Moyie Anticline Project

- **Kootenay's Flagship Exploration Project for Tier One Deposit - Pb-Zn-Ag-Cu**
- **Large Land Package over 25,000 hectares spanning prospective Aldridge Formation stratigraphy, analogous to that hosting the 160Mt Sullivan SEDEX/Replacement deposit.**
- **High priority targets already identified using combination of traditional and innovative exploration methods**

OVERVIEW

Kootenay's Exploration concept combines traditional prospecting and geological methods with innovative use of Magnetotelluric geophysical methods and surface oxide geochemistry to explore for a new massive sulphide deposit within the world-famous Purcell basin.

Kootenay's multi-year exploration program, includes combination of publicly available and newly captured geophysical data to identify anomalies atop deep (+20km) feeder "conduits". Deep conduits are characteristic of giant mineral deposits around the world including Australia's Olympic Dam IOCG Deposit.

Innovative use of hand-held XRF technology evaluates areas above known deep conduit anomalies for pathfinder and base metal concentrations in limonite (iron oxide) coatings precipitated along fracture and joint planes of often otherwise unmineralized outcrop.

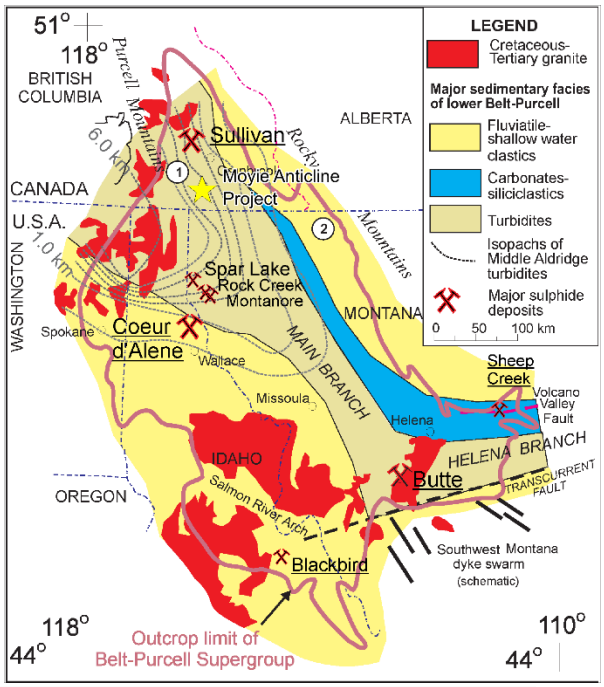
These data sets, when interpreted with traditional geological and geochemical can lead to big discoveries.

