INC.  
6<sup>th</sup> Floor – 905 West Pender Street  
Vancouver, British Columbia  
V6C 1L6 Canada**

**Prepared by:**

**Muzaffer Sultan, Ph.D., P.Geo.  
Consulting Geologist  
9059 153 St, Surrey, BC  
V3R 0E5 Canada**

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## 1.0 SUMMARY

The Author was retained by Vital Battery Metals Inc. (“Vital” or the “Company”) to prepare an independent Technical Report on the Vent Copper Property (the “Property”). The report is intended to provide a summary of material scientific and technical information concerning the Property and, in so doing, fulfill the Standards of Disclosure for Mineral Projects according to Canadian National Instrument 43-101 (“NI 43-101”). This report is also being prepared to support an Initial Public Offering and listing of the Company’s shares on the Canadian Securities Exchange (CSE).

The Property consists of two contiguous mining claims (1080446, 1082498) covering approximately 1,561.12 hectares area on crown land in Alberni Mining Division, British Columbia, Canada. The Property is located in southwest British Columbia, approximately 51 kilometer west of city Port Alberni. It can be accessed by following Pacific Rim Highway (HWY/ BC-4 W) from Port Alberni which crosses part of the Property. The Marion Creek Forestry Road (9229 section 01) connects with Pacific Rim Highway at kilometer 53 and leads to the Property. The forestry road traverses through the centre of the Property in a northwest-southeasterly direction and covers a good portion of the Property. Vital Battery Metals Inc. holds an option over the Property pursuant to a property purchase option agreement with Geomap Exploration Inc. dated December 14, 2021 (the “Option Agreement”), whereby the Company can earn a 100% interest in the Property by making a cash payment of \$165,000, incurring \$360,000 in exploration expenditures and issuing 800,000 shares.

Geologically, the Vancouver Island belong to the Insular tectonic belt, the western most major tectonic subdivision of the Canadian Cordillera. The area is underlain by two major groups of eugeosynclinal, volcanic and sedimentary rocks that are respectively upper Paleozoic and lower Mesozoic in age. Paleozoic and Jurassic volcanic-plutonic complexes are separated by Upper Triassic basalt. The Paleozoic and Jurassic complexes are unconformably overlain by two major groups of clastic sediments laid down in shallow marine or continental basins, one of late Mesozoic and one of Tertiary age. Granitic rocks, formed during at least two separate plutonic events in Middle to Late Jurassic and in Tertiary time, outcrop throughout the island. Regionally, the Vancouver Island comprises Paleozoic sequence of marine metasedimentary and metavolcanic rocks, Mesozoic strata of marine basalt, limestone and mixed volcanic and sedimentary rocks, and Cretaceous-Tertiary rocks, mainly terrestrial sandstone, shale and conglomerate of Nanaimo Group. The stratigraphic successions have been intruded by Tertiary (35-59 Ma) granitic and porphyritic stocks and sills, while the older formations have been intruded by the Jurassic (164 Ma) Island intrusions as well as the Tertiary stocks.

Regional Structural geology of Vancouver Island is dominated by steep faults and much of this faulting took place in Tertiary time. However, the deformation of the area began before Late Cretaceous, and possibly before Mesozoic time. This deformation developed north-northwesterly trending uplifts, partly fault-bounded. The second phase of folding occurred mainly during the mid-Mesozoic orogeny and accompanying plutonism

Locally, the claims are underlain by rocks of Karmutsen Formation and Island intrusions. Regionally, the Karmutsen Formation consist of Pillow-basalt and pillow-breccia, basaltic lava and minor tuff and limestone of Upper Triassic and older to Lower Jurassic in age. However, the volcanic rocks in the Property are generally of andesitic composition which are grey green to dark green in color, generally very fine grained, occasionally medium grained, massive, commonly uniform in appearance, altered to chlorite and epidote in places, cut by veins and veinlets of milky quartz, highly pyritized and rust stained at many locations. Disseminated and stringers of pyrite are occasionally up to 15-20%. Amygdaloidal basalt, very few chalcopyrite occurrences, and altered mafic and flow rocks are reported from some areas. The Island intrusions include Quartz- Monzonite, Hornblende-Monzonite, Quartz-Diorite and Diorite, although, quartz-monzonite and quartz-diorite are the dominant rock types.

The dominant structural feature of the area is steep faulting. These faults generally trend northwesterly with subsidiary faults striking north to north-easterly. Bedding attitudes in the Karmutsen Formation in the vicinity of the Property suggest that the area is part of an anticlinal structure with roughly a north-south to northeast-southwest trend on the western limb. Three mineral showings, mainly copper on the Property are in very early stage of exploration.

The history of exploration on the Property dates to early 1960's when anomalous copper values were discovered in stream sediments. The Exploration of the claim area continued intermittently since then and numerous mineral occurrences on the Property and the neighboring areas were discovered. Geological Survey of Canada published a map in 1965 covering the Property which showed a number of igneous bodies intruding Triassic Volcanics in the claim area. With the map as a guide, W.G. Stevenson conducted a silt sampling program in the area and the assay results from sixteen samples varied from 45 to 578 ppm copper and from 0.5 to 20 ppm molybdenum. The area was staked by Stevenson in 1968. During 1969 and 1970 geological, geochemical and geophysical programs were conducted. The study concluded that the area is mainly underlain by volcanic rocks with intrusions in places, anomalous copper and molybdenum concentration occur in the soil samples and increased magnetic intensities were noted in places. In 1972, three diamond drill holes were completed in order to test an area of abundant pyrite mineralization. Only minor chalcopyrite was encountered. The exploration activities generally halted in the area after 1975.

During the period from June 7 to August 15, 2021, Geomap Exploration Inc. completed an exploration work program on the Property. The work included geological mapping, prospecting, sampling, and ground geophysical surveying (magnetic and VLF). A total of 124 grab (include six samples for data verification) and chip rock samples were collected from rock outcrops by following various logging roads and other accessible areas on the Property. Out of 124 samples collected, 11 samples were field duplicates. The focus of the prospecting / mapping fieldwork was to carry out detailed sampling of mainly Karmutsen Formation and island intrusions. The sampling program was designed to represent various prospective geological units and rock formations.

The analytical results of 124 samples indicate that copper is the main target element for further exploration. No significant values of gold, manganese, molybdenite, vanadium, zinc and nickel were found in these samples.

- Copper values are in the range of 4.9 ppm to 1.25%. Out of 124 samples, one sample contain 1.25%, 21 samples range from 1,000 ppm-4,750 ppm and 79 samples are from 116 ppm- 1,000 ppm copper. The highest value (1.25 %) sample (# 102879) was collected in the vicinity of the Cu Ken showing. Generally, higher values are in the central part of the claim 1080446.
- Silver values are in the range of 0.01 parts per million (ppm) to 7.78 ppm, 13 samples are over one ppm, 18 samples have values between 0.5 ppm to one ppm, and 25 samples are below 0.1 ppm silver. Values over 1 ppm are generally from the southern portion of the claim 1080446. Highest value (7.78 ppm) is from a sample near the Ken Cu showing.
- Forty-two samples were chosen for gold assay. The gold mineralization in the study area appears very low. Au values in 26 samples are <0.01 grams per tonne (g/t) and 16 samples range from 0.01-0. 03 g/t.
- Lead (Pb) values are in the range of 0.8 ppm to 51.2 ppm, only six samples have values higher than 20 ppm. Zinc (Zn) ranges from 9ppm-432ppm, only 32 samples are over 100 ppm. Manganese (Mn) is from 56 ppm to 2540 ppm, only 10 samples are above 2,000 ppm. Molybdenum is 0.54 ppm-984 ppm, only 9 samples exceed 100 ppm. Nickel (Ni) is from 1.7 ppm to 166 ppm, only 20 samples are above 100 ppm. Vanadium (V) ranges from 9.0 ppm to 429 ppm, 54 samples are above 300 ppm. Chromium (Cr) varies from 37.0 ppm to 346 ppm, only 28 samples are above 200 ppm.

The 2021 field season included a ground geophysical survey program comprised of a Very Low Frequency (VLF) and magnetic (MAG) survey. A total of 633 measurements were recorded along a north-south profile about 10-12m station intervals on approximately 8,075m of traverse line with a GEM GSM-19 portable magnetometer and VLF-EM system. All MAG and VLF-EM intensities suggest the presence of shallow and deep features generally vertical dips. The distribution of MAG values indicate that high susceptibility anomalies are likely associated with Pyrrhotite bearing Tertiary dacite porphyry-breccia intrusive rocks and mafic dykes. Geophysical surveys indicate that the lowest resistivities on all four line- segments can be approximately correlated with the quartz monzonite porphyry, the shear zones, or areas of mixed quartz monzonite porphyry and quartz porphyry. Results obtained from MAG/VLF lines in the survey areas indicate several target areas which are zones that express high MAG and relatively strong VLF responses. These target areas are zones or features of interest with highest potential for further investigations.

The author visited the Property from August 04 to August 05, 2021, to verify historical and current exploration work, to examine mineralized outcrops, to collect necessary geological data, to take

infrastructure, and other technical observations and to assess the potential of the Property for discovery of copper and other sulphide mineralization.

The data presented in this report is based on published assessment reports available from Vital, the British Columbia Ministry of Mines, Minfile data, the Geological Survey of Canada, and the Geological Survey of BC. A part of the data was collected by the author during the Property visit. All the consulted data sources are deemed reliable. The data collected during present study is considered sufficient to provide an opinion about the merit of the Property as a viable exploration target.

Based on its past exploration history, favourable geological and tectonic setting, presence of surface copper mineralization, and the results of present study, it is concluded that the Property is a property of merit and possesses a good potential for discovery of copper, and other sulphide mineralization. Good road access together with availability of exploration and mining services in the vicinity makes it a worthy mineral exploration target. 2021 exploration work and other historical exploration data collected by previous operators on the Property provides the basis for a follow-up work program.

### **Recommendations**

In the qualified person's opinion, the Vent Copper Property has potential for further discovery of VMS and porphyry style mineralization for copper and other metals. The character of the property is sufficient to merit a follow-up work program. This can be accomplished through a two-phase exploration and development program, where each phase is contingent upon the results of the previous phase.

#### ***Phase 1 – Prospecting, Mapping, Sampling and Geophysical Surveys***

The following target areas were identified during 2021 exploration work program which need a follow up prospecting, mapping, sampling and geophysical surveying work on the Property.

- i. The area around Vent-Ken showing has indicated good values of copper and silver during 2021 and historical sampling work and needs a follow up detailed sampling as well as mapping to establish a working deposit model for the area.
- ii. The MAG and VLF-EM survey suggest the presence of shallow and deep features generally vertical dips. The distribution of MAG values indicate that high susceptibility anomalies are likely associated with pyrrhotite bearing Tertiary dacite porphyry-breccia intrusive rocks and mafic dykes. Sulphide mineralization, mostly pyrite with lesser chalcopyrite is characterized by moderate to high MAG/VLF responses. Shear zones or fault zones are appeared as features with high apparent conductivity and medium to low magnetic responses. Further ground truthing of the Magnetic and VLF anomalies is recommended to be followed up on to determine if those anomalies are related to mineralization, fault zones, structural contacts, or overburden response.

- iii. Geological mapping and comprehensive soil sampling along with a soil chemistry analysis are suggested to be conducted in areas where the magnetic HIGHS suggest near surface features and in areas where the high VLF responses corroborate well with the magnetic HIGHS. Those surveys may provide more valuable insights to advancing this exploration program. Further expansion of the geophysical survey grids is also recommended.

Total estimated cost of Phase 1 work is \$140,278 and it will take 12-16 weeks to complete this work program.

### ***Phase 2 – Drilling***

Based on the results of Phase 1 program, a drilling program is recommended to be executed on the targets if identified for further work on the Property. Scope of work, location of drill holes and budget for Phase 2 will be prepared after reviewing the results of Phase 1 program.

## 2.0 INTRODUCTION

### 2.1 Purpose of the Report

Muzaffer Sultan, Ph.D., P.Geo., (“the Author”) was retained Vital Battery Metals Inc. (“Vital” or the “Company”) to prepare an independent Technical Report on the Vent Copper Property (the “Property”). The report is intended to provide a summary of material scientific and technical information concerning the Property and, in so doing, fulfill the Standards of Disclosure for Mineral Projects according to Canadian National Instrument 43-101 (“NI 43-101”). This report is also being prepared to support an Initial Public Offering and listing of the Company’s shares on the Canadian Securities Exchange (CSE).

### 2.2 Sources of Information

The present report is based on published assessment work reports and data available from the Ministry of Energy, Mines & Petroleum Resources, *British Columbia* (<https://minfile.gov.bc.ca/>), ([https://www.mtonline.gov.bc.ca/mtov/map/mto/cwm.jsp?site=mem\\_mto\\_min-view-title](https://www.mtonline.gov.bc.ca/mtov/map/mto/cwm.jsp?site=mem_mto_min-view-title)), the *British Columbia Geological Survey* (BCGS), the Geological Survey of Canada (“GSC”), various researchers, websites, results of 2021 exploration work program and personal observations. All consulted sources are listed in the References section. The sources of the maps are noted on the figures.

The author was retained to complete this report in compliance with National Instrument 43-101 of the Canadian Securities Administrators (“NI 43-101”) and the guidelines in Form 43-101 F1. In accordance with the NI 43-101 guidelines, the author visited the Property from August 04 to August 05, 2021.

This technical report is based on the following sources of information:

- Information available to the author at the time of preparation of this report.
- Assumptions, conditions, and qualifications as set forth in this report.
- Data, reports, and other information supplied by Geomap Exploration Inc., Vital Battery Metals Inc., and other third-party sources; and,
- Fieldwork on the Vent Copper Property.

The scope of Property inspection was to verify historical and current exploration work, to take geological, infrastructure, and other technical observations on the Property and assess the potential of the Property for discovery of copper, silver, and other sulphide mineralization. The geological work performed was to take surface grab samples and visit reported approachable historical and current exploration work areas.

The author has also reviewed the land tenure on the <https://www.mtonline.gov.bc.ca/mtov/searchTenures.do> Database. The author reserves the

right but will not be obliged to revise the report and conclusions if additional information becomes known after the date of this report.

### 3.0 RELIANCE ON OTHER EXPERTS

In respect of ownership information relating to the Property set out in Item 1.0 (Summary) and Table 1: List of Property Claims under Item 4.0 (Property Description and Location), the author has reviewed and relied on the Option Agreement and information provided by Vital, which to the author's knowledge is correct.

A limited search of tenure data on the British Columbia government's Mining Title Management System website (<https://www.mtonline.gov.bc.ca/mtov/searchTenures.do>) on December 20, 2021, confirms the data supplied by the Company. However, the limited research by the author does not constitute a legal opinion as to the ownership status of the Vent Copper Property.

### 4.0 PROPERTY DESCRIPTION AND LOCATION

The Vent Copper Property is situated on the west coast of Vancouver Island (Figure 1), approximately 51 km to the west of the town of Port Alberni, British Columbia, Canada. The Property consists of two contiguous Mineral Claims covering approximately 1,561.12 hectares land located in the Alberni Mining Division of British Columbia (Fig-2 and 3, Table-1). The Property Mineral Claims were staked using the British Columbia Mineral Titles Online computer Internet system. The claims were searched by the author using the same system. With the British Columbia mineral claim staking system there can be no internal fractions or open ground. The centre of the property is located approximately at 329578E and 5456017N. The property extends from 327540 to 331440 E and 5452253 to and 5458860 N in zone 10 on NTS map sheet 092F03W and BCGS map 092F024.

The Property is currently owned 100% by Geomap Exploration Inc. (BC MTO Client #288022). The author undertook a search of the tenure data on the British Columbia government's Mineral Titles Online (MTO) website which confirms the geospatial locations of the claims boundaries title information provided by Geomap Exploration. There are no historical Mineral Resource and Mineral Reserve estimates given.

The [Mineral Tenure Act Regulation](#) in British Columbia describe registering exploration and development for a mineral claim. The value of exploration and development required to maintain a mineral claim for one year is provided below:

#### Mineral Claim - Work Requirement:

- \$5 per hectare for anniversary years 1 and 2.
- \$10 per hectare for anniversary years 3 and 4.
- \$15 per hectare for anniversary years 5 and 6; and



- \$20 per hectare for subsequent anniversary years

The other option is payment in lieu of work which is double the amount mentioned in the above schedule. The claims are good until December 31, 2026 (Table 1). Mineral rights in British Columbia do not include surface rights. The surface rights on the Property are held by the Crown and a “Notice of Work and Reclamation Program” permit is required for drilling, trenching, setting up a camp and other intrusive work. There are no known environmental liabilities and no permits have been applied for or acquired for the Property.

Claim data is summarized in the Table 1, while a map showing the Property and claims is presented in Figures 1, 2, and 3.

**Table 1: Claim Data**

Title Number	Claim Name	Owner	Title Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
1080446	Vent CU 1	288022 (GEOMAP)(100%)	MCX	092F	2021/JAN/06	2026/DEC/31	ACTIVE	590.50
1082498	Vent CU 2	288022 (GEOMAP)(100%)	MCX	092F	2021/MAY/07	2026/DEC/31	ACTIVE	970.62
<b>Total Area Hectares</b>								<b>1,561.12</b>

Vital Battery Metals Inc. holds an option to acquire the Property pursuant to a property purchase option agreement dated December 14, 2021 (“Option Effective Date”), whereby the Company can earn 100% interest in the Property by making a cash payment of \$165,000, incurring \$360,000 in exploration expenditures and issuing 800,000 shares, all in accordance with the following schedule:

- (a) paying Optionor an aggregate of \$165,000 in cash as follows:
  - (i) \$50,000 on or before the date that is 10 (ten) calendar days after the Option Effective Date;
  - (ii) \$35,000 on or before eight months of the Option Effective Date, or before the date that is 10 (ten) calendar days after the date that the Company is publicly listed on the Exchange (the “**Listing Date**”) whichever is earlier;
  - (iii) \$30,000 on or before the date that is one (1) calendar year after the Listing Date; and
  - (iv) \$50,000 on or before the date that is two (2) calendar years after the Listing Date;
- (b) issuing Optionor an aggregate 800,000 Shares as follows:
  - (i) 250,000 Shares on or before the date that is 10 (ten) calendar days after the Listing Date;
  - (ii) 250,000 Shares on or before the date that is one (1) calendar year after the Listing Date; and

- (iii) 300,000 Shares on or before the date that is two (2) calendar years after the Listing Date;
- (c) incurring aggregate Expenditures of \$360,000 as follows:
  - (iv) \$110,000 of Expenditures on or before the date that is one (1) calendar year after the Listing Date; and
  - (v) \$250,000 of Expenditures on or before the date that is two (2) calendar years after the Listing Date.

#### **4.1 Environmental Concerns**

There is no historical production from mineralized zones on the Property, and the author is not aware of any environmental liabilities which have accrued from historical exploration activity.

#### **4.2 First Nations**

The land in which the mineral claims are situated is Crown Land and the mineral claims fall under the jurisdiction of the British Columbia Government. However, if the Company applies for permits from the Government of British Columbia, the Company may be required to consult with First Nations before a permit can be issued. The Property claims are in the consultative area of Tla-o-qui-aht First Nation with the following contact information.

Tla-o-qui-aht First Nation  
Address: 1119 Pacific Rim Hwy, Tofino, BC  
V0R 2Z0  
Phone: 2507253350  
Fax: 2507254233

