

# Trailbreaker Resources Ltd. Advances Porphyry Discovery Through Geophysics at the Liberty Copper-Molybdenum Project

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[Trailbreaker Resources Ltd.](#) (TBK.V) ("Trailbreaker" or "the Company") is pleased to announce the results of the Z-axis Tipper electromagnetic (ZTEM) and induced polarization (IP) surveys, at the Liberty copper (Cu) - molybdenum (Mo) project, in central British Columbia (BC).

Combined ZTEM and IP data interpretation define a central 1,600 m x 800 m area, extending to >700 m of depth, having a strong (>20 mV/V) chargeability response. The strong chargeability zone is within a larger area of moderate (>7 mV/V) chargeability, measuring 4.0 km x 3.5 km, extending to >700 m of depth. This IP chargeability anomaly is coincident with a resistive intrusive complex transecting the property from north to south, as defined by the ZTEM survey (Figure 1).

The strong chargeability anomaly has not been drill-tested. However, previous diamond drilling by Trailbreaker along the margin of the moderate chargeability anomaly returned long continuous intervals of Cu-Mo porphyry-style mineralization, including 213.7 m of 0.16% CuEq in hole LIB24-001.

ZTEM resistivity and magnetic data define two additional porphyry targets, based on mottled magnetic signatures including a central magnetic high, within the resistive intrusive complex. All three porphyry targets (P1, P2, and P3) occur 'up-ice' of glacially transported Cu-Mo-Ag (silver) - Au (gold) multi-element geochemical soil anomalies defined from 2024 soil sampling (see news release from September 16, 2024).

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Figure 1: Oblique 3D view of IP chargeability model overlain on ZTEM resistivity model. Green areas define the >600 ohm-m intrusive complex; transparent orange outlines the >7 mV/V IP chargeability response; and solid orange defines the >20 mV/V IP chargeability response. The approximate area of previous drilling completed by Trailbreaker is circled, as well as the newly defined strong chargeability response (red dashed circle) 1.1-2.0 km to the south-southwest of the drilling area.

[Message from the President](#)

"We recognized the geological significance of our early drilling results at Liberty which suggest previous exploration defined only the margin of the potential porphyry system. This led us to take a zoomed-out approach to conduct property-scale exploration, ultimately leading to Trailbreaker identifying a much larger system than previously recognized, with multiple potential porphyry centers. The increasing chargeability response to the south of Trailbreaker's 2024 drilling is encouraging and indicates that the system may strengthen in that direction corresponding to increased Cu grades in drill core. In addition, the ZTEM and IP surveys not only indicate a potentially large areal extent of the system, but also show great potential for vertical continuity, commencing directly below overburden." Daithi Mac Gearailt

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Figure 2: P1 target is defined by a large zone of moderate IP chargeability (>7 mV/V), centered on an area of strong chargeability (>20 mV/V). This chargeability anomaly occurs within the resistive intrusive complex, where no outcrop is present. The target is 'up-ice' of the multi-element soil anomaly, which has been the focus of past exploration. Drilling in 2024 by Trailbreaker intersected the northern extent of the chargeability

anomaly and returned long, continuous intervals of Cu-Mo mineralization. Similar ZTEM, magnetic, and geochemical characteristics to P1 occur at both P2 and P3, defining additional porphyry targets at Liberty.

#### Discussion of results

ZTEM surveying defined a 2 to 3 km wide intrusive complex, indicated by high resistivity values (>600 Ohm-m), that transect north-south across the property, bending southwest in southern areas (Figure 3). The intrusive complex extends for at least 12 km, and resistivity modelling suggests it extends to greater than 2 km of depth.

The intrusive complex is associated with known porphyry-style mineralization encountered in the 2024 drilling (e.g. 213.7 m of 0.16% CuEq from 248.3 m to the end of hole in LIB24-001), which is associated with a moderate IP chargeability response (7-13 mV/V) and a mottled magnetic low feature flanking a magnetic high.

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Figure 3: Left: 200 m depth slice of 2D inverted ZTEM data. Strongly resistive intrusive complex is outlined, transecting the property. Multi-element soil anomalies are outlined. Right: Total magnetic intensity from ZTEM survey. Three magnetic high zones surrounded by mottled magnetic lows (P1, P2, P3), potentially caused by magnetite-destructive alteration, are outlined. All three porphyry targets occur 'up-ice' from multi-element soil anomalies, which are interpreted to be glacially dispersed.

