# NI 43-101 Technical Report, SAT Property, British Colombia, Canada

**PROPERTY LOCATION**

SKEENA MINING DIVISION BRITISH COLUMBIA, CANADA

665,000 E / 6,085,500 N (NAD 83 - Zone 9)
Longitude -126.427°/ Latitude 54.89°NTS map sheet (50K): 93L/16


**PREPARED BY**

Dan Meldrum, M.Sc., P.Geo.


**PREPARED FOR**

Prudent Minerals Corp.

**EFFECTIVE DATE**

February 22, 2022

**SIGNATURE DATE**

February 22, 2022

## Contents

# List of Figures



# List of Tables

# 1 Summary


The road accessible, 5,617 hectare SAT Property is an exploration stage porphyry copper-gold prospect located in west-central British Columbia, approximately 10 kilometres west of the town of Granisle, BC. The property is located on NTS map sheet 93L/16, falls within the jurisdiction of the Skeena Mining Division, and is centered at about 665,000 mE / 6,085,500 mN, UTM NAD83, zone 9.

Prudent Minerals Corp. (formerly Cesar Minerals Corp.) can earn a 100% undivided interest, subject to a 2% Net Smelter Return ("NSR") royalty, in the SAT Property by making cash payments of $160,000, issuing 2,250,000 shares and completing $200,000 in exploration over the next three years.

The SAT Property is located within the Stikinia terrane of the Intermontane Tectonic Belt, a partly collisional tectonic belt comprised of a series of accreted terranes. In the area of the SAT Property, Stikinia consists of subaerial to submarine calc-alkaline island-arc volcanic and sedimentary rocks of the Lower to Middle Jurassic Hazelton and upper Triassic Takla Group, and Eocene intermediate to mafic volcanic rocks belonging to the Newman Formation. These units are locally intruded by Early Jurassic, late Cretaceous and Eocene granodioritic to dioritic stocks, plugs and dikes, including porphyritic intrusions.

Exploration of the current SAT property began in the early 1970's, with intermittent exploration programs taking place up to present. The key program was the 2014 diamond drilling program completed by Redhill Resources Corp. Several significant copper intercepts were achieved at the SAT Main zone in 2014, including 105.0 metres grading 0.104% copper.

Prudent completed a 5 line – 16.3 line kilometre Induced Polarization survey during November - December 2020. The survey measured the 1st to 8th separation utilizing an a-spacing of 100 metres covering approximately 9 square kilometres. Apart from reconfirming the high chargeability response at the historically drilled SAT Main zone, the 2020 IP survey successfully outlined a particularly strong IP chargeability response on the most northerly survey line. The "CHE anomaly", open to the north, is coincident with an area of magnetic disruption that could be related to the alteration halo of a porphyry system.

The SAT Property was inspected by the author on December 22, 2021. Given the characteristics of the mineralization observed, as well as the local and regional geological settings, the author believes the SAT Property has the potential to host a porphyry copper ± molybdenum ± gold deposit.

The author proposes a two-phase exploration program. The first phase being a two-hole diamond drilling program designed to test for copper mineralization at the SAT Main zone at greater depths than those reached by historical operators. Concurrent with the drilling program, a soil sampling survey covering the CHE anomaly and northwards toward the property boundary. The proposed exploration program is budgeted at $218,800. The second phase, if warranted, should include $447,500 of follow up drilling.

# 2 Introduction

Prudent Minerals Corp. (Prudent Minerals) is a Canadian exploration and development company based in Vancouver, British Columbia, Canada. Prudent Minerals is applying to list its common sgares on the Canadian Stock exchange (CSE) and the purpose of this report is to support this application. Prudent Minerals is focused on the exploration of the SAT property. Prudent can earn a 100% undivided interest, subject to a 2% Net Smelter Return ("NSR") royalty, in the SAT Property by making cash payments of $160,000, issuing 2,250,000 shares and completing $200,000 in exploration over the next three years.

The Project is located 10 kilometres west of the town of Granisle, BC. This report was commissioned by Prudent Minerals Corp. ("Prudent Minerals"), which changed its name from Cesar Minerals Corp. on May 7, 2021. The report summarizes the available technical information for the SAT Property (the "Property"). SAT is considered to be in the early exploration stage. Historic programs of diamond drilling, ground geophysical and geochemical surveying, airborne magnetic surveying and geological mapping have identified a copper ± molybdenum ± gold porphyry target near the middle of the Property. This report combines the historical exploration results with the Prudent 2020 exploration results and offers interpretations and recommendations.

## 2.1 Terms of Reference

This Technical Report (the Report) was prepared for Prudent Minerals by Daniel G. Meldrum, M.Sc., P.Geo. of Meldrum Geological Contracting Ltd., an independent Qualified Person as defined by National Instrument 43-101 ("NI 43-101") to present the exploration potential of the SAT Property. This Technical Report was prepared for the SAT Property in accordance with NI 43-101

The material included in this report or referenced herein is sourced from material provided by Prudent Minerals, previous assessment reports, government reports and selected publications. The author has personally visited the Property to inspect historical drill sites, historical drill core and access to exploration target areas. The author has reviewed all historical exploration data from the Property, the results of which are considered reliable and sufficient for the purposes of this Report.

All measurement units used in this Report are metric, and currency is expressed in Canadian dollars unlessstated otherwise. The Report uses Canadian English.

**Abbreviations and symbols used:**

| | |
|---|---|
| Au | gold |
| Ag | silver |
| Cu | copper |
| Mo | molybdenum |
| > | greater than |
| < | less than |
| BD | below detection |
| AR | Assessment Report |
| ARIS | Assessment Report Index System |
| a.s.l. | above sea level |
| c.c. | correlation coefficient |
| C | centigrade |
| g | gram |
| ha | hectare |
| km | kilometre |

| | |
|---|---|
| t | metric ton |
| m | metre |
| Ma | million years (pertaining to ages and/or elapsed time) |
| NSR | Net Smelter (return) Royalty |
| ppb | parts per billion |
| ppm | parts per million |
| QA/QC | quality assurance/quality control |
| 4WD | four wheel drive |
| FSR | Forest Service Road |

### 2.2 Qualified Persons

Dan Meldrum, P.Geo., sole proprietor of Meldrum Geological Contracting, serves as the Qualified Person ("QP") for this Technical Report as defined in National Instrument 43-101, Standards of Disclosure for Mineral Projects.

### 2.3 Site Visits and Scope of Personal Inspection

The author, working as a consultant for Prudent Minerals Corp. completed a personal inspection of the SAT Property on December 22, 2021, for one day. The author reviewed historical drill core from the most recent diamond drilling program on the Property. A detailed description of the findings is included in Section 12.

### 2.4 Information Sources and Reference

The key information source for the Report was the 2020 Assessment Report (Ritchie, 2020), entitled: *2019 RC Drilling on the SAT Property*

Additional information used to support this Report was derived from previous Assessment Reports on the Property, and from the reports and documents listed in the References section. Additional information was sought from the Property vendors where required, including hard copies of historical exploration reports from which the majority of exploration results were obtained.

### 2.5 Previous Technical Reports

To the best of the author's knowledge, no previous technical reports have been written of filed on the SAT Property.

## 3 Reliance on Other Experts

The QP has relied on, and believes there is a reasonable basis for this reliance, information and statements provided to the author by Prudent Minerals regarding mineral rights, surface rights, environmental status and agreement terms in sections 3.1, 3.3, and 4 of this Report.

### 3.1 Mineral Tenure

The QP has reviewed the ownership of the Property mineral tenures through British Columbia's Mineral

Titles Online database, but has relied upon information provided by Prudent regarding the legal status, ownership of the SAT Property or underlying Property agreements.

### 3.2 Surface Rights

The QP has relied upon information supplied by Prudent Minerals for information relating to the status of the current Surface Rights, that there are no underlying Surface Rights on the Property.

# 4 Property Description & Location

The SAT Property, comprised on 7 mineral claims totaling 5,617.19 hectares, is located in west-central British Columbia approximately 10 km east of the town of Granisle and 50 km east-northeast of Smithers (Figure 4.1). The property is accessed from Granisle or Smithers via well-maintained Forest Service Roads. The property is situated on NTS map sheet 93L/16 within Skeena Mining Division and is centered about 665,000 mE / 6,085,500 mN in Zone 9 of the NAD 83 Map Datum. Table 4.1 summarizes the claims as of the date of this report. All claims are on Crown Land and administered by the Government of British Columbia's, Mineral Titles Online system ("MTO").

Certain mineral titles outlined in Table 4.1 have the current status as "protected". The status classification stems from a recent order of British Columbia's Chief Gold Commissioner dated March 27, 2020, whereby the expiry dates of mineral titles in existence prior to the date of the order and due to expire before December 31, 2021, have been extended to December 31, 2021. The order given on March 27, 2020, was a result of circumstances arising from the Covid-19 pandemic. The expiry date of the SAT Property mineral claims is well beyond December 31, 2021, but the claim status on the MTO system is still "protected".

On November 30, 2020, Cesar Minerals Corp. entered into an agreement with three vendors for the option to earn an undivided 100% interest in the SAT Property by making cash payments totaling $160,000, issuing 2,250,000 common shares and incurring $200,000 in exploration expenditures over a three-year period. The three vendors are: 1) Piotr Lutynski of 5285 Sherbrooke Street, Vancouver, B.C. V5W 3M3 ("Lutynski"); 2) Divitiae Resources Ltd. of 1304 Steeple Drive, Coquitlam, B.C. V3E 1K2 ("Divitiae"); and 3) Mardu Investments Ltd. of Suite 830 - 1100 Melville Street, Vancouver, B.C. V6E 4A6 ("Mardu"). Detailed terms of the Option Agreement are shown in Table 4.2. An amended and restated option agreement with the same terms was signed on June 30, 2021, between the same three vendors outlined above and Prudent Minerals (formerly Cesar Minerals Corp.).

Mineral tenures 1079664, 1079665, 1079666, 1079667 and 1079668 are subject to a Trust Agreement dated November 19, 2020, whereby the mineral tenures are held in Trust by the beneficial owners, Divitiae and Lutynski (the "Trustee"), for Mardu ("the Beneficiary"). Together, the Trustees hold 100% ownership and all rights to the 5 mineral tenures listed above and have agreed to hold 50% ownership (25% each) of these 5 mineral tenures for and on behalf of Beneficiary.

Mineral tenures 1079669 and 1079670 are subject to a separate trust agreement dated November 19, 2020, whereby the mineral tenures are held in trust by the beneficial owner, Divitiae, for Mardu, the beneficiary. Divitiae holds 100% ownership and all rights to mineral tenures 1079669 and 1079670 and has agreed to hold 75% ownership of mineral tenures 1079669 and 1079670 for and on behalf of Mardu.

Divitiae and Lutynski will collectively be granted the rights to a 2% Net Smelter Return Royalty ("Royalty Interest") upon exercise of the Option, which will be payable upon commencement of commercial production. One-half (1%) of the Royalty Interest can be purchased by Prudent Minerals at any time by paying $1,000,000 to Divitiae and Lutynski, thereby leaving Divitiae and Lutynski with a collective 1% Royalty Interest.

**Table 4.1:** SAT Property claim details.

| Title Number | Name | Owner(s) | Title Type | Good To Date | Status | Area (ha) |
|---|---|---|---|---|---|---|
| 1,079,664 | SAT 01 | Lutynski (50%), Divitiae (50%) | Mineral claim | 2023/DEC/27 | PROTECTED | 929.62 |
| 1,079,665 | SAT 02 | Lutynski (50%), Divitiae (50%) | Mineral claim | 2023/DEC/27 | PROTECTED | 929.96 |
| 1,079,666 | SAT 03 | Lutynski (50%), Divitiae (50%) | Mineral claim | 2023/DEC/27 | PROTECTED | 576.82 |
| 1,079,667 | SAT 04 | Lutynski (50%), Divitiae (50%) | Mineral claim | 2023/DEC/27 | PROTECTED | 911.58 |
| 1,079,668 | SAT 05 | Lutynski (50%), Divitiae (50%) | Mineral claim | 2023/DEC/27 | PROTECTED | 912.08 |
| 1,079,669 | SAT 06 | Divitiae (100%) | Mineral claim | 2023/NOV/19 | PROTECTED | 613.47 |
| 1,079,670 | SAT 07 | Divitiae (100%) | Mineral claim | 2023/NOV/19 | PROTECTED | 743.66 |

**Table 4.2:** SAT Property option agreement terms (to earn a 100%interest)

| Date | Cash payments | Share issuances | Expenditures |
|---|---|---|---|
| On the Effective Date (effective date of option Agreement) | $60,000 | | |
| Within 15 days of the Effective date | | 2,250,000 | |
| On or before first anniversary of the Effective Date | | | $100,000 |
| On or before the second anniversary of the Effective date | | | |
| On or before third anniversary of the Effective date | $100,000 | | $100,000 |
| **Note: Effective date is Nov 30, 2020 TOTAL =** | **$160,000** | **2,250,000** | **$200,000** |

Neither Prudent Minerals nor the vendors have an interest in surface rights on the Property. None of the SAT Property mineral claims are known to overlap any legacy or Crown granted mineral claims, or no-staking reserves. The Property, to the extent of the author's knowledge, is not subject to any environmental liabilities. Permits, to be approved by the British Columbia Ministry of Energy and Mines, would be necessary if Prudent Minerals were to proceed with any drilling activities, or if they were to establish a temporary or semi-permanent camp on any portion of the mineral claims making up the SAT Property.