Figure 1: Regional Property Location

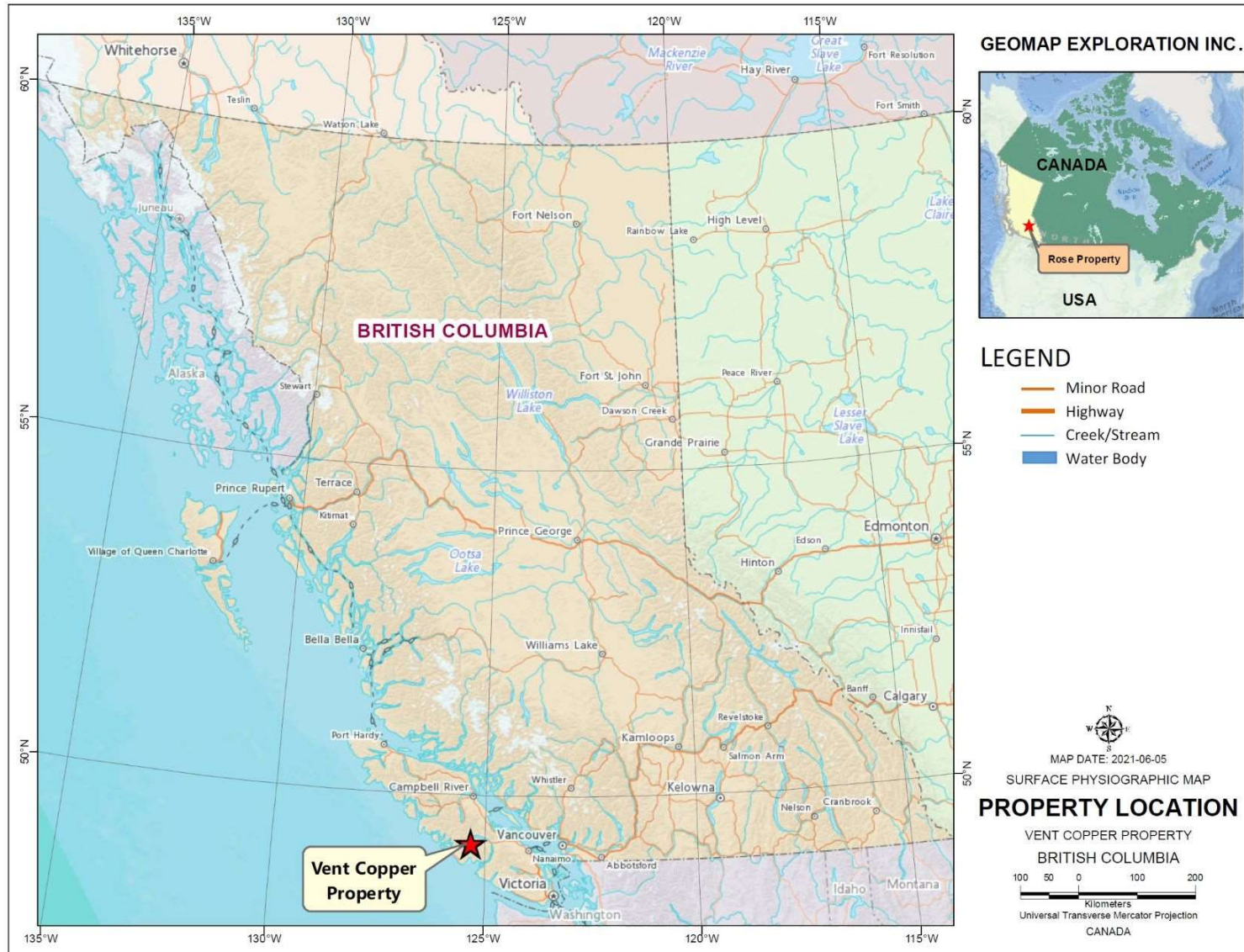




Figure 2: Property Location and Physiography Map

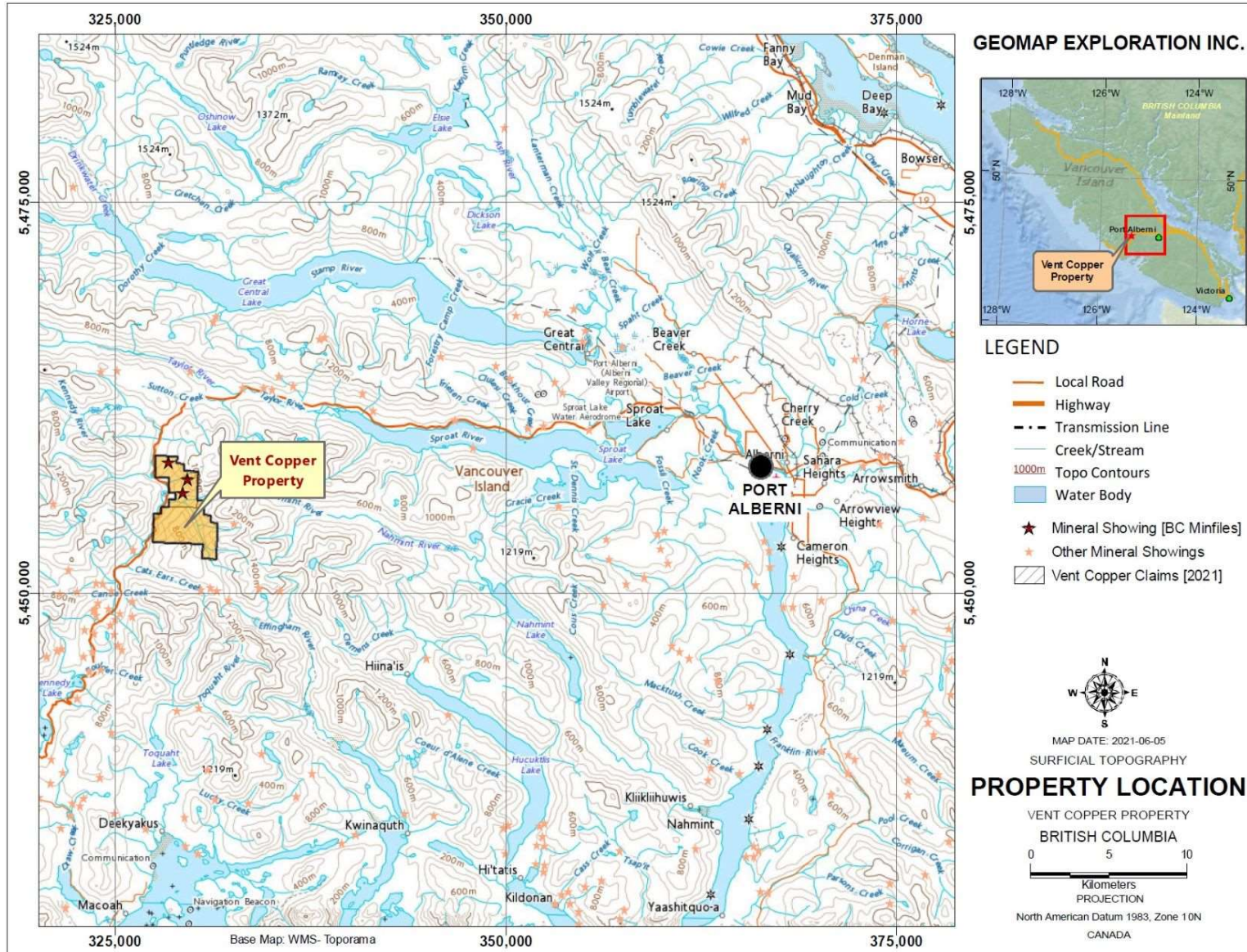
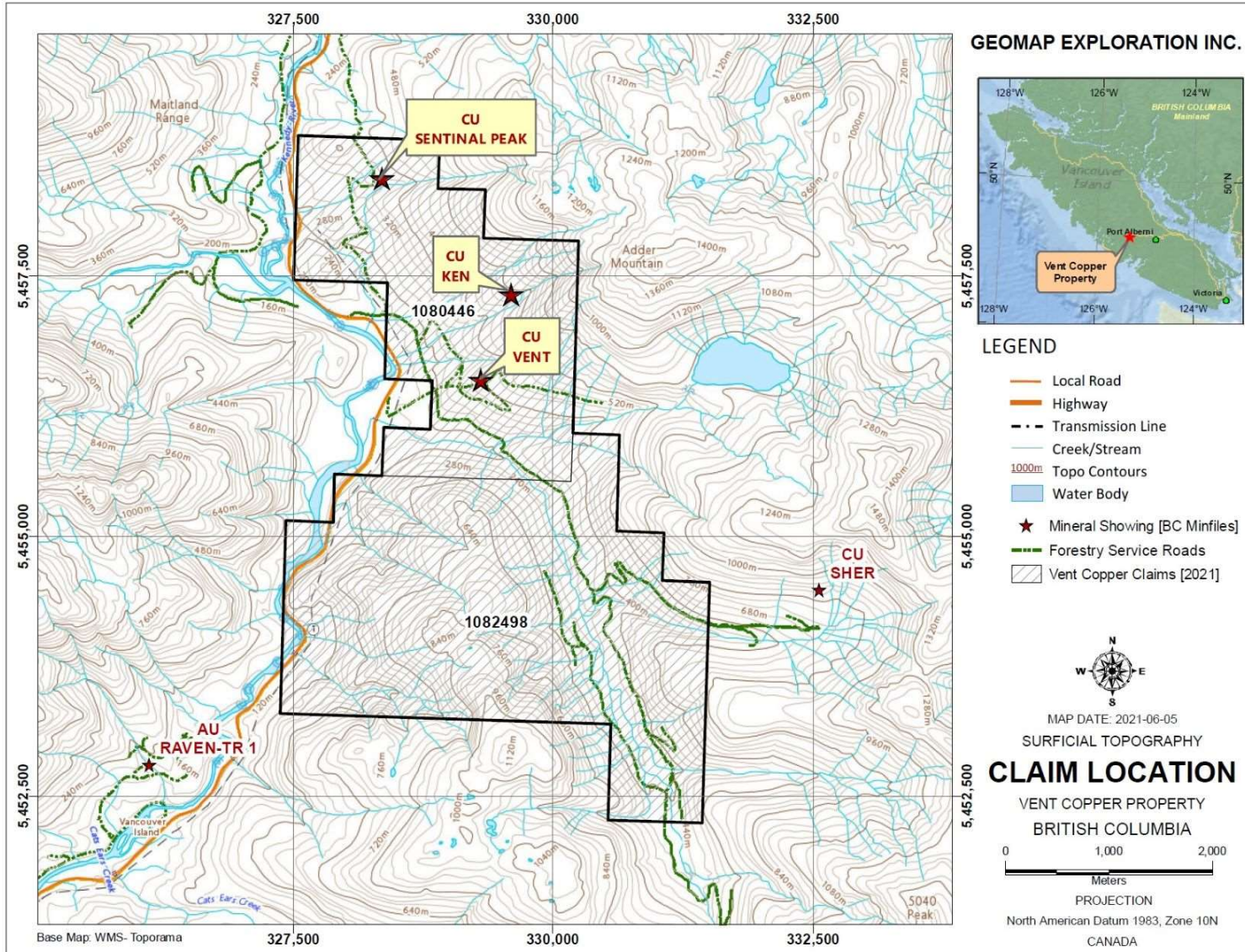




Figure 3: Claim and Property Physiography Map



## 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE PHYSIOGRAPHY

### 5.1 Access

The Vent Copper Property is situated in the Alberni Mining District, located in southwest British Columbia, approximately 51 kilometer west of city Port Alberni. Port Alberni is a city in the Vancouver Island and is accessible from Vancouver via sea Ferry or air through Nanaimo. The western portion of the Property can be accessed (Fig. 2) by following Pacific Rim Highway (HWY/BC-4 W) from Port Alberni which crosses part of the property. The Marion Creek Forestry Road (9229 section 01) connects with Pacific Rim Highway Forest at kilometer 53 and leads to the Property. The logging road traverses approximately through the centre of the property in a northwest-southeasterly direction and covers a good portion of the Property. A network of secondary logging roads of varying quality provides further access to various portions of the claims.

Ucluelet, a district municipality with a population of 1717 (2016 census) is located approximately 48km south from the north boundary of the Property. It is an alternate location to support the needs of an exploration program. Few motels, grocery stores and dining places are available in the Ucluelet.

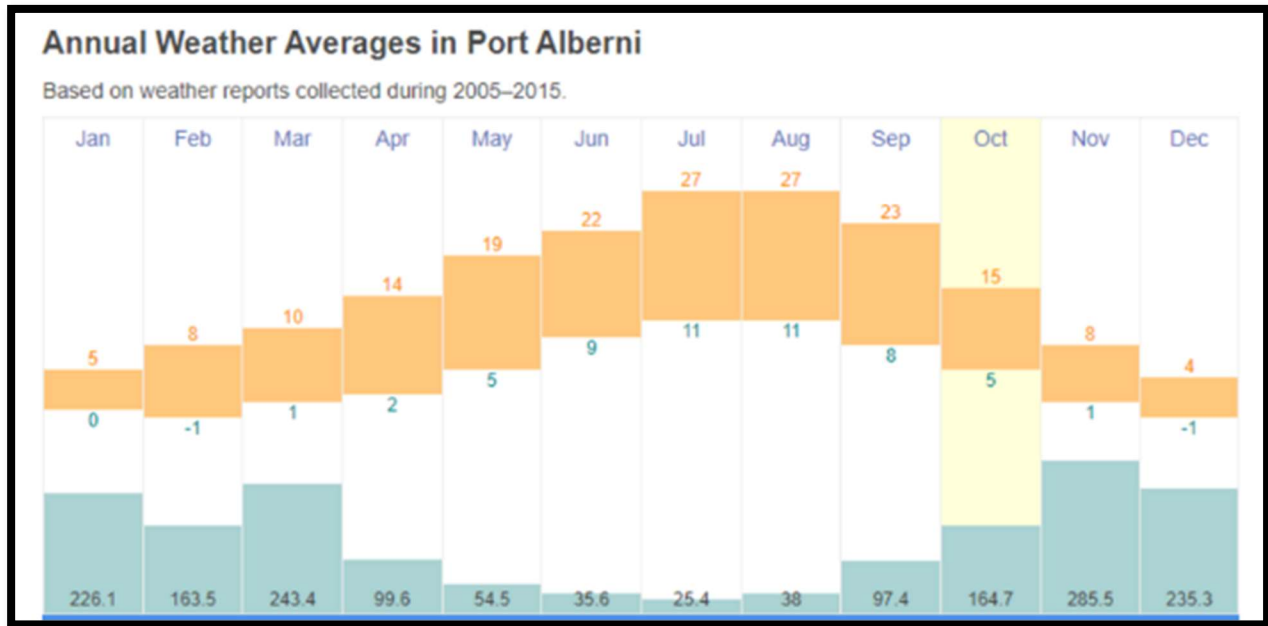
### 5.2 Climate

The closest climate data is available from the Port Alberni (49.2338N, -124.8055 W ) which is 51m above sea level whereas Property is located approximately at an elevation range of 200m-1000m. Thus, the Property climate will be slightly different due to change in elevation. The climate of the area is Mediterranean (Koppen, Csb) according to Koppen climate classification which is one of the most widely used climate classification System. A Mediterranean climate is characterized by dry summers and mild wet winters. The rain in the area falls mostly in the winter, with relatively little rain in the summer.

The average 10-year (<https://www.timeanddate.com/weather/canada/port-alberni/climate>) data show that mean daily minimum temperature ranges from -1°C to 11°C whereas the mean daily maximum temperature ranges from 4°C to 27°C (Fig-4). The average precipitation ranges from 25.4mm to 285.5 mm (Figure 4). The precipitation occurs throughout the year, but monthly average is lowest for June, July, and August, and highest for November, December, January, and March. July (19°C average), December (2°C average) November (285.5 mm Average), December (5km/h Average) are hottest, coldest, wettest and windiest months, respectively. The average yearly snow fall is 80 cm and ranges from 1.1cm (October) to 22.2cm (February) with December, January and February getting the most snow. Average annual precipitation is 1669.1 mm per year. Exploration work such as geological mapping, prospecting, trenching, and sampling can be

carried out from April to October whereas drilling and geophysical surveying can be done throughout the year.

Figure 4: Port Alberni Climate Data (Brown-maximum temperature, black- precipitation).



**Quick Climate Info**

- Hottest Month** July (19 °C avg)
- Coldest Month** December (2 °C avg)
- Wettest Month** November (285.5 mm avg)
- Windiest Month** December (5 km/h avg)
- Annual precip.** 1669.1 mm (per year)

(Source: <https://www.timeanddate.com/weather/canada/port-alberni/climate>)

### 5.3 Local Resources and Infrastructure

The City of Port Alberni is the nearest major population center, located approximately 50 km west of the property (Fig-2). The town has a population of over 17,000 people. Travelling by car, the Vent copper Property is about 35 minutes drive from Port Alberni by Port Alberni-Tofino

paved road. The Town of Port Alberni serves as a hub for local, regional and provincial government as well as for those travelling to the West coast of the Vancouver Island. The major source of employment is Forest industry in the area. The major industries in the area include Port Alberni Mill owned by Catalyst Paper, Lumber Mill, Albany Pacific Division and smaller sawmills. Farming is also practised.

Kennedy River along the western boundary of the Property and other local creeks are good source of water for exploration and mining work. The Property has an ideal location for shipping potential minerals by ocean freight to any destination in the world.

The Vancouver Island has a long mining history. Coal and copper were mainly mined from the mid 18<sup>th</sup> century to mid 19<sup>th</sup> century. Many communities were established as a result of the mining activity, notably Crofton. Coal was discovered in Nanaimo, 85km east of Port Alberni in 1849, mining started in 1854 and continued until 1953 (<https://specproj.web.viu.ca/Coal/CoalMines/NanaimoCoalMines.html>). The town of Crofton was founded in 1902 by Henry Croft, who owned the nearby copper mine in Mt. Sicker. He built a smelter on the coast, to send their refined copper away. The town prospered until world copper prices plummeted, causing the closure of the mine and smelter in 1908. Various industries and related service providers are present in the area. Specialized exploration services such as drilling and geophysical survey companies are in Vancouver.

## 5.4 Physiography

The claims are bounded by southwesterly facing slope of Adder Mountain on the east and Kennedy River valley on the west. Physiography is rugged with deeply incised gorges at the higher elevation which are difficult to cross. Elevations (above sea level) of the Vent Copper Mineral Claims ranges from 160 meters along eastern border to 1,000 meters along western border. The slopes are generally moderate over most of the eastern portion of the claims but become very steep along the eastern boundary. Maximum slopes near the showings are 35 degrees (Assessment Report 672839).

Vancouver Island is located in the temperate rainforest biome, with the mild climate and high rainfall combining to produce groves of massive old-growth trees (<https://vancouverisland.com/viewing-massive-trees-on-vancouver-island/>). Vegetation on the claims is moderately thick consisting of: Douglas Fir, Western Hemlock, balsam, and red and yellow cedar in forested areas, salal is abundant but not very thick, Devil's club is found along the creek and drainage gullies.



## 6.0 HISTORY

### 6.1 General History

The first mention of mineral exploration activity in the region is from Taylor River area which is approximately 8-kilometer (aerially) northeast of Sentinel Peak showing on the Property. A number of Gold, Silver, Copper, Zinc, Lead showings have been reported in the area and some of them have status of developed prospect (MINFILE No 092F 212). These prospects are currently named Tay, Tay Gold, Tay Vein, Main Showing, Showing NO. 2, Showing NO. 3, Showing NO. 6, M.T., MT, Apex and Morning.

The Redford property situated approximately 13 km southwest of the Vent Property was first mentioned in 1902 EMPR annual report and the claims were staked in early 1960. Iron ore mining from this property continued from 1962 to 1968 (Minfile No 092F 001)

### 6.2 The Property History

The area was first staked by J.D. Graham for Kennco Explorations (Western) Limited in 1962 on the basis of anomalous Cu content of stream sediments. Limited geological work was conducted. The company held the claims for only one or two years (Assessment Report 05624).

Geological Survey of Canada published a map in 1965 covering central part of Vancouver Island, showing a number of igneous bodies intruding Triassic Volcanics in the claim area. With the map as a guide, W.G. Stevenson conducted a silt sampling program in the area (Assessment Report 1902). The mineralization in the property was first noticed during this reconnaissance silt sampling program by Stevenson in 1968. The Assay results from sixteen samples varied from 45 to 578 ppm copper and from 0.5 to 20 ppm molybdenum. The area with anomalous copper concentration was then examined on the aerial photographs and a circular feature approximately 365 meters in diameter, surrounded by an outer bordering triangular shaped feature was identified. The higher copper value silt samples were collected from a westerly flowing creek cutting the same feature. The area was staked by Stevenson in 1968.

During 1969 and 1970 geological, geochemical and geophysical programs were conducted under the direction of Messrs. Ron Philp, M.F. Cowan, C.F. Kowall, John Stewart and W.G. Stevenson. The data as well as the interpretation of this exploration program was compiled in Assessment Report 02646. The geological work concluded that the area is mainly underlain by volcanic rocks with intrusions in places. Geochemical work included 161 soil and 12 silt samples for analytical work. Anomalous copper and molybdenum concentrations were obtained in the soil samples. Geochemical anomaly for copper and molybdenum was discovered over an area of 490 meters long by 305 meters wide. Magnetic survey was conducted over a traverse of 915 meters. Increased magnetic intensities around the edge of circular feature on the aerial photograph were identified.

In 1971, induced polarization survey was conducted over some claims (Assessment Report 03058) in the area. The results of the survey revealed extensive areas exhibiting increased chargeability responses.

W.E. Unis from Deklab Mining Corporation mapped the Vent Claim Group on 1 inch =800 feet (2.54cm= 244m) scale in July 1972. Andesite, Felsite, Quartz Monzonite, Hornblende Monzonite, Quartz Diorite and Diorite are the main rock types identified in the property (Assessment Report 7437).

In 1972, three diamond drill holes were completed in order to test an area of abundant pyrite mineralization. Only minor chalcopyrite was encountered. One 30-centimetre section of core, at about 174 metres depth, contained a 1-centimetre quartz vein carrying blebs of molybdenite and pyrite. This section gave the best assay, containing 0.21 per cent copper and 0.25 per cent molybdenite (MINFILE No 092F 229). The cumulative depth of these holes is 3000 feet (915 meters (DDH-1 TD 988 feet (301 meters), DDH-2 TD 1008 feet (307 meters), DDH-3 TD 1004 feet (306 meters)). A brief description of core from these holes is given in Assessment Report PF007434.

In 1975, J.C. Graham completed a program of prospecting and rock sampling on the area as the Ken claims and submitted an assessment report (#5624) to the Department of Mines and Petroleum Resources. Sixty-two samples were collected, and results indicated a spotty mineralization. Five samples had Cu values ranging from 0.08% to 0.66%. The claims at that time were owned sixty percent by J. D. Graham and forty percent by G. D. Smith.

The exploration activities generally halted in the area after 1975 as no reports of prospecting in the area were found except one in 1983. In 1983, Guppy collected 22 soil samples from Sentinel Peak showing area at 100 feet (30 meters) interval, along logging road. These were analysed at Acme Analytical Laboratories Ltd. for Mo, Cu and Au. Results indicate strong anomalies in molybdenum, moderately high anomalies in copper and possible anomalies in silver. Regional silt sampling didn't indicate gold in this area, so the samples were not analysed for gold. (Assessment report 12,441)

**Minfile** is a database of BC Ministry of Energy and Mines which contains geological, location and economic information on over 13,000 metallic, industrial mineral and coal mines, deposits, and occurrences in B.C. The BC Geological Survey (BCGS) has the mandate to compile Minfile information by reviewing mineral assessment reports, recent publications, press releases, property file and company websites. There are three Minfile occurrence reported on the Property which are listed on Table 2, shown on Figure 2 and described below.

**Table 2: List of Minfile occurrences on the Property**

Minfile Name	Minfile NO	Location NAD 83 Zone 10		Commodity Sought
		Easting	Northing	
VENT, KEN	092F 229	329305	5456505	Copper, Molybdenum
KEN, VENT	092F 482	329593	5457330	Copper
SENTINAL PEAK, OK	092F 484	328354	5458450	Copper, Molybdenum

**Vent – Ken Showing**

The showing is located on the lower southwestern slopes of Adder Mountain, approximately 900 metres east of the Kennedy River. Pyrite and pyrrhotite are abundant in all rock types, occurring as veins, fracture coatings and disseminations as well as in quartz- pyrite veins and stringers. Minor chalcopyrite with traces of molybdenite occur locally with the iron sulphides.

In 1968, Raw Materials completed a program of silt and soil sampling and geological mapping on the area as the Vent claim. In 1969 and 1970, programs of silt and soil sampling, geological mapping and a ground magnetometer survey were completed. This work identified a 480 by 300 metre area copper-molybdenum geochemical anomaly (Assessment Report 2464). In 1971, Croydon Mines Limited completed ground magnetometer and induced polarization surveys.

**Ken - Vent Showing**

The Ken occurrence is located on the southwestern side of Adder Mountain, at an elevation of approximately 600 metres. The area is underlain by andesite and basalt of the Upper Triassic Karmutsen Formation, Vancouver Group and by minor felsite flows. These are intruded by quartz monzonite, quartz diorite and diorite of the Jurassic Island Intrusions. Copper mineralization occurs at several localities over a distance of about 750 metres, near the west bank of a southwest flowing creek. The largest zone, the B zone, is approximately 90 by 90 metres in area.

Mineralization within the Karmutsen rocks includes chalcopyrite, specularite, bornite, malachite and azurite. Chalcopyrite generally occurs: 1) as infillings along shears and fractures with quartz and calcite or 2) within amygdules (with minor bornite) in the volcanic flows. In 1975, a 3-metre chip sample from one shear zone assayed 0.42 per cent copper with individual samples up to

2.45 per cent copper. Samples of amygdaloidal basalt containing chalcopyrite assayed in excess of 0.5 per cent copper and up to 1.7 per cent copper (Assessment Report 5624).

In 1968, Raw Materials completed a program of silt and soil sampling and geological mapping on the area as the Vent claim. In 1969 and 1970, programs of silt and soil sampling, geological mapping and a ground magnetometer survey were completed. In 1971, Croydon Mines Limited completed ground magnetometer and induced polarization surveys. In 1975, J.C. Graham completed a program of prospecting and rock sampling on the area as the Ken claims (Source: BC Minfile database).

### **Sentinal Peak, OK Showing**

The Sentinal Peak occurrence is located on the western slopes of Adder Mountain, approximately 1 kilometre west of the Kennedy River. Disseminated pyrite and minor chalcopyrite occurs in intensely fractured and altered volcanics for a considerable distance south of the intrusive contact. Quartz veins containing pyrite and abundant molybdenite also cut the volcanics from 100 to 500 metres south of the contact. A sample (13913) of this quartz vein material assayed 0.15 per cent molybdenum (Assessment Report 12441). A wide quartz vein, about 450 metres south-southwest of the contact, is reported to contain magnetite, pyrite, minor chalcopyrite and molybdenite. In 1983 and 1984, the area was prospected as the Sentinal Peak claim by W. Guppy.

## **7.0 GEOLOGICAL SETTING AND MINERALIZATION**

### **7.1 Regional Geology**

The best account of regional geology of the central Vancouver Island is given in GSC paper 68-80 by Muller, J.E. and Carson, D.J.T., 1968. The following section is generally based on his report.

The Vancouver Island consists of two geological domains, the Insular Belt and Pacific Belt. The Insular Belt (Fig-5), the westernmost major tectonic subdivision of the Canadian Cordillera forms the main part of the island, which is underlain by two major groups of eugeosynclinal, volcanic and sedimentary rocks that are respectively upper Paleozoic and lower Mesozoic in age. Paleozoic and Jurassic volcanic-plutonic complexes, apparently underlain by gneiss-migmatite terranes and are separated by Upper Triassic basalt. The Paleozoic and Jurassic complexes are unconformably overlain by two major groups of clastic sediments laid down in shallow marine or continental basins, one of late Mesozoic and one of Tertiary age. The later group also contains volcanic rocks. Post orogenic Tertiary clastic sediments fringe the west coast. Granitic rocks, formed during at least two separate plutonic events in Middle to Late Jurassic and in Tertiary time, outcrop throughout the island.

The south-western rim of the island lies in the Pacific Belt. This belt is composed of a late Mesozoic sedimentary-volcanic melange and schist as well as Eocene Ocean floor basalts.

Figure 5: Tectonic Belts of Canadian Cordillera. (Muller, 1977)

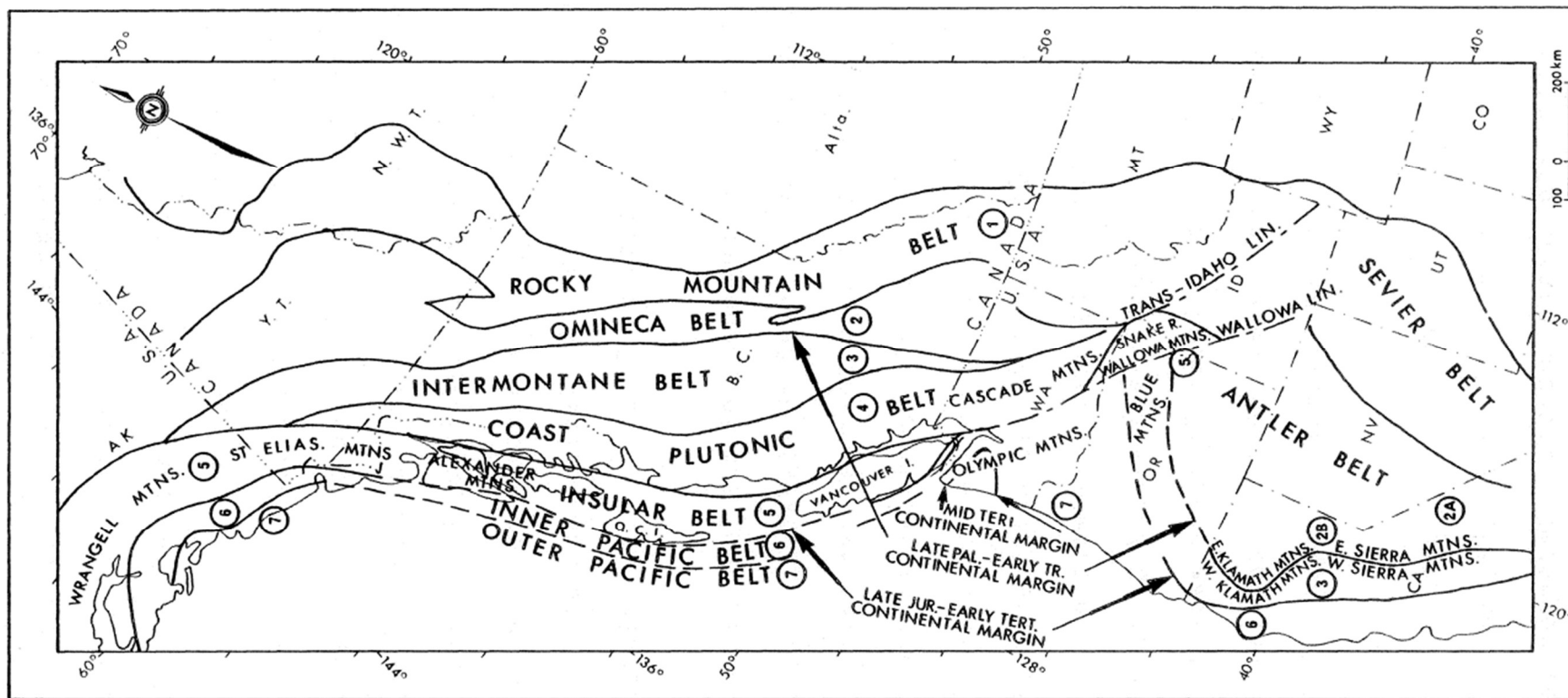
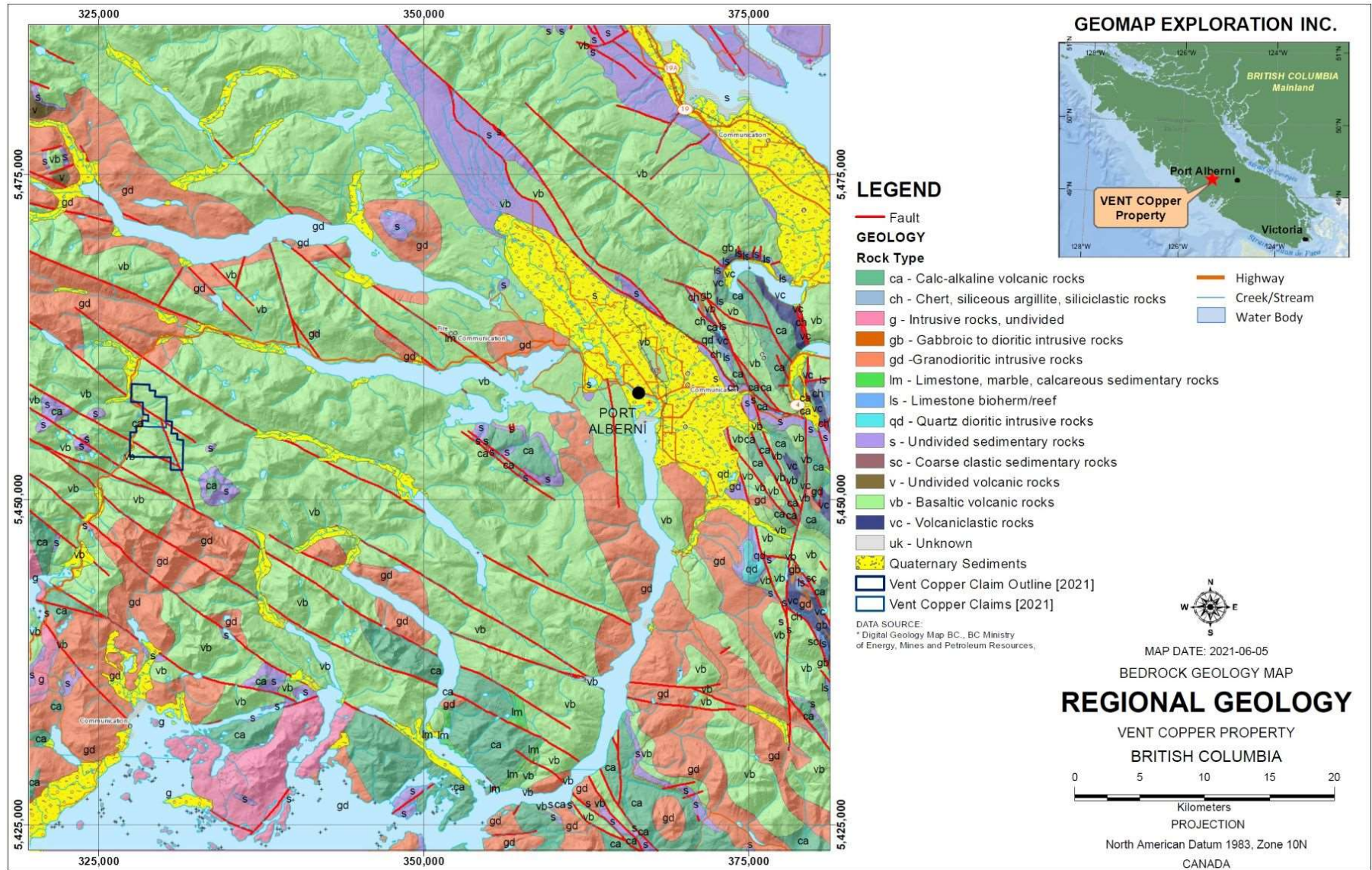


Figure 6: Regional Geology Map





## 7.2 Regional Stratigraphy

This section briefly describes the major rock units of the central part of Vancouver Island. Regionally, the Vancouver Island comprises Paleozoic sequence of marine metasedimentary rocks and metavolcanic rocks, Mesozoic strata of marine basalt, limestone and mixed volcanic and sedimentary rocks, and Cretaceous-Tertiary rocks, mainly terrestrial sandstone, shale and conglomerate of Nanaimo Group. The stratigraphic successions have been intruded by Tertiary (35-59 Ma) granitic and porphyritic stocks and sills, while the older formations have been intruded by the Jurassic (164 Ma) Island intrusions as well as the Tertiary stocks (Figure 6).

