# TECHNICAL REPORT on the **WILDCAT PROPERTY**

#### OMINECA MINING DIVISION, BRITISH COLUMBIA, CANADA 428,000 E / 6,096,000 N Longitude -124.125°/ Latitude 55.005° (NAD 83 - Zone 10) NTS: 93K/16 & 93N/01



Prepared by Kristian Whitehead, P.Geo.

Property Owner Richard J. Haslinger 1245 Woodland Drive Vancouver, B.C. V5L 3S2

Prepared for Talent Infinity Capital Fund Corporation

Report Date: October 15, 2021

Modified: January 27, 2022

# Contents

| 1           | Summary   | 1                                    |
|-------------|---|--------------------------------------|
| 2           | Introduction         2.1 Terms of Reference.         2.2 Qualified Person.         2.3 Site Visits and Scope of Personal Inspection.         2.4 Effective Dates.         2.5 Information Sources and Reference.         2.6 Previous Technical Reports.         2.7 Abbreviotions and Units of Massurement | 1<br>2<br>2<br>2<br>2<br>2<br>3<br>3 |
| 9           | Reliance on Other Experts   | 5                                    |
| 3           | Property Description & Leastion   | 5                                    |
| 4<br>5<br>6 | Property Description & Location         Accessibility, Climate, Local Resources, Infrastructure & Physiography         5.1       Accessibility  | <b>5</b><br><b>9</b><br>             |
|             | <ul><li>6.2.5 Core Sample Quality Control Quality Assurance Program</li><li>6.3 Historical Geophysics – Cayden ZTEM and Aeromagnetis and PEMC IP</li></ul>  | 18<br>                               |
| 7           | Geological Setting & Mineralization         7.1       Regional Geology  | <b>22</b><br>22<br>26<br>26<br>29    |
| 8           | Deposit Types         8.1       Porphyry Copper-Gold Deposits   | <b>30</b><br>                        |

|            | 8.1.8      | Structure and Mineralization Styles        |    |
|------------|------------|--|----|
|            | 8.1.9      | Mineralogy                                 |    |
|            | 8.1.10     | Morphology and Architecture                |    |
|            | 8.1.11     |  |    |
|            | 8.1.12     | Porphyry Copper Subtypes                   |    |
|            |            | 8.1.12.1 Alkalic Copper-Gold Porphyry      |    |
|            | 8.1.13     | Telescoped Intrusion Centered Ore Deposits |    |
|            | 8.1.14     | Exploration Models                         |    |
|            |            | 8.1.14.1 Geophysical Targeting             |    |
|            |            | 8.1.14.2 Geological Targeting              |    |
|            |            | 8.1.14.3 Geochemical Targeting             |    |
| 9          | Exploratio | on   | 39 |
|            | 9.1 Talent | Infinity - 2021                            |    |
| 10         | Drilling   |  | 40 |
| 11         | Sample F   | Preparation, Analysis & Security           | 40 |
| 12         | Data Ver   | rification                                 | 41 |
| 13         | Mineral    | Processing & Metallurgical Testing         | 43 |
| 14         | Mineral    | Resource Estimates                         | 43 |
| 23         | Adjacent   | t Properties                               | 43 |
| 24         | Other Re   | elevant Data & Information                 | 45 |
| 25         | Interpret  | tation & Conclusions                       | 45 |
| 26         | Recomm     | iendations                                 | 47 |
| <b>2</b> 7 | Referenc   | ces  | 48 |
|            | Certificat | te of Qualified Person                     | 51 |

# List of Figures

| 4.1  | Location Map  | 7     |
|------|---|-------|
| 4.2  | Claim Map   | 8     |
| 6.1  | Historical Drilling Compilation   | 13    |
| 6.2  | 2010 ZEM survey showing the 180 hz in-phase total-divergence electromagnetic field data       | 19    |
| 6.3  | 2010 Aeromagnetic survey data   | 20    |
| 6.4  | 2017 PEMC IP chargeability data plot  | 21    |
| 7.1  | Regional Geology - simplified units. Modified from BCGS 1:1.5M scale digital geology          | 24    |
| 7.2  | Geological legend for regional geology - simplified units. Modified from BCGS 1:1.5M scale di | gital |
|      | geology   | 25    |
| 7.3  | Property geology  | 28    |
| 8.1  | Anatomy of a telescoped porphyry Cu system  | 31    |
| 8.2  | Generalized alteration-mineralization zoning pattern for telescoped porphyry Cu systems       | 34    |
| 8.3  | Alkalic porphyry exploration model  | 38    |
| 9.1  | 2021 UAV-magnetometer survey  | 40    |
| 12.1 | Historical drilling confirmation - Site of 2018 RC drill hole RC18WCT015                      | 41    |
| 12.2 | Historical drilling confirmation - Drill anchor utilized for drilling WC11-07                 | 42    |
| 12.3 | Outcrop inspection - Kristian Whitehead at altered rock outcrop                               | 43    |
| 25.1 | Exploration targets compilation   | 46    |

# List of Tables

| 4.1  | Table of claims  | 9  |
|------|--|----|
| 4.2  | Wildcat Property - option agreement terms  | 9  |
| 6.1  | Summary of historical exploration  | 11 |
| 6.2  | Significant intercepts from historical diamond drilling (true thicknesses not known)             | 14 |
| 6.3  | Significant intercepts from historical reverse circulation drilling (true thicknesses not known) | 14 |
| 6.4  | Wildcat drilling history   | 15 |
| 6.5  | Wildcat drill hole collar location and orientation data  | 16 |
| 23.1 | Mt. Milligan Reserve & Resource Information  | 44 |
| 26.1 | Proposed Wildcat Exploration Program & Budget for 2022   | 47 |
|      |  |    |

### **1** Summary

The Wildcat Property is located 65 km north of Fort St. James and 150 km northwest of Prince George, in central British Columbia, Canada. The Property is comprised of 10 mineral claims covering an area of 5,825.64 hectares. The Property is vehicle accessible via Forest Service Roads whereby the driving time from Fort St. James to the Property is approximately 1 hour. The Property is located approximately 10 km southwest of the Mt. Milligan Copper-Gold Mine currently operated by Centerra Gold Inc. The Wildcat Property mineral claims are owned wholly by Richard J. Haslinger of Vancouver, British Columbia.

The Wildcat Property is subject to an option agreement whereby Talent Infinity Capital Fund Corporation may earn a 100% interest in the Wildcat claims by completing certain cash payments and incurring exploration expenditures in connection with certain exploration commitments. The Optionor of the Wildcat Property is Richard J. Haslinger.

The Wildcat Property is located within the Quesnel Terrane which is characterized by Late Triassic to Early Jurassic volcanic and sedimentary rocks of island arc affinity that have been intruded by a variety of intrusive phases related to the Late Triassic to Early Jurassic Hogem Intrusive Suite. The economic importance of the Quesnel arc is demonstrated by its rich endowment of porphyry copper-gold mineral deposits.

Geology on the Wildcat Property can be summarized as variably altered, augite porphyritic, mafic volcanic and volcaniclastic rocks and monzonitic to dioritic intrusives correlated with the Late Triassic-Early Jurassic Takla Group. Alteration assemblages reminiscent of distal porphyry type assemblages have been encountered in historical diamond drilling, along with localized anomalous copper  $\pm$  gold mineralization. Mineralization of economic significance has not been encountered on the Wildcat Property to date.

Recent historical exploration on the Wildcat Property includes a fifteen-hole Reverse Circulation drill program completed by Pacific Empire Minerals Corp. between May and September of 2018. Induced Polarization surveys completed in April and May of 2017 on the Wildcat Property were successful in outlining multiple areas of moderate to high chargeability that coincide with variable and complex resistivity and magnetic geophysical anomalies. The nature of the anomalous chargeability coinciding, at least in part, with higher Z-Tipper Axis Electromagnetic airborne survey resistivity values suggests that the moderate chargeability areas may be related to sulphide deposition in a hydrothermal porphyry environment. A prospective area covered by extensive overburden remains untested and constitutes one of the higher priority targets on the Wildcat Property at this time.

The author concludes that there exist several areas prospective for copper  $\pm$  gold porphyry exploration on the Wildcat Property and that these merit further exploration. The proposed exploration program consists of non-conventional Mobile Metal Ion soil geochemical surveying, Unmanned Aerial Vehicle magnetometer surveying and Ground Penetrating Radar surveying, to efficiently test for the presence of mineralization in bedrock and bedrock depth in the prospective areas that are covered by extensive glacial overburden. An exploration program totaling \$107,500 is recommended by the author for 2022.

# 2 Introduction

### 2.1 Terms of Reference

This report was commissioned by Talent Infinity Capital Fund Corporation ("Talent Infinity" and the "Company") and summarizes technical information pertaining to the Wildcat Property (the "Property"). The scope includes the general setting, geology, exploration history, historical drilling activity and historical geophysical surveys along with recommendations for ongoing exploration.

At the time of report writing, Talent Infinity has completed a drone-mounted magnetometer survey and is in the process of conducting a soil geochemical survey and ground penetrating radar surveying.

### 2.2 Qualified Person

The following serves as the Qualified Person ("QP") responsible for all sections of this Technical Report as defined in National Instrument 43-101, Standards of Disclosure for Mineral Projects, and in accordance with Form 43-101F1:

- Kristian Whitehead, P.Geo., Infiniti Drilling Corporation

### 2.3 Site Visits and Scope of Personal Inspection

A site visit was performed by the author on July 12, 2021, where 2018 drill site locations and access to future exploration target areas were personally inspected in addition to observing an ongoing Mobile Metal Ion ("MMI") soil sampling program. A prior site inspection was performed by the author on May 10, 2017, for the most recent previous operator on the Property, Pacific Empire Minerals Corp. ("PEMC"). At that time, historical drill locations were personally inspected, and access was verified. Although sparse, one or two outcrops were briefly inspected to validate lithologies mapped in certain areas. Data verification sampling of 2011 diamond drill core was supervised by the author at that time. The author met with Richard J. Haslinger, the owner of the Wildcat mineral claims, and discussed aspects of previous exploration programs on the Property.

Given that the 2018 exploration completed by PEMC, consisting of Reverse Circulation drilling activities, did not result in significant results that warrant verification, the author has relied on data verification sampling of 2017 drill core for the purposes of this Report. This data verification is included in Section 12.

#### **2.4 Effective Dates**

The information in this Report is effective as of August 31, 2021. The Report filing date is October 15, 2021.