Historic IP surveying covered approximately 120 hectares (ha) of prospective geology along the intrusive complex boundary. The expanded IP surveying completed in 2024 includes 32.8 line-km across 11 IP sections, covering an area of approximately 1,600 ha or >13 times greater than the area previously surveyed.

The expanded survey results indicate that the mineralization encountered in the 2024 drilling may extend 4 km in a north-south orientation and 3.5 km in a northwest-southeast orientation, and extends to depths of >700 m (Figure 4). The large area of weak chargeability response displays increasing chargeability strength toward the core area and at depth, with a central core of strong chargeability (>20 mV/V) measuring 1,600 m in length, 800 m in width, and extending to >700 m of depth. The strong chargeability response may reflect increased sulphide abundance within the large hydrothermal system.

The zone of high chargeability occurs beneath a layer of glacial till and is not exposed at surface. When accounting for glacial dispersion through ice-flow indicator measurements, it is apparent that the strong geochemical anomaly, the focus of past exploration efforts, occurs 1.0 ? 2.0 km 'down-ice' from this zone. Thus, the geochemical anomaly is likely sourced from this chargeability anomaly and has been glacially dispersed to its present location.

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Figure 4: Left: 100 m depth slice of inverted chargeability data overlain on 100 m slice of ZTEM resistivity data. Note the strong correlation between the P1 magnetic target, ZTEM-defined intrusive complex, and moderate chargeability response (5-30 mV/V). The strongest chargeability (>40 mV/V) correlates with graphitic argillites that host high-grade copper veins, but the chargeability is interpreted to be caused by graphitic material rather than sulphides. The dashed line labelled 'cross-section' correlates to the ZTEM and IP cross-section displayed in Figure 4. Right: 300 m (top) and 500 m (bottom) depth slices of chargeability and ZTEM resistivity. Note the chargeability feature within the intrusive complex increases in strength with depth.

The large zone of moderate chargeability within the intrusive complex is strongly correlated with a mottled magnetic response, where magnetic high 'pimples' are surrounded by halos of low to moderate magnetic responses (Figure 3). The magnetic highs may reflect magnetite-bearing potassic alteration. The lows are

interpreted to be caused by magnetite-destructive clay-sericite alteration, which may also have introduced sulphides into the system, causing the chargeability response.

Beyond the area covered by the IP survey, there are two other zones that display the same mottled magnetic features within the resistive intrusive complex. Both of these zones cover a similar porphyry-scale area and occur 'up-ice' of other coincident multi-element soil geochemical anomalies. This indicates potential for at least three multi kilometre-scale porphyry zones within the Liberty property. These newly identified zones are strong candidates for additional IP surveying to define the chargeability responses within.

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Figure 5: East-west orientated cross-section along UTM easting 5893450, looking north, of ZTEM resistivity (top) and IP chargeability (bottom). Note the data is at different scales, with the dashed box in the ZTEM cross-section indicating the approximate area of the chargeability data. The ZTEM data potentially indicates a strongly resistive intrusive complex ( $>600$  Ohm-m), which extends to  $>2,000$  m below the surface. A strong chargeability ( $>20$  mV/V) response coincident with the intrusive complex is interpreted as potential porphyry-style mineralization. On the west side of the chargeability section, a very strong chargeability response ( $>40$  mV/V) is coincident with a low resistivity response ( $<100$  Ohm?m) caused by outcropping graphitic argillites that host the high-grade copper mineralization encountered in surface sampling. The structurally controlled high-grade copper mineralization may be genetically associated with porphyry mineralization at depth or laterally.

#### Z-Axis Tipper Electromagnetic (ZTEM) Survey Parameters

Trailbreaker contracted Geotech Ltd. (Geotech) to complete an airborne Z-axis Tipper electromagnetic (ZTEM) and caesium magnetometer survey over the entire Liberty property. The survey effectively defines the resistivity and magnetic susceptibility features across the property, which is centered on the Mesozoic intrusive complex hosting known porphyry and skarn-style mineralization.

