

TSX.V: TBK

A Canadian mineral exploration company focused on precious metals and copper in British Columbia and Yukon Territory.

## **ATSUTLA PROJECT**

#### PROJECT HIGHLIGHTS

**LOCATION** - Northwestern British Columbia

V FIRST MOVER ADVANTAGE – The project covers a large area of prospective geology

**PERMITTED** - Active multi-year exploration permit to drill test targets

) HIGH-GRADE AU - Assay results from Atsutla West grade up to 630 g/t Au and 1,894 g/t Ag

CU-AU PORPHYRY - Multiple coincident features outline a porphyry target at the Swan zone

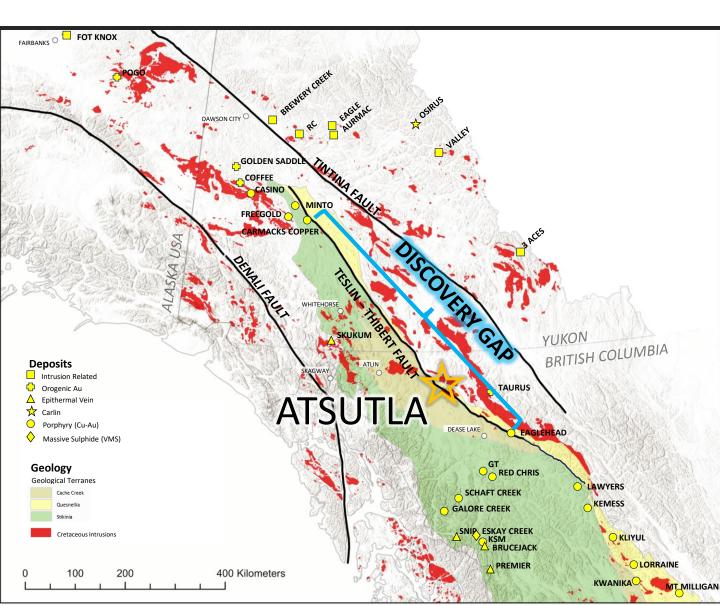
#### OVERVIEW

The Atsutla project, with a >40,000 ha claim package, covers the regional Teslin-Thibert Fault system, where two Mesozoic batholiths are present on either side. Due to this unique geological position, Atsutla has the **potential to be host to multiple deposit-scale discoveries**, including significant high-grade gold mineralization and large-scale Au-Cu-Mo porphyry systems.

On the western side of the property at least four zones of widespread gold mineralization have been identified within a ~4,000 ha area, with assay results up to **630 g/t Au and 1,894 g/t Ag.** 

On the eastern side of the property, at the Swan zone, a km-scale gold-rich multi-element soil and rock geochemical anomaly are coincident with an advanced argillic to phyllic altered poly-phase intrusion, and key geophysical **characteristics of a porphyry system**.

- Located between Atlin and Dease Lake, BC, and 55 km south of the Alaska Highway
- >40,000 hectare claim package
- Property straddles the regional-scale Teslin-Thibert fault system, which separates the Cache Creek and Quesnellia terranes
- Two large Mesozoic batholiths are present within the property:
  - Jurassic Christmas Creek batholith, which is host to high-grade Au veins
  - Cretaceous Glundebery batholith, which is host to Au-Cu-Mo porphyry targets
- Atsutla is situated in an underexplored area between the Toodoggone/Golden Triangle in BC and the Minto/Casino district in the Yukon
  - This deposit and exploration gap shares similar geology as these prolific districts