### 2.5 Information Sources and References

The information included in this report or referenced herein is sourced from previous assessment reports, Technical reports, government reports, and selected publications which are listed in the References of Section 19. Background understanding of the reported historical exploration work was provided by Richard J. Haslinger.

#### 2.6 Previous Technical Reports

Previous technical reports filed for the Wildcat Property include the following:

- Technical Report on the Wildcat Property by Lustig, G. and Duba, D. prepared for Vistech Capital Corp. July 5, 2010.
- Technical Report on the Wildcat Property by Whitehead, K. prepared for Pacific Empire Minerals Corp. June 12, 2017.

### 2.7 Abbreviations and Units of Measurement

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

| 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            |
| С      | centigrade                         |
| cfm    | cubic feet per minute (air volume) |
| g      | gram                               |
| ha     | hectare                            |
| hz     | hertz                              |
| km     | kilometre                          |
| t      | metric ton                         |
| m      | metre                              |

#### Abbreviations and symbols used:

| Ma    | million years (pertaining to ages and/or elapsed time) |
|-------|--|
| MMI   | mobile metal ion                                       |
| NSR   | Net Smelter (return) Royalty                           |
| ppb   | parts per billion                                      |
| ppm   | parts per million                                      |
| psi   | pounds per square inch (air pressure)                  |
| QA/QC | quality assurance/quality control                      |
| 4WD   | four-wheel drive                                       |
| UAV   | Unmanned Aerial Vehicle                                |
| FSR   | Forest Service Road                                    |

## 3 Reliance on Other Experts

The report was prepared by Kristian Whitehead, P.Geo., qualified person for the purposes of NI 43-101 and who fulfills the requirements of an "independent qualified person". Richard J. Haslinger, P.Eng., Property owner, also contributed project information to this report. The QP has not relied on the opinion of non-qualified persons in the preparing of this technical report. All opinions expressed in this technical report are those of the QP based on a review of historical work and exploration work done on the Property.

The QP has not researched the property title or mineral rights for the Wildcat Property and expresses no legal opinion as to the ownership status of the property.

The author has not relied on a report, opinion, or statement of an expert for other information concerning legal, political, environmental, or other issues pertaining to the Wildcat Property. The QP has fully relied upon and disclaim responsibility for information derived from senior Talent Infinity management presented regarding the following:

• Ownership of mineral titles, surface rights, property agreements, environmental liabilities and consultations or negotiations with First Nations in conjunction with exploration permitting as outlined in Section 4.

## **4** Property Description & Location

The Wildcat Property is located in north central British Columbia, approximately 65 km north of Fort St. James and 150 km northwest of Prince George (Figure 4.1). The Property can be accessed year-round from Fort St. James via well-maintained Forest Service Roads ("FSR"). The Property is located on NTS map sheets 93K/16 & 93N/01 and falls within the jurisdiction of the Omineca Mining Division.

The Property currently consists of 10 mineral claims covering 5,825.64 hectares (Figure 4.2); 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"). The claims confer title only to minerals as defined by the Mineral Tenure Act of British Columbia (MTA). Surface rights over MTA claims are held by the Crown and administered by the Government of British Columbia. The ownership of other rights (placer, timber, water, grazing, trapping, etc.) affecting the project was not investigated by the author.

Certain mineral titles listed in Table 4.1 have the current statues 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.

On June 30, 2020, Talent Infinity entered into an agreement with Richard J. Haslinger for the option to earn an undivided 100% interest in the Property by making payments totaling \$770,000 and incurring \$107,500 in exploration expenditures over a four-year period. Talent Infinity will have the option to pay up to 75% cash-equivalent in common shares. Detailed terms of the Talent

Infinity - Haslinger Option Agreement are shown in Table 4.2.

Richard J. Haslinger will be granted the rights to a 2% Net Smelter Return Royalty upon exercise of the Option, which will be payable upon commencement of commercial production.

Neither Talent Infinity nor Richard J. Haslinger have an interest in surface rights on the Property. None of the Wildcat 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 and Petroleum Resources, would be necessary if Talent Infinity 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 Wildcat 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: Location Map



| Tenure ID | Name       | Ownership     | Owner Name     | Good To Date | Status    | Area (ha)   |
|-----------|------------|---------------|----------------|--------------|-----------|-------------|
| 511,798   |            | 111296 (100%) | R.J. Haslinger | 2024/Jan/20  | GOOD      | 649.18      |
| 511,800   |            | 111296 (100%) | R.J. Haslinger | 2021/Dec/20  | PROTECTED | 519.11      |
| 511,859   |            | 111296 (100%) | R.J. Haslinger | 2024/Jan/20  | GOOD      | 1168.3      |
| 539,399   | WILDCAT 4  | 111296 (100%) | R.J. Haslinger | 2020/May/01  | PROTECTED | 445.36      |
| 539,400   | WILDCAT 5  | 111296 (100%) | R.J. Haslinger | 2024/Jan/20  | GOOD      | 445.36      |
| 769,522   | WILDCAT 7  | 111296 (100%) | R.J. Haslinger | 2024/Jan/20  | GOOD      | 371.25      |
| 769,542   | WILDCAT 8  | 111296 (100%) | R.J. Haslinger | 2024/Jan/20  | GOOD      | 445.36      |
| 769,582   | WILDCAT 10 | 111296 (100%) | R.J. Haslinger | 2024/Jan/20  | GOOD      | 445.54      |
| 841,427   | WILDCAT 16 | 111296 (100%) | R.J. Haslinger | 2020/May/01  | PROTECTED | 445.13      |
| 1,050,514 | WILDCAT 17 | 111296 (100%) | R.J. Haslinger | 2020/May/01  | PROTECTED | 891.06      |
|           |            |               |                |              |           | 5,825.64 ha |

Table 4.1: Table of Claims

 Table 4.2: Wildcat Property - Option Agreement Terms

| Date                           | Cash payment with up to 75% cash-equivalent in shares |
|--------------------------------|---|
| On or before July 31, 2021     | \$20,000*   |
| On or before November 30, 2021 | \$50,000  |
| On or before November 30, 2022 | \$100,000   |
| On or before November 30, 2023 | \$200,000   |
| On or before November 30, 2024 | \$400,000   |
| TOTAL:                         | \$770,000   |

\*This \$20,000 payment has been made and the agreement is in good standing.

Based on published British Columbia Government maps of First Nation traditional territory, the Property lies within the traditional territory of both Nak'azdli Whuten – a member Nation of the Carrier Sekani Tribal Council - and straddles the boundary of the traditional territory of the McLeod Lake Indian Band.

It is the intent of the Company to initiate discussions in 2022 with the Carrier Sekani Tribal Council and McLeod Lake Indian Band to introduce exploration programs for the Property and seek support for referred exploration proposals for the Property. Consultation or negotiation with these and other First Nations may be required to proceed with exploration programs.

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

#### 5.1 Accessibility

The project area is accessible via well maintained logging roads from Fort St. James, British Columbia. Travel north on Highway 27 out of Fort St. James for roughly 9 km and continue northeast on to the Germansen North Road. At about the 56 km point of the Germansen North Road, turn right (east) onto the Rainbow FSR, and proceed for 10 km to the approximate center of the property. A network of old and recent logging roads and trails are found throughout the claims and provide reasonable access to most parts of the property. Alternatively, access to the

northwestern portion of the property can be achieved by continuing on the Germansen North Road to the 74 km point, and turning east onto unnamed logging roads that proceed east to southeast and end up on the northwestern portion of the property after travelling roughly 6 km.

### 5.2 Climate

The following data has been taken from Environment Canada's National Climate Data and Information Archive for the Fort St. James, BC area and contains climate data collected beginning in 1971.

The area has short cool summers and long cold winters with an annual average temperature of 3.1°C. The highest daily average temperatures of 15.3°C occur in July and the lowest daily average temperatures of -11.3°C occur in January.

The region receives an average of 295 mm rainfall and 192 cm of snowfall annually, with 138 days per year where precipitation exceeds 0.2 mm. The Property is snow covered from early November to late May. As such, the ideal operating period on the Property is late May to early November.

### 5.3 Local Resources

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

### 5.4 Infrastructure

There are no permanent structures or facilities located on the Property, and the sufficiency of surface rights for mining operations is not known at this time, due to the early-stage nature of the project.

Infrastructure on the Property consists of logging roads and an access road to the Mt. Milligan Mine which runs through the southern and eastern portions of the Property. Electric power can be accessed from the BC Hydro Kennedy Substation south of Mackenzie, where hydroelectric power lines have been extended to the Mt. Milligan Mine site, approximately 10 km northeast of the Property.

## 5.5 Physiography

The Property lies near the northern boundary of the Southern Plateau and Mountain Region of the Canadian Cordilleran Interior System. More specifically, the Property is within the Nechako Plateau near the southern limits of the Swannell Range of the Omineca Mountains.

The Nechako Plateau was covered by the Cordilleran ice cap, which moved eastward from the Coast Ranges towards the Rocky Mountains near McLeod Lake, overriding the mountains, coating the landscape with a blanket or veneer of glacial drift, and altering the pre-glacial drainage patterns.

The region is generally gently sloped and covered with numerous ponds and wetlands. Rainbow Creek has its headwaters in the central area and flows northeast in a broad valley at an elevation of 1100 m. a.s.l. Elevations on the Property range from 1100 m to 1400 m, with topography being generally subdued. The majority of the Property lies at elevations between 1100 m and 1200 m.

Until recently, the Wildcat Property has been covered by thick stands of mixed mature spruce, fir and locally poplar forests. Logging has resulted in extensive clear-cuts over large portions of the Property. Valley bottoms at lower elevations are poorly drained and covered with grassy wetlands and scattered willows.

### 6 History

The exploration history of the Wildcat Property dates back to late 1980's when the region became a target for bulk tonnage copper-gold porphyry type mineralization after the discovery of the Mt. Milligan deposits roughly 10 km to the northeast of the Property. The exploration history of the property is summarized in Table 6.1.