Paleozoic metasedimentary and metavolcanic rocks are represented by Sicker Group which are the oldest rocks known in Vancouver Island. The age of this sequence ranges from Pennsylvanian and older to Lower Permian. It has been folded into a broad, north to northwesterly trending syncline structure. Sicker Group mainly consist of slate, greywacke and conglomerate together with mainly andesitic volcanic rocks, limestone and chert. The group is divided into three units which are:

- Lower unit consisting of volcanic Breccia, tuff, argillites, massive green schist and andesite porphyry occur in two separate uplifts trending northwest and north-northwest. The estimated thickness is 3,048 meters (10,000 feet) and assigned age is Pennsylvanian and older. The unit is mapped in the west of the Property between Herbert Inlet and Clayoquot Arm.
- Middle unit comprises a typical turbidite sequence of argillites, greywacke, conglomerate and minor limestone with an estimated thickness of 610 meters (2000 feet). The unit conformably overly the lower unit and is assigned Middle Pennsylvanian and younger age.
- Upper unit (Buttle Lake Formation) consist of marine, shallow water limestone, locally with chert. It is medium to coarse grained, crinoidal, sparsely fossiliferous, light coloured and bedded. The unit is 305 meter (1,000 feet) thick, overly unconformably on the middle unit and ranges in age from Late Pennsylvanian to Early Permian.

The Vancouver Group unconformably overlying Sicker Group and include Karmutsen Formation, Quatsino Formation and Bonanza subgroup. These rocks range in age from Upper Triassic and older to Lower Jurassic.

- Karmutsen Formation is the thickest and most widespread formation of the island consisting of Pillow-basalt and pillow-breccia, basaltic lava and minor tuff and limestone. The basal part consists of pillowed basalts, followed by various breccias which in turn are succeeded by bedded lavas. A sequence of limestone beds less than nine meter (30 feet) thick occurs in several places, probably several hundred feet below. Muller (1965) calculated a thickness of 3,660 meters (12,000 feet) of pillow lavas and breccia and a possible 2,134 meters (7,000 feet) of lava flows in the area. The age based on stratigraphic position is considered Upper Triassic and older. This is the most widespread formation within the Property.



- Quatsino Formation is mapped in the west of the Property and mainly consist of offshore shelf limestone, which is in general dark grey to black, fine grained to microcrystalline, massive to thick bedded, locally coarsely crystalline and skarn with economic magnetite and chalcopyrite along dykes and sills of medium green hornblende-plagioclase porphyry of andesitic to dacite origin. Thickness is estimated 195 meters (640 feet) and age is assigned upper Triassic.
- The Bonanza subgroup consist of lower sedimentary unit and upper volcanic unit. Sedimentary section, approximately 305 meters (1000 feet) thick, comprises deep water limestone which are thin bedded, carbonaceous, fissile, silty, and argillites. The upper volcanic unit mainly consist of light-coloured lavas, andesitic to dacitic breccia, tuff, and minor argillites and siltstone. The Bonanza subgroup is Lower Jurassic to Upper Triassic in age.

The Nanaimo Group is a sequence of mainly sediments deposited in an epi-eugeosyncline. The group is divided into nine formations with a cumulative thickness of 1,829 meters (6,000 feet) or more in Late Cretaceous (Santonian to Maestrichtian) time. The major lithologies include marine sandstone, shale, conglomerate, and coal, deposited into at least four transgressive sedimentation cycles and well dated by ammonites and Inoceramus faunas. Sills and stocks of dacite porphyry and quartz diorite dated at 35 to 60 m.y. intrude the Nanaimo Group and older rocks.

The only known volcanic rocks of probable Tertiary age include Ignimbrite, tuff, and breccia on the southeast of Kennedy Lake in the map area.

Island intrusions are several separate batholith bodies, the Nanaimo batholith, Alberni Inlet batholith, Bedwell batholith and smaller granitic bodies in Kennedy lake-Tofino area. The batholiths mainly consist of granitoid rocks ranging from quartz diorite (potash feldspar < 10% of total feldspar quartz 5-20%) to granite (potash feldspar > 1/3 of total feldspar; quartz > 20%). They are exposed along the length of Vancouver Island, intrude Sicker, Vancouver and Bonanza Group rocks and are Middle to early Late Jurassic in age.

The Westcoast Crystalline Complex is a belt of plutonic rocks along the west coast of Vancouver Island. This complex is genetically related to Island intrusions and is composed mainly of heterogeneous assemblage of amphibolite, agmatite, and Quartz Diorite or tonalite.

### **7.1.2 Structural Geology**

Regional Structural geology of Vancouver Island is dominated by steep faults and much of this faulting took place in Tertiary time. However, the deformation of the area began before Late Cretaceous, and possibly before Mesozoic time as evidenced by Facies changes and unconformities. The deformation developed north-northwesterly trending uplifts, partly fault-bounded ; these are Buttle Lake Axis, the Cowichan-Horne Lake Axis, and the Nanoose-Texada.

This deformational phase exposed Sicker Group rocks which are steeply dipping to isoclinally folded along fault.

The second phase of folding occurred mainly during the mid-Mesozoic orogeny and accompanying plutonism. However, folding did not occur to a large extent in Karmutsen volcanic rocks. They reacted like a rigid shield, in places more than 3,048 meters (10,000 feet ) thick. The Quatsino and Bonanza bedded rocks, nearly flat lying in most places, are locally intensely folded.

Tertiary movement was characterized mainly by block faulting and tilting. Northwest-striking normal faults commonly separate northeastwardly tilted blocks and in the Nanaimo Group such faults form imbricate zones of steep faults and folds. In places these faults are offset by north-easterly trending cross-faults.

### **7.3 Property Geology**

The geological information in this section is based on data compiled from different sources as well as field investigations conducted in 2021 by Geomap Exploration Inc.

Digital geology map of British Columbia, published by BC Ministry of Energy, Mines and Petroleum Resources has shown basaltic volcanic rocks in the Property (Fig-8). The regional geological mapping conducted by Muller, J.E., and Carson, D.J.T. (1968) recognized Upper Triassic Karmutsen Formation and Middle to early Late Jurassic Island intrusions in the claim area (Fig-7). Limited large-scale mapping conducted by the consultants in late sixties and early 70's has identified many rock types in the area (Fig- 9). The two regionally recognized units are described in the following section.

#### **7.3.1 Karmutsen Formation (Map unit # 5)**

The Property is mainly underlain by rocks of Karmutsen Formation, particularly the south block (Claim # 1082498). Muller, J.E., and Carson, D.J.T. (1968) describing the formation states,

“The Formation is the thickest and most widespread formation of the island and mainly consist of basalt which occurs in pillowed, brecciated or massive flows. The rocks are dark grey to black and weather dark reddish brown to brownish grey. They are commonly amygdaloidal and finely or, more rarely, coarsely porphyritic with single crystals or star-like clusters of white to light green feldspar in an aphanitic, dark coloured matrix.”

However, the sporadic exposures as well as drill cores from mainly central portion of the Property studied by W.G. Stevensen (Assessment Report #1902, 1970), by M.F. Cowan in 1970 (#PFD 672839, 1970) and by W.E. Unis (#PFD 007437, 1972) described that the volcanic rocks are generally of andesitic composition. These are grey green to dark green in color, mottled grey, green and white in places, generally very fine grained, occasionally medium grained, massive, commonly uniform in appearance, altered to chlorite and epidote in places, cut by veins and

veinlets of milky quartz, highly pyritized and rust stained at many locations. Disseminated and stringers of pyrite are occasionally up to 15-20%. Stevenson (1970) reported very few chalcopyrite occurrences, some vaguely defined amygdules and altered mafic and probable flow rock. Unis, W.E. (1972) mapped few outcrops of Felsite rocks occurring in the west-central portion of Property. The current studies from Geomap Exploration Inc. also confirm the occurrence of andesite in the area.

Amygdaloidal basalts are reported from CU Ken showing area (Assessment Report 5624). The rock is dark gray with amygdules making up 2% to 30% of the rock, containing epidote, calcite, quartz, chalcopyrite and ranging in size from 1mm to 8mm. Quartz and calcite veins cut the rock in places. Pyrite, chalcopyrite, malachite, azurite and hematite with minor bornite also occur locally. The rock is weakly to nonmagnetic, and fractures are coated with quartz and calcite.

### **7.3.2 Island Intrusions (Map unit # 9)**

Island intrusions cover a small portion of the Property and occur in the central portion of the claims. Regionally, Island Intrusions mainly consisting of granodioritic to quartz dioritic, and less commonly of quartz monzonitic composition are exposed along the length of Vancouver Island in the form of several isolated batholithic bodies intruding in volcanic and sedimentary rocks of the Karmutsen and Bonanza Formations. Smaller granitic bodies in the Kennedy Lake - Tofino area, though of more diverse composition, are also provisionally included. within Island Intrusions (Muller, J.E., and Carson, D.J.T., 1968).

One of these plutons is exposed along Kennedy River, 24 miles westerly from Alberni. It is 3.5 miles long and 1 mile wide. Excellent outcrops of this intrusion occur at the lower elevations and particularly along the Kennedy River and extend in the central part of the claim area. (Assessment Report #1902, 1970). The intrusive rocks mapped in the central part of the Property include Quartz- Monzonite, Hornblende-Monzonite, Quartz-Diorite and Diorite, however, quartz-monzonite and quartz-diorite are the dominant rock types. Quartz Porphyry, a younger intrusive is also being described. A brief description of widely occurring rock types compiled from megascopic description of rock samples in Assessment Reports is given below.

Quartz Monzonite is generally light buff in color, mottled grey green, white and black, generally medium grained but ranges from fine to medium, crystalline, equigranular and slightly magnetic (very minor disseminated magnetite) to nonmagnetic. The rock contains up to 50% K. feldspar. Chloritic alteration is common but variable and skarn minerals have been noted in places. Some sections are Quartz Monzonite Porphyry which are light buff coloured, and fine grained. The matrix is composed of K. feldspar, quartz and possibly plagioclase with many small anhedral phenocrysts of quartz and plagioclase and contains disseminated very fine pyrite in places.

Quartz Porphyry is siliceous rock which is light grey and often porphyritic with quartz and feldspar phenocrysts within pale cream coloured microcrystalline matrix, largely composed of K feldspar with more subordinate quartz and possibly some plagioclase feldspar. Anhedral quartz

phenocrysts and stringers are 25% - 30%. It is considered a younger intrusive, intruding the diorite and volcanics. This unit is most abundant as float in the anomalous stream (Assessment Report 2464).

Diorite is a fine to medium grained, grey weathering rock, porphyritic at some locations, and in places, composed of very fine-grained dark grey matrix containing white to greenish, probably altered plagioclase phenocrysts.

Hornblende diorite is grey, weathers white, fine grained, equicrystalline, minor white quartz, quartz stringers and veinlets, moderately chloritic and epidotized alteration in places.

Figure 7: Local Geological map of the Property and surrounding area.

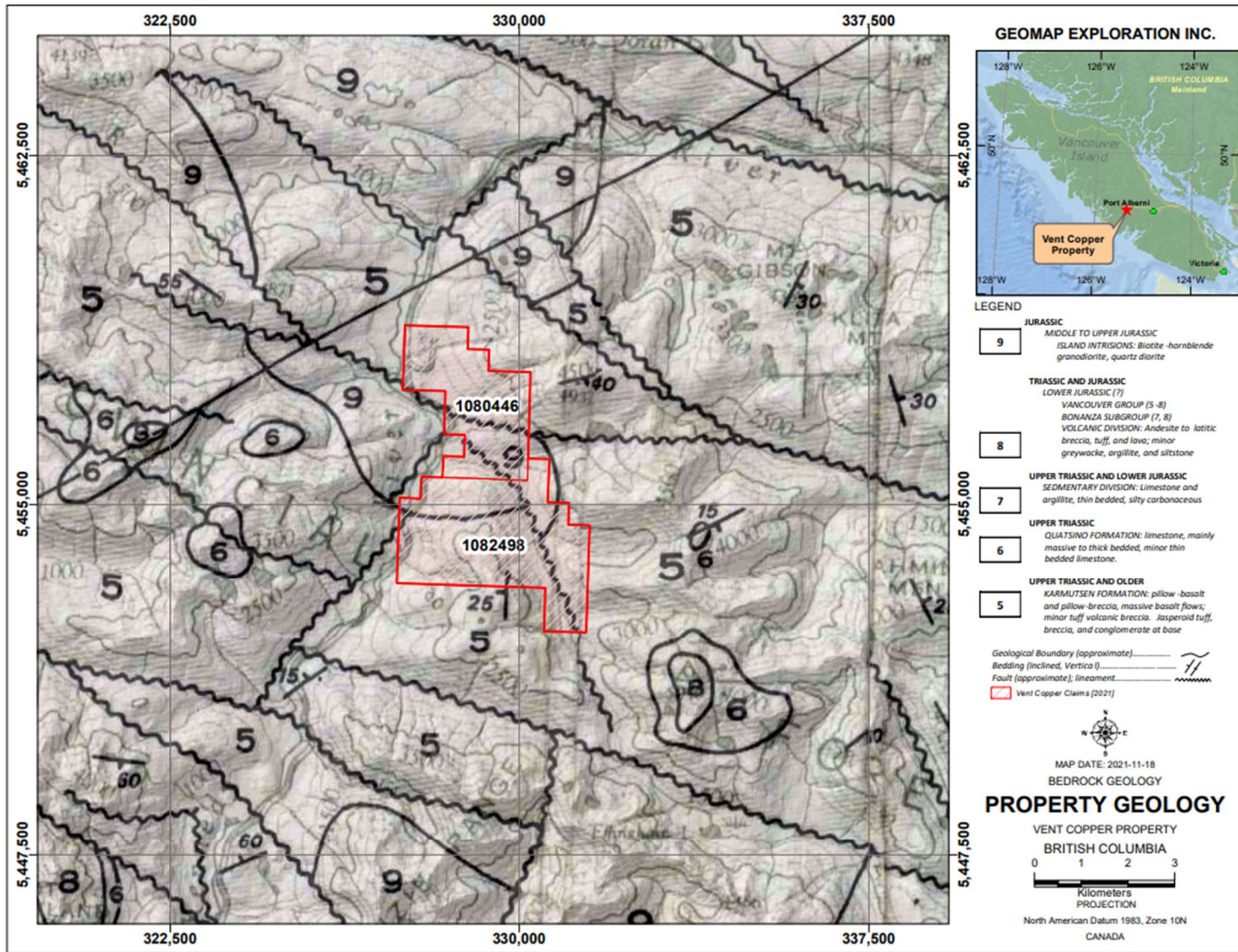




Figure 8: Property Geology

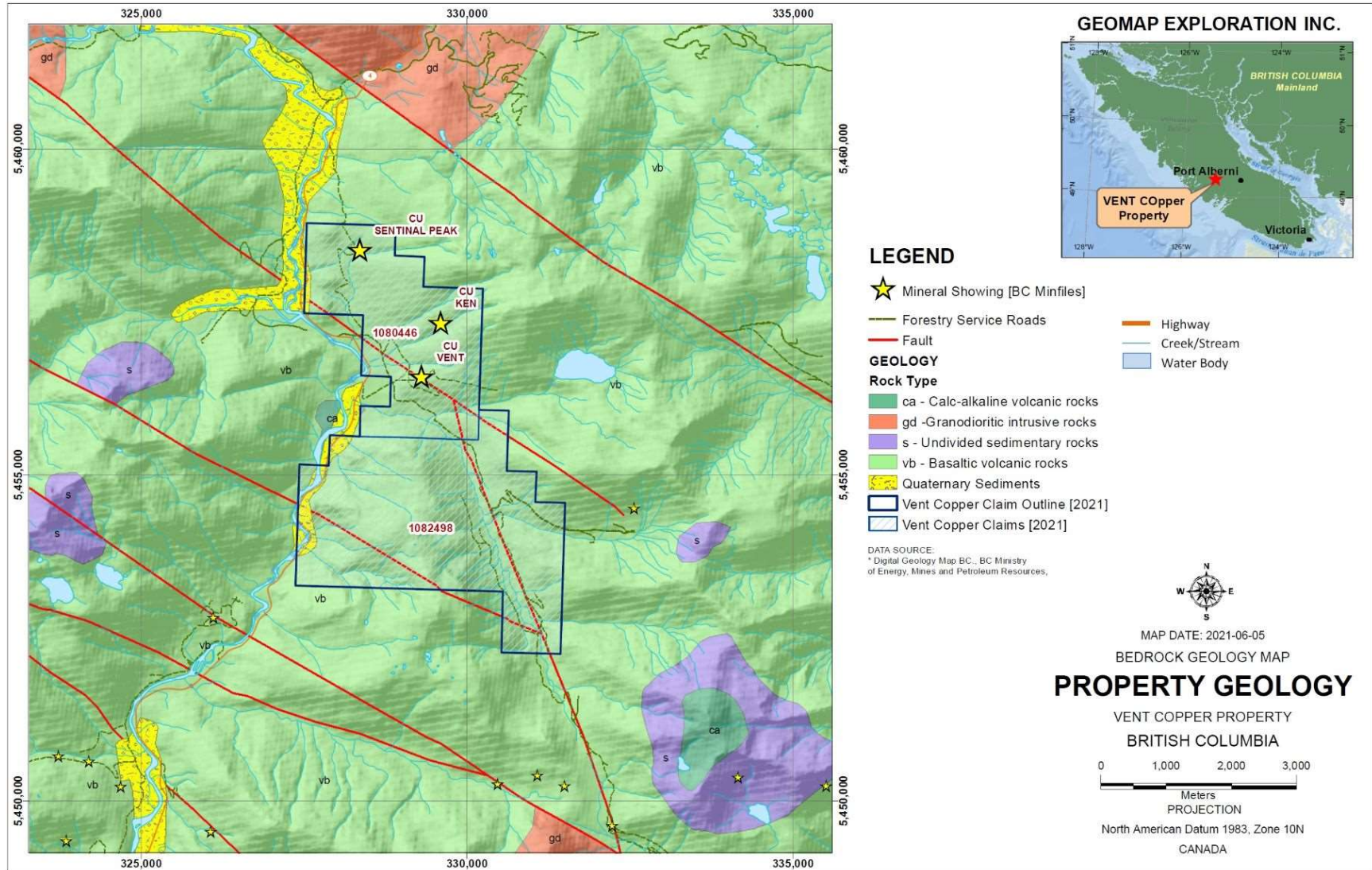
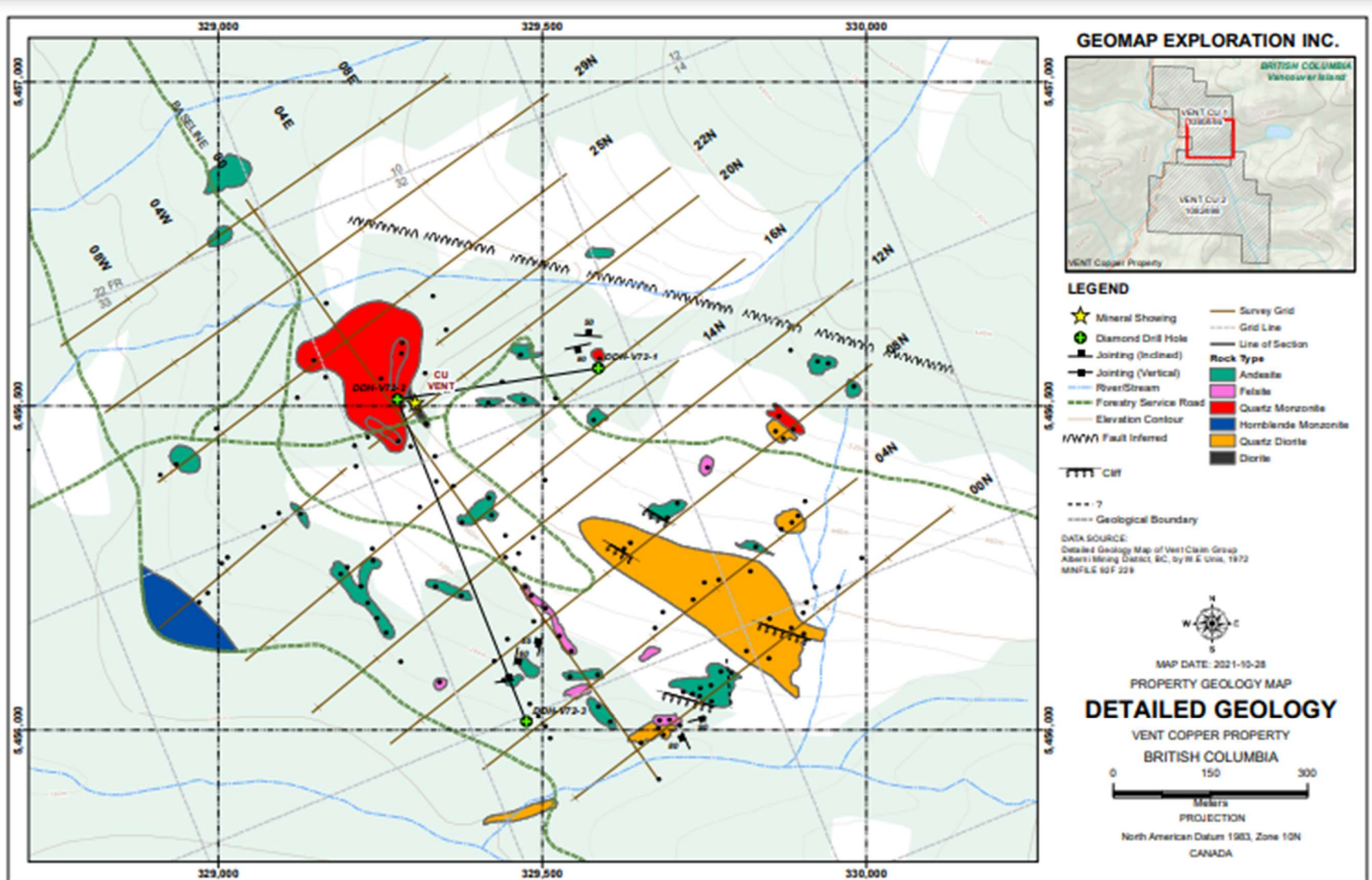


Figure 9: Detailed geology map of a part of the Property.



## 7.4 Property Structural Geology

The dominant structural feature of the area is steep faulting. These faults generally trend northwesterly with subsidiary faults striking northerly to north-easterly. The map accompanying GSC Paper 68-50 shows eight bedding attitudes in the Karmutsen Formation in the vicinity of the Property. These trends are:

- In the east, northwest- southeast, dipping at angles between 25 and 30 toward east;
- In the central portion, northeast-southwest, dipping at angles between 15 and 40; to
- In the west north-south and dip at angles of 25.