To the best of the author's knowledge, there are no significant factors or risks that may affect access, title, or the right or ability to perform work on the Property.


**Figure 4.1:** SAT Property location

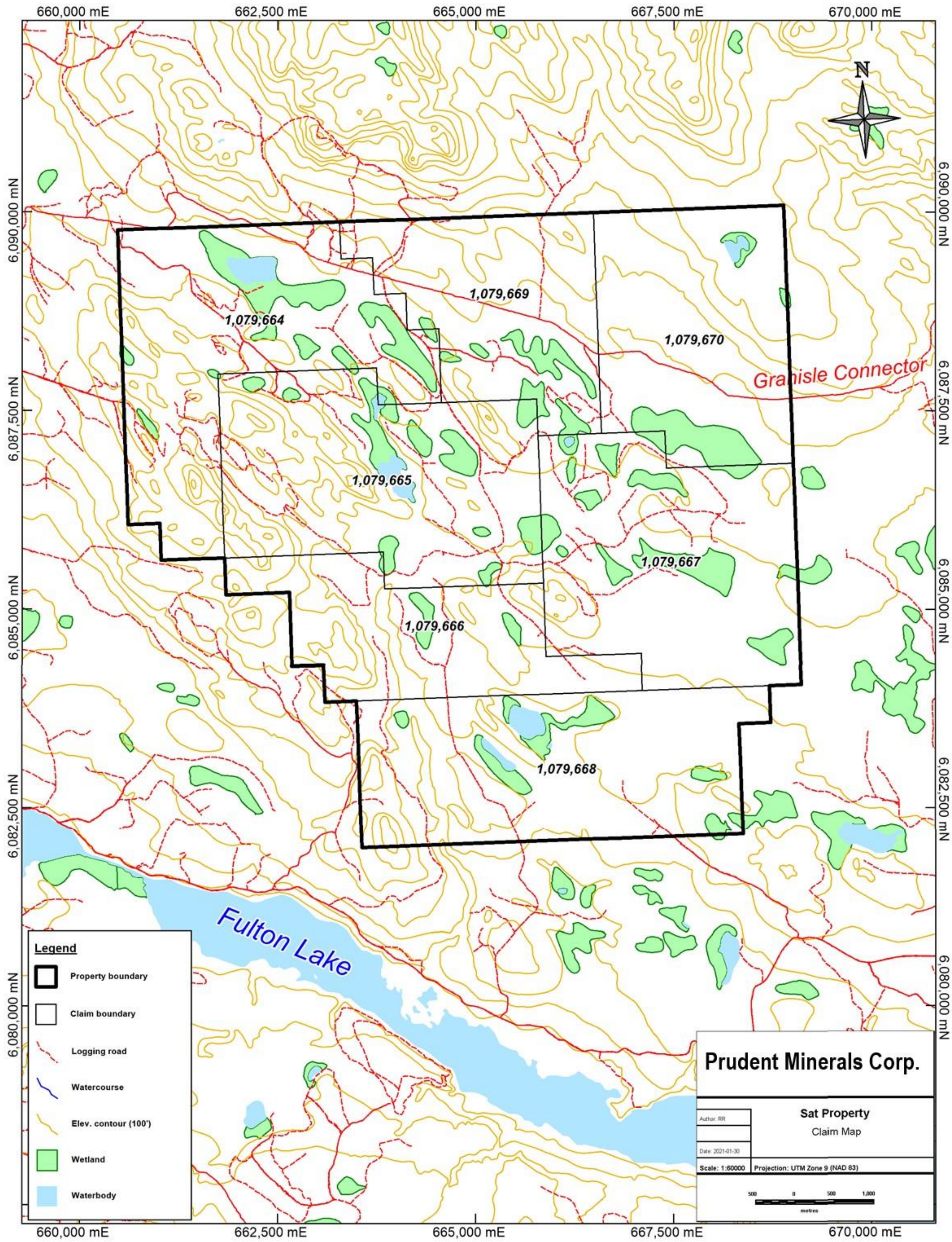


**Figure 4.2:** SAT Property claim

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

## 5.1 Accessibility

The project area is accessible via well-maintained logging roads from the town of Granisle. To access the southern portion of the Property, head north out of Granisle on the Topley Landing Road for approximately 5 km, then turn left on to the Granisle Connector Road. Continue west on the Granisle Connector Road for 9 km to reach the SAT Property's eastern boundary.

## 5.2 Climate

The climate is typical of the central interior of British Columbia with average minimum low temperatures for January of -18°C and average maximum highs for July of 24°C. Frost free days last on average from mid-May to mid-August.

## 5.3 Infrastructure

Labour and services are readily available from Smithers, Houston, Vanderhoof, and Prince George. Trucking, expediting, industrial supply, heavy machinery and operators are available locally, as are personnel for line-cutting, core-cutting and other exploration services.

There are no permanent structures or facilities located on the property. Infrastructure on the property consists of a network of well-constructed logging roads.

## 5.4 Physiography

The Property area has subdued topography, a few hills and small mountains, with most of the Property covered by locally extensive overburden. Topography varies from 945 m in the central and eastern, marshy portions of the Property, to 1,145 m in the west and northwest portions of the Property. Outcrop exists where there is relief, most notably in the northwest and southeast portions of the Property. The last glacial advance is reported to have been from the northwest.

# 6 History

## 6.1 Amoco Canada Petroleum Company Ltd. - 1972-1973

The earliest recorded exploration on the SAT Property, historically referred to as the SATurday Lake Project, was completed by the mining division of Amoco Canada Petroleum Company Ltd. ("Amoco"). Amoco completed 105.6 line-km of Induced Polarization ("IP"), ground magnetometer, geochemical and geological surveying, along with 72 line-km of EM surveying and 1,639 m of BQ size diamond drilling in 1972 (Schroeter, 1973). A further 375 m of BQ size diamond drilling were completed in 1973. The best intersection achieved over the course of Amoco's drilling was 0.10% Cu over 73.8 m, which was drilled at the "SAT Main Zone".

## 6.2 Cities Service Minerals Corp. - 1975-1977

Cities Service Minerals Corp. completed 39 line-km of IP, 49 line-km of ground magnetometer surveys andcollected 1188 soil samples between 1975 and 1977 on the northwestern portion of the SAT property which was then referred to as the “Bro Property”. No further work in that area was recommended (Silversides, 1977).

## 6.3 Great West Petroleum Corp. - 1981

Limited exploration was completed by Great West Petroleum Corp. in 1981, when 14 soil samples and 70 rock samples were collected. Further IP surveys and diamond drilling were recommended (Carter, 1981).

## 6.4 Noranda Exploration Company Ltd. - 1982

In late June early July 1982, Noranda Exploration completed a field program of reconnaissance geology, soil and silt geochemistry, and a magnetometer and induced polarization survey were undertaken on the SAT 1-4 mineral claims of Great Western Petroleum. Noranda focused on a potential eastward extension of the low-grade copper zone identified by Amoco in the early seventies and recommended no further work (Leahey,1982).

## 6.5 Parlane Resources Corp. - 2012

Parlane Resources completed 9-line km of IP surveying in 2012 to test for a possible northeast extension ofthe historical copper zone. No IP chargeability anomalies were outlined (Smith, 2013).

## 6.6 Redhill Resources Corp. - 2014

In 2014, Redhill Resources Corp. (“Redhill”) completed 18 line-km of IP, collected 382 soil samples and drilled 4 diamond drill holes totaling 1,284 m. Highly anomalous copper mineralization was intersected in two holes drilled in and around the historically outlined SAT Main zone. Intercepts included 93 m grading 0.11% Cu in hole SAT14-3, and 93 metres grading 0.13% Cu in drill hole SAT14-4 (Smith, 2015, AR#35536).

## 6.7 Pacific Empire Minerals Corp. (“PEMC”) - 2019

In late July and early August of 2019, PEMC completed 477 m of RC drilling in 5 drill holes, focusing on an elongated IP high chargeability anomaly measuring approximately 2,000 m x 500 m and trending NNW, laying alongside a fault. The anomaly lay immediately west of the historical SAT Main Zone. The drilled area was covered by extensive glacio-fluvial overburden, averaging over 20 metres in thickness and locally to 41 m thick. The strong IP chargeability anomaly, despite its proximity to the historically defined mineralized zone, was caused by graphite-bearing argillites. No significant copper intervals were achieved over the course of the short RC drilling program.

# 7 Geologic Setting & Mineralization

## 7.1 Regional Geology

The SAT Property is located within the Intermontane Tectonic Belt, a partly collisional tectonic belt comprised of a series of accreted terranes. The Stikinia terrane, largest of these terranes, underlies the SAT Property as well as a large portion of central British Columbia (Figure 7.1). Stikinia consists of a series of Jurassic, Cretaceous and Tertiary magmatic arcs and successor basins which unconformably overlie Permian sedimentary basement rocks (Wojdak, 1998; MacIntyre et al., 1988).

In the area of the SAT Property, Stikinia consists of the Lower to Middle Jurassic Hazelton and upper Triassic Takla Group, comprised of subaerial to submarine calc-alkaline island-arc volcanic and sedimentary rocks, and Eocene intermediate to mafic volcanic rocks belonging to the Newman Formation. These units are locally intruded by Early Jurassic, late Cretaceous and Eocene granodioritic to dioritic stocks, plugs and dikes, including porphyritic intrusions.

The Hazelton Group is further divided into the Telkwa, Nilkitkwa and Smithers formations. The Telkwa Formation, comprised of green and maroon, submarine and subaerial pyroclastic deposits and lava flows that are andesitic to rhyolitic in composition, is the oldest and most extensive of the three. . The Telkwa Formation is Sinemurian to Pleinsbachian in age and is separated into 4 mappable units within the Babine and Telkwa ranges (Wojdak, 1998; MacIntyre et al., 1988):

- Upper siliceous pyroclastic facies; quartz-feldspar-phyric ash flows, breccia, air- fall tuff and minor flows composed of basalt and rhyolite
- Basalt flow and red tuff facies; amygdaloidal, augite-phyric basalt, basal tuff, red tuff and epiclastic rocks
- Andesite pyroclastic facies; thick-bedded, feldspar-phyric andesite breccia, tuff and flows
- Basal conglomerate

The Telkwa Formation, within the Babine range area, is conformably overlain by marine sedimentary and submarine volcanics of Pleinsbachian to Lower Toarcian Nilkitkwa Formation. Within the Telkwa Range area, the Telkwa is disconformably overlain by sub-aerial, brick-red crystal and lapilli tuff plus amygdaloidal basalt of the Eagle Peak Formation. The Nilkitkwa Formation is separated into 4 basinal units within the Dome Mountain area (Wojdak, 1998; MacIntyre et al., 1988) from youngest to oldest:

- Thin bedded argillite, chert and limestone
- Tuffaceous conglomerate, cherty tuff and siltstone
- Rhyolitic volcanic rocks
- Amygdaloidal andesite or basalt flow interbedded with red epiclastic