#### 6.1 Exploration by Previous Owners

In the area of the Wildcat property, an aeromagnetic anomaly (high) south of Rainbow Creek was staked as the Bow claim group by HLX Resources Ltd in 1989. A 17 line-kilometre ground magnetic survey defined

| Year | Operator                    | Report                     | Activity                                    |
|------|-----------------------------|----------------------------|---|
| 1989 | HLX Resources               | (Grunenberg, 1989)         | 17 line-km ground magnetics                 |
| 1990 | Continental Gold Corp.      | (Sivertz, 1990)            | Airborne Mag, VLF-EM                        |
| 1991 | Geological Survey of Canada | (Shives et al., 2000)      | Airborne Geophysical Surveys                |
| 1994 | Robin Day and Larry Hewitt  | (Day, 1994)                | Soil/till sampling, prospecting             |
| 1995 | Robin Day and Larry Hewitt  | (Day, 1995)                | Soil/till sampling, prospecting             |
| 1996 | Robin Day and Larry Hewitt  | (Day, 1996)                | Grid soil/till sampling                     |
| 2004 | H.R.S. Resources Ltd.       | (Haslinger, 2004)          | Ground magnetic survey                      |
| 2006 | Yankee Hat Industries Corp. | (Wells, 2005)              | Grid soil sampling survey, prospecting      |
| 2007 | Terrane Metals Corp.        | (O'Brien, 2007)            | Geotechnical drilling                       |
| 2008 | Terrane Metals Corp.        | (Lustig and Duba, 2008)    | Diamond drilling (1,040 m, 4 holes)         |
| 2010 | Cayden Resources Inc.       | (Lustig and Duba, 2010)    | 43-101 Technical Report                     |
| 2011 | Cayden Resources Inc.       | (Duba, 2010)               | Helicopter-Borne ZTEM survey                |
| 2011 | Cayden Resources Inc.       | (Duba, 2012)               | Diamond drilling (1,302.1 m, 6 holes)       |
| 2017 | PEMC                        | (Ritchie and Peters, 2017) | Induced Polarization surveys (27.8 line-km) |
| 2018 | PEMC                        | (Ritchie, 2019)            | RC drilling (696.5 m, 15 holes)             |
| 2021 | Talent Infinity             | This report                | Drone magnetic survey                       |

Table 6.1: Summary of Historical Exploration

the eastern flank of the anomaly (Grunenberg, 1989). Further work was recommended but does not appear to have been completed.

Continental Gold Corp. staked the Bee and Bonanza claims covering the same area in 1990.TechnicalReport11

These were subject to an airborne (helicopter) magnetometer and VLF-EM survey (Sivertz, 1990). This survey indicated at least two areas for further geological investigation.

In 1991, the Geological Survey of Canada ("GSC") conducted a high-resolution airborne gamma ray spectrometric ("AGRS") and aeromagnetic survey over the Mt. Milligan area (Shives et al., 2000). The Wildcat property area was also covered by this airborne survey. A strong northwest trending magnetic-high anomaly was indicated on the Wildcat 1 and 2 claims south of Rainbow Creek same as Grunenberg (1989) (Sivertz, 1990).

In 1994 and 1995, prospectors R. Day and L. Hewitt conducted a preliminary prospecting and soil sampling program on the Rooster claims along the northern edge of the aeromagnetic high (Rooster 1 Group). The soil program outlined a copper anomaly 400 m long, which was open to the southwest. Eight new claims (Rooster 23 to 30) were staked in this area following initial geochemical survey results. In 1996, an expanded grid and soil program (128 samples) defined a copper-in-till anomaly approximately 1500 m long by 100 to 400 m wide (Day, 1996).

The property was staked as the Wildcat 1 to 4 mineral claims by Richard Haslinger of H.R.S. Resources in 2003. A reconnaissance ground magnetic survey was conducted to further define the airborne magnetic high anomaly underlying the Property. The highest readings >59,000 gammas defined a "bulls eye" magnetic high 800 m by 600 m (Haslinger, 2004).

In 2004, the property was optioned to Yankee Hat Industries Corp who conducted grid soil sampling and prospecting surveys. Results of soil sampling confirmed the earlier soil/till copper anomaly and located several isolated gold and copper anomalies to the northwest. Anomalous copper, silver, gold and palladium values were returned from prospecting near the core of the magnetic high (Wells, 2005). Further work was recommended but the option was dropped.

In 2006, Terrane Metals Corp. optioned the Wildcat Property to investigate the mineral potential of the property as well as the possibility of using part of the property as tailings storage for the proposed Mt. Milligan mine (O'Brien, 2007). Terrane Metals' diamond drilling program in 2007 targeted a copper in soil/till anomaly coincident with an IP chargeability high anomaly, and a northwest trending "bulls eye" magnetic high. Drilling results indicated anomalous copper and, in part, elevated gold, silver and molybdenum concentrations in megacrystic plagioclase monzonite and hornblende  $\pm$  plagioclase monzonite/diorite porphyry. The most significant intersections are 259 ppm copper and 16 ppb gold over 290 m (DDH WC07-02) and 188 ppm copper and 11 ppb gold over 239 m (DDH WC07-04) (Figure 6.1 and Table 6.2; Lustig and Duba, 2008).



**Figure 6.1:** Historical drilling compilation - diamond drill (DD) hole collars in red and reverse circulation (RC) collars in blue for those holes that succeeded in reaching bedrock (sources: O'Brien, 2007; Lustig and Duba, 2008; Duba, 2012; Ritchie, 2019).

In 2010, the Wildcat Property was optioned from H.R.S. Resources by Cayden Resources Inc. (Cayden). In the same year the company completed a 322.2 line-km helicopter-borne ZTEM (Z-Tipper Axis Electromagnetic) and aeromagnetic surveys (Duba, 2010). Analysis of geophysical data indicated numerous high resistivity anomalies from the electromagnetic component of the survey and confirmed the anulus shaped high magnetic anomaly from previous geophysical surveys (Haslinger, 2004). Cayden Resources completed a diamond drill program in 2011 consisting of 6 drill holes totaling 1,302 metres. Significant, yet uneconomic, intervals of copper were encountered in the two most northerly drill holes, WC11-07 and WC11-08 (Figure 6.1 and Table 6.2). Cayden Resources dropped the Wildcat Option in September of 2013.

| Hole ID   | Operator         | Year | From<br>(m) | To<br>(m) | Interval<br>(m) | Copper<br>(ppm) | Gold<br>(g/t) | Silver<br>(g/t) |
|-----------|------------------|------|-------------|-----------|-----------------|-----------------|---------------|-----------------|
| WC07-02   | Terrane Metals   | 2007 | 205         | 209       | 4               | 1668            | 0.394         | 2.2             |
| WC07-03   | Terrane Metals   | 2007 | 89          | 91        | 2               | 6220            | 0.055         | no Ag assays    |
| WC11-07   | Cayden Resources | 2011 | 139.5       | 141       | 1.5             | 1800            | 0.227         | 1.9             |
| WC11-07   | Cayden Resources | 2011 | 213.8       | 214.52    | 0.72            | 13400           | 0.626         | 16.2            |
| WC11-08   | Cayden Resources | 2011 | 82          | 84.5      | 2.5             | 1870            | 0.214         | 1.7             |
| WC11-08   | Cayden Resources | 2011 | 118.7       | 121.7     | 3               | 1930            | 0.24          | 1.9             |
| WC11-08   | Cayden Resources | 2011 | 143.8       | 145.8     | 2               | 1085            | 0.02          | 0.7             |
| WC11-08   | Cayden Resources | 2011 | 155.45      | 181.6     | 26.15           | 1416            | 0.034         | 0.74            |
| including |                  |      | 170.95      | 181.6     | 10.65           | 2097            | 0.062         | 1.09            |

**Table 6.2:** Significant Intercepts from historical Diamond Drilling (true thicknesses not known)

In early 2017, PEMC optioned the Wildcat Property from Richard J. Haslinger. That spring, the company completed 27.8 line-kilometers of Induced Polarization (IP) surveying in two phases. The surveys outlined a strong chargeability anomaly measuring  $1.5 \times 3.5 \text{ km}$  in the northern portion of the Property, and a moderate chargeability anomaly measuring  $0.7 \times 2 \text{ km}$  in the northeastern portion of the Property (Ritchie and Peters, 2017).

In 2018, PEMC conducted two Reverse Circulation (RC) drilling programs comprising 15 short holes totaling 695 m. The collars of seven holes that succeeded in intercepting bedrock are shown in Figure 6.1. Geologic drill chip loggings indicates that at least some of the response from the large IP chargeability anomaly outlined in 2017 in the northern portion of the property was associated with graphitic sediments. However, volcanic rocks with pyrite and localized, trace amounts of copper were encountered in one of the RC holes, RC18WCT003 drilled in the southern portion of the large chargeability anomaly, according to reported XRF analytical data (Ritchie, 2019, Table 6.3). RC drilling at the moderately strong chargeability anomaly outlined in the northeastern portion of the Property was attempted with several holes, none of which encountered bedrock due to glacial overburden thicknesses of greater than 40 metres (Ritchie, 2019). As a result, the moderate chargeability anomaly in the northeastern portion of the Property remains untested.

**Table 6.3:** Significant Intercept from historical Reverse Circulation Drilling (truethickness not known). Source: Ritchie, 2019

| Hole ID    | Operator | Year | From<br>(m) | To<br>(m) | Interval<br>(m) | Copper<br>(ppm) |
|------------|----------|------|-------------|-----------|-----------------|-----------------|
| RC18WCT003 | PEMC     | 2018 | 45.7        | 59.4      | 13.7            | 330             |

The true thickness, width and depth of mineralization is unknown. Intercept lengths shown in Tables 6.2 and 6.3 are not indicative of true thickness, be it length, width, or depth. More drilling would be required to determine the true dimensions.

### 6.2 Historical Drilling

A total of 27 historical drill holes have been completed at Wildcat, including 17 reverse circulation and 10 diamond drill holes (Table 6.4). The holes are widely spaced across the Property as a result of being used to test more than a dozen different geotechnical, geochemical and geophysical exploration targets. The first two diamond holes were drilled for overburden geotechnical purposes and did not reach bedrock. Eight of the fifteen RC drill holes in the most recent drill program also did not reach bedrock. All programs have collar surveys and drill logs. Core remains for only the 2011 program and is stored near Kalder lake immediately west of the Property. For the 2007, 2011 and 2018 drill programs with sample analyses, assay certificates are available only for the 2011 program.

| Table 6.4: | Wildcat | drilling | history. | Sources:   | O'Brien, | 2007; Lustig | and Duba, | , 2008; |
|------------|---------|----------|----------|------------|----------|--------------|-----------|---------|
|            |         | I        | Duba, 20 | 12; Ritchi | e, 2019  |              |           |         |

| Operator                | Year | Holes             | Holes | Core | Meters | Collars ? | Logs ? | Assays ? | Core ? |
|-------------------------|------|-------------------|-------|------|--------|-----------|--------|----------|--------|
| Terrane Metals Corp.    | 2006 | KP0602 to 03      | 2     | RC   | 85.3   | Yes       | Yes    | No       | No     |
| Terrane Metals Corp.    | 2007 | WC0701 to 04      | 4     | HQ   | 1040.0 | Yes       | Yes    | Yes      | No     |
| Cayden Resources Inc.   | 2011 | WC1105 to 10      | 6     | NTW  | 1302.1 | Yes       | Yes    | Yes      | Yes    |
| Pacific Empire Minerals | 2018 | RC18WCT001 to 015 | 15    | RC   | 695.0  | Yes       | Yes    | No       | No     |
| Totals                  |      |                   | 27    |      | 3122.4 |           |        |          |        |

Drill hole collar location and orientation data is provided in Table 6.5, and Figure 6.1 shows the holes that reached and tested bedrock at their various targets. The 2007 holes and RC holes RC18WCT009 to T011 are drilled in an area of elevated Cu soil geochemistry, the 2011 holes are drilled to test four different 2010 Cayden ZTEM resistivity features while the rest of the 2018 RC holes, RC18WCT001-T005 were drilled to test the north central and northeast strong and moderately strong 2017 PEMC IP chargeability features.