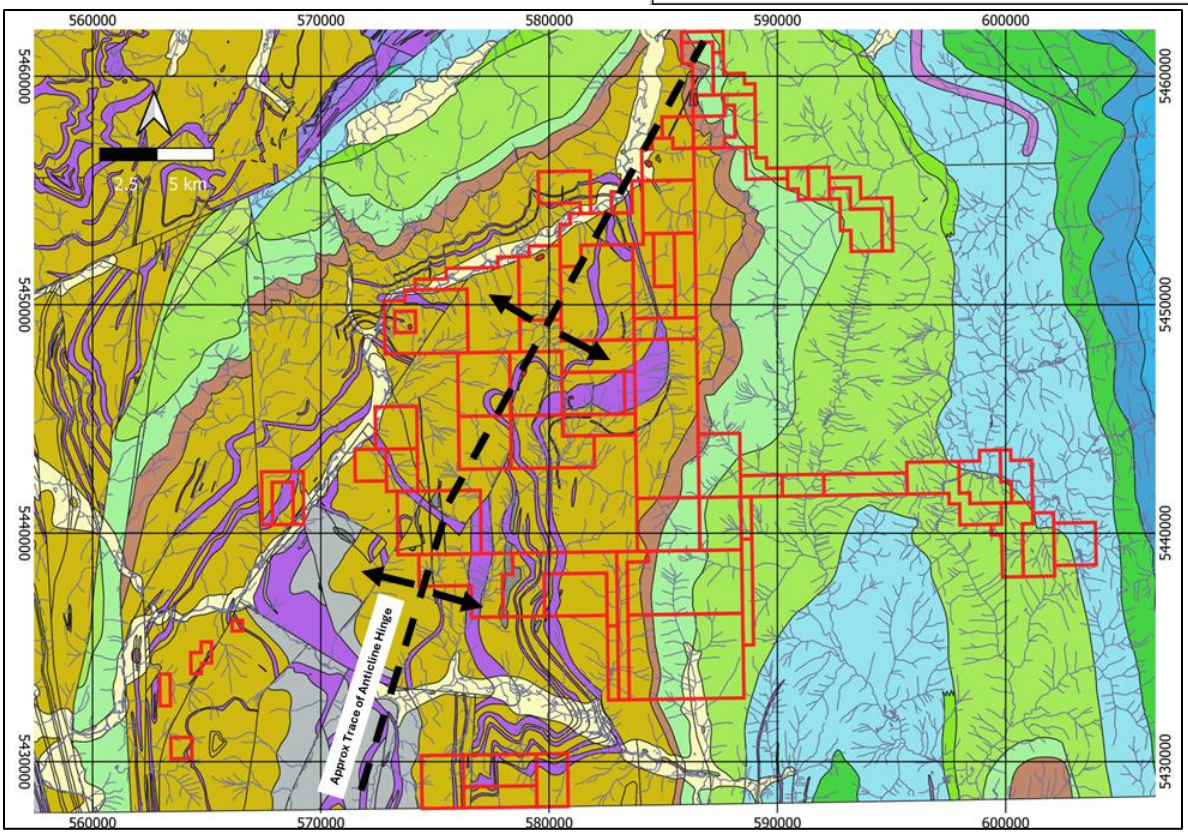
EXPLORATION

Kootenay is advancing its ambitious exploration program toward drill testing which is anticipated for the 2025 season. Work includes ongoing limonite geochemical sampling and an upcoming airborne ZTEM survey over priority areas. New ZTEM data is intended to be combined with the existing ground MT coverage, forming a joint dataset to be processed for the modelling conductive bodies in a range extending from surface to beyond 20 kilometers in depth.

All current activities are focused on drill targeting of the highest priority anomalies. Drill Permitting is underway – Previous work has identified a series of immediate targets for diamond drilling, though the prospectivity for the rest of the belt remains extremely high.

"Big Deposits Require Big Plumbing Systems"





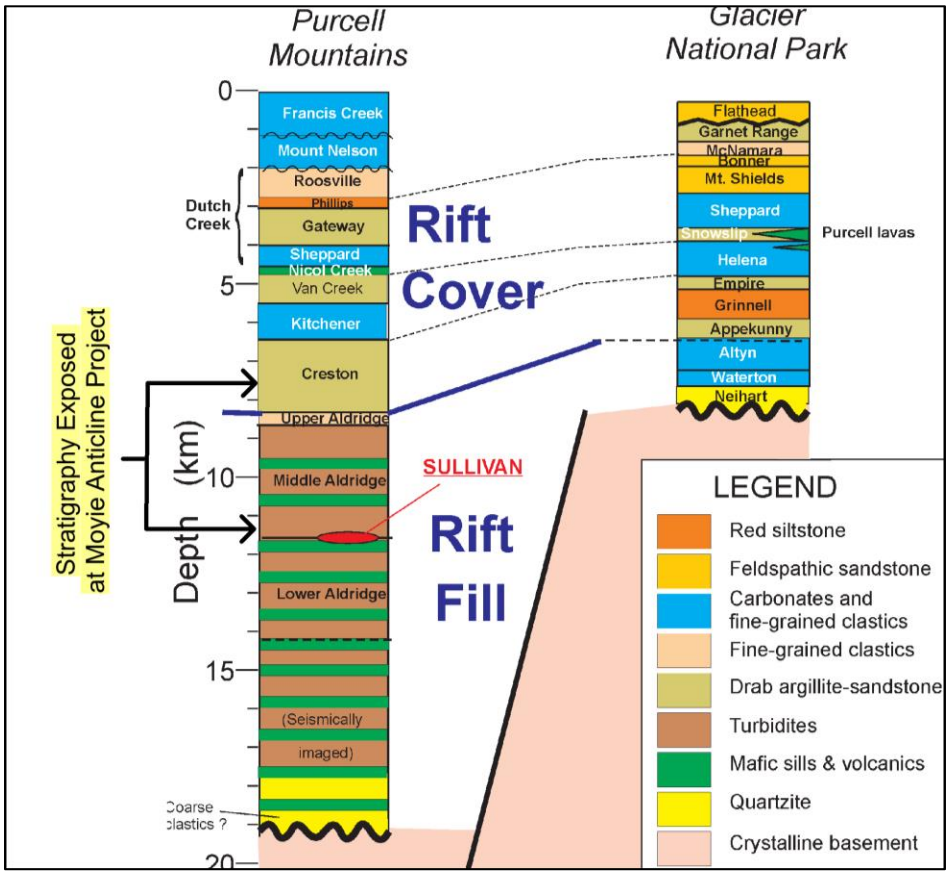
Moyie Anticline – the approximate axis of the hinge zone is marked by dashed black line Claims in red