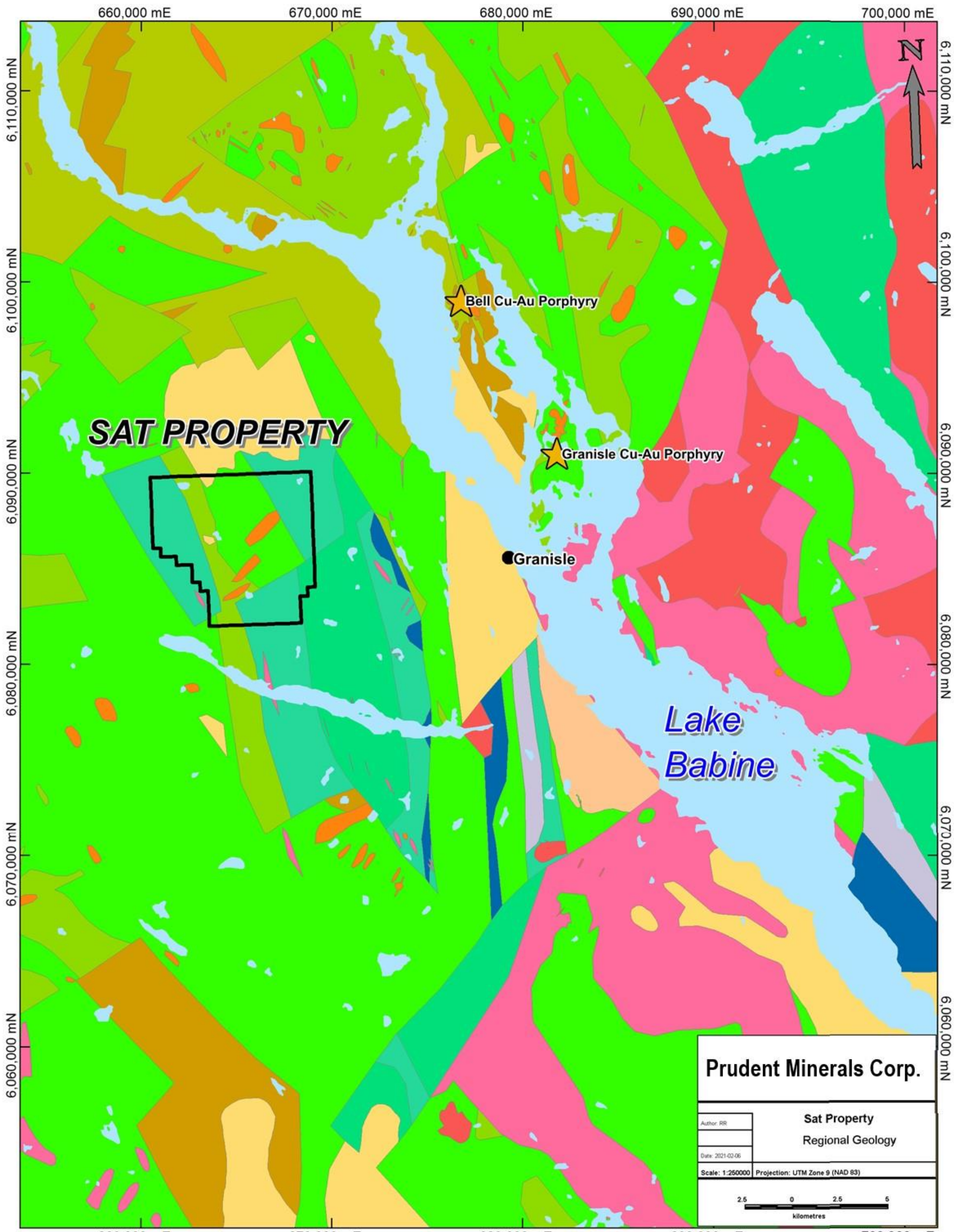


**Figure 7.1:** Regional Geology Map (Massey et al., 2005)

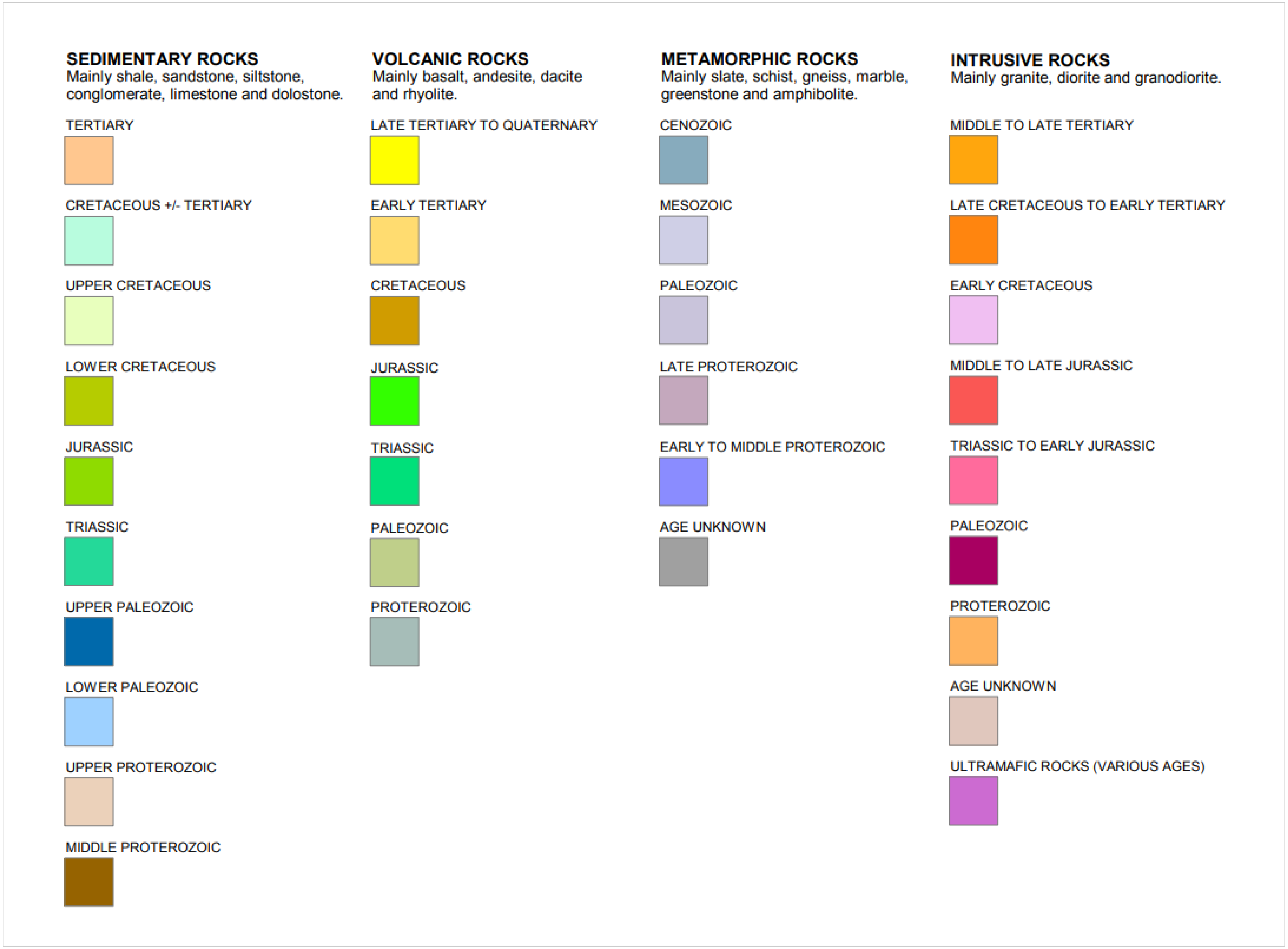


**Figure 7.2:** Regional Geology Legend (Massey et al., 2005).

## 7.2 Regional Mineral Occurrences

The SAT Property is 12 kilometres southwest of the Bell copper-gold porphyry deposit and 13 kilometres west of the Granisle copper-gold porphyry deposit (Figure 7.1), both of which were producers of copper-gold-silver concentrate in the past. The deposits are situated on Babine Lake. The Bell deposit is located on the Newman Peninsula on the north end of Babine Lake, and the Granisle deposit is located on MacDonald Island approximately 10 km to the southeast.

### 7.2.1 Bell Copper-Gold Mine

The Bell mine is a porphyry copper deposit hosted primarily in a biotite-feldspar porphyry stock of the Eocene Babine Plutonic Suite. The stock is crosscut by the northwest trending Newman fault which juxtaposes the two groups that host the intrusion. These groups are the Lower Jurassic Telkwa Formation (Hazelton Group) and the Lower Cretaceous Skeena Group. Telkwa Formation rocks are primarily fine-grained tuffs and andesites and the younger Skeena Group rocks are mostly fine-grained greywackes. The deposit overlaps onto both of these assemblages. Total production from 1972 to 1992 was 77,146,088 tonnes yielding 38,319,730 grams of silver, 12,885,964 grams of gold and 304,795,539 kilograms copper. The mineralization has been dated at 51.0 million years (BC Geological Survey, 2015a).

The ore zone has pervasive potassic (mainly biotitization) alteration with a surrounding concentric halo of chlorite and sericite-carbonate alteration (propylitic and argillic) which corresponds to the two-kilometre pyrite halo which surrounds the deposit. A late quartz-sericite-pyrite-chalcopyrite alteration has been superimposed on part of the earlier biotite-chalcopyrite ore at the western part of the orebody. A number of late-stage breccia pipes cut the central part of the ore zone near the Newman fault and alteration associated with their intrusion has apparently depleted the copper grades in the area of the pipes. Veinlets of gypsum are present in the upper part of the orebody (BC Geological Survey, 2015a).

### 7.2.2 Granisle Copper-Gold Mine

Production at Granisle from 1966 to 1982 totaled 52,273,151 tonnes yielding 69,752,525 grams of silver, 6,832,716 grams of gold, 214,299,455 kilograms of copper and 6,582 kilograms molybdenum. Copper mineralization at the Granisle mine is associated with a rocks of Eocene Babine Plutonic suite which occur in the central part of the island. The oldest is an elliptical plug of dark grey quartz diorite approximately 300 by 500 metres in plan. The most important intrusions are biotite-feldspar porphyries of several distinct phases which overlap the period of mineralization. The largest and oldest is a wide northeasterly trending dike which is intrusive into the western edge of the quartz diorite pluton. The contact is near vertical and several small porphyry dikes radiate from the main dike. Several of the phases of the porphyry intrusions are recognized within the pit area. Potassium-argon age determinations on four biotite samples collected in and near the Granisle ore body yielded the mean age of 51.2 Ma (BC Geological Survey, 2015b).

An oval zone of potassic alteration is coincident with the ore zone. The main alteration product is secondary biotite. This potassic alteration zone is gradational outward to a quartz-sericite-carbonate-pyrite zone which is roughly coaxial with the ore zone. Within this zone, the intrusive and volcanic rocks are weathered to a uniform buff colour with abundant fine-grained quartz. Mafic minerals are altered to sericite and carbonate with plagioclase clouded by sericite. Pyrite occurs as disseminations or as fracture-fillings. Beyond the pyrite halo, varying degrees of propylitic alteration occurs in the volcanics with chlorite, carbonate and epidote in the matrix and carbonate-pyrite in fractured zones. Clay mineral alteration is confined to narrow gouge in the fault zones. The principal minerals within the ore zone are chalcopyrite, bornite and pyrite. Coarse-grained chalcopyrite is widespread, occurring principally in quartz-filled fractures with preferred orientations of 035 to 060 degrees and 300 to 330 degrees with near vertical dips. Bornite is widespread in the southern half of the ore zone with veins up to 0.3 metres wide hosting coarse-grained bornite, chalcopyrite, quartz, biotite and apatite (BC Geological Survey, 2015b).

The author cautions the presence of porphyry copper mineralization at Bell and Granisle is not necessarily indicative of similar mineralization at SAT. The author further cautions he has yet to verify the Bell and Granisle data.

## 7.3 Local and Property Geology

The SAT Property is predominantly underlain by early to mid Jurassic Hazelton Group intermediate to mafic volcanic flows and pyroclastics, with lesser associated sedimentary rocks, of the Saddle Hill and Nilkitkwa Formations. Eocene age biotite ± hornblende feldspar porphyries intrude the older volcanics in several areas on the property, including the area of low-grade copper mineralization outlined by Amoco in the early seventies at the SAT Main zone. At that zone, pyrite-chalcopyrite mineralization is spatially and genetically associated with biotite feldspar porphyry dikes up to 8 m in width. To the west of this zone, argillites belonging to the Nilkitkwa Group were encountered in the 2019 RC drilling program completed by PEMC (Ritchie, 2020).