Core recovery for the 2007 and 2011 drilling was not directly logged. From inspection of the 2011 drill core during the author's 2017 site visit, recovery was typically high, ranging above 90%. Rock quality designation was not recorded for any of the drilling.

#### 6.2.1 Drilling Procedures

Drilling procedures were documented for all programs.

The 2006 drilling was conducted by Geotech Drilling Services Ltd of Prince George under the supervision of Knight Piesold Consulting Ltd. Drilling was completed using a Sinco Explorer with an Overburden Drilling EXcentric RC system for advancing the casing with conventional air circulation. The overburden till and alluvial deposits were recovered using reverse air circulation. The disturbed samples of drill cuttings were obtained from each hole for geologic and geotechnical description.

| Hole ID    | Easting*<br>(m) | Northing*<br>(m) | Elevation<br>(m) | Azimuth<br>(degrees) | Dip<br>(degrees) | Length<br>(m) |
|------------|-----------------|------------------|------------------|----------------------|------------------|---------------|
| KP06-02    | 429,448         | 6,097,101        | 345.9            | 0                    | -90              | 51.8          |
| KP06-03    | 429,241         | 6,097,529        | 342.6            | 0                    | -90              | 33.5          |
| WC07-01    | 427,505         | 6,096,877        | 348.1            | 70                   | -50              | 252.1         |
| WC07-02    | 426,732         | 6,096,459        | 361.2            | 70                   | -50              | 298.0         |
| WC07-03    | 427,225         | 6,096,797        | 350.5            | 135                  | -50              | 237.7         |
| WC07-04    | 426,865         | 6,096,705        | 350.5            | 70                   | -50              | 252.1         |
| WC11-05    | 430,296         | 6,095,429        | 335.3            | 90                   | -70              | 185.7         |
| WC11-06    | 430,347         | 6,095,631        | 335.3            | 90                   | -60              | 205.4         |
| WC11-07    | 428,758         | 6,098,084        | 342.6            | 90                   | -50              | 228.6         |
| WC11-08    | 429,236         | 6,097,588        | 341.4            | 0                    | -90              | 243.8         |
| WC11-09    | 429,024         | 6,097,087        | 343.2            | 0                    | -90              | 256.0         |
| WC11-10    | 427,741         | 6,095,611        | 353.6            | 90                   | -70              | 182.6         |
| RC18WCT001 | 429,256         | 6,099,470        | 343.2            | 0                    | -90              | 67.1          |
| RC18WCT002 | 429,036         | 6,098,367        | 340.8            | 0                    | -90              | 21.3          |
| RC18WCT003 | 429,160         | 6,098,286        | 338.6            | 30                   | -65              | 65.5          |
| RC18WCT004 | 428,443         | 6,098,078        | 344.7            | 0                    | -90              | 61.0          |
| RC18WCT005 | 430,060         | 6,099,040        | 335.3            | 0                    | -90              | 71.6          |
| RC18WCT006 | 430,796         | 6,099,111        | 333.8            | 0                    | -90              | 38.1          |
| RC18WCT007 | 430,931         | 6,097,017        | 350.5            | 0                    | -90              | 25.9          |
| RC18WCT008 | 426,590         | 6,096,197        | 357.5            | 0                    | -90              | 22.9          |
| RC18WCT009 | 426,994         | 6,094,973        | 355.7            | 0                    | -90              | 50.3          |
| RC18WCT010 | 426,629         | 6,095,749        | 366.7            | 0                    | -90              | 61.0          |
| RC18WCT011 | 426,586         | 6,096,747        | 356.3            | 0                    | -90              | 61.0          |
| RC18WCT012 | 430,931         | 6,097,017        | 350.5            | 0                    | -90              | 38.1          |
| RC18WCT013 | 430,411         | 6,097,256        | 353.6            | 0                    | -90              | 41.2          |
| RC18WCT014 | 430,931         | 6,097,017        | 350.5            | 0                    | -90              | 30.5          |
| RC18WCT015 | 430,885         | 6,099,190        | 337.1            | 0                    | -90              | 39.6          |

**Table 6.5:** Wildcat drill hole collar location and orientation data. Sources: O'Brien,2007; Lustig and Duba, 2008; Duba, 2012; Ritchie, 2019

\* Easting and northing are UTM NAD83 zone 10

The 2007 drilling was completed by Cyr Drilling International using a Boyle 37A rig with HQ wireline tools. No down-hole orientation surveys were completed. Drill core was trucked to the Mt. Milligan exploration camp for logging and sampling.

The 2011 drilling was conducted by Midpoint Drilling Ltd. of Langley using an all-terrainvehicle/heli-portable hydraulic core drill with NTW wire-line tools. Drill core was trucked to a rented camp at Kalder lake for logging and sampling.

The 2018 drilling was completed by Pacific Empire Minerals Corp. using their own track mounted "Scout" RC drill. The RC drill was initially supported by a 400 cfm / 220 psi Ingersoll Rand air compressor, the setup for which was utilized to drill holes T001 through T013. RC holes T014 and T015 were drilled later in the season, and the drilling was supported with 3

portable air compressors purchased by the company from National Compressed Air ("NCA"). The compressor system then consisted of two 350 cfm / 200 psi NCA air compressor and a booster unit which resulted in air output of 650 cfm and 350 psi.

Collar locations for all the programs have been determined by hand-held GPS surveying. No down-hole orientation surveys were completed in any of the programs.

#### 6.2.2 Core Handling Procedures

Core handling procedures are reasonably well documented for the 2007 and 2011 programs (Lustig and Duba, 2008; Duba, 2012). Drill log records for these holes include lithology, mineralization and alteration in varying degrees of detail.

RC cuttings in the 2006 drilling were logged for their overburden glacial till and alluvial deposit types. RC cuttings in the 2018 drilling were logged for lithology, alteration, mineralization and veining.

#### 6.2.3 Core Sample Preparation

Diamond drill core from the 2007 program was sampled at approximately 2.0 m intervals, with sample length adjusted for lithological features. Samples were split with a hydraulic splitter. All samples were sent to ALS Chemex laboratories in Vancouver (Lustig and Duba, 2008). Samples were crushed to >70% passing less than 2 mm and a 250 g subsample was split off and pulverized to >85% passing less than 75 micron. Samples were analyzed for gold by fire assay fusion followed by inductively coupled plasma atomic emission spectroscopy (ICP-AES). Copper was analyzed as part of a 35-element package that used aqua regia digestion and analyses by ICP-AES. Field standards, blanks and duplicates were inserted by Terrane at a ratio of 1:20 to ensure accuracy and reliability of results (Lustig and Duba, 2008).

The 2011 drill core samples were collected at 2.0 to 3.0 m intervals with adjustments for lithological, structural or major alteration contacts (Duba, 2012). The core was split by hydraulic splitter. Quality control was managed by systematic use of standards, blanks and duplicates. For every 10 to 25 samples, a standard or a blank or a duplicate were inserted into a sample stream by a geologist at the project site. All samples were sent to ALS Minerals laboratory in Kamloops. There they were split to 70% passing less-than 2 mm, riffle split and 250 g sub-sample further pulverized to 85% passing less-than 75 microns. Gold was analyzed for by fire assay of a 30 g sample with AA (atomic absorption) finish. Copper and additional 34 element determination was completed by Aqua Regia digestion and analysis by ICP-AES.

Chip samples from the 2018 RC drilling were analyzed by Pacific Empire Minerals using an Innov-x benchtop X-5000 portable X-Ray Fluorescence (XRF) spectrometer with 3 beams totaling approximately 90 seconds in soil mode (Ritchie, 2019). Approximately 20 gram aliquots as representative samples were placed into small receptacles which were covered by mylar discs and analyzed for 35 elements. No analytical certificates were prepared.

#### 6.2.4 Core Sample Security

There are no descriptions of sample security procedures for either of the 2007 or 2011 drill programs. For both programs, the samples were collected and delivered by the operator to an independent trucking company depot for transport to the laboratories.

#### 6.2.5 Core Sample Quality Control Quality Assurance Program

In the 2007 program, field standards, blanks and duplicates were inserted by Terrane Metals at a ratio of 1:20 to monitor accuracy and reliability of results. Examination of the routine QC/QA data indicate that the assays were within generally accepted parameters for accuracy, precision and lack of contamination. (Lustig and Duba, 2008)

For the 2011 drill program quality control was managed by systematic use of standards, blanks and duplicates. For every 10 to 25 samples, a standard or a blank or a duplicate were inserted into a sample stream by a geologist at the project site (Duba, 2012).

It is the author's opinion that the sample preparation, security and analytical procedures utilized in the 2007 and 2011 drill programs are adequate.

#### 6.3 Historical Geophysics – Cayden ZTEM and Aeromagnetics and PEMC IP

The 2010 helicopter-borne audio frequency magnetics Z-axis Tipper electromagnetic (ZTEM) plus cesium magnetometer survey by Cayden covered the then full area of the Wildcat property claims, the northern portion of the current claim block (Figure 6.2). The data from the survey contractor, Geotech Ltd. ("Geotech"), are presented in a few different formats (Duba, 2010). Reporting by Geotech and case history survey studies from the time of the survey suggest that modeling of a particular frequency element referred to as in-phase total divergence (DT) had been shown to effectively delineate more resistive rocks, plotted by convention as warmer colours, and more conductive rock and rock unit contacts, plotted by convention as cooler colours. The higher frequencies measured by the survey give a shallow depth penetration while lower frequency 180 hz DT plot with a shallow-to-deep expressing resistive feature that could reflect intrusive rock bodies within more conductive rock, such as conductive hydrothermally clay and sulphide mineral altered periphery. This feature combined with its proximal location to an apparent deep-seated conductive zone, a major fault or contact, shown in Figure 6.2, remains a target for a blind porphyry deposit system.