Location and Access

The Moyie Anticline property stretches from Moyie Lake (at about 49 o 20' N Latitude) in the north to the U. S. border (49 o 00' N. Latitude) in the south. Access is via the major Cranbrook – Creston highway, and then by a series of logging roads into different regions of the property.

Brief Exploration History

The region has been prospected ever since discovery of the Sullivan deposit, near Kimberley B.C. in 1892 and to date most if not all explorers have incorporated elements of the Sullivan model into their exploration rationale. To date, the prevailing wisdom is that any new deposits will likely be situated within local sub-basins at "Sullivan Time"; the contact of the lower and middle Aldridge formations. In the belt, however, the upper levels of the Aldridge rocks should not be discounted. The most significant developed deposit in the Moyie anticline is the St. Eugene polymetallic vein system discovered in 1893, hosted in middle Aldridge rocks. The 1.6Mt Ag-Pb-Zn polymetallic vein deposit was mined until 1929. Several satellite deposits were also mined during that time, namely the Aurora Vein system (082GSW023) and Society Girl Mine (082GSW030).



Stratigraphic column showing approximate limits of rocks exposed across Moyie Anticline (from Lydon 200)

Across the greater Moyie Anticline project which extends from St Eugene south to the US border, numerous showings have been targeted by previous workers including major mining companies

such as Rio Algom, Cominco and later Teck. Many junior exploration companies have focused on showings and geophysical anomalies in the region.

Work to date includes geological mapping, rock, soil and stream geochemical sampling, airborne and ground-based geophysics, and, for the size of the region very limited drilling for such a prolific belt. A total of 63 drillholes have drilled across the entire area, many shallow and may not have tested, many of which were relatively shallow and may not have tested adequately the anomalies we see today.

Kootenay's Exploration Approach

The region's potential has been long recognized though exploration successes outside of the St Eugene trend have been relatively limited. The surface expression of mineralized systems in the region are very subtle, a possible factor being the underlying rocks themselves. The tightly packed, fine-grained shales, argillites and siltstones of the largely flat lying Aldridge formation rocks tend to act as semi-impermeable barriers to the vertical movement of deep sourced groundwaters which would otherwise form alteration zones or weak concentrations of pathfinder elements in the higher levels. This may explain the lack of surface anomalies over otherwise fertile exploration ground.

Mindful of this concept, and with a significant surface database of public and proprietary data Kootenay initially approached the Anticline as a regional exploration exercise. From 2019 to date, the company has combined historical knowledge and hard data with deep penetrating MT geophysics to identify and prioritize conductive anomalies across the anticline, especially those spatially associated with deep plumbing also imaged by the MT.