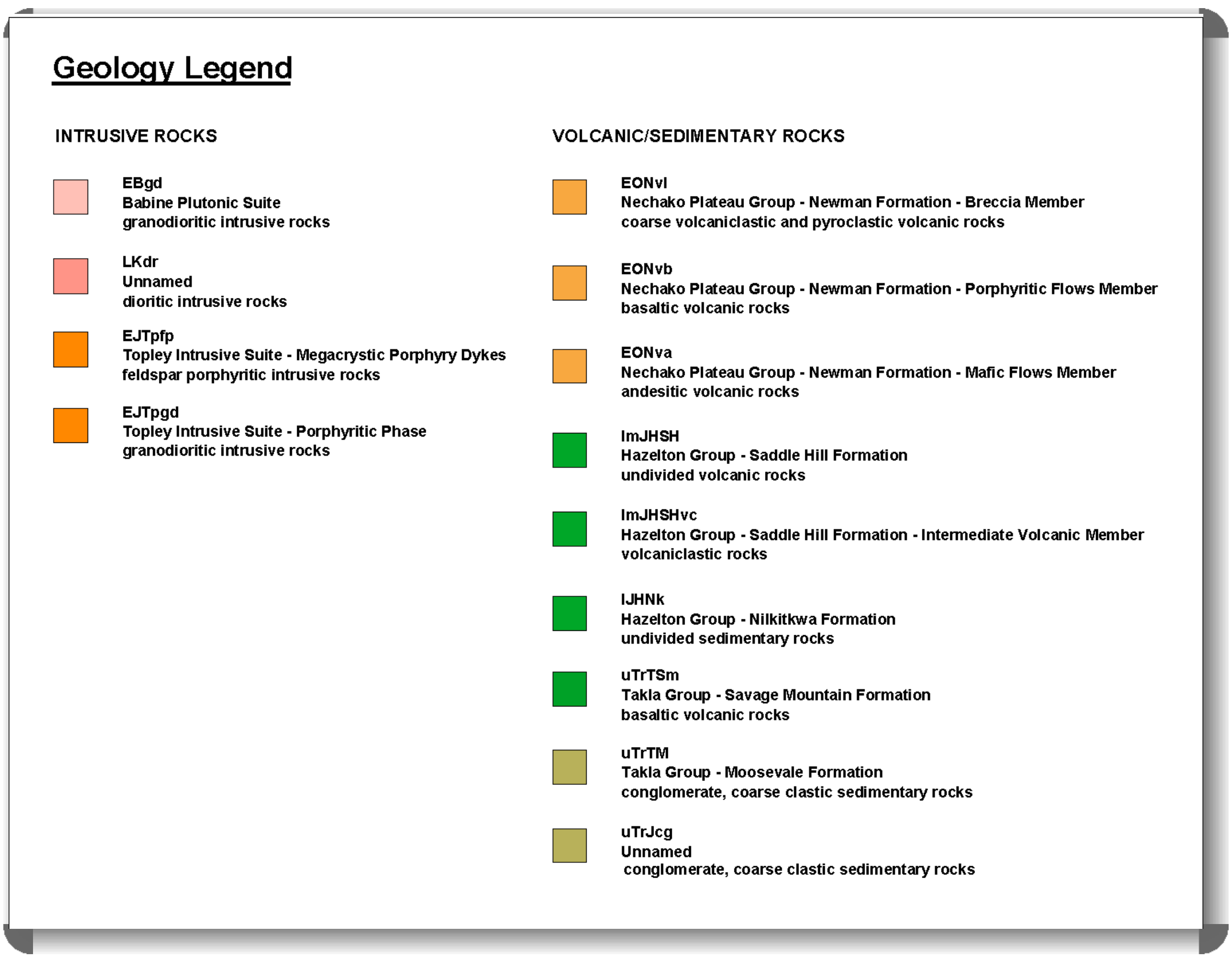


**Figure 7.3:** SAT Property geology legend (modified from Massey et al. (2005)).

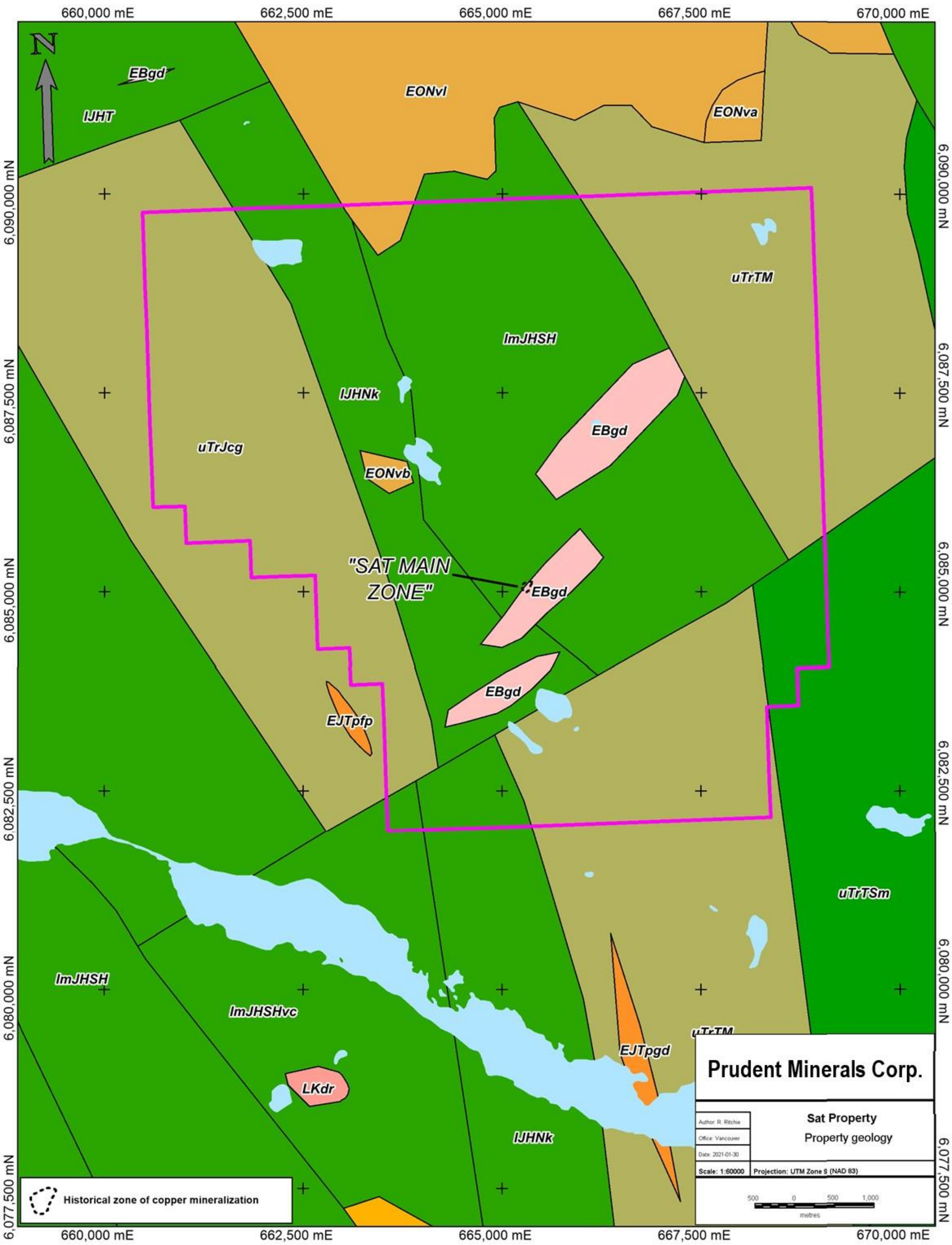


**Figure 7.4:** Property Geology Map (modified from Massey et al. (2005)).

### 7.3.1 Property Mineralization & Alteration

SAT Property mineralization encountered to date SAT consists of pyrite-chalcopyrite with rare molybdenite as quartz vein fillings and as disseminations in wall rock. Quartz veins vary from <1 mm to 15 cm, with the medial width being around 4 mm. Quartz veins manifest as stockworks and locally sheeted vein sets, with copper ± molybdenum ± gold grades often being directly proportional to vein density.

Two alteration assemblages dominant in the area of the historical SAT Main zone: Phyllic and potassic. The bulk of the copper mineralization is spatially related to biotite feldspar porphyry dikes and is hosted in rocks subjected to moderate to locally strong degrees of potassic alteration typically manifesting as fine-grained biotite. Locally strong phyllic alteration, seen as sericite-pyrite in the historical drill core, overprints biotite altered zones with pyrite veinlets cross-cutting pyrite-chalcopyrite bearing quartz veins. Hornfelsing, largely consisting of fine-grained reddish-brown biotite, is also present in and around biotite feldspar porphyry dikes , but is not necessarily associated with a significant amount of sulphides.

# 8 Deposit Types

## 8.1 Porphyry Copper-Gold Deposits

Porphyry deposits are large, low- to medium-grade deposits in which primary ore minerals are dominantly structurally controlled and are spatially and genetically related to felsic to intermediate porphyritic intrusions (Sinclair, 2007). Their formation is related to magma emplacement at relatively high levels in the crust, where the circulation of hydrothermal fluids facilitates scavenging, mobilizing and deposition of metals.

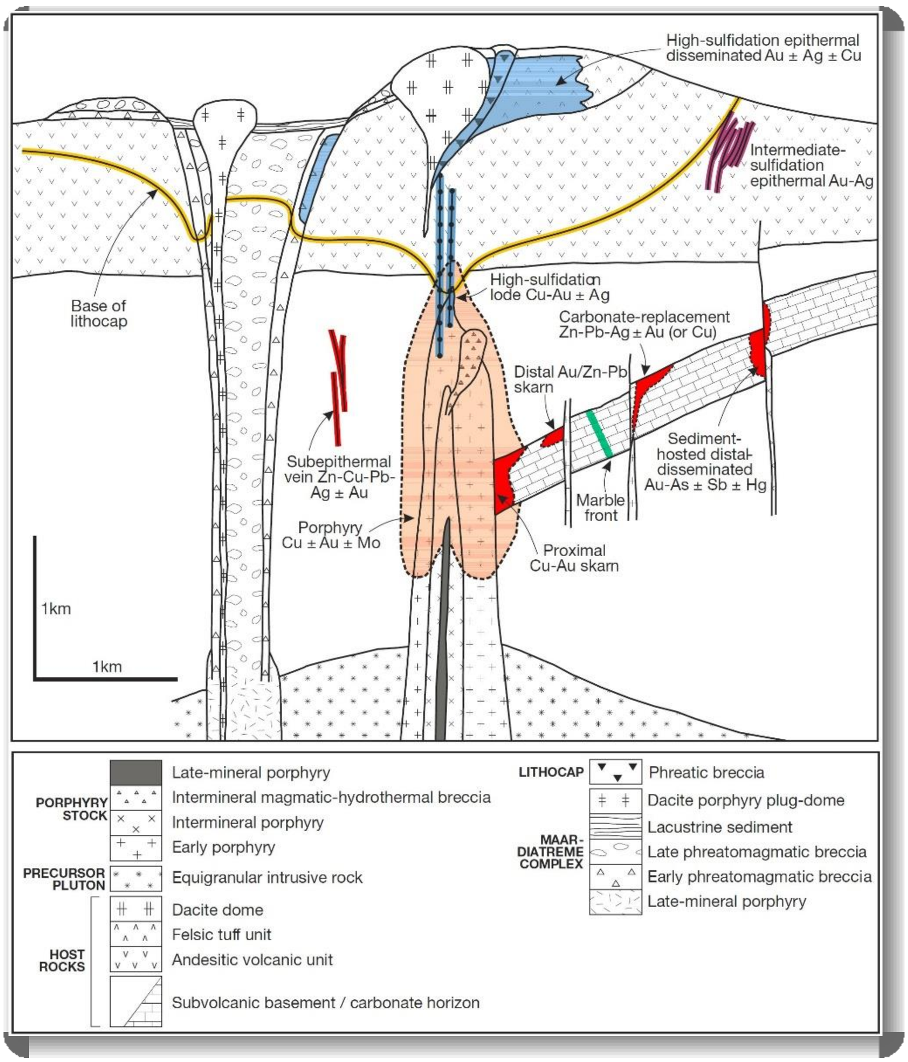


**Figure 8.1:** Anatomy of a telescoped porphyry Cu system (Sillitoe, 2010).

Porphyry copper systems are defined as large volumes of hydrothermally altered rock centered on porphyry copper stocks that may also contain skarn, carbonate-replacement, sediment-hosted, and high- and intermediate-sulphidation epithermal base and precious metal mineralization (Sillitoe, 2010).