**Figure 6.2:** 2010 ZTEM survey showing the 180 hz in-phase total-divergence electromagnetic field data (source: Duba, 2010). Warmer colours reflect higher resistivity, cooler colours reflect higher conductivity, untested resistive area outlined in purple, deep-seated conductive zone – probable major fault or contact - in orange.

The magnetic data from the ZTEM survey are shown in Figure 6.3. From surface outcrops and 2007 diamond drill hole intercepts, the linear northwest trending high magnetic feature is likely due to a fine-grained strongly magnetic gabbro dike intrusion. An unexplored area of moderate magnetic intensity extends to the south and is open in this survey.



**Figure 6.3:** 2010 Aeromagnetic survey data (source: Duba, 2010). Probable gabbro dike expression outlined in light green, open to the south and untested magnetic feature partially outlined in dark green.

PEMC's 2017 IP survey in the north central area of the Property revealed a large area of strong chargeability flanked to the east and southeast by an area of moderate chargeability (Figure 6.4). RC drill testing of the higher chargeability area in 2018 encountered fine grained graphitic sediments. Six RC hole attempts to reach bedrock over the moderate chargeability feature failed in overburden at depths of up to 40 metres.



**Figure 6.4:** 2017 PEMC IP chargeability data plot (source: Ritchie and Peters, 2017). High chargeability to the north reflected by warm colours underlain by graphitic argillite. Moderate chargeability area in the northeast, outlined in purple, has not been successfully drill tested.

# 7 Geological Setting & Mineralization

### 7.1 Regional Geology

The Property lies within the Quesnel Terrane, part of the Intermontane Belt, a composite of low metamorphic grade magmatic arc segments of mixed oceanic and continental affinities, and oceanic plates, which amalgamated to the North American continental margin in the Early Jurassic Period (Figure 7.1).

The Quesnel Terrane formed along or near the western North American continental margin and accreted to the margin in the late Early Jurassic (186-181 Ma). Quesnellia is found along most of the length of the Canadian Cordillera and in the Nation Lakes area is characterized by Late Triassic to Early Jurassic volcanic and sedimentary rocks of island arc affinity (Nelson and Colpron, 2007).

The Quesnel Terrane is in contact to the east with Proterozoic and Paleozoic carbonate and siliciclasticrocks of the Cassiar Terrane, representing part of the ancestral North American miogeocline. In places, the Quesnel and Cassiar terranes are separated by an intervening assemblage of late Paleozoic oceanic rocks of the Slide Mountain Terrane. The boundary between the Quesnel and Cassiar terranes is a complex structural zone that includes late Early Jurassic east-directed thrust faults that juxtapose the Quesnel Terrane above the Cassiar Terrane.

Towards the west the Quesnel Terrane is in fault contact with the late Paleozoic through mid-Mesozoic oceanic rocks of the Cache Creek Terrane, interpreted to be part of the accretionsubduction complex that was responsible for generating the Quesnel Magmatic arc. Younger rocks commonly found in the region include Cretaceous granitic stocks and batholiths, Eocene volcanic and sedimentary rocks, and flat lying basalts of both Neogene and Quaternary age.

Intrusive units of a wide variety of sizes, ages, compositions and textures occur in the region. The largest bodies are the Hogem and Germansen batholiths. The Hogem Intrusive Suite is composed of many discrete plutons including mafic to syenitic Late Triassic to Early Jurassic intrusions, as well as mid-Cretaceous granites. A myriad of small intrusions and some larger ones are equivalent to the Early Jurassic volcanic units and to the late stages of Takla Group volcanism. Significant porphyry copper-gold deposits in the area are associated with "crowded porphyries". In a typical crowded porphyritic monzonite, small blocky plagioclase phenocrysts (1-2 mm), with lesser hornblende, biotite and/or augite touch each other in a fine-grained matrix of plagioclase, potassium feldspar, mafic and oxide minerals.

In the Mt. Milligan area, the Takla Group is informally subdivided into a lower, predominantly volcaniclastic Inzana Lake Succession and an upper, predominantly pyroclastic Witch Lake Succession. The Witch Lake Succession, the host of the Mt. Milligan deposits, is characterized by augite-phyric pyroclastic rocks and coherent basalt to andesite, subordinate epiclastic beds and co-magmatic Takla Group and post-Takla Group intrusions. Coeval intrusions comprise most of the Mt. Milligan intrusive complex consisting of monzonite with minor diorite and monzodiorite.

The Quesnel arc had two predominant phases of development: Late Triassic and Early Jurassic. The first, Late Triassic early arc development phase is dominated by augite phyric basalt and alkali basalt (shoshonitic) volcanism. Basal sediments of the Slate Creek succession (235-204 Ma) grade

upwards into increasingly volcanic and volcaniclastic rocks of the Inzana, Willy George, Plughat Mountain and Witch Lake successions (230-204 Ma), collectively referred to as the Takla Group. A depositional hiatus marks a break in volcanic activity prior to the onset of renewed volcanic activity in the Early Jurassic.

The second phase of arc development began in the early Jurassic and is characteristic of a more mature arc, developed on thicker crust. These early Jurassic volcanic suites were compositionally more heterogeneous and dominated by plagioclase and plagioclase-augite phyric, sub-alkaline to shoshonitic lithologies. The Triassic arc successions are overlain paraconformably by the early Jurassic suites of the Inzana Lake and Witch Lake Successions.

The Property lies near the southeastern extent of the Hogem Batholith. The Hogem batholith differs from other Upper Triassic batholiths in the Quesnel terrane in two significant ways.

1. It is unusually long lived (Late Triassic to Cretaceous) rather than confined to a shorter interval near the Triassic-Jurassic boundary such as the Guichon and Iron Mask Batholiths.

2. The Guichon and Iron Mask Batholiths are calc-alkaline and alkaline respectively, whereas the Hogem Batholith is composed of four phases which alternate from alkaline to calc-alkaline, with each phase becoming progressively more felsic.



Figure 7.1: Regional Geology - simplified units. *Modified from BCGS 1:1.5M scale digital geology*.



Figure 7.2: Geological Legend for Regional Geology - simplified units. Modified from BCGS 1:1.5M scale digital geology.

#### 7.1.1 Regional Metallogeny

The Quesnel Terrane hosts many important Cu-Au porphyry deposits of both the alkalic and calcalkalic suites, as well as many precious and base metal deposits and mineral occurrences. Examples include the Mt. Milligan mine, Kwanika deposit and BP Chuchi project.

The **Mt. Milligan copper-gold mine** is based on a Cu-Au alkalic porphyry deposit system that lies 10 km northeast of the Property boundary. Since it is adjacent to Wildcat it is described in more detail in Section 15 (Adjacent Properties).

The **Kwanika Copper-Gold Deposit** is located approximately 80 kilometers to the northwest of the Wildcat Property and is owned and operated by Kwanika Copper Corp. (Bird et al., 2019). Discovered in 2006, the Kwanika deposit consists of two closely spaced alkalic Cu-Au porphyry deposits; Kwanika Central Zone and Kwanika South Zone. The primary deposit, the Central Zone contains a measured and indicated (M&I) resource of 104.6 Mt at 0.23% Cu, 0.21 g/t Au and 0.41 g/t Ag in an open pit configuration with a 0.13% CuEq cut-off, along with an underground M&I resource of 118.9 Mt at 0.30% Cu, 0.29 g/t Au and 0.96 g/t Ag at 0.27% CuEq cut-off (Bird et. al., 2019) (Note: the author has not verified the resource at the Kwanika Central Zone and the mineralization there is not necessarily indicative of mineralization on the Wildcat Property).

Copper-gold mineralization in the "Central Zone" consists of disseminated chalcopyrite, bornite and pyrite in and around a potassically altered monzonite stock intruding andesitic rocks of the Takla Volcanic Group. Where strongly mineralized, the unit commonly displays quartz stockwork and hydrothermal brecciation. Copper-gold-molybdenum-silver mineralization in the "South Zone" consists primarily of chalcopyrite and molybdenite with trace amounts of chalcocite, bornite and enargite and is associated with potassically altered alkalic to intermediate composition intrusive rocks (Serengeti Resources Inc., 2016).

The **BP Chuchi Project** or Chuchi Lake Project is located roughly 40 km to the west-northwest of the Wildcat Property, and is currently owned by Centerra Gold Inc. The BP Chuchi Project is considered a small, copper-gold alkalic porphyry deposit (Wong and Barrie, 1991). Copper-gold mineralization is associated with locally pervasive potassic and propylitic alteration and abundant secondary magnetite and is centered about a cluster of plagioclase porphyry stocks, dikes and sills which intrude a sedimentary unit of the Lower Jurassic Chuchi Lake succession (Nelson and Bellefontaine, 1996). The best grades fall within a northeast-trending zone that crosses a monzonite stock. The project was last drilled in 1991 and there is no current resource estimate (Lui, 2020).

#### 7.2 Local and Property Geology

There has been no systematic geological mapping of the Wildcat property other than the 1:50,000 scale regional mapping by Nelson et al., (1992).

The Wildcat Property has very sparse outcrop with much of the Property covered by till and glaciofluvial gravels (1 to >50 m thick). Reconnaissance prospecting has been conducted by (Day, 1996) and prospecting and geological mapping in the central region by R. Wells (Wells, 2005) and D. Duba (Lustig and Duba, 2008). Recent clear-cut logging activity has opened new road-cuts and exposed more bedrock in some parts of the Property.

Based on the regional geological understanding, lithologies encountered in drilling and

lithologies identified in limited outcrop exposures, a property geology map has been constructed as shown in Figure 7.3. The Property is primarily underlain by variably altered, augite porphyritic, intermediate to mafic volcanic and pyroclastic rocks and monzonite to diorite intrusives correlated with the Late Triassic-Early Jurassic Takla Group (Nelson et al., 1992). Fine clastic sediments typically consisting of siltstone and lesser mudstone, underlie the northern and northwestern portions of the property.