Lead by Dr Fred Cook, the team initially reprocessed historical Magnetotelluric data in conjunction with publicly available historic seismic datasets. When interpreted in conjunction with geological observations and historical work to date, the team highlighted a series of promising zones. Surface confirmation work includes traditional mapping and sampling as well as a novel approach to using hand-held XRF to analyze iron oxide staining on outcrops, a method which is providing results. This combination of methods is something never attempted over Moyie Anticline, Kootenay considers the approach to possibly provide the key to identifying a new massive sulphide body, possibly contemporaneous with Sullivan.

Moyie Anticline Project is large and encompasses several discrete mineral centers.

Key geological features of interest include indications of ancient or lon- lived structural breaks which take the form of;

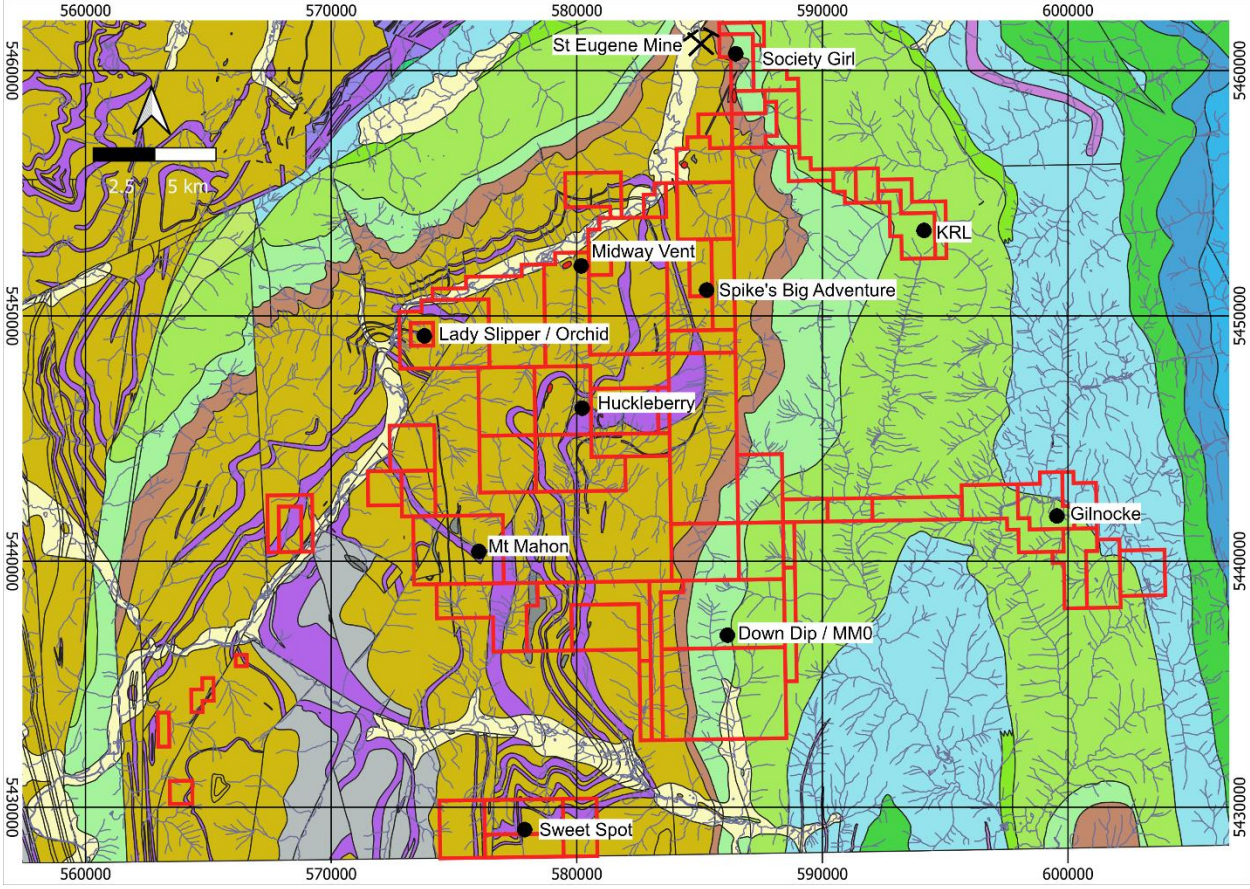
- Disturbed or fractured middle-upper Aldridge Formation stratigraphy, indicating a potential for cross cutting structures providing fluid pathways
- Alteration zones in the form of toumalinization, sericitization and or albitization
- Identification of "fragmental" units or conglomerates indicating proximity to area higher energy zones within the ancient deep-water basin environment; inference being