This bedding attitude suggest that the Property is part of an anticlinal structure with roughly a north-south to northeast-southwest trend on the western limb.

There are two prominent sets of fractures: one set striking east west and dipping north at 53 degrees, the other set striking 065 degrees and dipping west at 80 degrees (Minfile#092F 229).

## 7.5 Mineralization

The B.C. Minister of Mines Annual Report for 1917 is the first available reference to gold-bearing veins in vicinity to the Property. However, mineral showing in the area were reported in 1968 and as of now, there are three mineral showings in the property and all of them occur in the 1080448 claim block. The southern and middle showings are named CU Vent and CU KEN and include copper and molybdenite mineralization whereas the northern copper showing is CU Sentinel. CU Vent is the most important known mineralization on the property and is moderately explored from 1968 to 1975. The Vent Mineral Claims are underlain by volcanic rocks in contact with a complex assemblage of igneous rocks which are part of the Island Intrusion. The sulphide mineralization is mainly pyrite and pyrrhotite with minor chalcopyrite and traces of molybdenite in places. These sulphides occur as veins, fracture coatings and disseminations as well as in quartz- pyrite veins and stringers.

The mineralization at Ken CU mainly occurs in Amygdaloidal basalt. A mineralized zone approximately 92 meters X 92 meters (300feetx300 feet) includes chalcopyrite, specularite, bornite, malachite and azurite. Chalcopyrite mineralization generally occurred in two forms: 1) either as infillings along shears and fractures with quartz and calcite as the gangue mineral, or 2) as chalcopyrite (quartz and/or calcite) amygdules in the volcanic flows. The largest of these sheared filled zones was over 6.5 meter (22 feet) in length and 60cm-90cm (2-3 feet) wide. The vein had a 070°strike and a dip of about 55° to the north. A chip sample along the strike assayed 0.42 per cent copper with individual samples up to 2.45 per cent copper. Samples of amygdaloidal basalt containing chalcopyrite assayed in excess of 0.5 per cent copper and up to 1.7 per cent copper (Assessment Report 5624). Spotty, poor mineralization occur at several points in other areas.



The Sentinel Peak area was prospected by W. Guppy In 1983 and 1984. The area is underlain by andesite and basalt which are intruded by granodiorite of the Jurassic Island Plutonic Suite. Disseminated pyrite and minor chalcopyrite occurs in intensely fractured and altered volcanics for a considerable distance south of the intrusive contact. Quartz veins containing pyrite and abundant molybdenite also cut the volcanics from 100 to 500 metres south of the contact. A sample (13913) of this quartz vein material assayed 0.15 per cent molybdenum (Assessment Report 12441). A wide quartz vein, about 450 metres south-southwest of the contact, is reported to contain magnetite, pyrite, minor chalcopyrite and molybdenite (Minfile # 092F).

## 8.0 DEPOSIT TYPES

### 8.1 Deposit Types

The Property area is mainly underlain by volcanic rocks of Karmutsen Formation which consist of basalt occurring as pillowed, brecciated or massive flows. The rocks are dark grey to black and weather dark reddish brown to brownish grey. There are a number of past producing and active mines in Vancouver Island having volcanic hosted polymetallic, massive sulphide deposits. Three mines on Mount Sicker (Lenora, Tyee and Richard III) formed the foci for one of the largest townsites in the area at the turn of the century. However, only sporadic production has ensued since then. Myra Falls volcanogenic massive sulphide (VMS) deposit with combined production and proven and probable reserves in excess of 30 million tonnes of zinc-copper-(gold-silver) ore, hosted by Myra Formation of Sicker Group is currently the largest and most productive VMS mine in western Canada (Jim Mortensen, 2006). The Thistle Mine south of Port Alberni was the largest precious metal producer in the Myra Formation (Booth, K., 1987).

### 8.2 Deposit Models

Based on the Property geology and mineralization, the most probable deposit model for the Property is volcanogenic massive sulphide (VMS) deposit type. A secondary deposit model for the Property is porphyry copper deposit types.

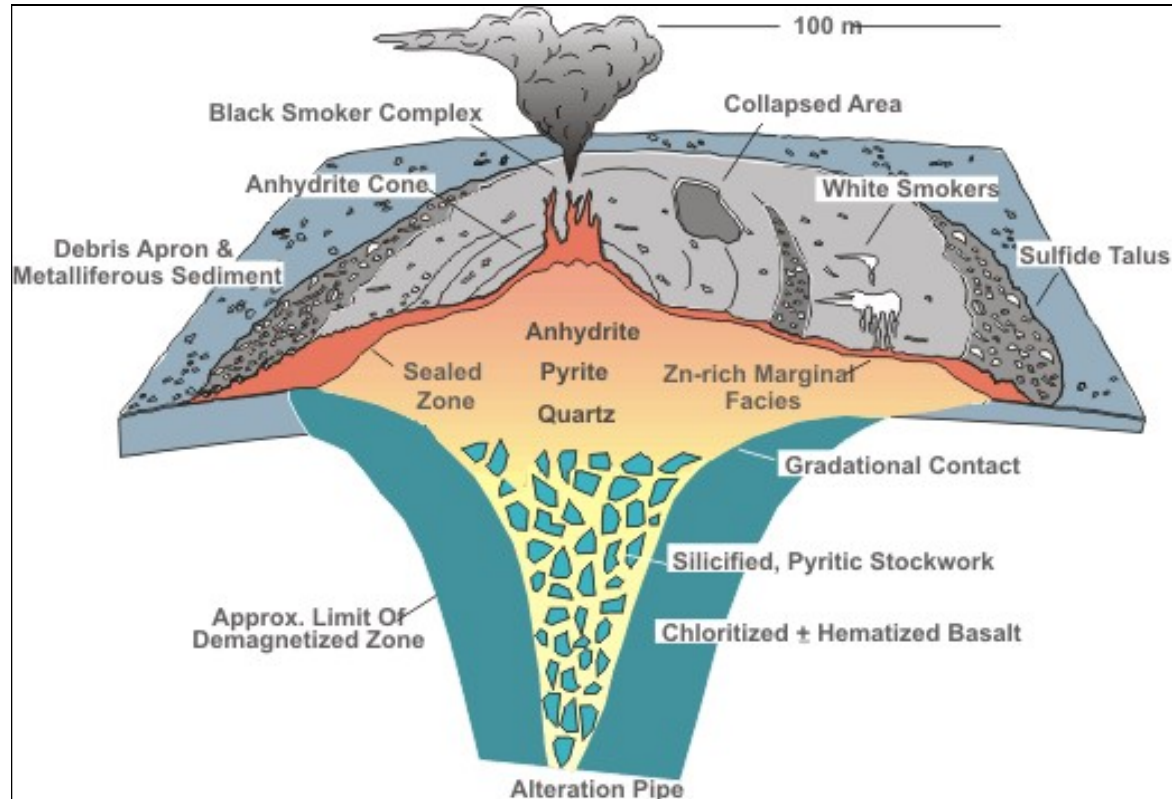
#### 8.2.1 *Volcanogenic Massive Sulphide (VMS) Deposit Model*

Volcanogenic massive sulphide (VMS) deposits are also known as volcanic-associated, volcanic-hosted, and volcano-sedimentary-hosted massive sulphide deposits. They typically occur as lenses of polymetallic massive sulphide that form at or near the seafloor in submarine volcanic environments. They form from metal-enriched fluids associated with seafloor hydrothermal convection. Their immediate host rocks can be either volcanic or sedimentary. VMS deposits are major sources of Zn (zinc), Cu (copper), Pb (lead), Ag (silver) and Au (gold), and significant sources for Co (cobalt), Sn (tin), Se (selenium), Mn (manganese), Cd (cadmium), In (indium), Bi (bismuth), Te (tellurium), Ga (gallium) and Ge (germanium). Some also contain significant amounts of As (arsenic), Sb (antimony) and Hg (mercury). Historically, they account for 27% of Canada's Cu production, 49% of its Zn, 20% of its Pb, 40% of its Ag and 3% of its Au. Because of their polymetallic content, VMS deposits continue to be one of the best deposit types for security against fluctuating prices of different metals (Galley et. al., 2007). These deposit types are also known as volcanic-exhalative deposits in contrast to the similar SEDEX (sedimentary exhalative) deposits which are formed in sedimentary sequences (Source: [http://www.geocities.com/ijkuk/ik\\_model.htm](http://www.geocities.com/ijkuk/ik_model.htm)).

As shown in the figure below most VMS deposits have two components. There is typically a mound-shaped to tabular, stratabound body composed principally of massive (>40%) sulphide, quartz and subordinate phyllosilicates and iron oxide minerals and altered silicate wallrock. These stratabound bodies are typically underlain by discordant to semi-concordant stockwork veins and disseminated

sulphides. The stockwork vein systems, or "pipes", are enveloped in distinctive alteration halos, which may extend into the hanging-wall strata above the VMS deposit (Galley et. al., 2007).

**Figure 10: Typical Section of a VMS deposit (Source: Galley 1993, 2007)**



The most common feature among all types of VMS deposits is that they are formed in extensional tectonic settings, including both oceanic seafloor spreading and arc environments (Figure 11). Modern seafloor VMS deposits are recognized in both oceanic spreading ridge and arc environments, but deposits that are still preserved in the geological record formed mainly in oceanic and continental nascent-arc, rifted arc and back-arc settings (Allen et al. 2002; Franklin et al. 1998) (Figure 11). This is because during subduction-driven tectonic activity much of the ancient ocean-floor is subducted, leaving only a few ophiolite suites as remnants of obducted ocean-floor.

Various geological studies carried out on the Sicker Group of rocks in the Duncan area indicate that the localization of metal deposits in the area is controlled by the interplay of stratigraphy and spatial association with later intrusions and structures. Three major metallogenic epochs are recognized. Syngenetic mineralization occurred during the building of the Sicker arc. Kuroko-style massive sulphides are associated with felsic volcanics in the upper part of the McLaughlin Ridge Formation. They occur in a belt extending from Saltspring Island to Rheinart Creek, bounded to the south by the Fulford fault and appear to have formed close to the volcanic centre located in the Duncan - Saltspring Island area. Jasper and oxide-rich cherts occur within the volcanics of the Nitinat and McLaughlin Ridge formations but appear to have negligible economic mineralization.

Thin syngenetic manganese oxide beds and sulphidic argillites occur within the radiolarian cherts of the basal Fourth Lake Formation.

The Early to Middle Jurassic arc was characterized by epigenetic mineralization of various types and styles, spatially related to the Island Plutonic Suite intrusions. Copper-molybdenum veins and stockworks occur within intrusions and volcanic country rock. Rhodonite forms by contact metamorphism of manganeseiferous chert (Massey et.al., 1988).

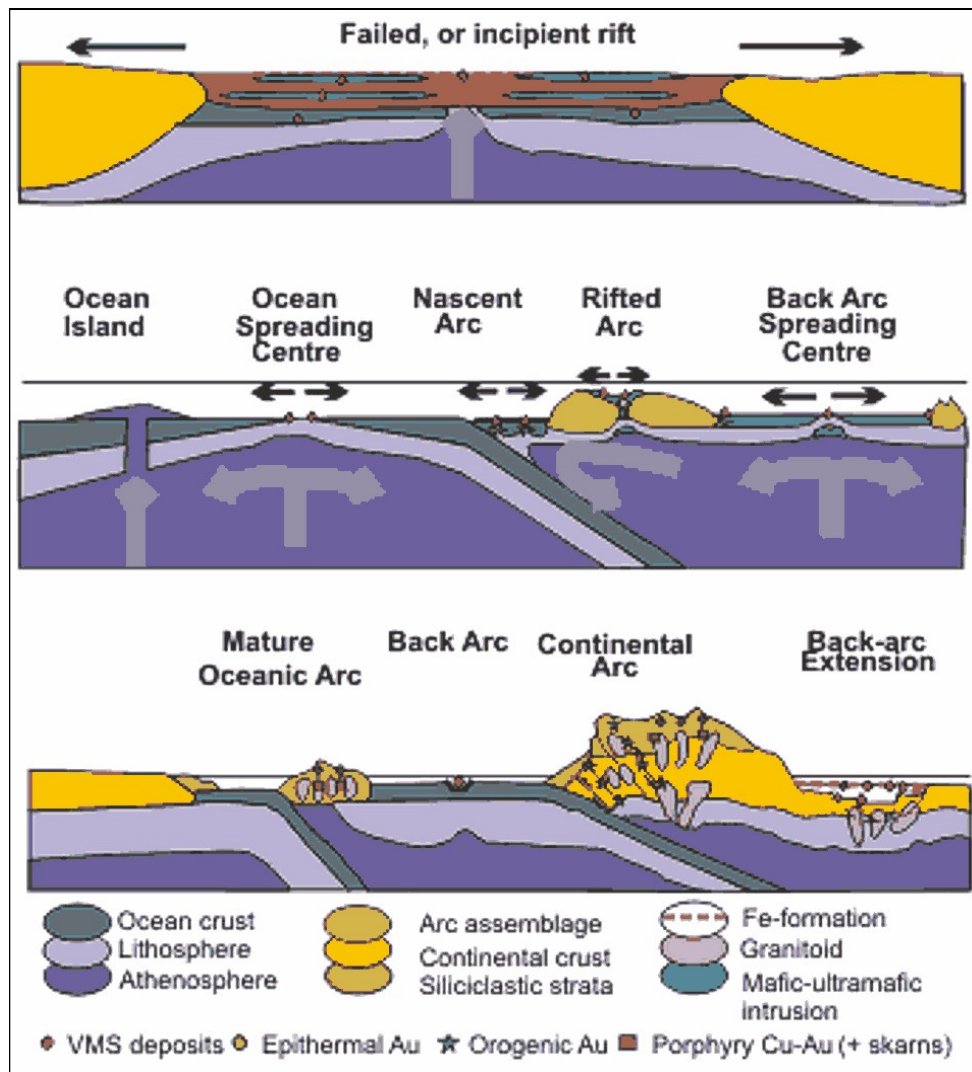
### **Exploration Criteria:**

The following are the major exploration criteria for Canadian VMS deposits and key attributes of VMS-hosting volcanic complexes.

1. The deposits occur in volcanic belts from Late Archean to Eocene in which extension is indicated by relatively primitive (tholeiitic to transitional) bimodal volcanism in nascent arc, rifted arc and back-arc environments. Some obducted seafloor-spreading centers and rifted continental margins are also prospective.
2. VMS formation occurs during periods of major ocean-closing and terrane accretion. This includes the Late Archean (2.8-2.69 Ga), Paleoproterozoic (1.92-1.87 Ga), Cambro-Ordovician (500-450 Ma), Devonian-Mississippian (370-340 Ma), and Early Jurassic (200-180 Ma).
3. In effusive flow-dominated settings in oceanic arc and continental margin arcs, VMS can be associated with 15-25 km-long mafic to composite synvolcanic intrusions. These intrusions are Na-rich and depleted in low field strength elements and have low airborne radiometric responses but commonly show magnetic halos due to surrounding zones of high-temperature fluid interaction. Exploration should be focused up to 3000 m up section in the comagmatic volcanic suites in the hanging wall of the intrusions. Rhyolites with high Zr (>300 ppm), negative chondrite-normalized Eu anomalies,  $(La/Yb)_N < 7$ ,  $(Gd/Yb)_N < 2$  and  $Y/Zr < 7$  define high-temperature (>900°C) felsic volcanic environments favourable for VMS formation. The presence of synvolcanic dike swarms and exhalite horizons are indicative of areas of high paleo-heat flow.
4. In continental back arc, bimodal siliciclastic-dominated settings aeromagnetic surveys can be used to identify areally extensive Fe-formations to target hydrothermally active paleo-seafloor horizons. Variations in the mineralogy of the iron formations and varying element ratios can serve as vectors toward high-temperature hydrothermal centers. Volumetrically minor sill-dike complexes also may identify higher temperature hydrothermal centers.
5. In upper greenschist-amphibolite metamorphic terranes distinctive, coarse-grained mineral suites commonly define VMS alteration zones. These include chloritoid, garnet, staurolite, kyanite, andalusite, phlogopite and gahnite. More aluminous mineral assemblages commonly occur closer to a high temperature alteration pipe. Metamorphic mineral chemistry, such as Fe/Zn ratio of staurolite, is also a vector to ore. These largely refractory minerals have a high survival rate in surficial sediments, and can be used through heavy mineral separation as further exploration guides in till-covered areas.

6. Mineralogy and chemistry can be used to identify large-scale hydrothermal alteration systems in which clusters of VMS deposits may form. Broad zones of semiconformable alteration will show increases in Ca-Si (epidotization-silicification), Ca-Si-Fe (actinolite-clinozoisite-magnetite), Na (spilitization), or K-Mg (mixed chlorite-sericite±K-spar). Proximal alteration associated with discordant sulphide-silicate stockwork vein systems includes chlorite-quartz-sulphide- or sericite-quartz-pyrite±aluminosilicate-rich assemblages and is typically strongly depleted in Na and Ca due to high-temperature feldspar destruction. In addition to geochemical analysis, X-ray diffraction, PIMA and oxygen isotope analysis can assist in vectoring towards higher-temperature proximal alteration zones and associated VMS mineralization. Although PIMA has been used most effectively on alteration systems that contain minerals with a high reflective index, there has been some success in identifying greenschist facies minerals within Precambrian VMS hydrothermal systems (Galley et. al., 2007).

Figure 11: Three principal tectonic environments of VMS deposits (Galley et. al., 2007).



### ***8.2.2 Porphyry Cu (Mo-Au) Model***

Porphyry Cu (Mo-Au) deposits are probably the most well understood class of magmatic-hydrothermal ore deposits. One of the fundamental tenets of the modern porphyry Cu (Mo-Au) model is that ore fluids are relatively oxidized, with abundant primary magnetite, hematite, and anhydrite in equilibrium with hypogene Cu-Fe sulphide minerals (chalcopyrite, bornite) and the association of porphyry Cu deposits with oxidized I-type or magnetite-series granitoids.

## 9.0 EXPLORATION

During the period from June 7 to August 15, 2021, Geomap Exploration Inc., completed an exploration work program on the Property. The work included geological mapping, prospecting, sampling, and ground geophysical surveying (magnetic and VLF).

### 9.1 Geological Exploration Work Program

A team of two geologists and a prospector worked mainly in the 1080446 block of the Property. The focus of the field work was to collect rock samples along with the geological and structural observations from Karmutsen Formation and island intrusions. The sampling program was designed to represent accessible mineralized units and formations.

The claim area was partially mapped on large scale along with some sampling, mainly in late sixties and early seventies. Small scale exploration work was intermittently carried out until the late eighties of the last century. For the last four decades, it appears that no significant exploration or development work took place in the area. Although, the property does not host any major previous or present underground or surface mine, however, it is surrounded by past producing mines and a number of known and well explored deposits. The data collected from these mines and exploration work and research work conducted in these areas provide a good understanding of the geology and mineralization.

The area explored in the year 2021 by Geomap Exploration is mainly underlain by andesitic volcanic rocks of the Triassic Karmutsen Formation. These rocks are greenish grey to dark green, rust stained and brown weathering in places, fine grained and massive. These rocks are serpentinized along fractures, siliceous and highly pyritized in places. Quartz and calcite veins, and brown shear zone containing clay with fragmented volcanic rocks occur locally. The sulphide mineralization includes pyrite, chalcopyrite and malachite staining. Pyrite varies from traces to 20% and occurs as nodules, fine to coarse disseminated grains, stringers, veins and veinlets (1mm to 50mm thick veins). Chalcopyrite and malachite were identified at a number of places. Karmutsen Formation is intruded by Quartz Monzonite, Hornblende Monzonite, quartz diorite and diorite. Majority of the samples represent greenish grey to brownish grey volcanic rock, which is serpentinized along fractures, generally fine to medium grained and occasionally coarse grained, with white quartz and calcite veins. Overall sulphides in volcanic rocks are trace to 1%, however in the mineralized portions the amount of sulphides goes up to 15%.

A total of 124 outcrop grab samples (including six samples for data verification) from outcrops were collected during this campaign. Out of 124 samples collected, 11 samples were field duplicates. All the sampling work was completed by the geologists of Geomap Exploration Inc. Figures 12-18 shows the location of samples and assays for copper. Table 3 is the field description of these samples and Table 4 assay highlights.



**Photo 1: Iron-Stained Andesite Location Sample # 102851.**



**Photo 2: Quartz vein and pyrite Sample # 102864.**





**Photo 3: Brown sheared zone clay Sample # 102880.**



**Photo 4: Contact between fine grained mineralized volcanics and medium grained silicic volcanics sample#102968**



Table 3: Field Samples Description

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102851	329497	5456230	352M	Greenish grey to brown volcanic rock, fine grained, serpentized along fractures, 1-2% sulphides, pyrite and chalcopyrite	Chip/Grab	
102852	329478	5456248	358M	Greenish grey to brown volcanic rock, fine grained, serpentized along fractures, 5-10% sulphides, pyrite and chalcopyrite, 1mm to 5mm thick several pyrite veins	Chip/Grab	Additional assays for Gold
102853	329455	5456243	346M	Greenish grey to brown volcanic rock, fine grained, serpentized along fractures, 1-2% sulphides, pyrite and chalcopyrite, calcite veins	Chip/Grab	Additional assays for Gold
102854	329442	5456246	345M	Greenish grey to brown on surface volcanic rock, fine grained, serpentized along fractures, 2-3% sulphides, pyrite and chalcopyrite, 1mm to 2mm thick several pyrite veins, calcite veins	Chip/Grab	
102855	329426	5456251	348M	Greenish grey to brown on surface volcanic rock, coarse grained, 1-2% sulphides, pyrite and chalcopyrite, 1mm to 5mm thick several calcite veins	Chip/Grab	
102856	329410	5456267	350M	Greenish grey to brown on surface volcanic rock, fine grained, serpentized along fractures, 5-15% sulphides, pyrite and chalcopyrite, 1mm to 10mm thick several pyrite veins	Chip/Grab	Additional assays for Gold
102857	329398	5456281	351M	Greenish grey to brown on surface volcanic rock, fine grained, serpentized along fractures, 5-10% sulphides, pyrite and chalcopyrite, 1mm to 5mm thick several pyrite veins	Chip/Grab	Additional assays for Gold
102858	329363	5456293	352M	Greenish grey to brown on surface volcanic rock, coarse grained, serpentized along fractures, 5-10% sulphides, pyrite and chalcopyrite, 1mm to 5mm thick several pyrite veins,	Chip/Grab	Additional assays for Gold
102859	329358	5456288	344M	Greenish grey to brown on surface volcanic rock, coarse grained, serpentized along fractures, 5-10% sulphides,	Chip/Grab	Additional assays for Gold

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
				pyrite and chalcopyrite, 1mm to 5mm thick several pyrite veins and calcite, pyrite nodules over 1cm thick		
102860	329338	5456279	340M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 2-3% sulphides, pyrite and chalcopyrite, calcite veins	Chip/Grab	
102861	329338	5456279	340M	Duplicate of 102860	Chip/Grab	
102862	329333	5456307	346M	Greenish grey to brown volcanic rock, coarse grained, 5-10% disseminated sulphides pyrite and chalcopyrite, 1-5mm pyrite veins, chunks of pyrite	Chip/Grab	Additional assays for Gold
102863	329303	5456295	335M	Greenish grey to brown volcanic rock, coarse grained to pegmatitic, 3-5% disseminated sulphides pyrite and chalcopyrite, 2-3cm thick quartz vein	Chip/Grab	Additional assays for Gold
102864	329306	5456321	346M	Greenish grey to brown volcanic rock, coarse grained, 5-10% disseminated sulphides pyrite and chalcopyrite, 1-5mm pyrite veins, calcite / quartz veins	Chip/Grab	Additional assays for Gold
102865	329274	5456312	335M	Greenish grey to brown volcanic rock, coarse grained, 3-5% disseminated sulphides pyrite and chalcopyrite along lineation	Chip/Grab	
102866	329276	5456326	335M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 1-2% disseminated sulphides, pyrite and chalcopyrite	Chip/Grab	
102867	329102	5456464	308M	Greenish grey to brown volcanic rock, medium to coarse grained, 1-2% disseminated sulphides, pyrite and chalcopyrite, mm pyrite veins, calcite veins	Chip/Grab	
102868	329103	5456499	302M	Greenish grey to brown volcanic rock, coarse grained, 3-5% disseminated sulphides, pyrite and chalcopyrite, chunks of pyrite	Chip/Grab	
102869	329107	5456496	304M	Greenish grey to brown volcanic rock, coarse grained, serpentinized along fractures, 3-5% disseminated sulphides, pyrite and chalcopyrite	Chip/Grab	

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102870	329097	5456517	298M	Greenish grey to brown volcanic rock, fine grained, serpentized along fractures, 1-2% disseminated sulphides, pyrite and chalcopyrite, calcite veins	Chip/Grab	
102871	329097	5456517	298M	Duplicate of 102870	Chip/Grab	
102872	329120	5456621	290M	Greenish grey to brown volcanic rock, fine to medium grained, 2-3% disseminated sulphides, pyrite and chalcopyrite, mm pyrite veins, calcite veins	Chip/Grab	
102873	329268	5457101	391M	Greenish grey to dark grey and brown volcanic rock, fine to medium grained, 5-7% disseminated sulphides, pyrite and chalcopyrite, massive	Chip/Grab	
102874	329309	5457148	422M	Greenish grey to brown volcanic rock, fine to medium grained, 1-2% disseminated sulphides, pyrite and chalcopyrite, calcite veins	Chip/Grab	
102875	329354	5457165	423M	Greenish grey to brown volcanic rock, medium to coarse grained, 1-2% disseminated sulphides, pyrite and chalcopyrite, calcite veins	Chip/Grab	
102876	329483	5457300	537M	Greenish grey to dark grey volcanic rock, fine to medium grained, serpentized, 1-2% disseminated sulphides, pyrite and chalcopyrite with malachite staining on surfaces, pyrite veins	Chip/Grab	
102877	329488	5457309	527M	Greenish grey to brown volcanic rock, coarse grained, silicious, 1-2% disseminated sulphides, pyrite and chalcopyrite, chunks / broken pieces of quartz, calcite veins	Chip/Grab	
102878	329596	5457335	593M	Greenish grey to brown volcanic rock, coarse grained, 2-3% disseminated sulphides, pyrite and chalcopyrite	Chip/Grab	
102879	329549	5457311	563M	Greenish grey to dark grey volcanic rock, medium to coarse grained, serpentized, 3-5% disseminated sulphides, pyrite and chalcopyrite with malachite staining on surfaces, chunks of pyrite	Chip/Grab	
102880	329042	5456126	221M	Brown shear zone, clayey with fragmented volcanic rocks, 2-3% sulphides,	Chip/Grab	Additional assays for Gold