Historical diamond drilling has encountered the following Takla Group lithologies; augite-phyric andesite to medium grained gabbro (ANDS), augite-phyric andesite tuff to crystal lithic tuff (ANTF), plagioclase monzonite porphyry (MZPP), hornblende (biotite)  $\pm$  plagioclase monzonite/diorite porphyry (HMZP) and xenolithic monzonite/diorite porphyry (XNMZ) (Lustig and Duba, 2008).

Augite-phyric andesite to medium grained gabbro (ANDS): The rock is medium to dark green and less commonly pistachio green and dark grey-black with mottled alteration patches (chlorite-epidote), massive, fine grained andesite to intrusive-like medium grained gabbro, the latter probably representing deeper levels of a volcanic pile. Andesite is typically porphyritic consisting of subhedral to euhedral augite, 1-3 mm on average, locally to 5 mm, (<5% to 20%) and locally hornblende laths, <2mm, (0% to 50%), often euhedral and variably chloritized and epidotized, and pale grey subhedral plagioclase, 1-2 mm, on average (0% to 40%) set in an aphanitic to fine grained variably propylitized mafic groundmass. Fragment-supported volcanic breccia zones are rare. These consist of <1 cm to >5 cm subangular andesite fragments in a matrix of similar composition, andesite to fine-medium grained gabbro.

Augite-phyric andesite tuff to crystal tuff (ANTF): This lithological unit is only recognized in drill core (WC07-1 and WC07-3) and appears to be subordinate to coherent andesite/gabbro. It is typically dark grey to grey-green, well bedded (foliated), altered, fine grained and contains euhedral/subhedral augite crystals, 1-3 mm (up to 25%), in a fine to medium grained, variably propylitized mafic matrix.

All volcanic rocks are weakly to locally strongly magnetic with magnetite contents up to 5% to 12% as coarse blebs, disseminations and lesser, fine grained fracture fillings that have associated  $\pm$  calcite-epidote- pyrite-chalcopyrite. Pyrite is commonly present as fine disseminations, blebs and narrow veinlets, trace to 2%, averaging 1%.

Alteration is moderate to strong, imparting a patchy and mottled texture to the rock. It is dominated by pervasive and lesser fracture-controlled propylitization occurring as replacement of augite phenocrysts and mafic groundmass by chlorite-actinolite>epidote-carbonate (calcite  $\pm$  albite(?)  $\pm$  pyrite). Potassic alteration is generally very weak and when present, it is in form of fine-grained biotite after augite phenocrysts and mafic matrix components. Silicification is also weak, occurring mostly as discrete, narrow, <0.5-1 cm wide, quartz  $\pm$  calcite  $\pm$  pyrite veinlets.

Andesite to gabbro and andesite tuff are occasionally intruded by narrow, <5 m wide, plagioclase-phyric monzonite to diorite dikes. These are light to medium grey and grey-green and commonly coarse grained, crowded porphyries consisting of euhedral, 1-5 mm on average, plagioclase phenocrysts (up to 40%). The



Figure 7.3: Property Geology

groundmass is aphanitic to fine-grained matrix and consists dominantly of quartz, K-feldspar>plagioclase and subordinate hornblende, epidote, calcite and accessory pyrite disseminations and veinlets, and occasionally magnetite.

**Plagioclase monzonite porphyry (MZPP):** The western part of the Property is underlain by small stocks of plagioclase monzonite porphyry (Figure 7.3), the most widespread intrusive rock observed both in outcrop and drill core (WC07-02 and -04). The porphyry is leucocratic, white to light grey, also light green to medium pink, massive to foliated, crowded (up to 50%), megacrystic plagioclase monzonite porphyry featuring euhedral, 2-5 mm, on average, rarely 10-15 mm, plagioclase phenocrysts in an aphanitic to fine grained groundmass of K-feldspar, plagioclase, quartz, minor hornblende and secondary chlorite, biotite, epidote and calcite. Another minor, finer grained phenocryst phase is hornblende (altered to biotite and/or chlorite), 1-3 mm (3% to 5%).

**Hornblende**  $\pm$  **plagioclase monzonite/diorite porphyry (HMZP):** Megacrystic monzonite is intruded by numerous, narrow, (1 to 10 m wide), fine to lesser medium grained, pale beige to medium grey and purple-brown, variably porphyritic hornblende  $\pm$  plagioclase monzonite to diorite dikes. These contain phenocrysts of dark brown euhedral hornblende (1-5mm, <5-25%,) >wispy biotite and remnant, pale grey subhedral/euhedral plagioclase (1-3 mm, 0 to 35%). Augite phenocrysts (1-3 mm) are extremely rare, <1- 2%. Groundmass is aphanitic to fine grained consisting of a mixture of K-feldspar, plagioclase, quartz and lesser mafic minerals (biotite>chlorite, epidote).

**Xenolithic monzonite/diorite porphyry (XNMZ):** This lithotype occurs as rare, narrow (<5 m) dikes compositionally similar to plagioclase-hornblende monzonite/diorite. It is composed of <10% poorly sorted, <0.5 cm to >3 cm angular to partially assimilated andesite fragments set in a fine to medium grained plagioclase-hornblende phyric monzonite to diorite groundmass.

Intrusive rocks are generally weakly to lesser moderately potassically altered with weak overprinting propylitization. Potassic alteration is in the form of fine-grained biotite replacement of mafic phenocrysts (minor plagioclase?) and matrix. Propylitization is typically weak and intermittent comprising of chlorite- carbonate (calcite)-epidote-albite(?)-pyrite assemblage and is found predominantly as fracture-controlled replacement. Silicification is weak and occurs as narrow (<0.5 to 1cm) veinlets of quartz  $\pm$  calcite  $\pm$  pyrite and as rare, pervasive silicification.

Pyrite occurs as fine-grained disseminations, blebs and lesser fracture filling (<0.1 to 2.5%, averaging 1.5%). Associated with pyrite is disseminated and blebby pyrrhotite (trace to 0.5%). Sporadic and limited chalcopyrite mineralization occurs as disseminations, blebs and locally as pyrite-chalcopyrite vein fill, all of which are generally associated with propylitic alteration assemblages.

Several fault-lineaments are apparent on the Wildcat Property. These are interpreted structures trending northwest (monzonite porphyry-volcanic contact) and northeast (Rainbow Creek) with unknown dips. The drill logs indicate a rare brittle deformation along intrusive contacts.

#### 7.2.1 Property Mineralization & Alteration

In part due to the till covered nature of the Property, mineralization encountered to-date on the Property is limited to copper mineralization encountered in historical drilling. The most significant copper  $\pm$  gold  $\pm$  silver mineralization was encountered during the 2011 Cayden Resources drilling campaign. Significant intervals from this program include:

- DDH # WC11-07, 213.8 m to 214.52 m (0.72 m) @ 1.34% Cu, 0.626 g/t Au, 16.2 g/t Ag;
- DDH # WC11-08, 155.45 to 181.60 m (26.15 m) @ 0.14% Cu, 0.034 g/t Au, 0.74 g/t Ag; incl. 170.95 to 181.60 m (10.65 m) @ 0.21% Cu, 0.062 g/t Au, 1.1 g/t Ag.

The aforementioned mineralized intercept from WC11-07 was associated with a roughly 0.5 cm quartz-pyrite-chalcopyrite shear hosted vein with strong epidote selvages, in what is otherwise propylitically altered diorite. The mineralized interval from WC11-08 consists of chalcopyrite and pyrite blebs and disseminations in a propylitically altered diorite, with sporadic quartz-calcite-pyrite  $\pm$  chalcopyrite veins and localized strong chlorite alteration. The interval from WC11-08 includes a moderate to strongly sheared and chlorite altered mafic dike than contains significant pyrite and lesser chalcopyrite.

# 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 which 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.

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, Figure 8.1).

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  $\pm$  Molybdenum  $\pm$  Gold (Cu  $\pm$  Mo  $\pm$  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.



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

# 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; newer mine projects such as Mt. Milligan, Red Chris, and Brucejack; while Schaft Creek, and Kerr-Sulphurets-Mitchell (KSM) are 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  $Cu \pm Mo \pm Au$  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. Some porphyry deposits exhibit exceptional size along with grade such as the Grasberg deposit in Indonesia (Freeport-McMoran Copper and Gold Inc., Annual Report, 2000).

#### 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  $\pm$  sodic core characterized by K-feldspar and/or biotite ( $\pm$  amphibole  $\pm$  magnetite  $\pm$  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  $\pm$  kaolinite  $\pm$  montmorillonite  $\pm$  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, Figure 8.2).

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 ( $\pm$  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.



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

### 8.1.9 Mineralogy

The mineralogy of porphyry deposits is highly varied, although pyrite is typically the dominant sulphide mineral in porphyry  $Cu \pm Mo \pm Au$  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.

#### 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 ( $\approx$ 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  $Cu \pm Mo$  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 (Chamberlain et 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  $Cu \pm Mo$  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 *TechnicalReport on the WildcatProperty* 35

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 synhydrothermal 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  $\sim 1$  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 synmineralization intrusion, and thus, 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  $Cu \pm Mo \pm Au$  deposits. Most notably, magnetic, electromagnetic and Induced Polarization surveys are considered highly effective tools for detection of characteristic anomalies.

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). 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 development of mineralization. Due to the size of porphyry Cu deposits their associated larger alteration haloes, alteration zonation patterns over 10's to 1,000's of metres provide an indication of potential deposit proximity within which exploration effort can be vectored towards areas of highest potential (Figure 8.3).

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, such as is done with MMI soil surveys, 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).



Figure 8.3: Alkalic porphyry exploration model.

# **9** Exploration

#### 9.1 Talent Infinity - 2021

Most recent exploration on the Wildcat Property commenced in May and completed in July 2021. Talent Infinity completed a drone or UAV (unmanned aerial vehicle)-borne low-level magnetometer survey over a southerly extension of a magnetic lobe first and partially revealed in the magnetic data from a property wide 2010 helicopter-borne ZTEM plus magnetometer geophysical survey (Figure 9.1).

The instrumentation consisted of GEM Systems potassium magnetometer, model GSMP-35U which has a sensitivity of 0.0002 nanoTeslas (nT), a resolution of 0.0001 nT, and a reading interval of up to 20 readings/second; a laser altimeter for measuring terrain clearance; and a GPS unit for measuring the UTM location to an accuracy of 0.7 meters. The instrumentation was carried by a DJI Matrice 300 (M300) RTK UAV. The M300 is a quadcopter with four TB60 batteries and a hovering accuracy of +/- 0.1m vertical and 0.3m horizontal. The M300 is controlled by a remote controller with a range of 15 km. A base station for the purpose of diurnal monitoring was set up near the property using a GEM Systems Overhauser magnetometer, model GSM-19, with readings being taken every second.