The metal content of this class of deposits is diverse, but within the scope of this report can be narrowed down to those grouped as Copper ± Molybdenum ± Gold (Cu ± Mo ± Au).

### 8.1.1 Importance

Porphyry copper deposits account for approximately two-thirds of global copper production and more than 95% of world molybdenum production. Porphyry deposits are also major sources of gold, silver, and tin; significant byproducts include Re, W, Pd, Pt, Te and Se.

### 8.1.2 Geographic Distribution

Porphyry deposits occur throughout the world in a series of extensive, relatively narrow, linear metallogenic provinces. They are predominantly associated with Mesozoic to Cenozoic orogenic belts in western North and South America, around the western margin of the Pacific Basin, and in the Tethyan orogenic belt in eastern Europe and southern Asia. However, major deposits also occur within Paleozoic orogens in Central Asia and eastern North America and, to a lesser extent, within Precambrian terranes (Sinclair, 2007).

### 8.1.3 Geographic Distribution within British Columbia

Late Triassic to Early Jurassic Cu-Au and Cu-Mo porphyry deposits of the Stikine and Quesnel terranes are collectively the most important group of deposits in British Columbia (Nelson and Colpron, 2007). They include such long time producers as Highland Valley, Gibraltar, Copper Mountain, Brenda, and Afton; projects such as Mt. Milligan, Red Chris, Schaft Creek, Brucejack, and Kerr-Sulphurets-Mitchell (KSM) are also moving towards production. Host intrusions range from 210 Ma (Galore, Highland Valley) to 183 Ma (Mt. Milligan). The abundance of porphyry and other deposits marks Stikinia and Quesnelia as remarkably rich metallotects, comparable to the modern arc setting of Papua New Guinea.

### 8.1.4 Grade and Tonnage

Porphyry deposits are large and range in size from tens of millions to billions of tonnes. In typical porphyry Cu ± Mo ± Au deposits, grades range from 0.2 to 1.0% Cu, <0.01 to 0.05% Mo, and 0.0 to 1.0 g/t Au.

### 8.1.5 Tectonic Setting

Porphyry Cu systems are generated mainly in magmatic arc environments subjected to broadly contractional settings, marked by crustal thickening, surface uplift and rapid exhumation (Sillitoe, 2010). Porphyry Cu deposits are typically located in volcanic or sub-volcanic environments in subduction-related, continental and island-arc settings.

Fault and fault intersections are invariably involved in determining the formational sites and geometries of porphyry Cu systems and their constituent parts. Some investigators emphasize the importance of intersections between continental-scale transverse fault zones and arc-parallel structures for porphyry Cu formation (Richards et al., 2001).

### 8.1.6 Geological Setting

Porphyry deposits occur in close association with porphyritic epizonal and mesozonal intrusions. There is a close temporal relationship between magmatic activity and hydrothermal mineralization. Commonly located in volcanic or sub-volcanic environments, host rocks typically include volcanics, intrusives (which may or may not be coeval with country rock) and volcano-sedimentary, epiclastic and pyroclastic rocks.

The composition of intrusions associated with porphyry deposits varies widely and appears to exert a fundamental control on the metal content of the deposits. Intrusive rocks associated with porphyry Cu-Au and porphyry Au deposits tend to be low-silica, relatively mafic and primitive in composition, ranging from calc-alkaline dioritic and granodioritic plutons to alkalic monzonitic rocks. Porphyry Cu and Cu-Mo deposits are associated with intermediate to felsic, calc-alkaline intrusive rocks ranging from granodiorite to granite in composition (Richards, 1990).

### 8.1.7 Alteration

Hydrothermal alteration is extensive and typically zoned on a deposit scale as well as around individual veins and fractures. Alteration zones on a deposit scale commonly consist of an inner potassic ± sodic core characterized by K-feldspar and/or biotite (± amphibole ± magnetite ± anhydrite), and an outer, more extensive zone of propylitic alteration that consists of quartz, chlorite, epidote, calcite and, locally, albite associated with pyrite. Zones of phyllic (quartz + sericite + pyrite) and argillic alteration (quartz + illite + pyrite ± kaolinite ± montmorillonite ± calcite) may be part of the zonal pattern between the potassic and propylitic zones, or can be irregular or tabular, younger zones superimposed on older alteration and sulphide assemblages (Moyle et al., 1990).

Alteration mineralogy is controlled in part by the composition of the host rocks, and by the composition of the mineralizing system. In mafic host rocks with significant iron and magnesium, biotite is the dominant alteration mineral in the potassic alteration zone, whereas K-feldspar dominates in more felsic rocks (Sinclair, 2007). In more oxidized environments, minerals such as pyrite, magnetite (± hematite), and anhydrite are common, whereas pyrrhotite is present in more reduced environments (Rowins, 2000).

### 8.1.8 Structure and Mineralization Styles

As mentioned above, faults and fault intersections are invariably involved in determining the formation and geometry of porphyry Cu systems. At the scale of ore deposits, associated structures can result in a variety of mineralization styles, including veins, vein sets, stockworks, fractures, “crackled zones”, and breccia pipes. Orientations of mineralized structures can be related to local stress environments around the tops of plutons or can reflect regional stress conditions.

### 8.1.9 Mineralogy

The mineralogy of porphyry deposits is highly varied, although pyrite is typically the dominant sulphide mineral in porphyry Cu ± Mo ± Au deposits. Principal ore minerals are chalcopyrite, bornite, chalcocite, tennantite, enargite, other Cu sulphides and sulphosalts, molybdenite, and electrum; associated minerals include pyrite, magnetite, quartz, biotite, K-feldspar, anhydrite, muscovite, clay minerals, epidote and chlorite.

### 8.1.10 Morphology and Architecture

The overall geometry of individual porphyry deposits is highly varied and includes irregular, ovoid, pipe-like or cylindrical shapes, which may or may not be "hollow". Ore bodies are zoned, with often barren cores and crudely concentric metal zones, and may occur separately or overprint one another, vertically and laterally. Complex, irregular ore and alteration patterns arise from overprinting episodes of zoned mineralization and alteration of different ages.

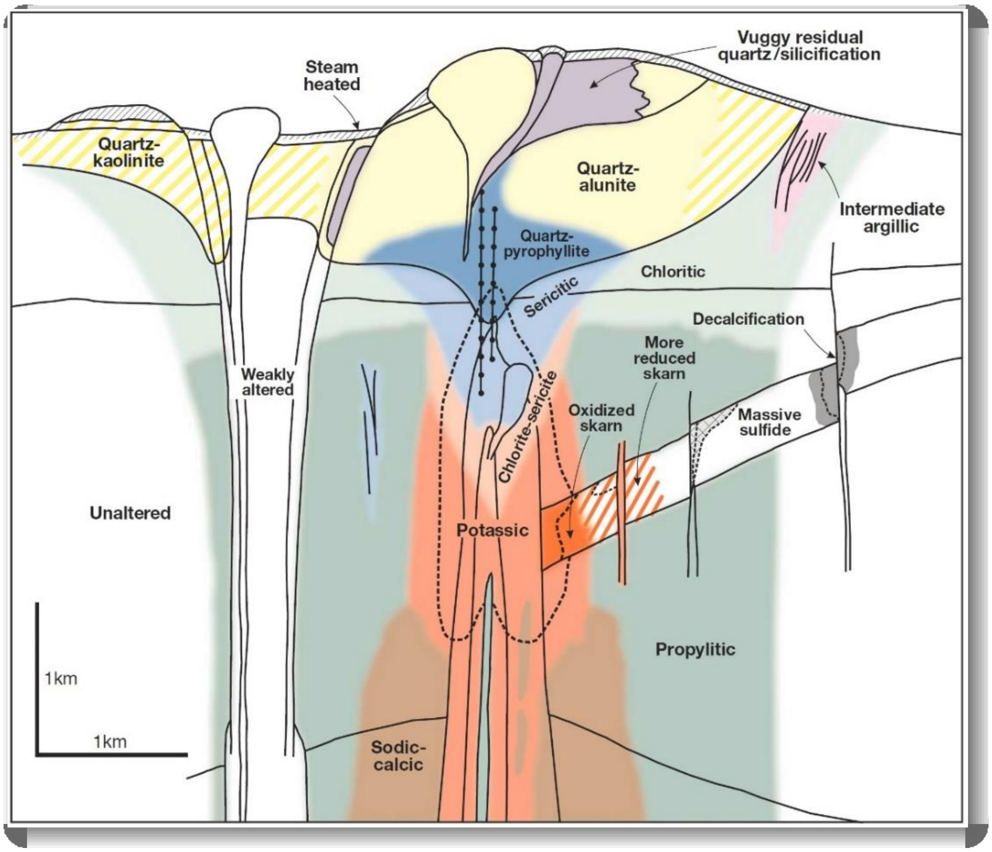


**Figure 8.2:** Generalized alteration-mineralization zoning pattern for telescoped porphyry Cu systems (Sillitoe, 2010).

### 8.1.11 Genetic Model

Porphyry Cu systems typically span the upper 4 km or so of the crust, with their centrally located stocks being connected downward to parental magma chambers at depths of perhaps 5 to 15 km. The water-rich parental magma chambers are the source of the heat and hydrothermal fluids throughout the development of the system. Large, poly-phase hydrothermal systems developed within and above genetically related intrusions are formed and are often long-lived (≈5m.y.).

Convection of hydrothermal fluids throughout the country rock and intruding stocks results in a focusing of metals along conduits and within permeability networks where hydro-fracturing has taken place. Effective scavenging of metals is facilitated by "organized" hydrothermal systems in a state of convection, while efficient metal deposition is enhanced by pore-fluid over-pressurization resulting in catastrophic failure and rapid remobilization and de-pressurization of metalliferous hydrothermal fluids.

#### 8.1.12 Porphyry Copper Subtypes

**8.1.12.1 Alkalic Copper-Gold Porphyry** Alkalic Cu-Au porphyry deposits are known in only a few mineral provinces worldwide, with British Columbia being the type area for such deposits (Chamberlain et al., 2006). Relatively unique, alkalic porphyry deposits are an especially Au-rich variety of porphyry deposits that still maintain good copper grades. Alkalic Cu-Au porphyry deposits differ from Cu or Cu-Mo dominant porphyry deposits in the following ways:

**Tonnage and Grade**

Tonnages of alkalic porphyry deposits are generally less than their Cu ± Mo counterparts, while grades can be significantly higher, especially Au tenors. Mineralization related to alkaline magmatism in arc terranes includes a disproportionately large share of the world's giant gold deposits when the small volume of alkaline relative to calc-alkaline rocks is taken into account (Sillitoe, 2002).

**Alteration**

Alkalic porphyry deposits have smaller and more cryptic alteration footprints (Figure 8.3). On the deposit scale, phyllic alteration is typically restricted to fault zones that penetrate late in the hydrothermal system. Furthermore, alkalic deposits lack advanced argillic alteration in most cases (Chamberlainet al., 2006).

**Tectonic and Geological Setting**

Porphyry deposits associated with alkaline intrusions typically form in an island-arc setting, possibly during periods of extension. Geological compositions vary between silica-saturated (diorite and monzonite) or silica-undersaturated (pyroxenite and syenite) complexes (Chamberlain et al., 2006). The volcano-plutonic suites are generally considered more primitive and less felsic than those associated with Cu ± Mo porphyry deposits.

**Architecture**

Alkalic systems often consist of numerous discrete bodies that can exhibit complex and variable geometries, from high-level breccia-hosted bodies (Mt. Polley) to deeper level intrusive-centered sulphide accumulations (Mt. Milligan or Lorraine). Orebody geometries commonly mimic associated pipe-like intrusions (Deyell and Tosdal, 2004).

#### 8.1.13 Telescoped Intrusion Centered Ore Deposits

Telescoping is the process of juxtaposing or overprinting early, deep mineralization, commonly of the porphyry type, and late, shallow, generally epithermal styles of precious- and base-metal mineralization. Tele-scoping is attributed to syn-hydrothermal degradation of volcanic paleosurfaces, as a result of either rapid erosion under pluvial conditions or sector (and, less probably, caldera) collapse of the volcanic edifices. Paleosurfaces may be lowered easily by 1 km during the ~ 1 m.y. total life spans of hydrothermal systems, leading to the vertical compression of any contained ore deposits by at least 1 km.