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102881	329043	5456126	221M	Duplicate of 102880	Chip/Grab	
102882	330553	5454379	352M	Greenish grey, coarse grained gabbro with calcic plagioclase, trace to 1% sulphides, pyrite	Chip/Grab	
102883	330823	5453407	383M	Greenish grey volcanic rock, fine grained, serpentinized along fractures, 2-3% sulphides with cm thick chunks of pyrite nodules	Chip/Grab	Subcrop
102884	330822	5453406	383M	Same as above 883, 3-5% sulphides, more chalcopyrite with pyrite	Chip/Grab	
102885	327504	5458823	202M	Greenish grey, coarse grained gabbro with calcic plagioclase, trace sulphides, pyrite, calcite veins	Chip/Grab	
102886	327468	5458369	201M	Greenish grey, fine to medium grained gabbro with calcic plagioclase, trace sulphides, pyrite	Chip/Grab	
102887	327493	5458288	199M	Greenish grey volcanic rock, fine grained, serpentinized along fractures, 2-3% sulphides, pyrite and chalcopyrite	Chip/Grab	
102888	327495	5458275	199M	Greenish grey volcanic rock, fine grained, serpentinized along fractures, 1-2% sulphides, pyrite and chalcopyrite	Chip/Grab	
102889	327498	5458270	199M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 1-2% sulphides, pyrite and chalcopyrite, rusty outcrop	Chip/Grab	
102890	327495	5458259	196M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 5% sulphides, pyrite and chalcopyrite, rusty outcrop	Chip/Grab	
102891	327495	5458259	196M	Duplicate of 102890	Chip/Grab	Additional assays for Gold
102892	327500	5458240	196M	Greenish grey volcanic rock, fine grained, serpentinized along fractures, 2-3% sulphides, pyrite and chalcopyrite	Chip/Grab	
102893	327803	5454879	135M	Greenish grey volcanic rock, fine grained, serpentinized along fractures, trace sulphides	Chip/Grab	
102894	329518	5456224	353M	Greenish grey to brown volcanic rock, fine to medium grained, serpentinized along fractures, 2-5% disseminated sulphides, pyrite, chalcopyrite, 1/2-inch quartz vein, massive	Chip/Grab	

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102895	329531	5456218	352M	Greenish grey to brown volcanic rock, fine to medium grained, serpentinized along fractures, 2-5% disseminated sulphides, pyrite, chalcopyrite, 1/2-inch quartz vein, massive	Chip/Grab	
102896	329371	5456510	403M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 2-5% disseminated sulphides, pyrite, chalcopyrite, 1/2-inch quartz vein, massive	Chip/Grab	
102897	329360	5456487	400M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 2-5% disseminated sulphides, pyrite, chalcopyrite, chunks of pyrite, 2-5mm pyrite veins, massive	Chip/Grab	
102898	329362	5456475	400M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 5-10% disseminated sulphides, pyrite, chalcopyrite, chunks of pyrite, 2-5mm pyrite veins, massive	Chip/Grab	
102899	329360	5456460	396M	Greenish grey to brown volcanic rock, fine grained, serpentinized along fractures, 5-10% disseminated sulphides, pyrite, chalcopyrite, 2-5mm pyrite veins, massive	Chip/Grab	
102900	329365	5456434	395M	Greenish grey to rusty brown volcanic rock, fine grained, serpentinized along fractures, 5-10% disseminated sulphides, pyrite, chalcopyrite, 2-5mm pyrite veins, massive	Chip/Grab	
102901	329365	5456434	395M	Duplicate of 102900	Chip/Grab	Duplicate
102902	329393	5456403	394M	Greenish grey to brown volcanic rock, fine to medium grained, serpentinized along fractures, 5-10% disseminated sulphides, pyrite, chalcopyrite, 2-5mm pyrite veins, massive	Chip/Grab	
102903	329405	5456396	396M	Greenish grey to brown volcanic rock, fine to medium grained, serpentinized along fractures, 5-10% disseminated sulphides, pyrite, chalcopyrite, 2-5mm pyrite veins, massive	Chip/Grab	
102904	329463	5456351	395M	Greenish grey to brown volcanic rock, fine to medium grained, serpentinized along fractures, 10-15% disseminated sulphides, pyrite, chalcopyrite, 2-5mm pyrite veins, massive	Chip/Grab	



Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102905	328792	5456539	186M	Greenish grey to brown volcanic rock, fine grained, disseminated 1-2% sulphides, pyrite and chalcopyrite, very thin calcite veins	Chip/Grab	
102906	328796	5456533	187M	Greenish grey to dark grey volcanic rock, fine grained, disseminated 5-8% sulphides, pyrite and chalcopyrite, 1mm - 3mm pyrite veins, very thin calcite veins, chunk of pyrite	Chip/Grab	
102907	328821	5456482	193M	Greenish grey to brown volcanic rock, fine grained, disseminated 5-10% sulphides, pyrite and chalcopyrite, 1-5 mm pyrite veins, very thin calcite veins, chunk of pyrite	Chip/Grab	
102908	328828	5456464	193M	Greenish grey to brown volcanic rock, fine grained, disseminated 1-2% sulphides, pyrite and chalcopyrite, chunk of pyrite	Chip/Grab	
102909	328842	5456435	195M	Greenish grey to brown volcanic rock, fine grained, disseminated 10-15% sulphides, pyrite and chalcopyrite, thin calcite veins, chunk of pyrite	Chip/Grab	Additional assays for Gold
102910	328848	5456429	196M	Greenish grey to dark grey volcanic rock, fine grained, disseminated 10-15% sulphides, pyrite and chalcopyrite, 5-10mm pyrite veins, 1-5 mm calcite veins, chunk of pyrite	Chip/Grab	
102911	328848	5456429	196M	Duplicate of 102910	Chip/Grab	Duplicate
102912	378859	5456409	198M	Greenish grey to dark grey volcanic rock, fine grained, disseminated 10-15% sulphides, pyrite and chalcopyrite, 1-5mm pyrite veins, chunk of pyrite, massive	Chip/Grab	
102913	328870	5456366	205M	Greenish grey to brown volcanic rock, fine to medium grained, disseminated 5-10% sulphides, pyrite and chalcopyrite, 5-10mm calcite veins, chunk of pyrite, massive	Chip/Grab	Additional assays for Gold
102914	328889	5456345	213M	Greenish grey to brown volcanic rock, fine to medium grained, disseminated 1-2% sulphides, pyrite and chalcopyrite, 1-2mm calcite veins, chunk of pyrite, massive	Chip/Grab	
102915	328892	5456240	215M	Greenish grey to brown volcanic rock, fine grained, disseminated 1-2% sulphides, pyrite and chalcopyrite, chunk of pyrite	Chip/Grab	

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102916	328897	5456192	216M	Greenish grey to rusty brown volcanic rock, fine grained, disseminated 10-15% sulphides, pyrite and chalcopyrite, big chunk of pyrite	Chip/Grab	Additional assays for Gold
102917	328914	5456163	220M	Greenish grey to dark grey and rusty brown volcanic rock, fine grained, disseminated 10-15% sulphides, pyrite and chalcopyrite, thin calcite veins, chunk of pyrite, minor serpentine	Chip/Grab	Additional assays for Gold
102918	329088	5456124	219M	Greenish grey to brown volcanic rock, fine grained, disseminated 5-10% sulphides, pyrite and chalcopyrite, chunk of pyrite	Chip/Grab	Additional assays for Gold
102919	329096	5456128	226M	Greenish grey to dark grey volcanic rock, fine grained, disseminated 5-10% sulphides, pyrite and chalcopyrite, chunk of pyrite	Chip/Grab	Additional assays for Gold
102920	329170	5456140	227M	Greenish grey to dark grey volcanic rock, fine grained, disseminated 2-5% sulphides, pyrite and chalcopyrite, few thin calcite veins, chunk of pyrite, minor serpentine, massive	Chip/Grab	
102921	329170	5456140	227M	Duplicate of 102920	Chip/Grab	Duplicate
102922	329270	5456047	218M	Greenish grey to dark grey and brown volcanic rock, fine grained, disseminated 10-15% sulphides, pyrite and chalcopyrite, 1-5mm pyrite veins, few thin calcite veins, chunk of pyrite	Chip/Grab	Additional assays for Gold
102923	329732	5455661	250M	Greenish grey to grey siliceous volcanic rock, medium to coarse grained, 2-5mm calcite veins	Chip/Grab	
102924	330208	5454969	303M	Greenish grey volcanic rock, fine to medium grained, disseminated 1-2% sulphides, pyrite and chalcopyrite, pyrite is along the veins, quartz? / Calcite veins	Chip/Grab	
102925	330623	5453871	368M	Greenish grey to brown volcanic rock, fine grained, sparsely disseminated 1-2% sulphides, pyrite and chalcopyrite, few chunks of pyrite	Chip/Grab	
102926	329093	5456733	284M	Greenish grey to brown volcanic rock, fine to medium grained, minor scattered pyrite, few small chunks of pyrite, calcite veins	Chip/Grab	

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102927	329021	546810	268M	Light grey to medium grey volcanic rock, fine to medium grained, trace specks of pyrite, 1-5mm calcite veins	Chip/Grab	
102928	328880	5457019	251M	Light grey to medium grey volcanic rock, fine to medium grained, trace of pyrite along quartz veins, 1-5mm quartz veins	Chip/Grab	
102929	328854	5457078	247M	Grey to dark grey volcanic rock, fine grained, sparsely disseminated less to 1% sulphide, pyrite, chalcopyrite, 1-5mm calcite veins	Chip/Grab	
102930	328798	5457058	227M	Grey to dark grey volcanic rock, fine grained, specks of pyrite, quartz veins, 1-5mm calcite veins	Chip/Grab	
102931	328799	5457058	227M	Duplicate of 102930	Chip/Grab	Duplicate
102932	328637	5457014	179M	Grey to dark grey and brown volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, calcite veins, massive	Chip/Grab	Additional assays for Gold
102933	328550	5457097	175M	Greenish grey to brown volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, massive	Chip/Grab	
102934	328252	5458576	354M	Dark grey to brown volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 10-15mm multiple pyrite veins, massive	Chip/Grab	Additional assays for Gold
102935	328271	5458543	345M	Dark grey to brown volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, massive	Chip/Grab	Additional assays for Gold
102936	328260	5458475	335M	Dark grey to brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, few chunks of pyrite, 5-10mm pyrite veins, massive	Chip/Grab	Additional assays for Gold
102937	328271	5458438	332M	Greenish grey to dark grey volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 4-5 inches quartz vein, pyrite chunks are in quartz also	Chip/Grab	Additional assays for Gold
102938	328237	5458368	314M	Greenish grey to brown volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm pyrite veins, massive	Chip/Grab	Additional assays for Gold

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102939	328233	5458409	321M	Greenish grey to brown volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 10-20 mm pyrite veins, quartz vein, pyrite is present along quartz vein also, massive	Chip/Grab	Additional assays for Gold
102940	328142	5458385	297M	Greenish grey to brown volcanic rock, fine grained, 2-5% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, few calcite veins, massive	Chip/Grab	
102941	328142	5458385	297M	Duplicate of 102940	Chip/Grab	Duplicate
102942	328119	5458386	290M	Greenish grey to brown volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10mm calcite veins, massive	Chip/Grab	Additional assays for Gold
102943	:328016	5458358	269M	Greenish grey to rusty brown volcanic rock, fine grained, 1-3% sparsely disseminated sulphide, pyrite, chalcopyrite, small chunks of pyrite, trace serpentine	Chip/Grab	
102944	328138	5458006	242M	Greenish grey to brown volcanic rock, fine grained, 15-20% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm multiple pyrite veins, 1-5mm calcite veins, 20-25-meter-thick exposure, massive	Chip/Grab	Additional assays for Gold
102945	328182	5457926	235M	Grey to medium grey volcanic rock, fine grained, 1-2% disseminated sulphide, pyrite, chalcopyrite, few chunks of pyrite, massive	Chip/Grab	
102946	328111	5457900	225M	Greenish grey to medium grey volcanic rock, fine grained, 3-5% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5 mm pyrite veins, thin calcite veins, massive	Chip/Grab	
102947	328078	5457887	221M	Greenish grey to brown volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5 mm pyrite veins, 1-3 mm calcite veins, siliceous, massive	Chip/Grab	
102948	328012	5457784	209M	Greenish grey to brown volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5 mm pyrite veins, 1-5 mm calcite veins, siliceous, massive	Chip/Grab	

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102949	328096	5457754	188M	Greenish grey to dark grey volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm pyrite veins, massive	Chip/Grab	Additional assays for Gold
102950	328137	5457707	185M	Greenish grey to brown volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, minor chunks of pyrite, 1-5 mm calcite veins, 4-5cm quartz vein, pyrite in quartz vein as well, massive	Chip/Grab	Additional assays for Gold
102951	328137	5457707	185M	Duplicate of 102950	Chip/Grab	Duplicate
102952	328169	5457661	181M	Greenish grey to brown volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm multiple pyrite veins, massive	Chip/Grab	Additional assays for Gold
102953	328190	5457613	176M	Grey to medium grey volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5 mm pyrite veins, siliceous, massive	Chip/Grab	
102954	328188	5457568	175M	Grey to medium grey volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm pyrite veins, thin calcite veins, siliceous, massive	Chip/Grab	
102955	328197	5457531	169M	Grey to medium grey volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm multiple pyrite veins, 1-5 mm calcite veins, massive	Chip/Grab	Additional assays for Gold
102956	328196	5457482	161M	Grey to medium grey volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm multiple pyrite veins, 1-5 mm calcite veins, massive	Chip/Grab	
102957	329234	5456446	:362 M	Greenish grey to brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 20-50 mm pyrite veins, 1/4-inch quartz vein also contain pyrite, 1-5 mm calcite veins, more than 20% pyrite in the rock, massive	Chip/Grab	Additional assays for Gold
102958	329304	5456468	385M	Greenish grey to brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 10-30 mm pyrite veins, look like more than 20% pyrite in the rock, massive	Chip/Grab	Additional assays for Gold

Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102959	329409	5456529	413M	Grey to medium grey volcanic rock, rusty brown weathered surface, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, small thin calcite veins, 1-5 mm quartz veins, massive	Chip/Grab	
102960	329482	5456579	430M	Greenish grey to brown weathered volcanic rock, fine grained, 5-10% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 20-50 mm pyrite vein, 1-5 mm multiple pyrite veins, look like more than 20% pyrite in the rock, massive	Chip/Grab	Additional assays for Gold
102961	329482	5456579	430M	Duplicate of 102960	Chip/Grab	
102962	329490	5456544	435M	Greenish grey, rusty brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 10-20 mm pyrite veins, massive	Chip/Grab	
102963	329574	5456468	449M	Greenish grey, rusty brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 20-25 mm pyrite veins, look like chalcopyrite is more in the veins, 2-5 mm calcite veins, massive	Chip/Grab	
102964	329616	5456460	459M	Greenish grey to medium grey volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 10-15 mm multiple pyrite veins, trace quartz crystals, ~20% pyrite in the rock, massive	Chip/Grab	Additional assays for Gold
102965	329766	5456447	478M	Greenish grey to medium grey, brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm multiple pyrite veins, 1-5 mm calcite veins, massive	Chip/Grab	
102966	329804	5456437	488M	Greenish grey, rusty brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm multiple pyrite veins, 1-5 mm calcite veins, massive	Chip/Grab	



Sample Number	Location NAD 83 Zone 11		Elevation (m)	Description	Sample Type	Notes
	Easting	Northing				
102967	329509	5456309	387M	Greenish grey, brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 10-20 mm pyrite veins, 1-2 mm calcite veins, chalcopyrite is more in the pyrite veins, massive	Chip/Grab	Additional assays for Gold
102968	329527	5456283	373M	Greenish grey medium grey, brown weathered volcanic rock, fine grained, 10-15% disseminated sulphide, pyrite, chalcopyrite, chunks of pyrite, 5-10 mm pyrite veins, 1-5 mm calcite veins, massive	Chip/Grab	

## 9.2 Exploration Work Results

The analytical results of 124 samples indicate that copper is the main target element for further exploration. No significant values of gold, silver, manganese, molybdenite, vanadium, zinc and nickel were found in these samples (Table 4 and Figures 12 to 18).

- Copper values are in the range of 4.9 ppm to 1.25%. Out of 124 samples, one sample contain 1.25%, 21 samples range from 1000 ppm-4750 ppm and 79 samples are from 116 ppm- 1000 ppm. The highest value (1.25 %) sample (# 102879) is collected from the vicinity of the Cu Ken showing. Generally, higher values are in the central part of the claim 1080446.
- Silver values are in the range of 0.01 parts per million (ppm) to 7.78 ppm, 13 samples are over one ppm, 18 samples have values between 0.5 ppm to one ppm, and 25 samples are below 0.1 ppm silver. Values over 1 ppm are generally from the southern portion of the claim 1080446. Highest value (7.78 ppm) is from a sample close to Ken showing.
- Forty-two samples were chosen for gold assay. The gold mineralization in the study area appears very low. Au values in 26 samples are <0.01 grams per tonne (g/t) and 16 samples range from 0.01-0.03 g/t.
- Lead (Pb) values are in the range of 0.8 ppm to 51.2 ppm, only six samples have values higher than 20 ppm. Zinc (Zn) ranges from 9ppm-432ppm, only 32 samples are more than 100 ppm. Manganese (Mn) is from 56 ppm to 2540 ppm, only 10 samples are above 2000 ppm. Molybdenum is 0.54 ppm-984 ppm, only 9 samples exceed 100 ppm. Nickel (Ni) is from 1.7 ppm to 166 ppm, only 20 samples are above 100 ppm. Vanadium (V) ranges from 9.0 ppm to 429 ppm, 54 samples are above 300 ppm. Chromium (Cr) varies from 37.0 ppm to 346 ppm, only 28 samples are above 200 ppm.

**Table 4: Exploration work assays highlights**

Lab Sample Batch ID	SAMPLE ID	Au	Ag	Al	As	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	Cu
		g/tonne	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
KM6497	102851		0.22	7.32	3.5	134	43.2	3.77	211	19.7	7.5	8.3	60	21	
KM6497	102852	<0.01	0.24	7.71	3.5	285	274	10.75	1030	4.26	98	7.6	284	54	
KM6497	102853	<0.01	0.1	8.34	2.1	114	49	3.8	522	3.13	7.4	6.9	98	29	
KM6497	102854		0.63	6.9	4.2	132	781	7.42	232	6.52	10.9	5.3	73	22	
KM6497	102855		0.12	7.93	1.5	94	72.4	5.01	360	2.74	8.5	3.1	89	26	
KM6497	102856	<0.01	0.22	5.87	4.5	146	457	12.1	1340	181	78.5	2.4	342	55	
KM6497	102857	<0.01	0.67	6.68	6.3	137	1155	11.1	1300	22.8	82.9	4.5	345	90	
KM6497	102858	<0.01	0.49	5.81	2.5	88	2140	11.3	2540	8.52	52.4	3.5	428	125	
KM6497	102859	<0.01	0.14	6.07	2.8	146	480	9.98	1650	17.3	74.6	3.4	385	68	
KM6497	102860		0.18	5.69	3.2	122	472	10.05	1200	51.7	64.5	2.6	307	55	
KM6497	102861		0.16	5.95	2.6	119	428	9.74	1400	34.3	64	2.7	308	64	
KM6497	102862	<0.01	0.18	6.75	1.8	98	354	9.71	2030	3.34	66.5	1.9	365	89	
KM6497	102863	<0.01	0.11	5.3	2.2	154	300	10.25	1090	3.55	60.8	2.1	290	48	
KM6497	102864	<0.01	0.09	5.59	2.9	156	87.8	13.15	728	81.5	68	3.1	296	44	
KM6497	102865		1.11	2.84	6.9	250	964	29.6	519	9.43	82.7	5.6	191	43	
KM6497	102866		0.41	7.26	3	115	694	11.5	2010	18.2	95.1	2.3	366	117	
KM6497	102867		0.18	6.43	1.7	189	312	7.66	1610	32.7	73.2	1.7	292	88	
KM6497	102868		1.38	4.6	5.6	185	2050	21.4	1020	16.55	75	4.6	245	65	
KM6497	102869		1.34	6.08	11	163	4750	15.4	1340	10.55	91.7	6.4	231	88	
KM6497	102870		0.74	7.52	2	106	1185	4.81	649	17.85	16	2	84	41	
KM6497	102871		0.72	7.69	2.1	99	1180	4.73	609	27.1	14.8	1.9	77	38	
KM6497	102872		0.11	7.39	1.8	90	76.2	9.91	390	3.78	13.6	3.9	63	31	
KM6497	102873		0.06	7.37	5.4	215	49.2	8.21	1420	0.71	97.3	2.2	304	67	

Lab Sample Batch ID	SAMPLE ID	Au	Ag	Al	As	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	Cu
		g/tonne	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
KM6497	102874		0.03	7.77	2.7	202	68.7	8.66	1210	1.25	83.6	3	357	82	
KM6497	102875		0.08	7.38	3	136	361	9.68	1720	1.03	67.9	2.4	341	142	
KM6497	102876		0.02	8.19	3	189	17	8.64	1300	0.74	92.9	2.5	316	97	
KM6497	102877		0.51	6.72	4.2	222	62.2	6.46	944	1.55	74.1	2.8	271	44	
KM6497	102878		0.39	3.21	15.2	173	323	7.61	1100	2.08	42.9	6.1	154	130	
KM6497	102879		7.78	7.2	1.7	145	>10000	7.67	1460	0.54	83.4	3.3	288	110	1.25
KM6497	102880	<0.01	0.96	7.2	16.6	120	377	14.45	1000	38.5	42.6	42.7	358	78	
KM6497	102881		1.32	7.28	21.7	103	493	14.05	862	46.2	46.3	51.2	339	84	
KM6497	102882		0.02	7.83	1.5	103	11.2	2.87	709	2	4	4	48	50	
KM6497	102883		0.49	6.71	59.1	58	679	10.25	1680	1.29	73.4	4.3	382	67	
KM6497	102884		0.17	5.99	23.4	91	379	8.34	1680	1.61	81.7	3.6	318	63	
KM6497	102885		0.03	7.77	3	79	31.7	4.86	818	1.16	8.2	3.8	145	42	
KM6497	102886		0.02	7.43	1.5	85	10.8	3.27	585	3.52	4.2	4.2	72	36	
KM6497	102887		0.15	7.58	3.3	89	184	6.09	521	6.45	8.4	3.7	160	35	
KM6497	102888		0.05	8.01	3.6	59	122	4.66	442	2.41	4.5	3	230	27	
KM6497	102889		0.11	7.65	5.8	132	187.5	9.24	720	7.16	67.7	2.8	227	37	
KM6497	102890		0.16	7.54	6.4	125	406	9.78	1040	4.59	81.7	4.2	307	51	
KM6497	102891	<0.01	0.17	7.44	6.2	124	314	9.43	967	7.13	72.5	4.8	308	47	
KM6497	102892		0.18	6.99	11.5	167	116.5	8.61	2520	0.74	62.5	6	344	344	
KM6497	102893		0.01	6.76	1.4	97	4.9	1.35	216	1.66	3.7	2.3	45	10	
KM6497	102894		0.14	8.13	2	81	255	3.37	273	5.77	19.1	3.5	54	22	
KM6497	102895		0.11	8.79	5.5	175	137	9.53	1050	3.56	76.7	4.3	328	58	
KM6497	102896		0.09	1.58	0.9	292	154.5	5.91	301	984	26.1	0.8	111	16	
KM6497	102897		0.15	5.72	2.2	144	363	10.55	1200	198	67.8	1.8	351	63	

Lab Sample Batch ID	SAMPLE ID	Au	Ag	Al	As	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	Cu
		g/tonne	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
KM6497	102898		0.38	4.75	2.4	194	584	10.65	678	13.4	51.1	1.9	314	56	
KM6497	102899		2.56	4.73	3.4	196	4700	16.6	968	619	109	2.8	264	57	
KM6497	102900		0.66	3.65	8.9	244	906	15.25	589	139.5	50.7	2.9	249	32	
KM6497	102901		0.59	4.4	4.8	200	1360	13.55	775	192.5	58.5	2.2	258	43	
KM6497	102902		0.16	6.07	2.8	198	312	9.79	940	85.7	73	1.4	378	57	
KM6497	102903		0.42	5.83	5.3	178	418	14.65	1020	24.8	104	5.4	334	60	
KM6497	102904		0.1	4.54	2.3	210	548	6.62	714	200	48.9	2.2	220	36	
KM6497	102905		0.15	6.75	1.5	119	12.1	1.83	56	5.86	3.2	4.3	9	9	
KM6497	102906		0.1	6.65	17.2	131	398	10.25	1950	2.64	78.9	2	417	111	
KM6497	102907		0.07	8.17	5	79	122.5	2.8	317	3.05	3.6	3.4	36	63	
KM6497	102908		0.06	7.78	5.9	61	79.9	4.39	446	1.3	6.8	1.9	42	48	
KM6497	102909	<0.01	0.42	5.97	48.8	105	682	13.4	1690	8.66	82.8	9.3	330	127	
KM6497	102910		0.09	7.22	35.1	86	300	10.45	2200	2.93	81	1.7	386	129	
KM6497	102911		0.08	6.95	29.2	91	214	9.84	2270	1.73	80	1.7	376	130	
KM6497	102912		0.24	6.33	50.6	93	543	10.5	1770	4.39	76.4	2.5	375	375	
KM6497	102913	0.01	0.45	8.04	30.2	66	604	6.19	667	5.34	5.9	8.7	74	124	
KM6497	102914		0.71	7.74	141	84	678	6.67	374	8.54	5.1	11.3	47	70	
KM6497	102915		0.07	7.6	5.6	123	80.9	4.24	770	2.02	3.7	3.7	79	38	
KM6497	102916	0.03	1.68	7.69	206	124	1040	17.35	1390	49.2	3.9	44.1	60	432	
KM6497	102917	<0.01	3.28	9.21	5.2	81	2960	14.6	2210	46.4	5.5	18	63	151	
KM6497	102918	<0.01	0.23	8.04	6.5	93	267	5.71	572	3.33	25.1	2.9	157	57	
KM6497	102919	<0.01	0.12	6.86	7.8	139	256	10.5	1360	2.81	60.2	1.3	429	59	
KM6497	102920		0.52	7.86	5.4	135	643	8.82	1360	2.61	77.9	2.3	351	109	
KM6497	102921		0.43	7.06	4.9	142	436	8.27	1080	3.25	66	1.7	322	108	