The survey was flown at a speed of 12 meters/sec with a line spacing of approximately 50 meters and an average terrain clearance of 60 meters. The reading interval was 10 readings/sec. The readings were subsequently processed and corrected for diurnal variation using the base station data. A total of 364 line-kilometres of surveying was completed over a 9.2 square km area.

The contoured magnetic data shown in Figure 9.1 reveal a stronger broad magnetic response in the north, presumably reflecting some portion of a northwest trending gabbroic – more magnetic – rock mass. To the south the feature weakens into a partial annular form – indicating potential for a zone of magnetite destruction possibly in connected with porphyry deposit style intrusion and alteration. The annular feature is roughly 2 km in diameter and there are no known outcrops in this area. This feature warrants follow-up exploration by ground surveys such as IP geophysics and MMI soil geochemistry.



**Figure 9.1:** 2021 UAV-magnetometer survey. Overlapping and extending south from the south central portion of a 2010 helicopter-borne ZTEM geophysical survey. UAV survey area outlined in yellow, annular magnetic feature outlined in dark green.

# **10** Drilling

6

Talent Infinity has not completed any drilling on the Wildcat Property. Information on historical drilling conducted at Wildcat is presented under Section 6.0 (History).

# 11 Sample Preparation, Analysis & Security

Talent Infinity has done no sampling work on the Wildcat Project. Descriptions of sample preparation, analyses and security, as well as Quality Control and Quality Assurance (QAQC) programs are therefore not applicable. Historical records of sample preparation, sample analysis, and quality assurance and quality control (QAQC) programs are provided for the 2007 and 2011 drill programs, these are described in Section 6.0 (History). Assay certificates are available for the 2011 program (Table 6.3) with uncertified assays available from the 2007 and 2018 programs.

### **12** Data Verification

A site visit was conducted by the author on July 12, 2021. The objective of the site visit was to inspect current property access and observe an ongoing MMI soil sampling program. The author was accompanied by Richard J. Haslinger, the current Wildcat property owner. The Property was accessed by 4 x 4 truck until, and due to certain roads being deactivated, certain drill sites were accessed on foot. A number of drill sites from the 2018 RC drilling campaign were inspected during an earlier site visit by the author on June 21, 2020, including the collar of RC18WCT015 as shown in Figure 12.1. The drill access road beyond the site of RC18WCT015 was recently deactivated, with a bridge being recently removed.

A prior site visit was conducted on May 10, 2017 by the author and Rory Ritchie of PEMC. The objective of the site visit was to inspect property access, confirm historical drill sites and to perform data verification on historical drill core. The author and Rory Ritchie were also accompanied by Richard J. Haslinger.



Figure 12.1: Historical drilling confirmation - Site of 2018 RC drill hole RC18WCT015.



Figure 12.2: Historical drilling confirmation - Drill anchor utilized for drilling WC11-07.

The property was accessed by 4 x 4 truck until, due to wet conditions, an ATV was used to transport the author and Mr. Ritchie to historical drill pad WC11-07. The drill pad location was confirmed where the author found old timbers in a cleared area, and a drill anchor utilized while drilling WC11-07 (Figure 12.2). The historical drill location matched the plotted location in GIS data records, which serves to validate the historical drill database. On the way to the historical drill site, one of the few outcrops in the area was examined by the author (Figure 12.3).

After the 2017 physical inspection of the Property was completed, the author was driven to the Kalder Lake camp where drill core from the 2011 Cayden Resources drill program was stored. The drill core was observed to be in good condition due to its appropriate storage, and all holes from the 2011 program were present. The author conducted verification sampling of a significantly mineralized interval in hole WC11-08. Results of the verification sampling and assessment comparison to the original sampling are described in a previous Technical Report (Whitehead, 2017).

In the opinion of the author, the 2017 data verification remains adequate as there has been no additional significant mineralization encountered in subsequent drilling. Further, the drill hole locations, sampling and assay data is of adequate quality for use in early project evaluation and exploration targeting.



Figure 12.3: Outcrop inspection - author Kristian Whitehead at altered rock outcrop.

# **13** Mineral Processing & Metallurgical Testing

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

# **14** Mineral Resource Estimates

No known mineral resources or mineral reserves of any category exist on the Wildcat Property.

# **23** Adjacent Properties

The Wildcat Property is immediately adjacent to Centerra Gold Inc.'s Mt. Milligan Mine property, with the northern and eastern boundaries of the Wildcat Property being bound by Centerra's land position. The author is unable to verify the information outlined below, and this information is not necessarily indicative of the mineralization on the Wildcat Property. Information pertaining to the Mt. Milligan copper-gold deposit can, however, provide some insight into exploration targeting methodologies in the immediate area of the Wildcat Property.

The **Mt. Milligan Copper-Gold Mine** is operated by Centerra Gold Inc. and is located approximately 10 kilometres to the northeast of the Wildcat Property. Production of copper-gold concentrate commenced in September 2013, followed by the first truckload of concentrate to Mackenzie on September 24, 2013. Accumulated copper-gold concentrate is shipped via rail to the port of Vancouver. The Mt. Milligan Mine is a conventional truck and shovel open-pit mine designed to process 60,000 tonnes per day of copper- gold bearing ore. The recently revised planned mine life is 9 years with a Proven and Probable Reserve of 191.0 million tonnes @ 0.23% copper and 0.39 g/t gold (Fitzgerald et al., 2020), Source: 43-101 Technical Report dated March 26, 2020 (Fitzgerald et al., 2020) (Note: the author has not verified the reserves at Mt. Milligan and the Mt Milligan

mineralization is not necessarily indicative of mineralization on the Wildcat Property).

The Mt. Milligan deposits are centered on two principal intrusive bodies, the MBX and Southern Star stocks. Within the stocks, monzonite varies texturally and compositionally.

Late syn-mineral plagioclase hornblende porphyritic monzonite dykes are common throughout the South- ern Star stock. Hydrothermal breccia occurs extensively throughout the Southern Star stock, and less com- monly in adjacent volcanic rocks and along the margins of the MBX stock. It is characterized by potassium feldspar veinlets and flooding that vary in amount and size.

Important east-northeasterly trending cross-faults and northwesterly trending, steeply northeast dipping faults separate the MBX stock from the Southern Star stock.

In the Mt. Milligan area the Quesnel Terrane is characterized by widespread Late Triassic to Early Jurassic arc rocks comprising (Herbert et al., 2007):

• Volcanic rocks: mainly volcaniclastics, with subordinate coherent volcanics of basaltic to dacitic compositions. Augite-porphyry is particularly characteristic of Quesnellia, and forms an eastern facies of alkaline to sub-alkaline augite-phyric basaltic andesite;

• Coeval and partly co-magmatic plutons ranging from calcalkaline (in the west) to alkaline (in

the east); and

- Sedimentary rocks including shale, limestone, and epiclastic deposits.

The Witch Lake Succession hosts the Mt. Milligan deposit and is characterized by augite-phyric pyroclastic and coherent basaltic andesites, with subordinate epiclastic beds. The Witch Lake Succession is intruded by coeval Takla Group and post-Takla Group intrusions. Coeval intrusions comprise most of the Mt. Milligan intrusive complex, which consists dominantly of monzonitic rocks with minor dioritic/monzodioritic and gabbroic/monzogabbroic rocks.

| Reserves (Effective Date December 31, 2019) |               |           |             |                               |                          |  |
|---|---------------|-----------|-------------|-------------------------------|--------------------------|--|
| Category                                    | Tons<br>(000) | Cu<br>(%) | Au<br>(g/t) | Contained Cu lb.<br>(Million) | Contained Au oz<br>(000) |  |
| Proven                                      | 114,753       | 0.23      | 0.41        | 571                           | 1,525                    |  |
| Probable                                    | 76,275        | 0.23      | 0.36        | 389                           | 882                      |  |
| Total                                       | 191,028       | 0.23      | 0.39        | 2,407                         | 2,407                    |  |

| Fable 23.1: Mt. | Milligan Reserve | & Resource | Information |
|-----------------|------------------|------------|-------------|
|-----------------|------------------|------------|-------------|

#### Resources <sup>1</sup>(Effective Date December 31, 2019)

| Category      | Tons<br>(000) | Cu<br>(%) | Au<br>(g/t) | Contained Cu lb.<br>(Million) | Contained Au oz<br>(000) |
|---------------|---------------|-----------|-------------|-------------------------------|--------------------------|
| Measured (M)  | 50,582        | 0.16      | 0.44        | 182                           | 713                      |
| Indicated (I) | 74,788        | 0.20      | 0.29        | 336                           | 695                      |
| Total M+I     | 125,370       | 0.19      | 0.35        | 517                           | 1,408                    |
| Inferred      | 3,736         | 0.12      | 0.46        | 10                            | 55                       |

<sup>1</sup> *Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.* 

Source: From 43-101 Technical Report dated March 26, 2020 (Fitzgerald et al., 2020).

Note: Resources calculated using 0.2% CuEq cut-off

# 24 Other Relevant Data & Information

No other information or explanation is necessary to make this technical report understandable and not misleading.

# **25** Interpretation & Conclusions

The Wildcat Property is an early exploration-stage property with potential for copper-gold mineralization, specifically, copper-gold porphyry deposits. The Property is well situated to benefit from nearby infrastructure should future exploration result in outlining a potential deposit of economic significance. Historical exploration, including RC drilling and diamond drilling, has provided insight to the underlying geology and has intersected localized anomalous copper  $\pm$  gold mineralization and alteration assemblages that might be distal expression of a potentially mineralized porphyry deposit system within the Property.

The property is underlain by the volcano-sedimentary rocks of the Quesnel Terrane (Takla Group) that are intruded by several phases of intrusive rocks. This geological setting is equivalent to several nearby porphyry deposits, including Mt. Milligan and Kwanika.

Mineralization of economic interest has not been encountered to date, though significant anomalous copper  $\pm$  gold has been encountered to a limited extent in 2011 diamond drill holes WC11-07 and WC-11-08. These holes are relatively near to a potentially significant inferred Rainbow fault structure and are also near to an area of partially overlapping moderate IP chargeability and ZTEM resistivity features (Figure 25.1). These are in the northeast portion of the property, east of and crossing the inferred Rainbow fault. The dimensions of these untested moderate chargeability IP and ZTEM resistivity features are comparable to the dimensions of known economic porphyry deposit systems within the Quesnel Terrane. An additional similarly larger porphyry target feature was revealed in 2021 UAV-borne magnetometer surveying by Talent Infinity. A 2 km diameter annular magnetic feature was identified in the south-central area of the Property underlying one of the Mt. Milligan mine access roads (Figure 25.1).