Sector collapse may be triggered by volcanic tumescence (Sillitoe, 1994) due to syn-mineralization intrusion, and it may be facilitated by hydrothermal weakening of volcanic edifices. Sector collapse causes extensive ingress of meteoric and/or ocean water to the magmatic environment and a decrease in confining pressure. The latter may induce hydrothermal brecciation, boiling and possible epithermal gold precipitation, and even accelerated efflux of magmatic fluids.

Telescoped systems (Figures 8.1 & 8.2) are believed to possess greater potential for the existence of both porphyry-type deposits at shallower than normal depths and giant ore deposits (Sillitoe, 1994).

### 8.1.14 Exploration Models

**8.1.14.1 Geophysical Targeting** Several geophysical techniques can be effectively utilized while exploring for porphyry Cu ± Mo ± Au deposits. Most notably, magnetic, electromagnetic and Induced Polarization surveys are considered highly effective tools for detection of characteristic anomalies.

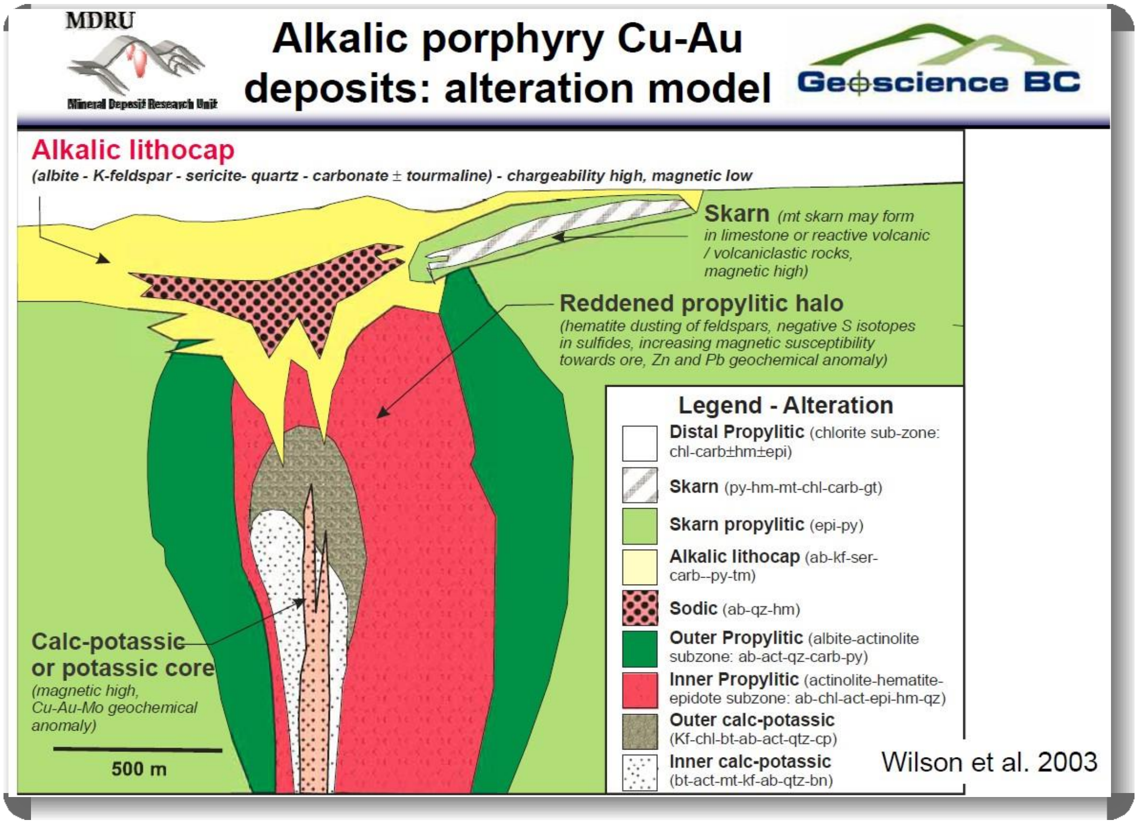


**Figure 8.3:** Generalized alteration and mineralization zoning associated with alkalic systems in BC.

At a regional scale, airborne magnetic surveys are useful for mapping out the geological framework and for identifying magmatic arcs and their constituent elements. At a local scale, both airborne and ground magnetic surveys can be effective at targeting intrusions and associated mineral deposits. Primary magnetite typically forms as an accessory mineral within intrusive bodies, and secondary magnetite may result from hydrothermal alteration and/or hornfelsing. In should be noted, however, that some deposits are characterized by magnetic lows due to the destruction of magnetite in phyllic alteration zones (Sinclair, 2007).

Electromagnetic airborne and ground surveys can be effective at delineating resistive, porphyritic intrusions as well as associated alteration haloes. In the search for porphyry deposits, large circular or ovate resistivity highs are considered to be sources of potential interest (Lane, 2007, AR#29339). A circular-like high resistivity anomaly directly coincides with the Mt. Milligan porphyry and might therefore reflect the potassic alteration halo (Devine, 2012; Geotech Ltd., 2009).

At a local scale, ground Induced Polarization surveys have proved to be the most effective at detecting metalliferous bodies. At Copper Mountain, this technique was responsible for the discovery or extension of several new zones, with resulting chargeability anomalies having a shape that generally corresponds with the known shape of the ore bodies (Stanley et al., 1995).

Chile is host to some of the world's most spectacular porphyry copper deposits. The aeromagnetic signature of porphyry copper systems in northern Chile was investigated by Behn et al., 2001. The authors proposed that transverse magnetic anomalies (lows) were responses to the loci of emplacement of intrusive bodies, and that all known porphyry copper deposits in northern Chile are spatially related to these transverse magnetic anomalies.

**8.1.14.2 Geological Targeting** Volcanic arc complexes are high priority exploration targets for intrusion related ore deposits. In British Columbia, the Stikine Terrane and the Quesnel Terrane represent Triassic-Jurassic volcanic arc complexes that were emplaced during the Jurassic and collectively represent the foundation for further geological targeting. Within these terranes, unconformities and contact faults represent prospective locations for the identification of mineralization.

Due to the size of porphyry Cu deposits their associated alteration haloes, alteration zonation patterns over 10's to 1,000's of metres provide a possible method of vectoring towards areas of highest priority.

The presence of glacial cover in across large portions of BC make direct observation of alteration patterns in outcrop challenging. In these areas, local scale geological mapping is of limited effectiveness. At regional scales, however, regional mapping can be useful at narrowing in on prospective terranes and their constituent lithologies, and inferences can be made when used in conjunction with geophysical data.

**8.1.14.3 Geochemical Targeting** Regional silt sampling programs have been successful in narrowing in on prospective areas for porphyry associated mineralization, although the data is often too coarse for targeting at a local scale. Areas with glacial cover will not be conducive to silt sampling as water courses may not be cutting through and re-mobilizing any of the underlying rock.

At a local scale, soil geochemistry can be utilized as a means of direct detection of metalliferous bodies, though its effectiveness is invariably related to presence and thickness of cover and/or soils. New techniques in sampling and analysis have allowed for detection of buried deposits. By lowering thresholds with partial extractions of selectively sampled soil components, soil geochemistry can be effective in detecting porphyry Cu mineralization through transported glacial overburden of up to 100's of meters (Heberlein et al., 2010).

Traditional soil sampling (B-Horizon) performed over the Mt. Milligan deposits outlined numerous copper and gold anomalies within the area encompassing the vast majority of the deposits. However, extensive cover partially masked and dispersed the bedrock geochemical response, while geochemical values of colluvium samples were much higher (Sketchley et al., 1995).

# 9 Exploration

## 9.1 Prudent Minerals Corp. (formerly Cesar Minerals Corp.) - 2020

Prudent completed a 16.3-line kilometre IP survey over the northern portion of the SAT Property in November 2020. Peter E. Walcott & Associates Ltd. ("Walcott Geophysics") surveyed 5 northeast rending lines, covering approximately 9 square kilometres and measuring the 1st to 8th separation utilizing an a-spacing of 100 metres. The IP survey was designed to outline additional areas of high chargeability, which would most likely be indicative of disseminated sulphides possibly associated with a copper ± gold ± molybdenum porphyry deposit.

The (IP) survey was conducted using a pulse type system, the principal components of which were manufactured by Instrumentation GDD of Quebec, Canada, and Walcer Geophysics of Ontario. The system consists of three units: a receiver (GDD), transmitter (Walcer) and a motor generator (Honda). The transmitter, which provides a maximum of 10 kw d.c. to the ground, obtains its power from 20 kw 400 Hz alternator driven by a Honda 44 h.p. gasoline engine. The cycling rate of the transmitter is 2 seconds "current-on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through the current electrodes C1 and C2, the primary voltages (V) appearing between any two potential electrodes, P1 through P5, during the "current-on" part of the cycle, and the apparent chargeability, (Ma) presented as a direct readout in millivolts per volt using a 200 millisecond delay and a 1000 millisecond sample window by the receiver, a digital receiver controlled by a micro-processor. The sample window is actually the total of twenty individual windows of 50 millisecond widths.

The raw data obtained over the course of the survey was considered reliable. No factors that may have resulted in sampling biases were observed by the field technicians. Apart from reconfirming the high IP chargeability response at the historically drilled "SAT Main zone", the 2020 IP survey outlined a particularly strong IP chargeability response on the most northerly survey line (Figure 9.1). The anomaly, which remains open to the north, is designated the "CHE anomaly" and is coincident with an area of subtle magnetic disruption that may represent the manifestation of magnetite destruction related to the phyllic alteration halo of a porphyry system.

# 10 Drilling

Prudent Minerals has not completed drilling on the Property to date.

## 10.1 Historical Drilling

The only verifiable historical drilling on the Property was completed by Redhill on the SAT Property in 2014 (Table 10.1). Significant 2014 drill intercepts are outlined in Table 10.2 below. A map showing all historical diamond drill collar locations on the Property is shown in Figure 10.1.