A total of 602 line-kilometers of geophysical data were acquired during the survey, covering an area of 110 km<sup>2</sup> with 200-metre spaced east-west survey lines and 2,000-metre spaced north-south tie-lines.

#### Induced Polarization Survey Parameters

Trailbreaker contracted Simcoe Geoscience Ltd. (Simcoe) to complete an induced polarization survey at the Liberty property, using Simcoe's Alpha IP technology. The IP survey was designed to extend a historic (2011) IP survey that defined a weak to moderate chargeability high feature associated with Cu-Mo porphyry mineralization, and included surveying at a larger scale to cover the Cu-in-soil anomaly defined during 2024 fieldwork.

A total of 32.8 line-kilometers were surveyed along 11 IP lines, with 200 m to 400 m line spacings, and from 2.1 km to 3.8 km in length. The survey used an inline dipole-pole-dipole (reverse and forward 2D survey) array with a 100-metre dipole spacing. To increase depth of penetration, extra current injections were made at both ends of the profiles. The estimated depth of investigation of the survey is from 500 m to 700+ m, depending on the profile length.

#### Liberty Property Description

The 6,895-hectare Liberty Property is located approximately 60 km northwest of Quesnel, BC. The property is fully accessible by resource roads.

Drilling at Liberty has encountered widespread Cu-Mo porphyry-style mineralization at the northeastern margin of a property-scale Cu-in-soil geochemical anomaly, which is coincident with a kilometer-scale moderate to strong chargeability anomaly and an intrusive complex with a high resistivity signature. Highlights of drill results include:

- LIB24-001 - 213.7 m of 0.16% CuEq from 248.3 m to the end of hole;
  - Including 13.5 m of 0.33% CuEq from 257.5 m;
  - And including 6.6 m of 0.67% CuEq from 300.9 m;
- LIB24-003 - 194.3 m of 0.16% CuEq from 256.0 m,
  - including 34.2 m of 0.47% CuEq from 385.0 m,
  - and including 5.9 m of 2.02% CuEq from 410.2 m
- LIB24-004 - 226.0 m of 0.11% CuEq from 279.0 to the end of hole
  - Including 6.0 m of 0.45% CuEq from 431.0 m
  - And including 2.3 m of 0.36% CuEq from 500.0 m

Prospecting within the southwestern portion of the property-scale geochemical anomaly has defined an area of high-grade copper mineralization, with grab samples assaying up to 23.71% Cu. This high-grade copper mineralization is interpreted to be genetically related to a large Cu-Mo porphyry system.

For more information on this target see the [Liberty Project webpage](#).

\* Reported widths are drill widths. Insufficient geological information exists at this point to define true widths. However, vein- hosted copper and molybdenum mineralization commonly occurs at high angles to core axis.

\*\* Copper Equivalent formula used is:

$\text{CuEq} = \text{Cu grade in \%} + (\text{Mo grade in \%} * (\text{Mo recovery/Cu recovery}) * (\text{Mo price/lb} * 2200 \text{ lb}) / (\text{Cu price/lb} * 2200 \text{ lb}))$  using copper price of US\$3.75/lb and molybdenum price of US\$25/lb. 100% metallurgical recoveries are assumed for both metals.

#### About Trailbreaker Resources

Trailbreaker Resources is a mining exploration company focused primarily on mining-friendly British Columbia and Yukon Territory, Canada. Trailbreaker is committed to continuous exploration and research, allowing maintenance of a portfolio of quality mineral properties which in turn provides value for shareholders. The company has an experienced management team with a proven track record as explorers and developers throughout the Yukon Territory, British Columbia, Alaska and Nevada.

#### ON BEHALF OF THE BOARD

Daithi Mac Gearailt

President and Chief Executive Officer

Carl Schulze, P. Geo., Consulting Geologist with Aurora Geosciences Ltd, is a qualified person as defined by National Instrument 43-101 for Trailbreaker's BC and Yukon exploration projects, and has reviewed and approved the technical information in this release.

Other

For new information about the Company's projects, please visit Trailbreaker's website at TrailbreakerResources.com and sign up to receive news. For further information, follow Trailbreaker's tweets at Twitter.com/TrailbreakerLtd, use the 'Contact' section of our website, or contact us at (604) 681-1820 or at info@trailbreakerresources.com.

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