Lab Sample Batch ID	SAMPLE ID	Au	Ag	Al	As	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	Cu
		g/tonne	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
KM6497	102922	<0.01	0.42	7.22	2.8	146	793	10.7	1080	3.21	80.7	1.2	346	146	
KM6497	102923		0.03	8.01	0.6	74	11.3	5.78	1160	2.13	6.3	1.9	190	55	
KM6497	102924		0.09	7.31	2.6	76	54.2	4.01	796	2	3.3	3.2	91	47	
KM6497	102925		0.02	8.43	1.5	39	19	4.8	1360	1.27	1.7	2.1	58	116	
KM6497	102926		0.11	6.23	1	100	197.5	1.4	250	3.55	4	1.3	28	14	
KM6497	102927		0.02	8.26	2.2	37	16.5	6.63	1080	0.82	12.9	1.5	265	59	
KM6497	102928		2.66	2.34	7.8	196	2440	7.67	581	2.73	166	14.3	147	78	
KM6497	102929		0.11	7.79	7.7	132	167.5	8.12	1440	0.82	102.5	3.1	312	83	
KM6497	102930		0.06	7.74	10.9	81	244	8.19	1340	0.73	64.8	3.2	313	72	
KM6497	102931		0.05	7.92	10.3	83	186.5	7.61	1300	0.64	57.3	3.6	301	67	
KM6497	102932	<0.01	0.41	7.48	88.7	129	309	10.05	2040	1.82	74.9	12.2	336	295	
KM6497	102933		0.12	6.61	23.5	100	276	8.87	1440	0.99	59	4.8	398	80	
KM6497	102934	0.01	0.15	5.69	7.3	137	601	12.25	1300	2.78	78.3	3.3	345	62	
KM6497	102935	0.01	0.29	7.05	12.6	253	449	12.1	1240	3.96	117.5	6.4	277	346	
KM6497	102936	<0.01	0.16	7.5	3	219	464	8.53	1320	3.38	100	3.3	266	67	
KM6497	102937	0.01	0.11	4.22	2.3	316	257	4.23	733	185	59.3	3.6	159	44	
KM6497	102938	<0.01	0.16	6.78	3.1	239	499	8.38	1600	14.95	96.5	4.2	286	133	
KM6497	102939	0.01	0.21	7.47	14	220	580	8.86	1600	54.4	108	3.6	284	66	
KM6497	102940		0.57	6.6	18.9	267	622	10.55	1580	33.6	120.5	19.4	236	155	
KM6497	102941		0.35	7.35	13.5	281	512	9.72	1730	24.8	104.5	6.3	284	161	
KM6497	102942	0.01	0.09	8.46	3.1	278	180.5	5.43	1700	6.46	69	2.7	322	102	
KM6497	102943		0.13	7.32	4.3	155	629	7.79	1380	15.9	54.9	3.3	347	84	
KM6497	102944	<0.01	0.28	6.7	2.5	133	1460	9.55	1630	7.18	79.4	2.7	330	65	
KM6497	102945		0.05	7.64	24.9	104	23.1	2.91	100	3.8	3.4	7.1	27	11	



Lab Sample Batch ID	SAMPLE ID	Au	Ag	Al	As	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	Cu
		g/tonne	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
KM6497	102946		0.17	7.74	2.9	112	364	6.28	1300	6	36.2	6.6	199	91	
KM6497	102947		0.19	7.43	2	153	892	5.67	1640	3.48	65.2	3.6	306	107	
KM6497	102948		0.04	8.25	2	73	39.3	5.69	1100	3	8.1	5.1	150	75	
KM6497	102949	<0.01	0.69	7.01	16.2	219	3260	16.65	1160	9.86	162	8.1	252	93	
KM6497	102950	0.01	0.28	6.74	6.6	270	717	6.63	1190	10.2	64.8	5.5	232	110	
KM6497	102951		0.35	5.88	17.4	296	931	7.45	989	12.9	76.1	5.4	216	81	
KM6497	102952	<0.01	0.3	8.13	1.7	208	896	8.34	1380	8.56	87.7	3.8	296	91	
KM6497	102953		0.23	9.19	2.1	125	793	3.65	577	3.37	14	3.4	130	47	
KM6497	102954		0.23	9.87	2.3	52	391	6.07	509	1.81	11.4	3.1	178	48	
KM6497	102955	0.02	0.54	6.72	3.3	160	2860	12.1	1120	17.4	114.5	3.5	276	79	
KM6497	102956		0.28	7.58	2.8	133	1520	9.39	1450	11.9	81.4	6	288	91	
KM6497	102957	0.01	0.18	5.37	1.4	154	505	9.28	1300	4.44	62.6	1.7	289	53	
KM6497	102958	0.02	0.16	6.39	3.5	148	356	9.6	1860	7.02	65.1	2.6	413	68	
KM6497	102959		0.13	7.31	4.9	206	72.5	13.3	1020	365	48.1	5.7	369	70	
KM6497	102960	0.01	0.2	7.15	2	336	317	8.47	1660	63.5	111	2.8	288	107	
KM6497	102961		0.28	6.22	2.1	346	370	9.14	1400	96.9	94.7	3	261	95	
KM6497	102962		0.51	6.14	13.1	200	1345	16.9	1680	24.7	159.5	8.8	237	78	
KM6497	102963		0.19	7.58	2.9	242	313	8.07	2010	11.05	100	2.7	308	109	
KM6497	102964	<0.05	0.51	6.36	22.3	298	313	14	961	52	101	10.6	240	160	
KM6497	102965		0.61	7.08	4.7	231	479	9.86	1940	1.89	126	5.4	312	177	
KM6497	102966		0.14	7.62	2.7	182	213	7.54	2060	5.36	76.9	4.6	333	142	
KM6497	102967	<0.01	0.14	7.52	3.2	141	380	9.5	1360	1.86	53.5	3.5	340	74	
KM6497	102968		0.29	7.48	2.3	154	472	10.2	980	1.78	65.1	2.1	333	63	

Lab Sample Batch ID	SAMPLE ID	Au	Ag	Al	As	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	Cu
		g/tonne	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Author's Sample	76426	0.05	1.4	1.66	270	11	4390	22.4	471	7.58	128.5	3.5	243	40	
Author's Sample	76427	0.041	1.22	7.44	214	8	653	11.85	826	38.9	1.7	38.8	46	117	
Author's Sample	76428	0.033	1.25	3.09	7.4	36	1205	26.8	657	3.69	108	4.4	202	50	
Author's Sample	76429	0.018	0.96	3.77	10.3	46	1455	23.5	886	2.64	92.8	4.3	234	65	
Author's Sample	76430	0.039	2.74	1.21	13.4	22	3740	37	271	21.6	129	4.5	188	34	
Author's Sample	76431	0.009	0.62	5.68	39	58	1515	14.95	1700	13	130	1075	348	147	

Figure 12: Copper Assay Map 1

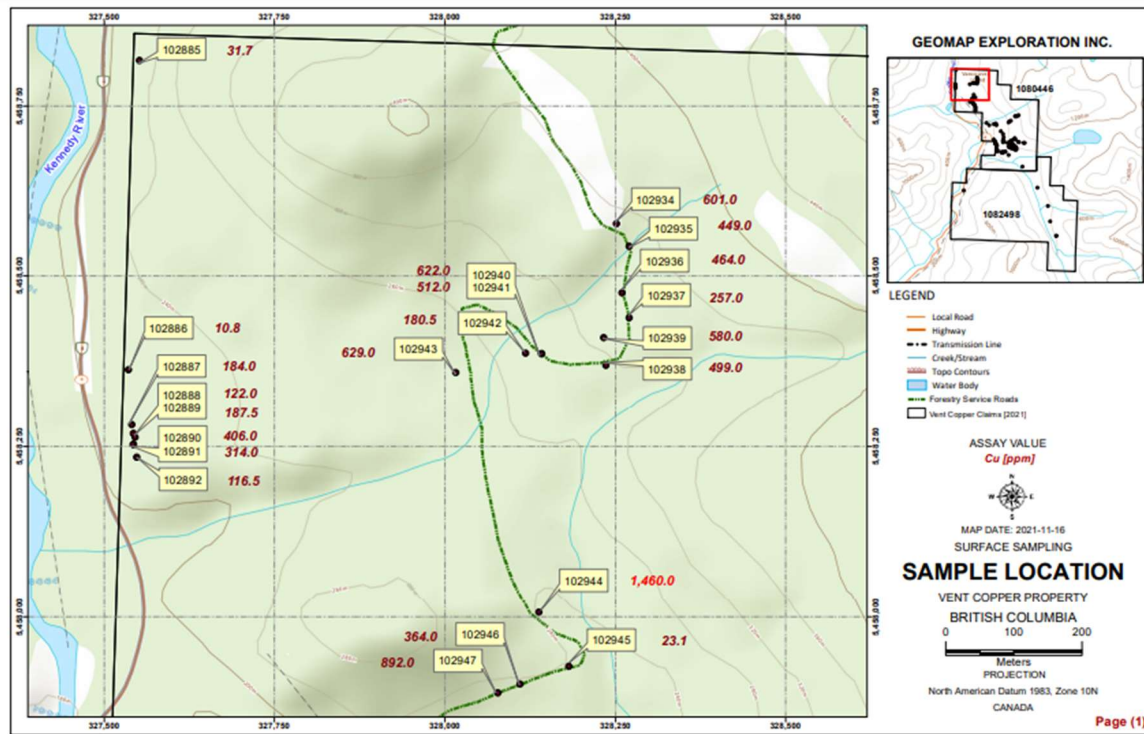


Figure 13: Copper Assay Map 2

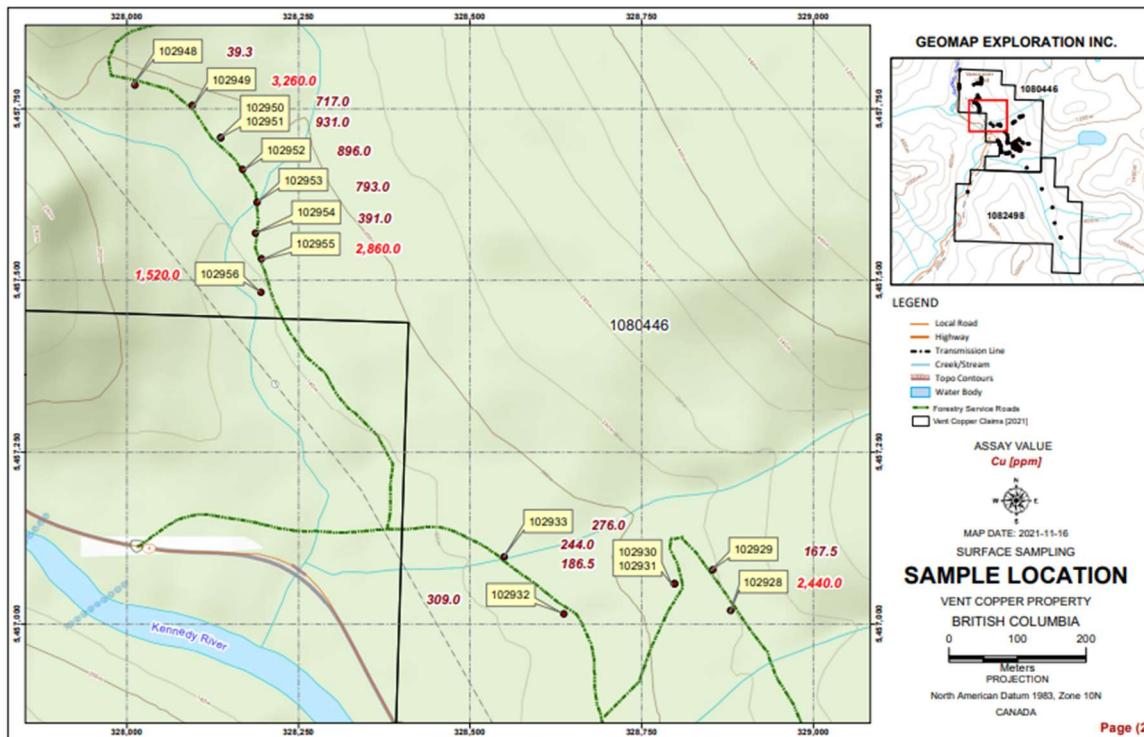


Figure 14: Copper Assay Map 3

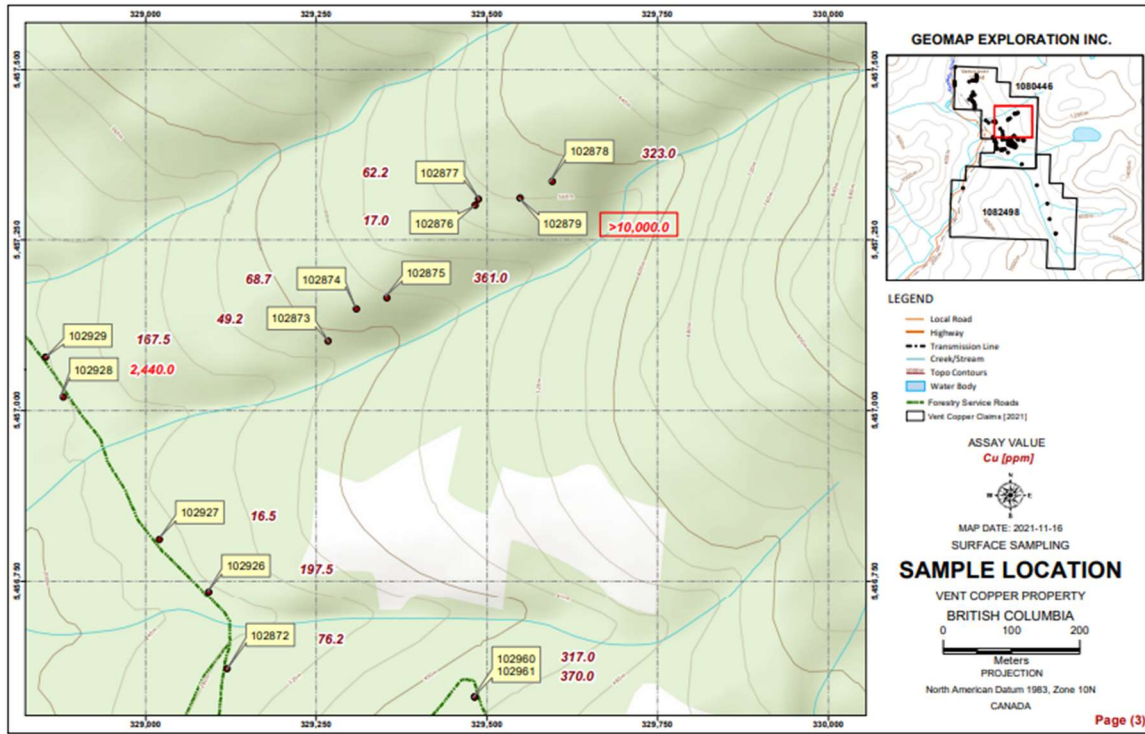


Figure 15: Copper Assay Map 4

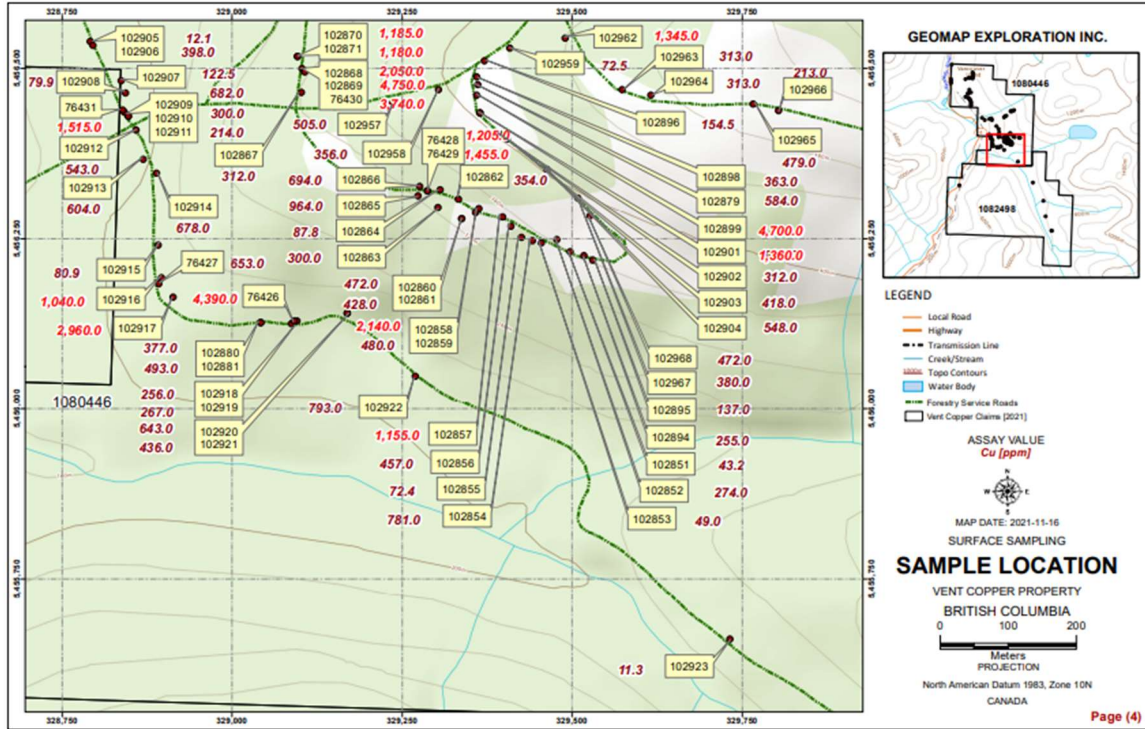




Figure 16: Copper Assay Map 5

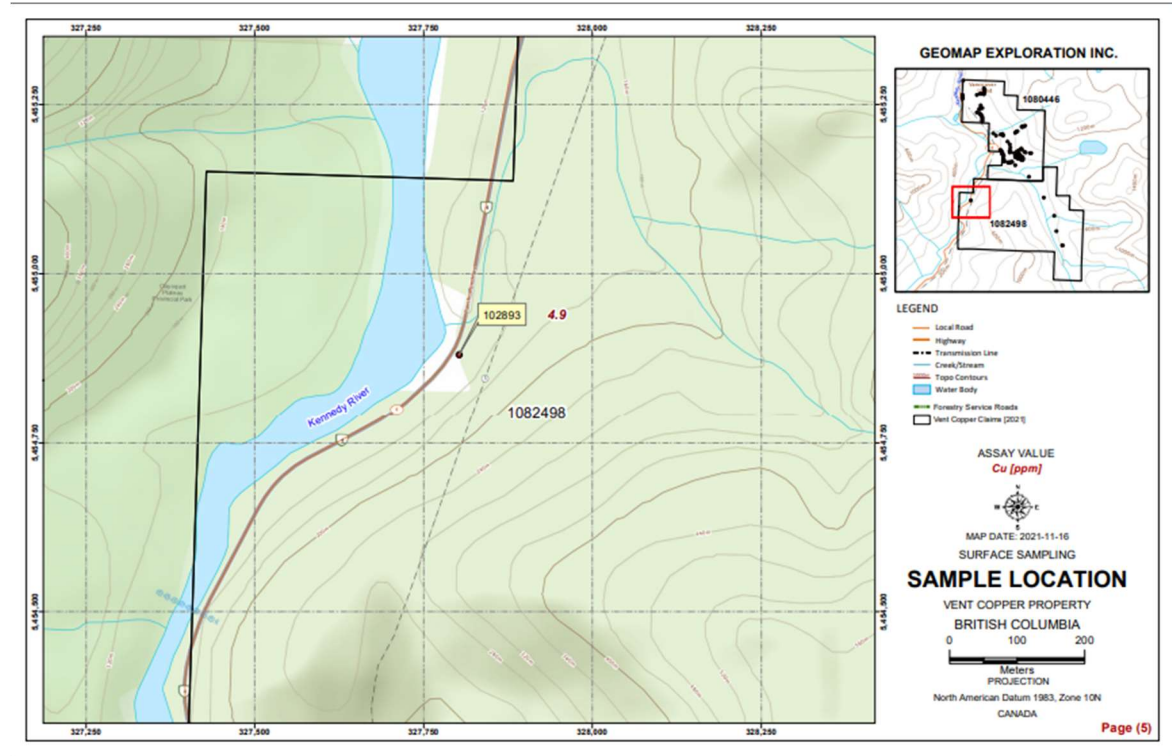


Figure 17: Copper Assay Map 6

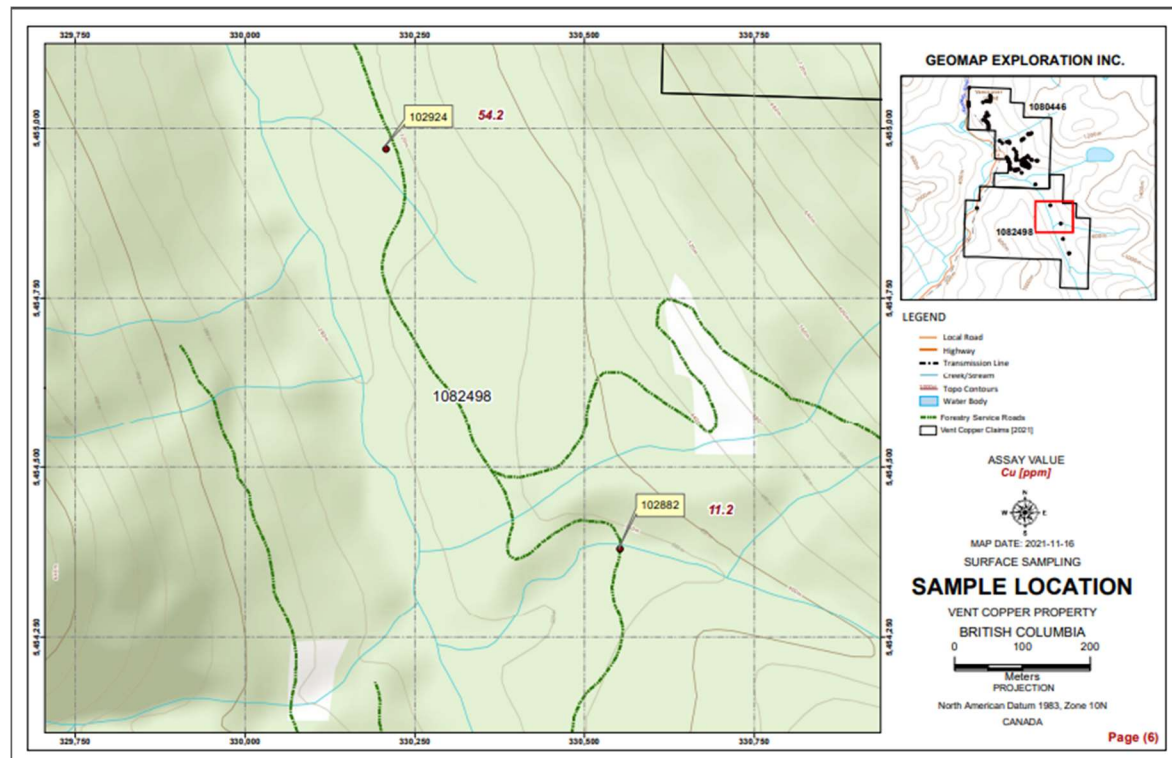
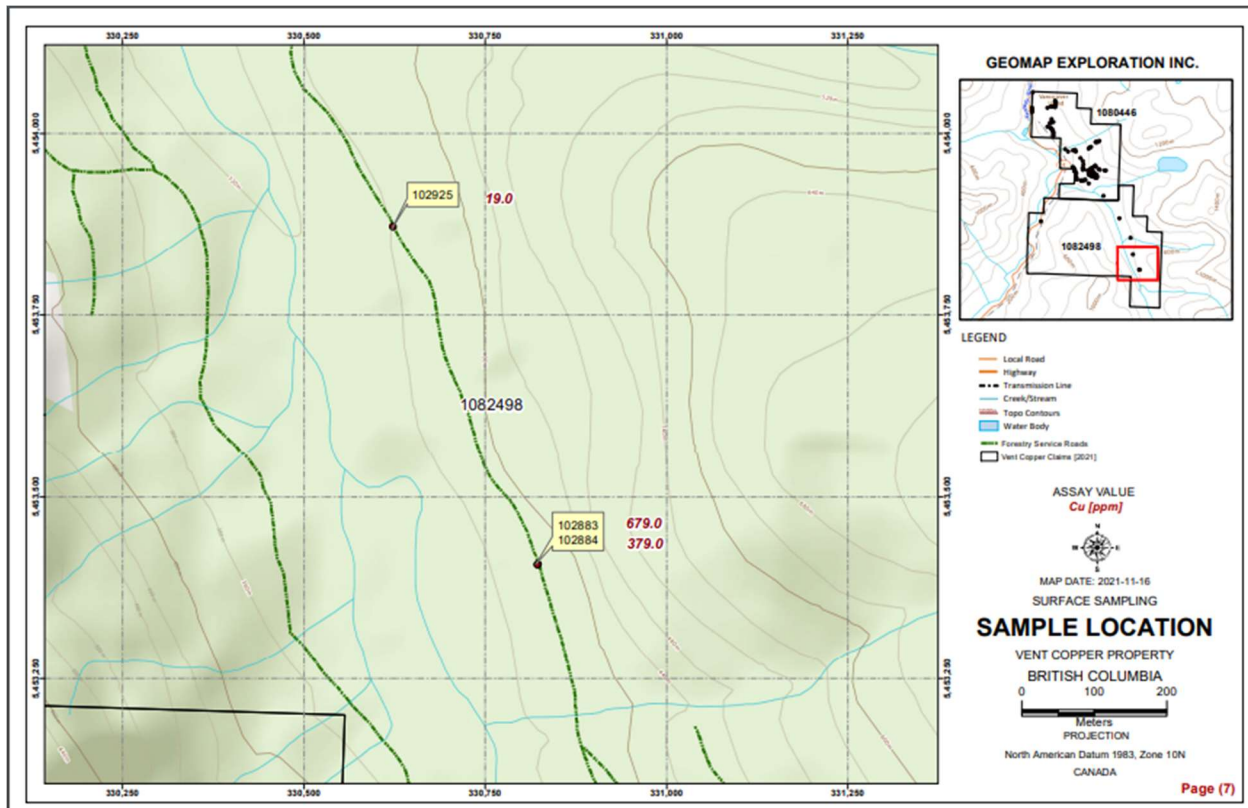


Figure 18: Copper Assay Map 7



### 9.3 Ground Geophysical Survey

The 2021 field season included a ground geophysical program comprised of a Very Low Frequency (VLF) and magnetic (MAG) survey. A total of 633 measurements were recorded along a north-south profile about 10-12m station intervals on approximately 8,075m of traverse line with a GEM GSM-19 portable magnetometer and VLF-EM system. The GEM VLF takes true measurements of the total magnetic field in nanotesla (nT) and the Vertical in-phase & Out-of-phase components of EM fields as % of total field within the VLF frequency range of 15 - 30kHz. The VLF-EM survey recorded strong signals from NLK (24.8-kHz) in Seattle, Washington (USA) with a transmitter orientation of about 112 degrees.