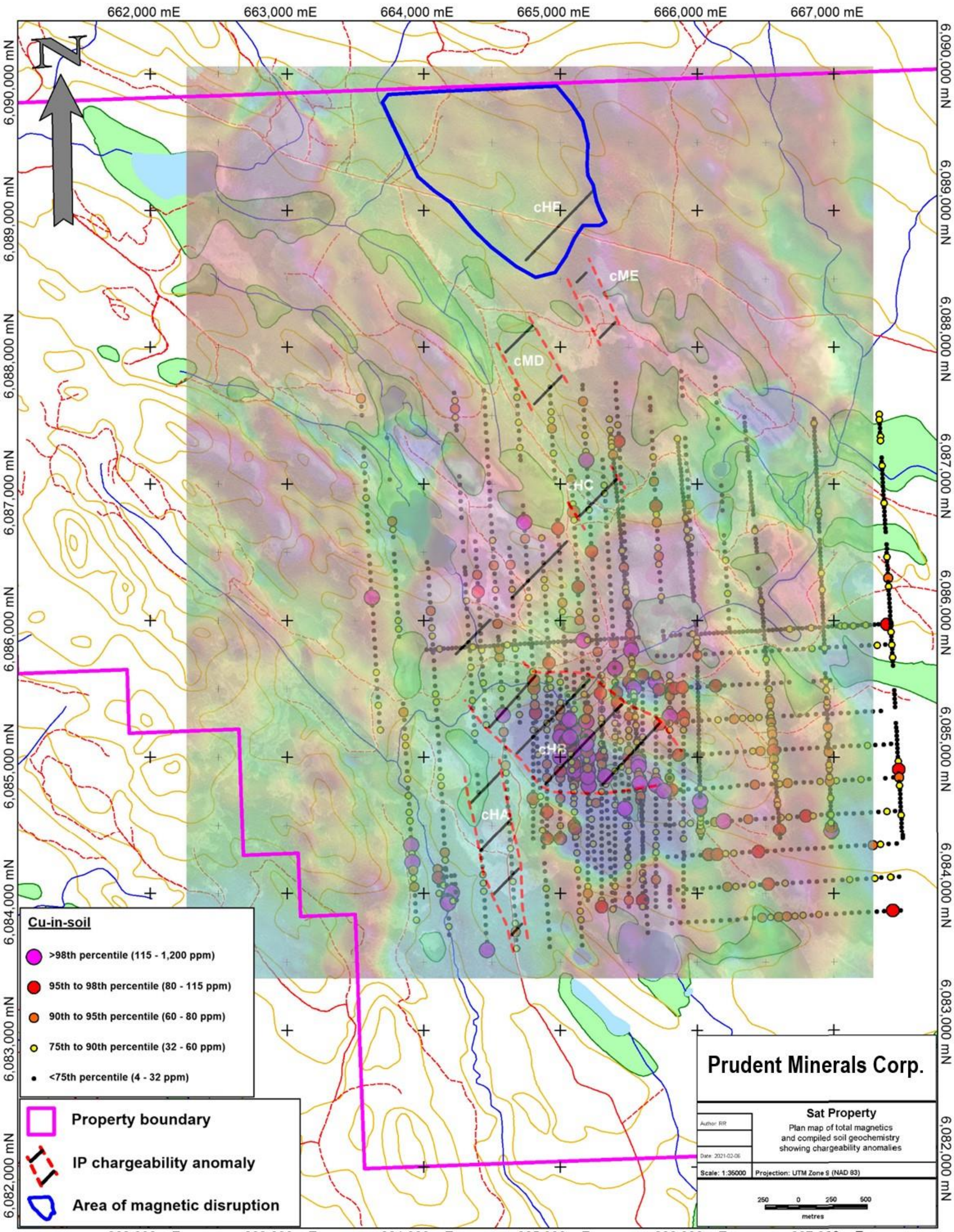


**Figure 9.1:** Compiled IP anomalies relative to historical copper-in-soil geochemistry and total magnetics.

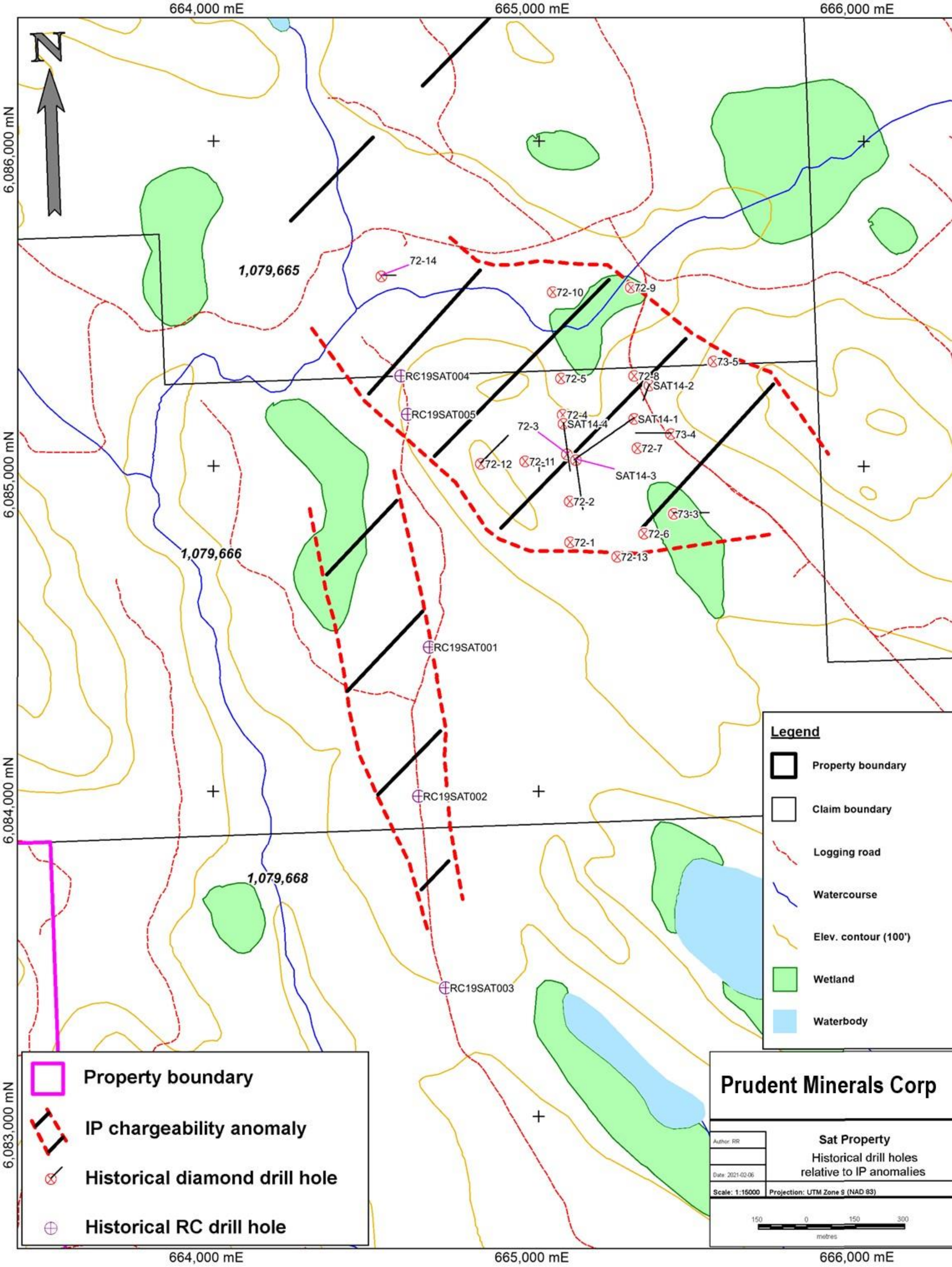


**Figure 10.1:** Historical drill hole locations relative to compiled IP anomalies.

**Table 10.1:** Summary of historical drilling (coordinates provided are in UTM datum NAD 83 zone 9).

| Hole ID | Hole type | Operator | Easting (m) | Northing (m) | Elevation (m) | Azimuth | Dip | Depth (m) |
|---|---|---|---|---|---|---|---|---|
| SAT14-1 | Diamond | Redhill | 665292 | 6085148 | 964 | 235 | -60 | 449 |
| SAT14-2 | Diamond | Redhill | 665339 | 6085252 | 972 | 200 | -80 | 303 |
| SAT14-3 | Diamond | Redhill | 665113 | 6085021 | 958 | 172 | -55 | 272 |
| SAT14-4 | Diamond | Redhill | 665075 | 6085133 | 955 | 172 | -55 | 260 |

**Table 10.2:** Historical drill highlights.

| Hole ID | From (m) | To (m) | Interval (m) | Cu (ppm) | Mo (ppm) | Au (ppb) |
|---|---|---|---|---|---|---|
| SAT14-1 | 10.5 | 449 | 438.5 | 472.8 | 34.4 | 44.1 |
| *incl.* | 440 | 449 | 9 | 1282.6 | 77.3 | 21.2 |
| SAT14-3 | 11 | 116 | 105 | 1035.8 | 38.6 | 22.3 |
| SAT14-4 | 47 | 227.4 | 180.4 | 939.4 | 35.7 | 10.4 |

Redhill completed a 4-hole diamond drilling program totaling 1,284 m in 2014. Core samples were prepared using a hydraulic splitter whereby one-half of the drill core was sent for laboratory analysis while the other half was kept as a historical record. Certified reference materials such as reference standards and blank material were not inserted in the sample sequence before shipment to the analytical laboratory, which is contrary to the Canadian Institute of Mining's "CIM") Mineral Exploration Best Practice Guidelines updated and adopted by CIM Council on November 23, 2018. The failure to insert certified reference materials could have a material impact on the reliability and accuracy of the 2014 diamond drilling results.

Low grade copper mineralization was intersected in two holes drilled in and around the historically outlined SAT Main zone. Intercepts included 93 m grading 0.11% Cu in hole SAT14-3 (Figure 10.2), and 93 metres grading 0.13% Cu in drill hole SAT14-4 (Smith, 2015). The 2014 drilling saw some deeper holes, including the deepest hole drilled by a significant margin, drill hole SAT14-1 which reached a vertical depth of 388.8 metres. The bottom 9 metres of hole 14-1 assayed 0.128% copper (Table 10.2) where a high density of sheeted quartz veins associated with strong biotite alteration and abundant pyrite-chalcopyrite mineralization persists to the last metre drilled.

The 2019 Pacific Empire Mining Corp. reverse circulation drilling consisted of 477 metres in 5 holes and tested an NNW trending, elongate IP high chargeability anomaly measuring approximately 2,000 metres x 500 metres, lying alongside a fault to the west of the historical SAT Main Zone. The drilling intersected graphite-bearing argillites.

# 11 Sample Preparation, Analysis & Security

The 2014 diamond drilling results produced by Redhill are the most reliable sources of analytical data, sampling protocols detailed herein.

## 11.1 2014 Diamond Drilling

The sample preparation, analysis and security measures taken by Redhill Resources Corp. in 2014 were adequate. A Redhill geologist demarked HQ or NQ drill core samples at medial intervals of 3 m, which was lengthened or shortened depending on lithological, structural or major alteration contacts (Smith, 2015, AR#35536).

Drill core was split in half using a hydraulic splitter, with one-half of the split core being placed in polyethylene bags along with sample identification tags. The poly bags were sealed with zip-ties and placed into larger rice bags which were subsequently shipped to Acme Analytical Laboratories Ltd. ("Acme- Labs") for sample preparation and analysis. Certified reference materials ("standards") or blank materials ("blanks") were not inserted into the sample sequence by field geologists, which is contrary to the CIM's Mineral Exploration Best Practices Guidelines updated and adopted by CIM council on November 23, 2018.
Once drill core samples were received and catalogued at AcmeLabs facility, samples were crushed and split into 250 g representative rock samples which were then pulverized to a 200 mesh size. 0.5 g sample aliquots were subjected to digestion with 1:1:1 Aqua Regia solution and subsequently analyzed for 36 elements, including copper, molybdenum and gold, with an Inductively Coupled Plasma Mass Spectrometer.


**Figure 10.2:** Select drill core from drill hole SAT14-3.

AcmeLabs was an ISO 9001-2008 certified laboratory located at 1020 Cordova Street East, Vancouver, BC, Canada in 2014, that has since been acquired by Bureau Veritas Mineral Laboratories. ISO 9001-2008 certification was issued to AcmeLabs as certificate number FM 63007 by the British Standards Institution. AcmeLabs was independent to the issuer and to the vendors at the time when samples from the 2014 work program were submitted and analyzed.

Redhill field personnel did not implement the use of certified reference materials in the 2014 diamond drilling core sampling program. As such, the author cannot verify the accuracy and reliability of the 2014 core sample results, other than those samples that have been selected and processed for data verification purposes in December of 2021.

# 12 Data Verification

The author visited the site on December 22, 2021. The objective of the site visit was to inspect property access and confirm historical drill sites, as well as to inspect historical drill core. The property was accessed by helicopter but very recent logging activity would have allowed access by truck. Drill sites were inspected. The author completed an inspection of the 2014 drill core. The lithologies, alteration, and mineralization observed were consistent with copper porphyry mineralization. Specifically, 5 samples were taken from 2 drill holes. These samples were sent to ALS labs in Vancouver to verify the tenor of mineralization. In the opinion of the QP, the data verification completed is adequate for the purposes used in this report.

**Table 12-1:** Comparison between resampled core and original assays

| Hole | Sample | From | To (m) | Orig Cu (ppm) | Resampled Cu | Orig Au (ppb) | Resampled Au |
|---|---|---|---|---|---|---|---|
| 14-1 | 2692254 | 20 | 23 | 627 | 662 | 28.4 | 20 |
| 14-4 | 2692598 | 91.5 | 93.5 | 2088 | 1590 | 50.5 | 20 |
| 14-4 | 2692612 | 128 | 131 | 1065 | 941 | 21.4 | <20 |
| 14-4 | 2692615 | 134.5 | 137 | 1201 | 1525 | 14.1 | <20 |
| 14-4 | 2692618 | 143 | 146 | 803 | 818 | 3.5 | <20 |
| Blank | 2699559 | - | - | 6.8 | - | <20 | - |

The small amount of variance between the samples can be attributed to variability in grade between the two halves of core or the slight differences between labs. The blank sample sent along with the five resampled intervals consisted of decorative limestone purchased at a local hardware store. The assays returned with negligible Cu and Au values.

## 13 Mineral Processing & Metallurgical Testing

No mineral processing or metallurgical tests have been carried out on any rock samples from the SAT Property to date.

## 14 Mineral Resource Estimates

No known mineral resources of any category exist on the SAT Property.