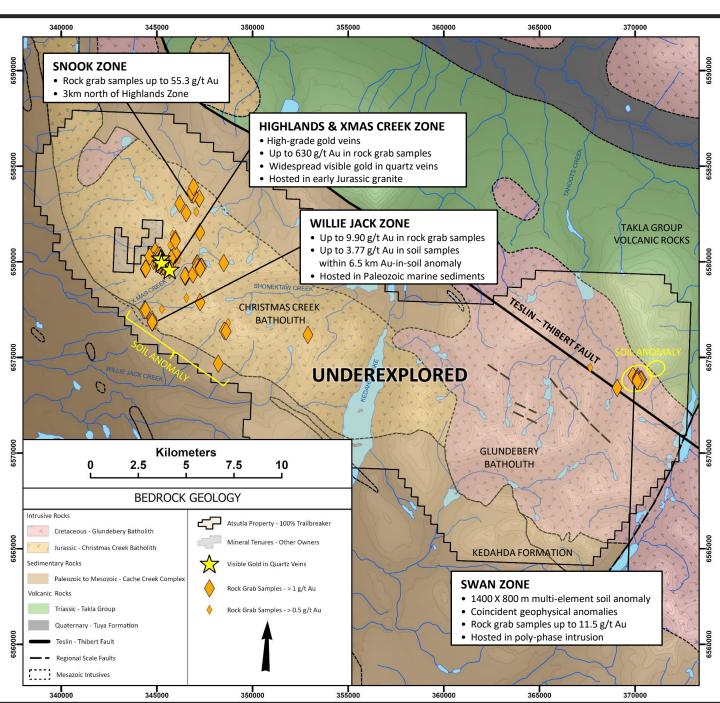
## **PROPERTY OVERVIEW**

#### Atsutla West

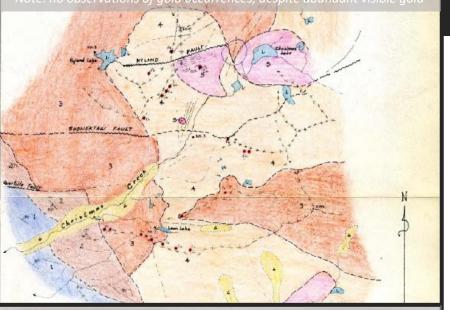
Four outcrop zones of high-grade gold mineralization have been discovered within 4,000 ha area explored to date (only ~10% of the project area). The Highlands zone contains abundant coarse visible gold, with rock samples grading up to 630 g/t gold and 1,894 g/t silver.

#### Swan Zone

 Au-Cu-Ag porphyry target defined by a 1,400 m by 800 m multi-element soil geochemical anomaly. Rock samples grading up to 11.5 g/t Au and 175 g/t Ag are coincident with a 2.1 km x 1.4 km donut-shaped chargeability high feature.



#### 1970 Geological Map of Atsutla West Note: no observations of gold occurrences, despite abundant visible gold



From 1970 Regional Exploration Assessment Report



THE ATSUTLA RANGE (GLUNDEBERY BATHOLITH) W OF KEDAHDA LAKE, B.C. THIS IS AN AREA OF POTENTIAL PORPHYRY MOLYBDENUM DEPOSITS.

Blebby molybdenite in quartz vein float on the western margins of the Swan zone – which were the target of 2008 drilling by Hastings Resources

## ATSUTLA EXPLORATION HISTORY

#### <u>Atsutla West</u>

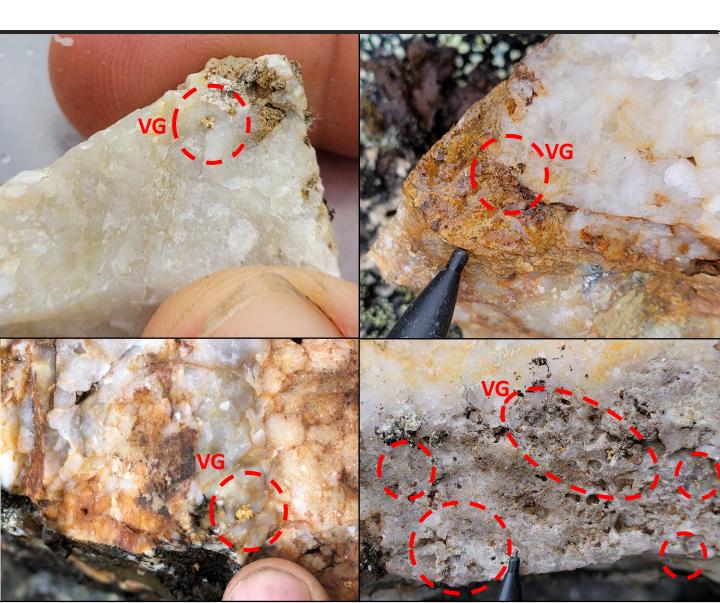
- **1912**: Placer gold discovered on Willie Jack Creek by early prospectors
- 1944: BC department of Mines geologists conducted reconnaissance mapping in the Atsutla Mountain range, discovering gold-bearing quartz veins.
- **1969-1971:** Regional stream sediment sampling highlighted anomalous Cu at Willie Jack, leading to mapping and prospecting focused on Cu exploration, but rock samples were not assayed.
- **1979-1980:** The GSC completed regional stream sediment sampling, but did not assay for Au, As, or Sb. Dupont Canada followed up on high W and Mo samples.
- **2000:** The GSC re-analysed 1979 stream sediment samples, this time including Au, As, and Sb. All of which are strongly anomalous in historic placer gold creeks that drain from the Atsutla property.
- 2020-2022: Trailbreaker completed prospecting programs and airborne geophysics, identifying widespread highgrade Au mineralization.