The geophysical database derived from the survey comprises of two datasets:

- I. Magnetic dataset including residual magnetic intensity measurements (RMI) calculated in nT.
- II. VLF-EM data including vertical in-phase (Real) & out-of-phase (Quadrature) measurements in percent (%) for both real and quadrature components.

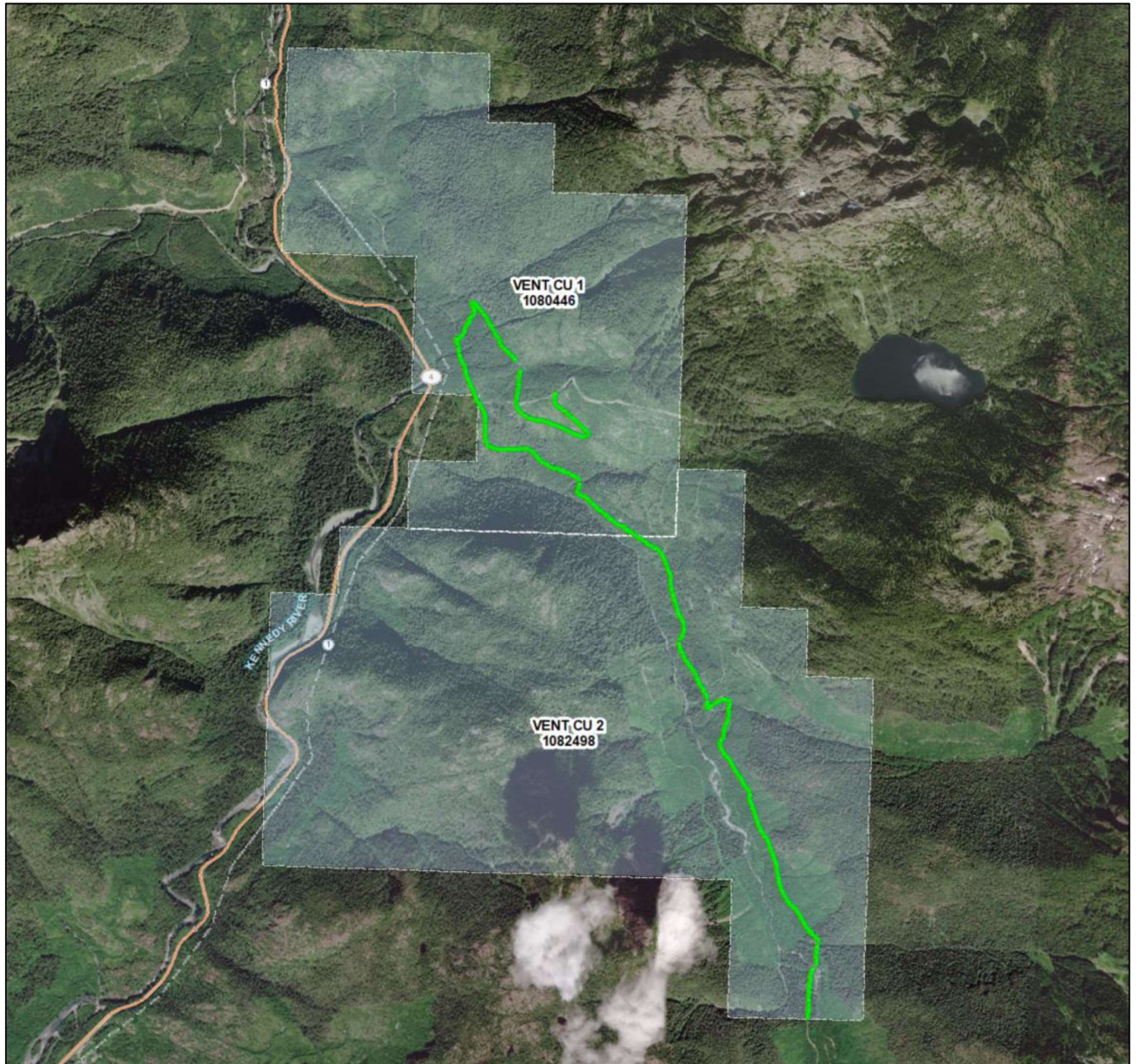


To assess the feasibility of the very-low-frequency electromagnetic (VLF-EM) signals in the Vent Copper Property and to investigate their responses, VLF-EM field measurements were simultaneously performed along magnetic profiles to cover the magnetic anomalies. In-phase (tilt angle) and Out-of-phase (ellipticity) components of vertical magnetic field as a percentage of horizontal primary field were collected and then processed and interpreted with Fraser and Karous-Hjelt (K-H) filtering approaches.

Magnetic inversion modeling was used to create unconstrained 2D models of the magnetic susceptibility. The “quantitative analysis” of magnetic data along MAG traverses was carried out using Occam’s 2D inversion modelling of MAG data to generate smooth, unconstrained 2D models from magnetic data. Geosoft Oasis Montaj and ZONDMAG2D tool for 2D magnetic survey were used.

Since the survey direction changes along the road, the survey profile has been divided into 4 shorter segments (L001, L002, L003, and L004). These four segments were separately processed and analyzed. The survey area is in the VENT CU-1 and VENT CU-2 claims (tenure #1080446 and 1082498) of the Property. Both MAG sections and current density pseudo-sections for In-Phase component have aided in refining the location of magnetized features and conductor responses, dips, and the approximate depth of those conductors.

Figure 19: Location of the MAG / VLF Geophysical Survey



## 9.4 Ground Geophysical Survey Results

All the MAG and VLF-EM intensities suggest the presence of shallow and deep features generally vertical dips. Zones of High susceptibility and apparent conductivity (colored red) are delineated from both MAG and equivalent current density pseudo-section along the profiles. A higher value of apparent current density for In-Phase components can be regarded as good conductive subsurface features. The red color indicates high current density (Mafic Volcanic Breccia and Island Intrusive Rocks), and blue color indicates low current density (high resistivity bodies such

as mafic dykes or quartzites) and intermediate green color moderate resistive bodies, as shear zones or fault zones. The distribution of MAG values indicate that high susceptibility anomalies are likely associated with Pyrrhotite bearing Tertiary dacite porphyry-breccia intrusive rocks and mafic dykes. The dashed lines on the sections represent “*Geophysical Discontinuities*” that distinguish low and high values of MAG and VLF responses.

The regional geology of the survey area indicates that the survey line (Segment L001) is underlain by fine grained to coarse grained volcanic rocks including massive basalt flows, pillow-breccia, minor tuff volcanic breccia, and Jasperoid tuff of the Upper Triassic Karmutsen Formation, Vancouver Group (Unit 5). The lowest part of the formation consists of pillowed basalt which is succeeded by various types of breccia (Muller, 1971). These are intruded by biotite-hornblende, granodiorite, quartz monzonite, and quartz diorite of the Middle to Upper Jurassic Island Intrusions (Unit 9 on geology map) (Muller, 1971).

The long profile crosses multiple lithological layers in the Vent Copper south side. The Upper Triassic mafic volcanic rocks in the southern part of the survey line are largely massive basalt flows, Jasperoid tuff, and volcanic breccia (unit 5). These mafic rocks usually have HIGH magnetic and LOW VLF responses. Along the survey line toward north, the Island Intrusive rocks are dominant and include quartz diorite and quartz monzonite (unit 9) that present HIGH magnetic and HIGH VLF responses. Disseminated magnetite/pyrrhotite in propylitic rocks is most likely the major source of the positive magnetic anomalies in this area.

A significant MAG/VLF anomaly is observed along survey line 003. This anomaly is most likely resulted from the location of a Skarn alteration zone along the fault zone separating the unit 5 of the Karmutsen Formation from the Island Intrusive porphyritic rocks in the southern part of the survey line.

A strong VLF surface anomaly generated by a man-made feature has also affected the underlying VLF responses of the rocks that are dominantly quartz diorite and quartz monzonite (unit 9). This artifact seems to be a long non-magnetic but conductive cultural feature along a trail connecting Louise Goetting Lake to a facility by the highway. These volcanic rocks present HIGH magnetic at shallow depths and HIGH VLF responses in depth. The Upper Triassic mafic volcanic rocks in the northern part of the survey line are largely massive basalt flows, Jasperoid tuff, and volcanic breccia (unit 5). These mafic rocks usually have HIGH magnetic and LOW VLF responses. Along the survey line toward north, disseminated magnetite/pyrrhotite in altered rocks along the fault zone is most likely the major source of the positive magnetic anomalies in this area. The anomalous assay values from 2021 surface sampling program show significant coincidence with the HIGH MAG and HIGH VLF responses.

## **9.5 Geophysical Survey Conclusions and Recommendations**

Geologically, the Property is underlain by massive basalt flows, pillow-breccia, minor tuff volcanic breccia, and Jasperoid tuff of the Upper Triassic Karmutsen Formation, Vancouver Group (Unit

5). The lowest part of the formation consists of pillowed basalt which is succeeded by various types of breccia. These are intruded by biotite-hornblende, granodiorite, quartz monzonite, and quartz diorite of the Middle to Upper Jurassic Island Intrusions (Unit 9). This volcanic unit seems to be associated with the intrusion of the porphyry suite that introduces the copper mineralization. The suite is dominantly quartz monzonite porphyry, Skarn, mafic dykes, and intrusive breccias that are centers for propylitic mineralization. Magnetite is present in places, as are minor amounts of pyrrhotite. The propylitic zone has a higher magnetic response, as this type of alteration is not magnetite destructive.

Geophysical surveys conducted on the Property indicate that the lowest resistivities on all four line- segments can be approximately correlated with the quartz monzonite porphyry, the shear zones, or areas of mixed quartz monzonite porphyry and quartz porphyry.

Disseminated magnetite/pyrrhotite in propylitic rocks is most likely the major source of the positive magnetic anomalies in this area. The distribution of MAG values indicate that high susceptibility anomalies are likely associated with Pyrrhotite bearing Tertiary dacite porphyry-breccia intrusive rocks and mafic dykes. Since pyrrhotite is abundant in all rock types, occurring as veins, fracture coatings and disseminations, the higher magnetic responses are expected in shear zones and the propylitic and Skarn alteration zones.

Sulphide mineralization, mostly pyrite with lesser chalcopyrite is characterized by moderate to high MAG/VLF responses. Shear zones or fault zones are appeared as features with high apparent conductivity and medium to low magnetic responses. These are the areas where the process of silicification and carbonatization seems to be absent. Mafic dykes are usually expressed as High MAG and LOW conductive features. All the MAG and VLF-EM intensities suggest the presence of shallow and deep features dipping at an 80-90-degree angle.

The results of the 1971 Magnetic survey in the central portion of the Property strongly suggest that the higher magnetic readings are coincident with areas mapped as quartz porphyry or quartz monzonite, propylitic andesite, and felsite, while the relatively lower magnetic intensities are underlain by fine grained unaltered volcanic rocks. The anomalous assay values from 2021 surface sampling program show significant coincidence with the HIGH magnetic responses in this portion of the VENT property.

Results obtained from MAG/VLF lines in the survey areas indicate several target areas which are zones that express high MAG and relatively strong VLF responses. These target areas are zones or features of interest with highest potential for further investigations.

**Recommendations:**

1. Further ground truthing of the Magnetic and VLF anomalies is recommended to be followed up on to determine if those anomalies are related to mineralization, fault zones, structural contacts, or overburden response.

2. Geological mapping and comprehensive soil sampling along with a soil chemistry analysis are suggested to be conducted in areas where the magnetic HIGHS suggest near surface features and in areas where the high VLF responses corroborate well with the magnetic HIGHS. Those surveys may provide more valuable insights to advancing this exploration program.

4. The dominant elements in porphyry deposits are minerals that have relatively high values of specific gravity, and a positive density contrast and gravity can be useful in their identification.

5. Integrating gravity survey and ground Induced polarization (IP) is an effective approach to searching for disseminated sulphide bodies associated with porphyry copper systems. This technique that is helpful to detect and map potassic and propylitic alterations is warranted for defining the extent of mineralization zones in areas where mineralized zones are identified.



Figure 20: Target areas based on total magnetic gradient

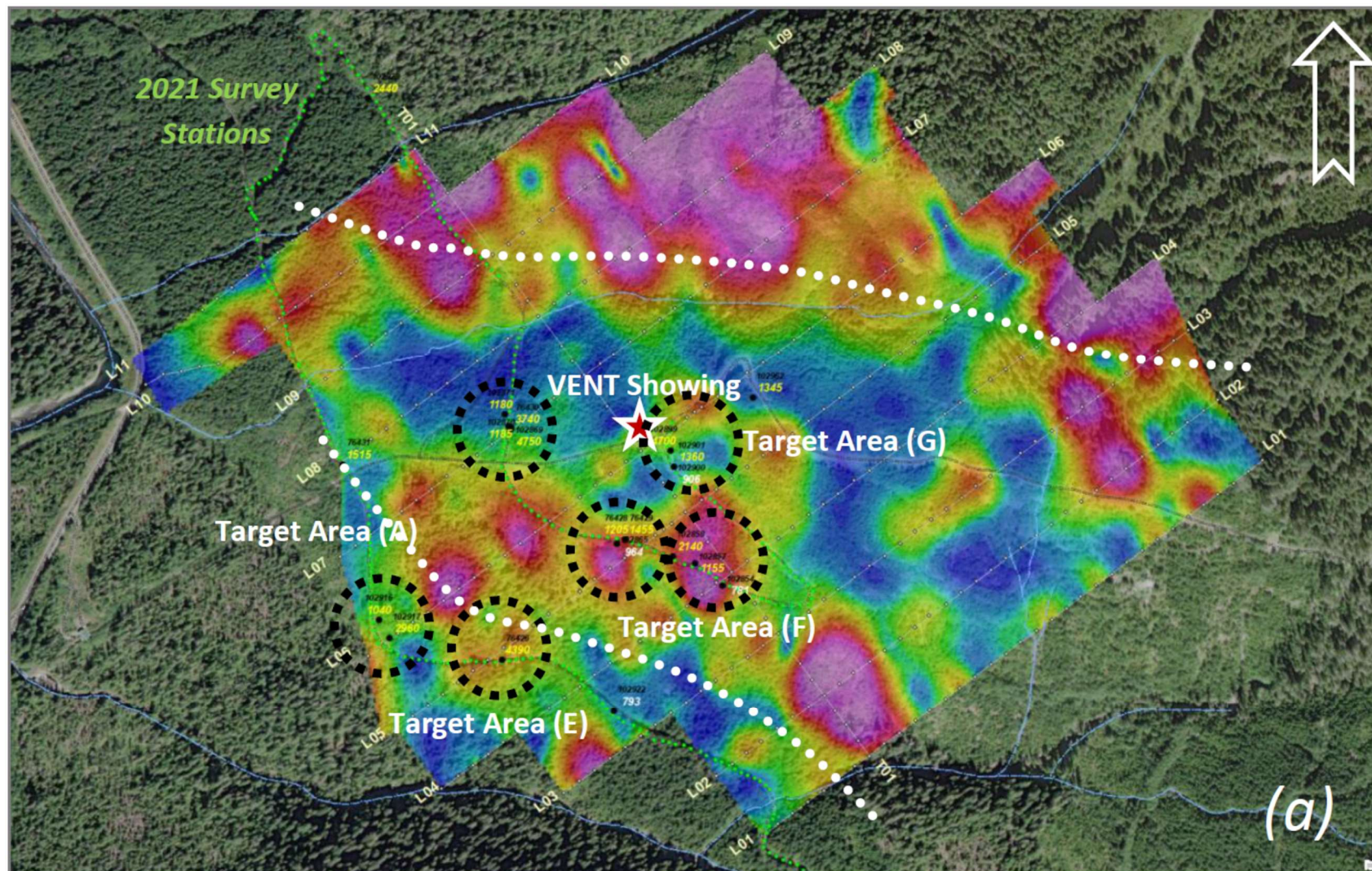




Figure 21: 2D Inversion of MAG data for Line 003

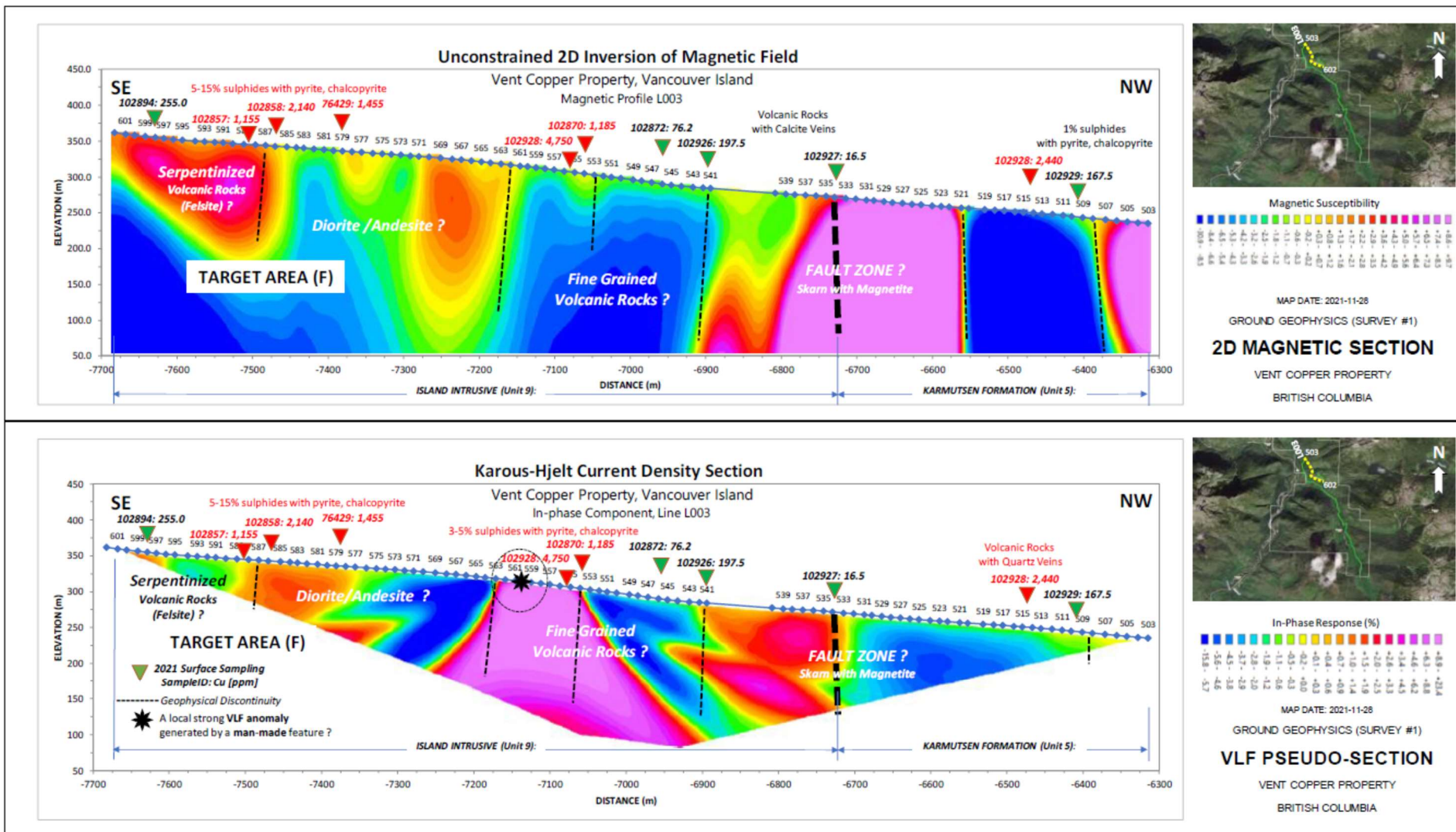
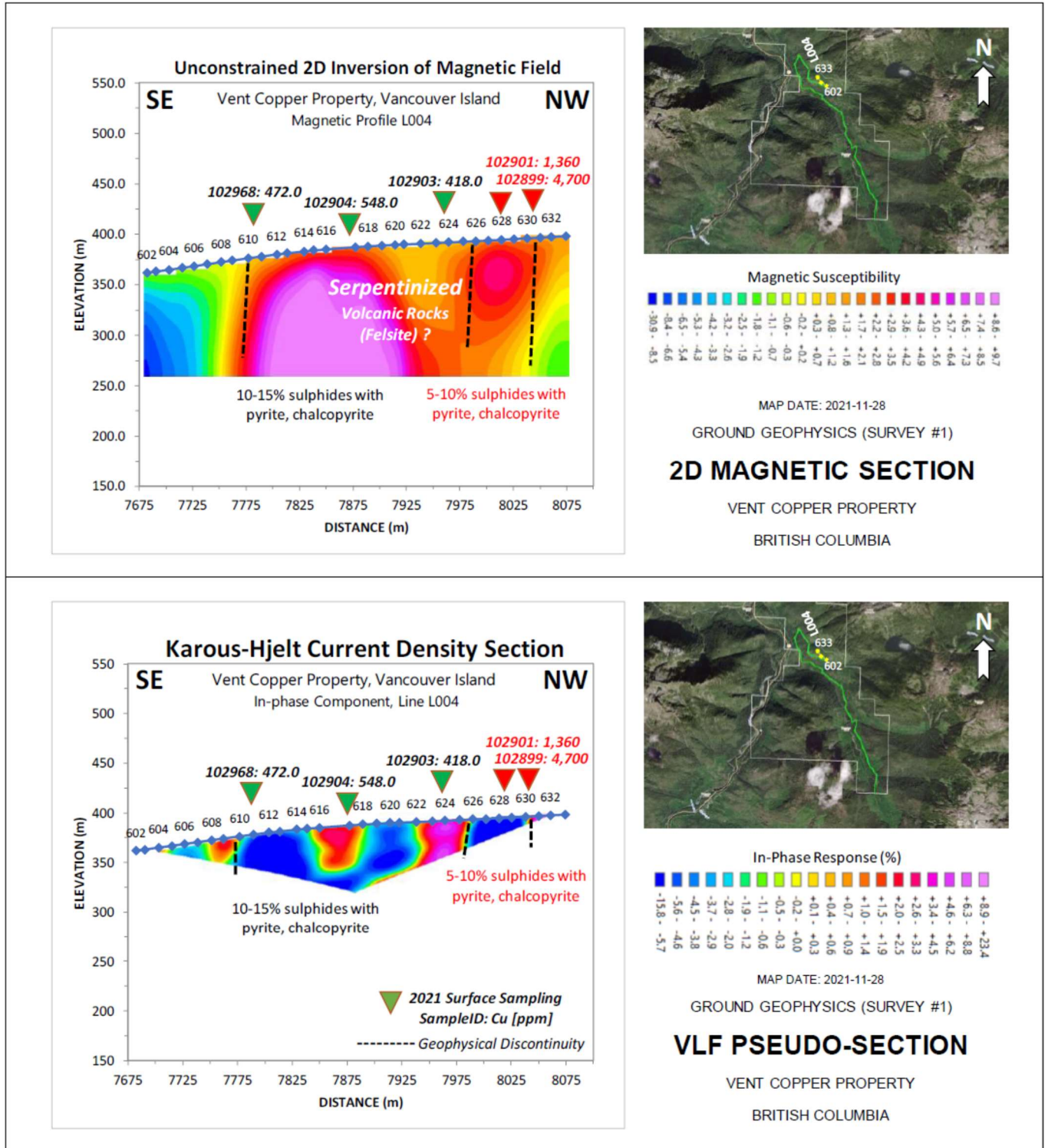




Figure 22: 2D Inversion of MAG data for Line 004



## 10.0 DRILLING

There has been no drilling carried out on the Property by Vital to date.