## 15 Mineral Reserve Estimates

No known mineral reserves of any category exist on the SAT Property.

## 16 Mining methods

No investigation into mining methods has been performed on the SAT Property.

## 17 Recovery methods

No investigation into recovery methods has been performed on the SAT Property.

## 18 Project Infrastructure

No investigation into Project Infrastructure has been performed on the SAT Property.

## 19 Market Studies and Contracts

No investigation into the Market for Copper and Gold has been performed with respect to the SAT Property. No investigation into contracts for copper and gold has been undertaken.

## 20 Environmental studies, Permitting and Social or Community Impact

No environmental studies have been performed with respect to the SAT Property. No investigation into permitting a mine have been looked at. No studies into Social or Community Impact have been undertaken.

## 21 Capital and Operating Costs

No investigation into the Capital and Operating costs have been undertaken.

## 22 Economic Analysis

No Economic Analysis has been performed with respect to the SAT Property.

# 23 Adjacent Properties

There are no mineral exploration or development properties adjacent to the SAT Property.

# 24 Other Relevant Data & Information

All relevant data and information has been presented in prior sections in this Report.

# 25 Interpretations & Conclusions

Thorough inspection of all historical data, including first hand inspection of diamond drill core, leads the author to believe the SAT Property has potential to host a porphyry copper ± molybdenum ± gold deposit. The presence of chalcopyrite-pyrite mineralization in sheeted and stock work quartz veins, in combination with biotite alteration in spatial association with biotite-feldspar porphyry dikes is indicative of porphyry-copper type mineralization. The past producing Bell and Granisle mines, situated approximately 13 kilometres to the east of the SAT Property, exhibit similar features and are also associated with the emplacement of biotite-feldspar porphyry dikes of Eocene age.

The SAT Main zone, a zone of low-grade copper mineralization occurring as pyrite- chalcopyrite in sheeted and/or stock work quartz veins, presents the best opportunity to host a potentiallyeconomic copper deposit. The deepest hole drilled into this zone, SAT14-1, bottoms in some of the strongest biotite alteration and pyrite-chalcopyrite bearing quartz veining seen on the Property to date. In addition, the abundance of pyrite at the bottom of drill hole SAT14-1 suggests a higher temperature “potassic core” may exist below the relatively shallow drilling completed to date. Favourable geophysical and geochemical features further support the higher temperature potassic zone at depth theory.

In the northern portion of the Property, the Prudent IP survey outlined the new CHE anomaly. The highly anomalous IP response on the northernmost line of the 2020 IP survey warrants follow up, as it is coincident with a large,subtle magnetic low possibly indicative of magnetite destruction associated with a hydrothermal system.

# 26 Recommendations

The highest priority target on the SAT Property is the historically drilled, pyrite-chalcopyrite mineralized, SAT Main zone. The abundance and extent of biotite alteration seems to increase at depth, as evidenced by the deepest hole drilled on the Property to date, drill hole SAT14-1. A two-hole diamond drill program is recommended at this zone, with proposed hole depths of at least 550 metres in order to effectively evaluate the potential for copper grades beneath the historical drilling to date at the SAT Main zone.

A secondary target, the CHE anomaly, outlined in the 2020 IP survey also warrants follow-up. Concurrent with the drilling, 100 metre spaced grid B-horizon soil sampling over an area measuring approximately 1,300m by 1,800 metres should be completed to test the CHE anomaly to the north.

**Table 18.1:** Proposed Exploration Program & Budget

| **Item** | **Cost (CDN$)** |
|---|---|
| Soil geochemical sampling (250 samples) | $7,500 |
| Diamond Drilling (1,100 m @ $148/m) | $162,800 |
| Analytical (drilling) | $13,500 |
| Analytical (soil geochemistry) | $7,500 |
| Drill geologist (16 days at $500 per day) | $8,000 |
| Food & Accommodation, Support | $19,500 |
| **Total Phase 1** | $**218,800** |
| Diamond Drilling (2,500 @ $148/m m) | $370,000 |
| Analytical (drilling) | $28,000 |
| Drill geologist (34 days at $500 per day) | $17,000 |
| Food & Accommodation, Support | $32,500 |
| **Total Phase 2** | $**447,500** |

Upon successful completion of the Phase I program, then additional drilling proximal to the best results is recommended. An additional $447,500 should be planned for Year 2 which should result in approximately 2,500m of drilling (drilling, geologist, analytics, food and accommodation inclusive).

# 27 References


BC Geological Survey (2015a). MINFILE Record Summary on the Bell Past Producer - Minfile 093M 001. *BCMEMPR Bulletin*.

BC Geological Survey (2015b). MINFILE Record Summary on the Granisle Past Producer - Minfile 093L 146. *BCMEMPR Bulletin*.

Carter, N. (1981). Geological and Geochemical Report, SAT 1-4 Claims, Omineca Mining Division, British Columbia. Assessment Report 09471, Great Western Petroleum Corporation. SAT.

Chamberlain, C., Jackson, M., Jago, C., Pass, H., Simpson, K., Cooke, D., and Tosdal, R. (2006). Toward an Integrated Model for Alkalic Porphyry Copper Deposits in British Columbia (NTS 093A, N; 104G). *Geological Fieldwork*, pages 2007–1.

Devine, F. (2012). Porphyry Integration Project: Bringing Together Geoscience and Exploration Datasets for British Columbia's Porphyry Districts. *Geoscience BC Summary of Activities 2011, Report 2012-1, p.19-28*.

Deyell, C. and Tosdal, R. (2004). Alkalic Cu-Au deposits of British Columbia: Sulfur isotope zonation as a guide to mineral exploration. *BC Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 2004, Paper 2005–1*, pages 191–208.

Geotech Ltd. (2009). Helicopter-borne Z-Axis Tipper Electromagnetic (ZTEM) and Aeromagnetic Survey, Mt. Milligan Test Block. *Geoscience BC Report 2009-07 -Final Report for Project 2008-032*.

Heberlein, D. R., Samson, H., and Geoconsulting, H. (2010). An assessment of soil geochemical methods for detecting copper-gold porphyry mineralization through Quaternary glaciofluvial sediments at the Kwanika Central zone, north-central British Columbia. *Geoscience BC Report 2010-03*, page 89.

Lane, R. (2007). Assessment Report on DIGHEM Airborne Magnetics and E-M Geophysical Survey. Assessment Report 29339, Solomon Resources Ltd. Col-Magnet Property.

Leahey, M. (1982). 1982 Assessment Report - Linecutting, geology, geophysical and geochemistry on the SAT1-4 Mineral Claims. Assessment Report 10688, Noranda Exploration Company. SAT Property.

MacIntyre, D., Desjardins, P., and Tercier, P. (1988). Jurassic stratigraphic relationships in the Babine and Telkwa Ranges (93 L/10, 11, 14, 15). *Geological Fieldwork*, pages 1989–1.

Massey, N., MacIntyre, D., Desjardins, P., and Cooney, R. (2005). Digital geology map of british columbia: Whole province, bc ministry of energy and mines, geofile 2005–1. *URL http://www. empr. gov. bc. ca/Mining/Geoscience/PublicationsCatalogue/DigitalGeologyMaps/Pages/default. aspx*.

Moyle, A., Doyle, B., Hoogvliet, H., and Ware, A. (1990). Ladolam gold deposit, Lihir island. *Geology of the mineral deposits of Australia and Papua New Guinea*, 2:1793–1805.

Nelson, J. and Colpron, M. (2007). Tectonics and metallogeny of the British Columbia, Yukon and Alaskan Cordillera, 1.8 Ga to the present. *Mineral deposits of Canada: a synthesis of major deposit-types, district metallogeny, the evolution of geological provinces, and exploration methods: Geological Association of Canada, Mineral Deposits Division, Special Publication*, 5:755–791.

Richards, J. P. (1990). Petrology and geochemistry of alkalic intrusives at the Porgera gold deposit, Papua New Guinea. *Journal of Geochemical Exploration*, 35(1):141–199.

Richards, J. P., Boyce, A. J., and Pringle, M. S. (2001). Geologic evolution of the Escondida area, northern Chile: A model for spatial and temporal localization of porphyry Cu mineralization. *Economic Geology*, 96(2):271–305.

Ritchie, R. (2020). 2019 RC Drilling on the SAT Property. Assessment report, Pacific Empire Minerals Corp. SAT Property.

Rowins, S. M. (2000). Reduced porphyry copper-gold deposits: A new variation on an old theme. *Geology*, 28(6):491–494.

Schroeter, T. (1973). Exploration Report - 1973 SATurday Lake Property, British Columbia. Exploration report, Amoco Canada Petroleum Company Ltd.

Sillitoe, R. H. (1994). Erosion and collapse of volcanoes: Causes of telescoping in intrusion-centered ore deposits. *Geology*, 22(10):945–948.

Sillitoe, R. H. (2002). Some Metallogenic Features of Gold and Copper Deposits Related to Alkaline Rocks and Consequences for Exploration. *Mineralium Deposita*, 37(1):4–13.

Sillitoe, R. H. (2010). Porphyry Copper Systems. *Economic Geology*, 105(1):3–41.

Silversides, D.A., D. G. (1977). 1997 Geophysical Report on the Bro Copper Prospect. Assessment Report 06424, Cities Service Minerals Corporation. SAT Property.

Sinclair, W. (2007). Porphyry deposits. *Mineral deposits of Canada: A synthesis of major deposit-types, district metallogeny, the evolution of geological provinces, and exploration methods: Geological Associationof Canada, Mineral Deposits Division, Special Publication*, 5:223–243.

Sketchley, D., Rebagliati, C., and DeLong, C. (1995). Geology, alteration and zoning patterns of the Mt. Milligan copper-gold deposits. *Porphyry deposits of the Northwestern Cordillera of North America: Quebec, Canadian Institute of Mining, Metallurgy and Petroleum Special*, 46:650–665.

Smith, A. (2013). Geophysical Assessment Report on the Induced Polarization Survey on the SAT Property. Assessment Report 34133, Parlane Resources Corp. SAT Property.

Smith, A. (2015). Assessment Report on the 2014 Drilling Program on the SAT Property. Assessment Report 35536, Redhill Resources Corp. SAT Property.

Stanley, C., Holbek, P., Huyck, H., Lang, J., Preto, V., Blower, S., and Bottaro, J. (1995). Geology of the Copper Mountain alkalic copper-gold porphyry deposits, Princeton, British Columbia. *Porphyry depositsof the Northwestern Cordillera of North America: Quebec, Canadian Institute of Mining, Metallurgy andPetroleum Special*, 46:537–564.

Wojdak, P. (1998). Volcanogenic massive sulphide deposits in the Hazelton Group, Babine Range, BC. *BC Ministry of Energy, Mines and Petroleum Resources*, pages C1–C13.

# 28 Statement of Qualifications

I, Dan Meldrum, do hereby certify that:

1. I am a professional geoscientist residing at 3195 Toba Drive Coquitlam BC, Canada;
2. I have authored the report entitled “Technical Report on the SAT Property” on the effective date of January 20, 2022. The report is based on a review of exploration carried out on the Property including a comprehensive review and compilation of historical data;
3. I have an B.Sc. degree in Geology and a M.Sc. degree in Earth and Atmospheric Sciences both from University of Alberta. I am a Licensed Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia; I have significant experience in exploration in British Columbia, Canada and am a “qualified person” for the purposes of NI 43-101;
4. I have been continuously engaged in mineral exploration since 1994 with the BC Geological Survey and as an independent geologist, and have experience in mineral exploration for precious metals and base metals, with an emphasis on porphyry copper deposits in British Columbia, Alaska, Mongolia, China, Mexico, Sudan, Laos and Russia;
5. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101;
6. I conducted a personal inspection of the SAT Property on December 22, 2021 which comprised a total of 6 hours;
7. I am responsible for all items of this technical report;
8. I am independent of the issuer, independent of the Property and independent of the property vendor using the definition in Section 1.5 of National Instrument 43-101;
9. I have had no prior involvement with the Property that is the subject of this report;
10. I have read NI 43-101 and this technical report has been prepared in compliance with the NI 43-101 and Form 43-101F1 guidelines;
11. As of the effective date of this Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Signed and dated at Vancouver, British Columbia, on the 22nd day of February 2022.

PROFESSIONAL
PROVINCE OF
D. C. MELDRUM
# 39566
BRITISH COLUMBIA
GEOSCIENTIST

______________________________

Dan Meldrum M.Sc., P.Geo.