The hydrothermal alteration associated with the mineralization in hole WC1108 is propylitic and typically occurs peripheral to phyllic and potassic assemblages that would be associated with stronger mineralization. Off-set drilling from this hole, particularly towards the east in the direction of the inferred Rainbow fault, may provide sequential geologic and geochemical vectoring toward more strongly mineralized rock.

PEMC attempted to test the northeast moderate chargeability anomaly in 2018 with RC drilling but was unable to penetrate the >40 m of glacial till and alluvial overburden. This still untested IP anomaly and the other geophysical features identified represent valid porphyry exploration targets that warrant further exploration by a combination of conventional and non-conventional technical surveys that are or may be useful in addressing deeper overburden cover. A suitably equipped deep overburden drill rig will be needed for future drill testing of this IP anomaly, for WC1108 step-out drilling and for the other till covered targets. Ground Penetrating Radar or passive seismic surveying in the target areas would be useful in optimizing selection of drill sites to those with least overburden.



**Figure 25.1:** Exploration targets compilation. 2010 Airborne ZTEM resistivity features reflected by the warmer colours and purple outline, Rainbow fault structure marked by the orange linear trace, burgundy coloured outline representing the area of 2017 moderate IP chargeability in the northeast of the Property, in dark green an outline of an annular magnetic feature revealed in a 2021 UAV-magnetometer survey. Drill hole WC1108, labelled, has intersected the best Cu+Au mineralization to-date on the Property.

Integration of historical exploration data with data from expanded and additional survey techniques will be required to achieve future drill targeting.

It is of the authors' opinion that historical geological, geophysical and drilling data is of sufficient quality to use in future exploration targeting.

Project risk is high because Wildcat is an early-stage exploration project with no guarantee that the exploration results to-date indicate presence or proximity of an economic ore body. Similar geophysical anomalies have been shown to correlate with non-economic rock formations like clay minerals and graphite-bearing sedimentary rock.

# **26** Recommendations

Future work on the Wildcat Property should include additional surveys as follows:

• Non-conventional MMI soil geochemistry surveying over the geophysical target features and the area encompassing drill hole WC1108 and the strike extensions of the inferred Rainbow fault. Approximately 400 samples are recommended.

• UAV-magnetometer, low-level high-resolution surveying of the un-surveyed target features and areas primarily in the northeast of the Property. Approximately 6 square kilometres of surveying are recommended.

• Ground penetrating radar profiling or passive seismic surveying of overburden thickness in portions of the target features that develop as drill targets. Two days of surveying will be required.

Following completion of these surveys and receipt of results, integration of new survey data into the Project database interpretation and reporting will be required.

Accommodation is assumed to be either the Kalder lake road camp immediately west of the property, or another lodging facility nearby.

The total cost of the proposed exploration program is estimated at CDN\$107,500 (see Table 26.1).

| Item   |           |  |  |
|--|-----------|--|--|
|  | (CDN\$)   |  |  |
| Personnel - project geologist, soil samplers                         | \$20,000  |  |  |
| Camp and Support - camp, meals, consumables, rentals, fuel, travel   | \$10,000  |  |  |
| Geochemical Analyses - MMI soil samples                              | \$20,000  |  |  |
| Ground Penetrating Radar survey - production, mobilization           | \$10,000  |  |  |
| UAV-borne magnetometer geophysical survey - production, mobilization | \$30,000  |  |  |
| Deliverables - database, assessment report                           | \$7,500   |  |  |
| Contingency - 10%  | \$10,000  |  |  |
| Total  | \$107,500 |  |  |

| <b>Table 26.1</b> : | Proposed Wildcat E | xploration Program | & Budget for 2022 |
|---------------------|--------------------|--------------------|-------------------|
|                     |                    | -r                 |                   |

### 27 References

- 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.
- Clifford, R. and Berthelsen, D. (2015). 43-101 Technical; Report on the Mount Milligan Mine Northern Central British Columbia. NI 43-101 Technical Report, Terrane Metals.
- Day, R. (1995). Reconnaissance Soil Geochemical and Prospecting Report. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 23809, Robin Day & Larry Hewitt
- Day, R. (1997). Reconnaissance Prospecting & Soil Geochemistry Report. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 24858, Robin Day & Larry Hewitt.
- 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.
- Duba, D. (2010). Assessment Report on Helicopter-Borne Z-Axis Tipper Electromagnetic (ZTEM) and Aeromagnetic Survey. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 31818, Cayden Resources Inc.
- Duba, D. (2012). Assessment Report on 2011 Drilling Program. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment Report 32882, Cayden Resources Inc.
- Fitzgerald, J., Jago, P., Jankovic, S., Simonian, B., Taylor, C., and Borntraeger, B. (2020). Technical Report on the Mount Milligan Mine North-Central British Columbia. NI 43-101 Technical Report, Centerra Gold Inc.
- 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.
- Grunenberg, P. (1989). Magnetometer Report on the Cooke Nation Project Bow Claims. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 19585, HLX Resources.
- Haslinger, R. (2004). 2003 Magnetometer Survey Assessment Report. . British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 27331, H.R.S. Resources Ltd.
- 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.
- Herbert, E., Labrenz, D., and Huang, J. (2007). Technical Report on the Mt. Milligan Project Resource Report. NI 43-101 Technical report, Terrane Metals Corp.
- Lane, R. (2007). Assessment Report on DIGHEM Airborne Magnetics and E-M Geophysical Survey. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 29339, Solomon Resources Ltd, Col-Magnet Property.
- Lui, D. K., 2020. Chuchi porphyry copper-gold project. In E. R. Sharman et al. (Ed.), Canadian Institute Canadian Institute of Mining, Metallurgy and Petroleum Special volume 57 (pp. 512-528). Montreal, QC: Canadian Institute of Mining, Metallurgy and Petroleum.

- Lustig, G. and Duba, D. (2008). Diamond Drilling and Geological Report on the Wildcat Property. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 30000, Terrane Metals Corp.
- Lustig, G. and Duba, D. (2010). Technical Report on the Wildcat Property. NI 43-101 Technical report, Vistech Capital Corp.
- 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., Bellefontaine, K., Rees, C., and MacLean, M. (1992). Regional Geological Mapping in the Nation Lakes Area (93N/2E, 7E). British Columbia Geological Survey; Geological Fieldwork 1991, pages 1992–1.
- 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.
- Nelson, J. L. and Bellefontaine, K. A. (1996). The Geology and Mineral Deposits at North-Central Quesnellia: Tezzeron Lake to Discovery Creek, Central British Columbia, volume 99. British Columbia, Geological Survey Branch.
- O'Brien, D. (2007). Geotechnical Diamond Drilling Test-pitting Program. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 29097, Terrane Metals Corp.
- 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. (2019). 2018 Reverse Circulation Drilling on the Wildcat Property. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 38230, Pacific Empire Minerals Corp.
- Ritchie, R. and Peters, B. (2017). Geophysical Report on the Wildcat Property. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 36614. Pacific Empire Minerals Corp.
- Rowins, S. M. (2000). Reduced porphyry copper-gold deposits: A new variation on an old theme. Geology, 28(6):491-494.
- Serengeti Resouces Inc. (2016). Kwanika Property Project Summary. https://www.serengetiresources. com/news/2016/significant-high-grade-copper-gold-mineral-resource-identified-within-the-central-zone
- Shives, R. B., Charbonneau, B., and Ford, K. L. (2000). The detection of potassic alteration by gamma-ray spectrometry-recognition of alteration related to mineralization. Geophysics, 65(6):2001–2011.
- 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.
- 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 Association of Canada, Mineral Deposits Division, Special Publication, 5:223–243.Sivertz, G. (1990). Combined Helicopter Borne Magnetic and VLF-EM Surveys on the Bee, Bonanza & Martin Claims. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 20416, Continental Gold Corp.

- 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.
- 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 deposits of the Northwestern Cordillera of North America: Quebec, Canadian Institute of Mining, Metallurgy and Petroleum Special, 46:537–564.
- Wells, R. (2005). Soil Geochemical, Geological and Prospecting Report. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 27733, Yankee Hat Industries Corp.
- Whitehead, K. (2017). 43-101 Technical Report on the Wildcat Property. NI 43-101 Technical Report, Pacific Empire Minerals Corp.
- Wong, R., Barrie C. (1991). Assessment report on the 1990 diamond drilling program on the Chuchi A claim group. British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment report 21113A, BP Resources Canada Limited.

# **Certificate of Qualified Person**

- I, Kristian Whitehead, do hereby certify that:
  - I am a professional geoscientist residing at 2763 Panorama Drive, North Vancouver, B.C., Canada, V7G 1V7;
  - 2. I have authored the report entitled "Technical Report on the ·Wildcat Property" on the effective date of October 15, 2021. The report is based on a review of recent exploration carried out on the Property as well as a review of the compilation of historical data;
  - 3. I have Bachelor 's of Science degree in Earth and Ocean Science from The University of Victoria, 2005. I fulfilled APEGBC requirements in Earth Sciences at The University of British Columbia, 2008. I am a Licensed Professional Geoscientist. with the Association of Professional Engineers and Geoscientists of British Columbia, License #34243. I have experience in exploration and mining operations in Canada and am a "qualified person " for the purposes of NI 43-101;
  - 4. I have been continuously engaged in mineral exploration since 2003 working for junior exploration companies and as an independent geologist and have 18 years of experience in mineral exploration for precious metals, base metals, lithium and niobium;
  - 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 the most recent personal inspection of the Wildcat Property on July 12, 2021, which consisted of a physical property visit, the duration of which was approximately 4 hours;
  - 7. I conducted personal inspections of the Wildcat Property on June 21, 2020 as well as May 10, 2017, which consisted of a physical property visit and oversight of data verification core sampling, the duration of which was approximately 6 hours;
  - 8. I am responsible for all items of this technical report;
  - 9. 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;
  - 10. I have had no prior involvement with the Property that is the subject of this report;
  - 11. I have read NI 43-101 and this technical report has been prepared in compliance with the NI 43-101 and Form 43-101Fl guidelines:
  - 12. 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 15<sup>th</sup> day of October 2021.

Kristian Whitehead B.Sc., P.Geo.