## 11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

For 2021 exploration program, rock samples were collected in the field by placing 0.3-2 kg of material in a heavy grade plastic sample bag with the sample number written with permanent marker. Each sample bag was then sealed with a plastic cable tie and samples were transported back to Port Alberni base station at the end of each day. Rock samples were recorded as to location (UTM -NAD 83), sample type (grab, composite grab, chip, etc.), exposure type (outcrop, rubble crop, float, etc.), and lithology, colour, texture and grain size were described. Sample locations were determined by hand-held GPS set to report locations in UTM coordinates using the North American Datum established in 1983 (NAD 83) Zone 11N (Table 3). Additionally, 11 duplicate samples ( Table-6) were included for Quality Control and Quality Assurance. Laboratory also uses its own quality control and quality assurance protocols for sample analysis. The samples were bagged and tagged using best practices and delivered to ALS Metallurgy laboratories located at 2957 Bowers Place, Kamloops, British Columbia, V1S 1W5.

ALS Laboratories is an independent group of laboratories accredited under ISO/IEC 17025:2017 standards for specific registered tests. ALS is a commercial, ISO Certified Laboratory independent of Vital and Geomap Exploration Inc. Sample analysis packages used for sample preparation and analysis are Au ICP 21 (Gold by fire assay) and ICP AES; and MEMS 61 (Four Acid Digestion with ICP-MS Finish). Four acid digestion quantitatively dissolves nearly all minerals in the majority of geological materials. However, barite, rare earth oxides, columbite-tantalite, and titanium, tin and tungsten minerals may not be fully digested.

The analytical results of the QA/QC samples provided by ALS Lab did not identify any significant analytical issues. The duplicate had almost same percentages as original. For the present study, the sample preparation, security, and analytical procedures used by the laboratory are considered adequate and the data is valid and of sufficient quality to be used for further investigations.

**Table 5: Sample and Duplicate sample numbers.**

Sample #	Duplicate Sample #
102860	102861
102870	102871
102880	102881
102890	102891
102910	102911
102920	102921
102930	102931
102940	102941
102950	102951
102960	102961
76428	76429 (Table 6)

## 12.0 DATA VERIFICATION

The author visited the Property from August 04 to August 05, 2021, to verify historical and current exploration work, to examine mineralized outcrops, to collect necessary geological data, to take infrastructure, and other technical observations and to assess the potential of the Property for discovery of copper and other mineralization.

Another purpose of the visit was to verify data collection methods, sample collection and sample preparation procedures. The data collected during the present study is considered reliable. The previously collected data reported in the historical information was also confirmed during this study.

The data verification also included carrying out independent sampling on areas of 2021 and historical exploration, and analysis of these samples. During the visit of the Property, GPS coordinates using NAD 83 datum were recorded for the sample location. A total of six grab samples including one duplicate were collected. A brief description of these samples is given in Table 6. The investigated area generally comprises volcanic (mainly Andesite), and intrusive rocks (quartz monzonite and quartz diorite) with quartz veins and sulphide mineralization.

To verify data, these samples were taken from locations which were close to the previously sampled locations of year 2021 exploration work (Table-3). These samples were later sent to the ALS Lab for analytical work.

QA/QC sampling was conducted to verify the quality and assure the accuracy of results obtained from the grab sampling of the Property. For every twelve samples, one duplicate was inserted. A total of ten field duplicate QA/QC samples (Table-5) from the sampling conducted by Geomap Exploration and one from the samples (Table-6) collected by the author were inserted and sent to the laboratory for analyses. ALS Laboratories also have its data QA/QC procedures which did not find any significant issue with the sample preparation, analysis, and security.

The author is unaware of any environmental liabilities associated with the Property.

**Table 6: Sample description (see Table 4 for results)**

Sample Number	Closest Sample Number of 2021 Geomap	Location NAD 83 Zone 11		Elevation (m)	Claim Number	Sample Type	Description
		Easting	Northing				
76426	102918	329092	5456128	219m	1080446	Grab	Andesite: Dark greenish grey, very fine grained, quartz veins containing disseminated pyrite and stringers of pyrite common, highly silicified in places, malachite staining in places. <b>Photo 5</b>
76427	102916	328893	5456183	210m	1080446	Grab	Andesite :Greenish grey, brownish on weathered surfaces, highly oxidized near surface, abundant pyrite in the form of well-developed coarse cubes and small disseminated crystals, multicolored quartz veins common, near the contact with intrusive light colored (Monzonite?) rock, some probable pyrrhotite and chalcopyrite.
76428	102865	329288	5456319	332m	1080446	Grab	Andesite: Dark greenish grey to greenish grey, weathering to dark brown to yellowish brown, very oxidized on the surface, thin quartz veins common, abundant fine to medium grained disseminated pyrite and pyrite stringers. <b>Photo 6</b>
76429	102865	329288	5456319	332m	1080446	Grab	Duplicate of 76428
76430	102868	329107	5456494	305m	1080446	Grab	Andesite: Greenish grey, weathering brownish grey, abundant disseminated pyrite, some pyrite veins, nearby rock is light colored intrusive probably Monzonite. <b>Photo 7</b>



Sample Number	Closest Sample Number of 2021 Geomap	Location NAD 83 Zone 11		Elevation (m)	Claim Number	Sample Type	Description
		Easting	Northing				
76341	102909	328840	5456438	195m	1080446	Grab	Dark greenish grey, oxidized stains and quartz veins common, fine, disseminated, and small veinlets of pyrite common, some altered, very soft veins, some probable chalcopyrite.



Photo : 5



Photo : 6



Photo : 7



Photo : 8

Photo 5: Quartz vein and Malachite showing at sample # 76426

Photo 6: Photo: Andesitic Rock showing at sample # 76428

**Photo 7: Photo: Weathered surface soft rock inclusions and of Andesitic Rock at sample # 76430**

**Photo 8: Geophysical Survey in progress.**

## **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

No mineral processing or metallurgical testing was done on the Property by Vital.

## **14.0 MINERAL RESOURCE ESTIMATES**

No mineral resource estimates have been carried out on the Property by the Company.

***Items 15 to 22 are not applicable at this time.***

## **23.0 ADJACENT PROPERTIES**

The following information is taken from the publicly available sources which are identified in the text and in Section 27. The Author has not been able to independently verify the information contained although he has no reason to doubt the accuracy of the descriptions. The information is not necessarily indicative of the mineralization on the Property, which is the subject of this technical report. The following information is provided as background material for the reader.

The vicinity of the claim areas is known for sulphide mineralization since early 1900's when gold, silver-lead-zinc and copper mineralization was discovered in these areas. Several deposits containing gold, Lead-zinc-silver and copper occur in the area. Some of these deposits have been well explored whereas others received limited exploration. No sulphide mining operation is ongoing in the area. However, open pit mining of Redford magnetite deposit discovered in 1960 was continued from 1962 to 1968. Section 23.1 briefly describes this property. A number of public companies hold mining properties in the vicinity of the Vent copper Property (see Figure 20 for adjacent properties map). Two of these properties are briefly described below.

### **23.1 K2 Resources Inc. – Redford Property**

K2 Resources Inc. (BC Client # 286797) holds mining claims named “Redford property” located approximately 13 kilometers to the southwest of the Vent Copper Property. The Redford Property information is taken from the (<https://www.mtonline.gov.bc.ca/mtov/home.do>), Assessment Reports, and Minfile No 092F 001.

In January of 2020, K2 Resources Inc. optioned the Redford property from Logan Resources. The Redford property is a past producer situated on the west coast of Vancouver Island, British Columbia, Canada, 22 km northeast of Ucluelet centered at NAD 83 latitude 49°02'30" North and longitude 125°26'00" West, UTM zone 10, 5434600 N, 320500 E on NTS map sheets 92C/13.14

and 92F/03.04 within the Alberni Mining Division and within the Regional District of Alberni Clayoquat. It is located south-east of Kennedy Lake within the Mackenzie range (Assessment report 33100).

The property consists of 30 claims with a total land area of 119.86 km<sup>2</sup> or 19,985.65 ha and is known for Iron ore deposit. The property is largely underlain by island intrusions of granodiorite – diorite composition. These rocks intrude in Karmutsen, Quatsino and Parsons Bay formations. The Quatsino Formation limestone/marble hosts the magnetite skarn mineralization. The magnetite is quite pure, containing only trace amounts of calcite, pyrite, and pyrrhotite. Magnetite occurs in massive bodies where magnetite makes up over 90% of the rock and iron grades vary from 45% to 63.7%, the weight % of iron in magnetite. At the margins of massive magnetite bodies, magnetite forms intergrowths with silicates and occurs as pods to form semi-massive magnetite zones where iron grades vary from 20% to 45% proportional to the amount of magnetite present (Assessment report 31700).

The main magnetite body has been mined by open pit. The other body lies east-southeast of the old pit and has been outlined by diamond drilling and underground development. A fault separating the two bodies strikes north-northeast and dips 70 degrees west. In the eastern body, the massive magnetite appears to be bounded by fault slips and gouge zones. This ore body is 60 metres deeper than the open pit body.

From 1962 to 1968, the open pit produced concentrate containing an average of 63.8 per cent iron. A total of 3,011,306,260 kilograms of iron concentrates was shipped from 4,480,940 tonnes mined. Reserves for the east ore body are undocumented. Ore production at the mine ceased at the end of 1968 after the concentrate sales contract expired.

In 2009, remaining measure and indicated resources were re-estimated at 7 million tonnes at a grade of 51 per cent, with inferred resources of an additional 13 million tonnes (Assessment Report 31392). The last documented work on the property was conducted in 2011 by Logan Resources Ltd. (Minfile No 092F 001).

## **23.2 Clarity Gold Corp. – Grenata Green Property**

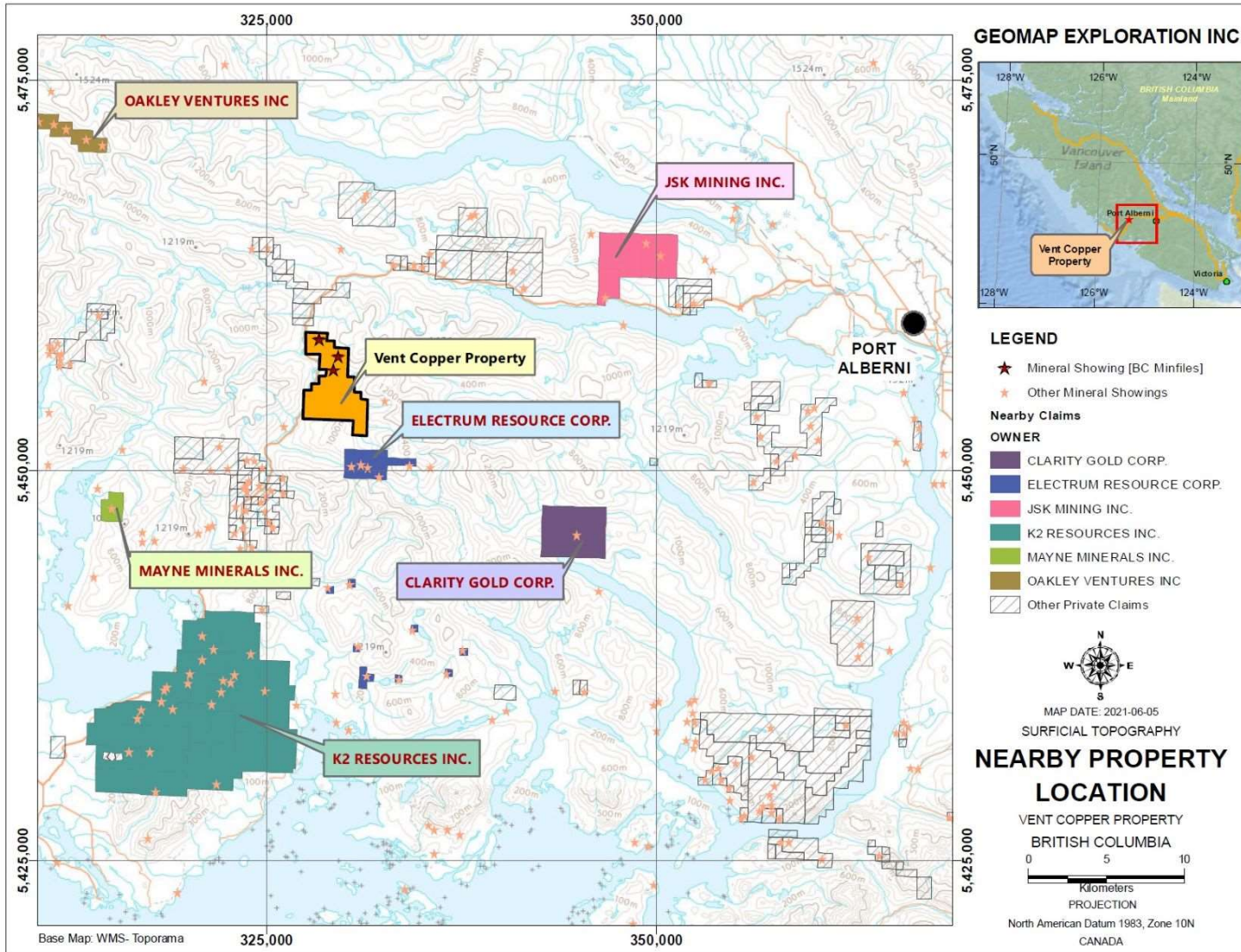
The Grenata Green property is approximately 12 kilometer southeast of the Vent claims. The property is an early-stage copper- gold-silver- property, located in the Alberni mining division, British Columbia, approximately 24 km Southwest of Port Alberni and 1.3 km North of Henderson Lake. Clarity Gold Corp. acquired 100% interest in Grenata Green mineral claims on July 05, 2020 (<https://www.juniorminingnetwork.com/junior-miner-news/press-releases/2811-cse/clar/79803-clarity-gold-acquires-two-gold-projects-and-expands-empirical-project.html>). It comprises of one mineral claim (Title Number 1076685) which is approximately 1,331 hectares. Limited information on the Grenata Green Project is available and Qualified Person of Clarity Gold Corp. reported that the project needs further exploration.



The summary of the Grenata Green showing is described in Minfile No 092F 248 which is reproduced here.

“The area is underlain by mafic to intermediate volcanic rocks of the Upper Triassic Vancouver Group, Karmutsen Formation. These are overlain by limestone of the Quatsino Formation, also of the Vancouver Group. A stock of dioritic rock of the Early to Middle Jurassic Island Intrusions occurs along the northeast side of Henderson Lake. Locally, a skarn zone with chalcopyrite ore occurs in limestone cliffs near a contact with dioritic rock. Masses of epidote and garnet occur near, but usually not with, pods and bunches of chalcopyrite. The ore was reported to be of high grade but of limited quantity. One selected sample assayed 48.00 grams per tonne gold, 51.43 grams per tonne silver and 17.8 per cent copper (Minister of Mines Annual Report 1921)”.

Figure 23: Adjacent Properties



## 24.0 OTHER RELEVANT DATA AND INFORMATION

### 24.1 Environmental Concerns

There is no historical production from mineralized zones on the property, and the author is not aware of any environmental liabilities which have accrued from historical exploration and mining activity.

## 25.0 INTERPRETATION AND CONCLUSION

Geologically, the Property is underlain by massive basalt flows, pillow-breccia, minor tuff volcanic breccia, and Jasperoid tuff of the Upper Triassic Karmutsen Formation, Vancouver Group (Unit 5). The lowest part of the formation consists of pillowed basalt which is succeeded by various types of breccia. These are intruded by biotite-hornblende, granodiorite, quartz monzonite, and quartz diorite of the Middle to Upper Jurassic Island Intrusions (Unit 9). This volcanic unit seems to be associated with the intrusion of the porphyry suite that introduces the copper mineralization. The suite is dominantly quartz monzonite porphyry, Skarn, mafic dykes, and intrusive breccias that are centers for propylitic mineralization. Magnetite is present in places, as are minor amounts of pyrrhotite. The dominant structural feature of the area is steep faulting. These faults generally trend northwesterly with subsidiary faults striking northerly to northeasterly.

CU Vent is the most important known mineralization on the Property. This area on the Property was moderately explored from 1968 to 1975 and was the focus of 2021 exploration work. The Vent Mineral Claims are underlain by volcanic rocks in contact with a complex assemblage of igneous rocks which are part of the Island Intrusions. The sulphide mineralization is mainly pyrite and pyrrhotite with minor chalcopyrite and traces of molybdenite in places. These sulphides occur as veins, fracture coatings and disseminations as well as in quartz- pyrite veins and stringers.

Based on the Property geology and mineralization, the most probable deposit model for the Property is volcanogenic massive sulphide (VMS) deposit type. A secondary deposit model for the Property is porphyry copper deposit types.

During the period from June 7 to August 15, 2021, Geomap Exploration Inc. completed an exploration work program on the Property. The work included geological mapping, prospecting, sampling, and ground geophysical surveying (magnetic and VLF). A total of 124 grab (include six samples for data verification) and chip rock samples were collected from rock outcrops by following various logging roads and other accessible areas on the Property. Out of 124 samples collected, 11 samples were field duplicates. The focus of the prospecting / mapping fieldwork was to carry out detailed sampling of mainly Karmutsen Formation and island intrusions. The sampling program was designed to represent various prospective geological units and rock formations.

The analytical results of 124 samples indicate that copper is the main target element for further exploration. No significant values of gold, manganese, molybdenite, vanadium, zinc and nickel were found in these samples.

- Copper values are in the range of 4.9 ppm to 1.25%. Out of 124 samples, one sample contain 1.25%, 21 samples range from 1,000 ppm-4,750 ppm and 79 samples are from 116 ppm- 1,000 ppm copper. The highest value (1.25 %) sample (# 102879) was collected in the vicinity of the Cu Ken showing. Generally, higher values are in the central part of the claim 1080446.
- Silver values are in the range of 0.01 parts per million (ppm) to 7.78 ppm, 13 samples are over one ppm, 18 samples have values between 0.5 ppm to one ppm, and 25 samples are below 0.1 ppm silver. Values over 1 ppm are generally from the southern portion of the claim 1080446. Highest value (7.78 ppm) is from a sample near the Ken Cu showing.
- Forty-two samples were chosen for gold assay. The gold mineralization in the study area appears very low. Au values in 26 samples are <0.01 grams per tonne (g/t) and 16 samples range from 0.01-0. 03 g/t.
- Lead (Pb) values are in the range of 0.8 ppm to 51.2 ppm, only six samples have values higher than 20 ppm. Zinc (Zn) ranges from 9ppm-432ppm, only 32 samples are over 100 ppm. Manganese (Mn) is from 56 ppm to 2540 ppm, only 10 samples are above 2,000 ppm. Molybdenum is 0.54 ppm-984 ppm, only 9 samples exceed 100 ppm. Nickel (Ni) is from 1.7 ppm to 166 ppm, only 20 samples are above 100 ppm. Vanadium (V) ranges from 9.0 ppm to 429 ppm, 54 samples are above 300 ppm. Chromium (Cr) varies from 37.0 ppm to 346 ppm, only 28 samples are above 200 ppm.

The 2021 field season included a ground geophysical survey program comprised of a Very Low Frequency (VLF) and magnetic (MAG) survey. A total of 633 measurements were recorded along a north-south profile about 10-12m station intervals on approximately 8,075m of traverse line with a GEM GSM-19 portable magnetometer and VLF-EM system. All MAG and VLF-EM intensities suggest the presence of shallow and deep features generally vertical dips. The distribution of MAG values indicate that high susceptibility anomalies are likely associated with Pyrrhotite bearing Tertiary dacite porphyry-breccia intrusive rocks and mafic dykes. Geophysical surveys indicate that the lowest resistivities on all four line- segments can be approximately correlated with the quartz monzonite porphyry, the shear zones, or areas of mixed quartz monzonite porphyry and quartz porphyry. Results obtained from MAG/VLF lines in the survey areas indicate several target areas which are zones that express high MAG and relatively strong VLF responses. These target areas are zones or features of interest with highest potential for further investigations.

Based on its past exploration history, favourable geological and tectonic setting, presence of surface copper mineralization, and the results of present study, it is concluded that the Property

is a property of merit and possesses a good potential for discovery of copper, and other sulphide mineralization. Good road access together with availability of exploration and mining services in the vicinity makes it a worthy mineral exploration target. 2021 exploration work and other historical exploration data collected by previous operators on the Property provides the basis for a follow-up work program.

## 26.0 RECOMMENDATIONS

In the qualified person's opinion, the Vent Copper Property has potential for further discovery of VMS and porphyry style mineralization for copper and other metals. The character of the Property is sufficient to merit a follow-up work program. This can be accomplished through a two-phase exploration and development program, where each phase is contingent upon the results of the previous phase.

### ***Phase 1 – Prospecting, Mapping, Sampling and Geophysical Surveys***

The following target areas were identified during 2021 exploration work program which need a follow up work on the Property.

- iv. The area around Vent-Ken showings has indicated good values of copper and silver during 2021 and historical sampling work and needs a follow up detailed sampling as well as mapping to establish a working deposit model for the area.
- v. The MAG and VLF-EM survey suggest the presence of shallow and deep features generally vertical dips. The distribution of MAG values indicate that high susceptibility anomalies are likely associated with Pyrrhotite bearing Tertiary dacite porphyry-breccia intrusive rocks and mafic dykes. Sulphide mineralization, mostly pyrite with lesser chalcopyrite is characterized by moderate to high MAG/VLF responses. Shear zones or fault zones are appeared as features with high apparent conductivity and medium to low magnetic responses. Further ground truthing of the Magnetic and VLF anomalies is recommended to be followed up on to determine if those anomalies are related to mineralization, fault zones, structural contacts, or overburden response.
- vi. Geological mapping and comprehensive soil sampling along with a soil chemistry analysis are suggested to be conducted in areas where the magnetic HIGHS suggest near surface features and in areas where the high VLF responses corroborate well with the magnetic HIGHS. Those surveys may provide more valuable insights to advancing this exploration program. Further expansion of the geophysical survey grids is also recommended.

Total estimated cost of Phase 1 work is \$140,278 and it will take 12-16 weeks to complete this work program.

***Phase 2 – Drilling***

Based on the results of Phase 1 program, a drilling program is recommended to be executed on the targets if identified for further work on the Property. Scope of work, location of drill holes and budget for Phase 2 will be prepared after reviewing the results of Phase 1 program.

Table 7: Phase 1 Budget

Item	Unit	Rate (\$)	Number of Units	Total (\$)
Project preparation / logistic arrangement	Day	\$750	3	\$2,250
<b>Field Crew:</b>		-	-	
Project Manager	Day	\$750	7	\$5,250
Project Geologist 1	Day	\$700	21	\$14,700
Project Geologist 2	Day	\$700	21	\$14,700
Prospector 1	Day	\$450	30	\$13,500
Prospector 2	Day	\$450	30	\$13,500
<b>Field Costs:</b>				
Food & Accommodation	Day	\$250	60	\$15,000
Communications	Day	\$100	15	\$1,500
Shipping	Lump Sum	\$0	1	\$0
Supplies and rentals	Lump Sum	\$4,000	1	\$4,000
Vehicle Rental with gas	Day	\$200	21	\$4,200
Transportation with mileage	km	\$1	3500	\$1,925
<b>Assays &amp; Analyses:</b>		-	-	
Rock/Soil Samples	Sample	\$85	150	\$12,750
<b>Report:</b>				
Data Compilation	Day	\$700	10	\$7,000
Geophysical survey interpretation report	Day	\$750	7	\$5,250
GIS Work	Hrs	\$75	40	\$3,000
Report Preparation	Day	\$750	12	\$9,000
<b>Total Phase 1 Budget</b>				<b>\$127,525</b>
Contingency 10%				\$12,753
<b>Total Estimated budget</b>				<b>\$140,278</b>



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## 28.0 SIGNATURE PAGE



Muzaffer Sultan, Ph.D., P. Geo.

9259 153 St Surrey,

BC V3R 0E5

Dated: December 22, 2021

Effective Date: December 22, 2021

## 29.0 CERTIFICATE OF AUTHOR

I, Muzaffer Sultan, P.Geo., as an author of this report entitled “NI 43-101 Technical Report on the Vent Copper Property, Alberni Mining Division, British Columbia, Canada, do hereby certify that:

1. I am an independent consulting geologist.
2. This certificate applies to the current report entitled “NI 43-101 Technical Report on the Vent Copper Property, Alberni Mining Division, British Columbia, Canada”, with an effective date of December 22, 2021.
3. I hold a Ph.D. from the University of South Carolina, Columbia, USA.
4. I am a member (Professional Geoscientist, Licence No. 34690) of the Engineers and Geoscientists of British Columbia (EGBC).
5. I have worked as a geologist for over 45 years since my graduation from university. I have broad experience in mineral exploration and evaluation for base metals, gold, silver, iron and titanium, lithium and rare earths and coal. From 1973 to 1988, I worked with the geological survey of Pakistan as an exploration geologist. The exploration work included the study of sulphide mineralization in the Saindak and Maran areas of Baluchistan, Pakistan. The work was conducted in 1973 and from 1980 to 1982. The Saindak project proved a mineable copper-gold project, and mining at Saindak continues to date. These projects provided me with sufficient experience to work with sulphide mineralization, including gold, exploration projects going forward. I also worked on a few properties in the Kootenay Arc Terrain, South-eastern British Columbia on stratabound silver, gold and polymetallic sulphide deposits.
6. I certify that by reason of my education, affiliation with a professional association, and past relevant work experience, having written numerous published and private geological reports and technical papers, that I am qualified as a Qualified Person as defined by Canadian *National Instrument 43-101*.
7. I visited the Property from August 04 to August 05, 2021, and I am the author of this report.
8. I am responsible for all items of this report.
9. I am independent of Vital Battery Metals Inc. and Geomap Exploration Inc., as that term is defined in Section 1.5 of NI 43-101.
10. I have no prior involvement with the Vent Copper Property other than as disclosed in item 7 of this certificate.
11. I have read National Instrument 43-101 (“NI 43-101”), and the Technical Report has been prepared in compliance with NI 43-101, and Form 43-101F1.
12. As at 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.



Muzaffer Sultan, Ph.D., P. Geo.

9026 162 St Surrey,

BC V4N 3L5

Dated: December 22, 2021

Effective Date: December 22, 2021