#### <u>Swan</u>

- 1969: Molybdenite veining in float was discovered in Tahoots Creek. Leading to IP surveying and a geochemical soil survey, without Au assays.
- **1976:** Amax Potash completed geological mapping, geochemical sampling, and ground magnetic survey.
- 2008: Hastings Resources completed 13 drillholes totaling 991.5 m, targeting Mo mineralization. Drilling encountered lowto mid-grade Mo mineralization, returning up to 0.06% Mo over 73 m. As well as silver assays up to >26 g/t Ag over 3 m. No Au assays were completed on drilling.
- 2021-2022: Trailbreaker conducted prospecting and mapping campaigns defining a large multi-element geochemical anomaly ~1-1.5 km east of historic exploration efforts.

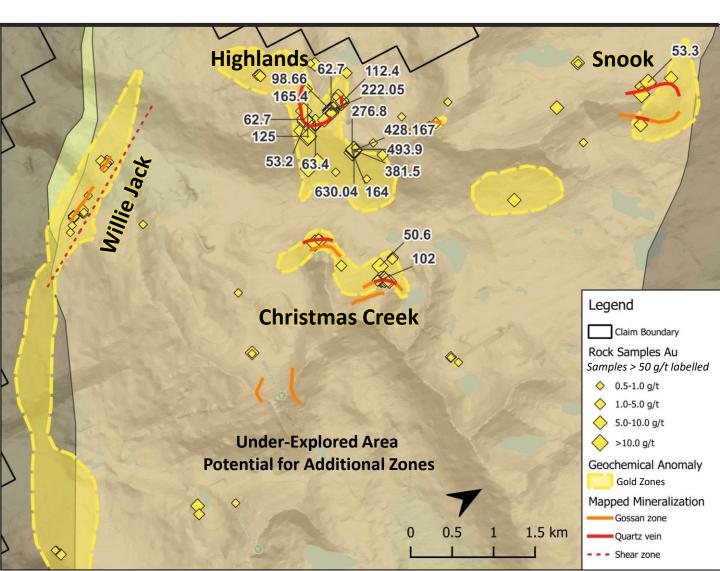
## **ATSUTLA WEST GEOLOGY & MINERALIZATION**

- · Gold mineralization at Atsulta West is hosted in veins and along intrusive contacts
- At the Highlands, Christmas Creek, and Snook zones coarse grained gold occurs within quartz-carbonate veins cutting the Christmas Creek Batholith
  - Highlight grades include:
    - Highlands Zone 630 g/t Au (18.38 oz/t Au) and 1,894 g/t Ag (55.25 oz/t Ag)
    - Christmas Creek Zone 102 g/t Au and 524 g/t Ag
    - Snook Zone 53.3 g/t Au
- At the Willie Jack zone gold also occurs within limey sedimentary rocks along the contact of the Christmas Creek Batholith, within the 6.5 km long gold-in-soil anomaly
  - Highlight grades of up to 9.9 g/t Au



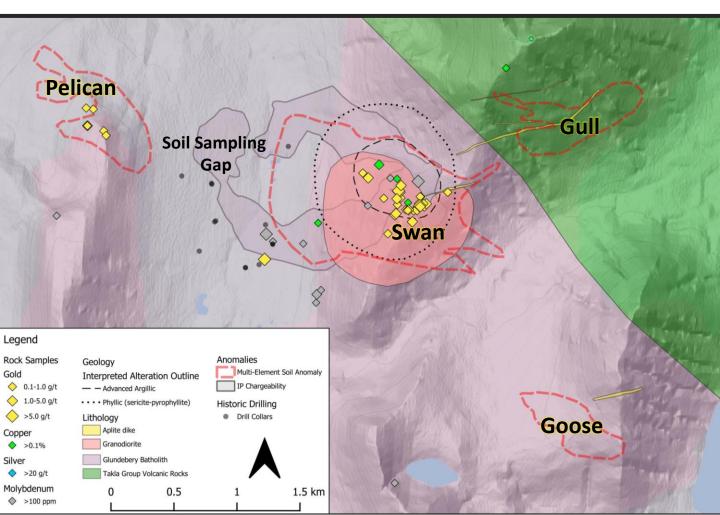
## ATSUTLA WEST TARGETING

- Four high-grade zones include:
  - Highlands Zone A 750 m by 600 m area with veins containing coarse visible gold and assaying up to <u>630 g/t Au and 1,894 g/t Ag</u>
  - Christmas Creek Zone Gold-bearing quartz veins with rock samples assaying up to <u>102 g/t</u> <u>Au and 524 g/t Ag</u>
  - Snook Zone High-grade veins with rock samples assaying up to <u>53.3 g/t Au</u>
  - Willie Jack Zone <u>6.5 km long gold-in-soil anomaly</u> with soil samples assaying up to 3.77 g/t Au and rock samples up to <u>9.9 g/t Au</u>
- Drill testing of these vein systems will focus on targeting structural features that will define highgrade shoots, such as:
  - Vein step-overs/blow-outs
  - Stacked veins
  - High-density extensional veins
- Testing of the Willie Jack zone will focus on high-grade portions within the larger soil anomaly that parallels the intrusive contact, with a focus on defining high-grade plunges

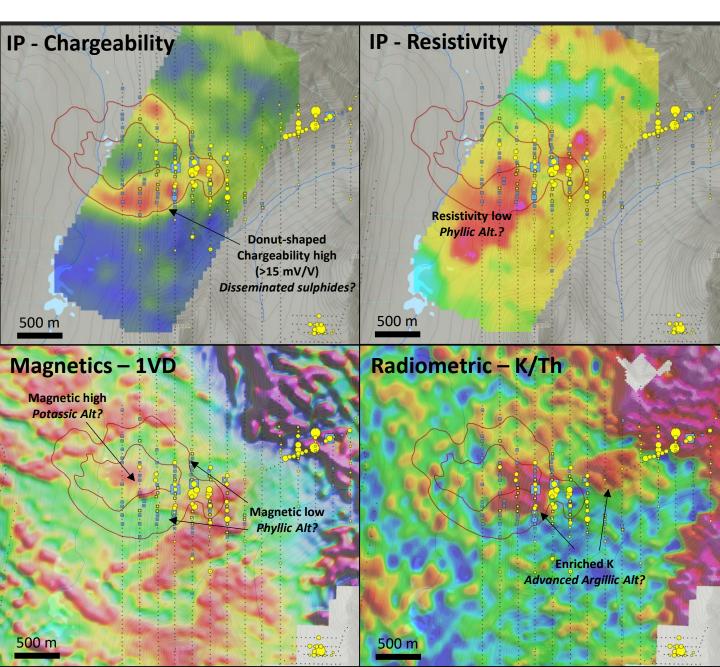


## SWAN GEOLOGY & GEOCHEMISTRY

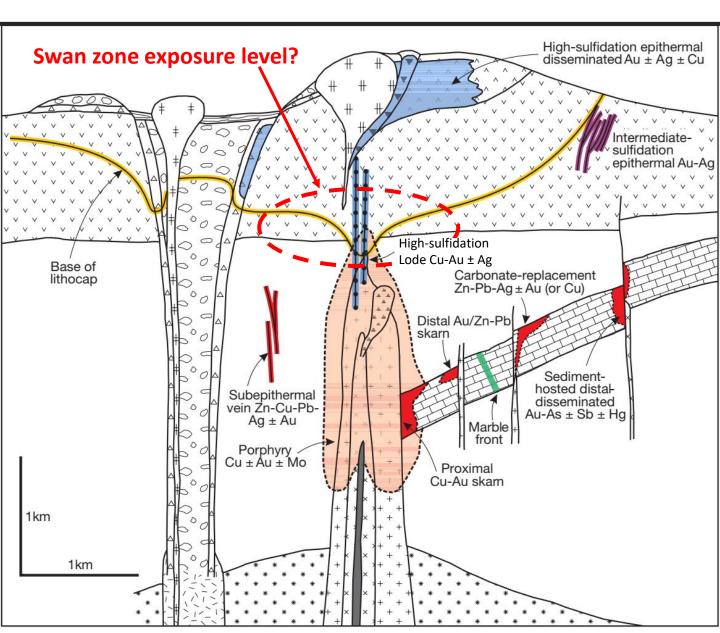
- The Swan zone is within the post-accretionary Glundebery Batholith, which has intruded into volcanic Takla Group rocks of the Quesnel terrane
- The Swan zone is centered on a primarily granodiorite phase of the poly-phase Glundebery Batholith, near the eastern contact of the batholith with the Takla Group volcanic rocks
- The granodiorite at the Swan zone is intruded by variably altered tuffs, volcanic breccias, and fine-grained aplite dykes, and post-mineralization mafic dykes
- Concentrically zoned hydrothermal alteration occurs around the Swan zone, zoning from advanced argillic alteration at the core, outward to phyllic alteration
- Elevated gold is associated with arsenopyrite veins and/or copper-rich sulphides within the advanced argillic alteration zone
- Quartz-sulphide (pyrite-molybdenite ± chalcopyrite) veins occur on the western margin of the Swan zone, likely representing distal porphyry-style mineralization
- A 1,400 m x 800 m Au-Ag-Cu-As-Sb-Mo-Pb soil geochemical anomaly is coincident with the hydrothermal alteration system
- Rock samples from within the system assay up to 11.7 g/t Au, 175 g/t Ag, and 0.81% Cu



- Induced polarization, airborne magnetic, and airborne radiometric surveys outline a significant porphyry alteration footprint
- A donut-shaped strong chargeability high, coincident with magnetic and resistivity lows define a phyllic alteration halo
  - Disseminated sulphides may cause the chargeability high
  - Clay and sericite alteration minerals may cause the resistivity and magnetic low
- A relative magnetic high occurs in the center of the donut-shaped chargeability features, potentially caused by magnetite-bearing potassic alteration
- Enriched potassium (K) zones may represent argillic and/or potassic alteration and are strongly coincident with anomalous soil and rock geochemistry



- Many features of the Swan zone are indicative of shallow, lithocap levels above a porphyry copper system:
  - Multiple intermediate to felsic intrusive phases
  - Elevated Au + Ag ± Cu values within an advanced argillic alteration zone containing disseminated sulphides and isolated arsenopyrite stringers
  - Donut-shaped chargeability high around the advanced argillic alteration, which is defined by a radiometric-K enrichment
  - Subtle magnetic high, which may represent a buried magnetite-bearing intrusion which represents a strong target for potassic alteration at the core of a porphyry system



# Underexplored

- Sparce and intermittent historic exploration
- Previous exploration at Highlands was <u>never focused on copper potential</u>, despite <u>abundant high-grade and visible gold!</u>
- Past operators <u>did not hold the claims</u> over the main Swan showings, thus exploration was focused to the east – which represents the distal porphyry alteration system with patchy Mo and Ag mineralization
- Gold potential of the property has historically been overlooked

# **Strong Exploration Potential**

- <u>Active MYAB exploration permits</u> until 2027 covering priority drill targets at Atsutla West and the Swan zone
- Potential for significant <u>high-grade Au</u> and <u>for large Au-Cu-Mo</u> <u>porphyry</u> mineralization
- First-mover advantage for exploration in the region
- Large land package within significant <u>regional exploration upside</u>

### **RECOMMENDED EXPLORATION**

- Drilling at the Swan zone to **test for a buried porphyry system** within the chargeability donut, where coincident with geochemical and geological features, which can be used to vector within the mineralized system
- Drill testing of the Highlands and Willie Jack zones to confirm high-grade gold mineralization
  - Focussing on defining structural mineralized shoots within the vein zones
  - Testing the continuity of vein mineralization at depth
- Continued regional prospecting and exploration to define additional exploration targets at the Atsutla project
  - Approximately 60% of the property is still unexplored

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