proximity to possible deep plumbing structures beneath ancient mud-volcanoes or hydrothermal vents associated with massive sulphide deposition nearby

- Zones of veining are recognized though not the main target at Moyie Anticline
- Any indication of faulting or structural flexures and intersections coincident with the features above.

Areas of high geological potential are interpreted in conjunction with additional geophysical or geochemical datasets, including;

- MT data 3D or 2D inversions to assist in identification of zones associated with deep plumbing conduits.
- Regional Magnetic datasets aid in identifying structurally interesting zones including flexures along structures or possible large scale alteration zones manifesting as magnetic low or high "bullseye" anomalies and linear fault zones and dykes.
- Limonite geochemistry; Kootenay is pioneering a method of geochemical sampling to assist in discerning the highest priority anomalies from lower priority.

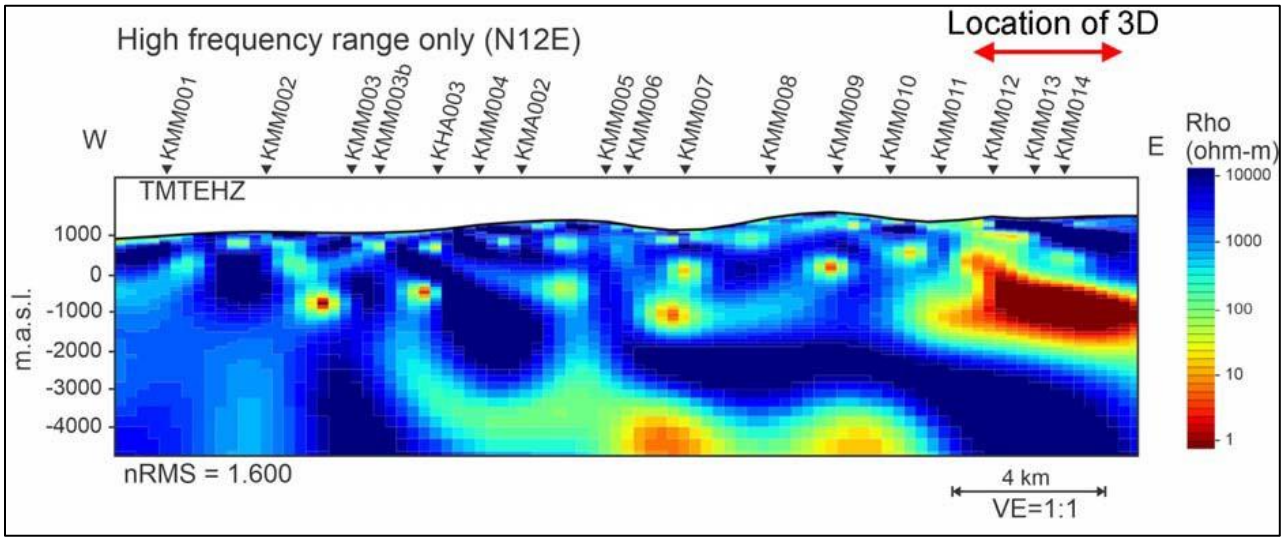


Highest Priority Exploration Target Areas on Moyie Anticline Project

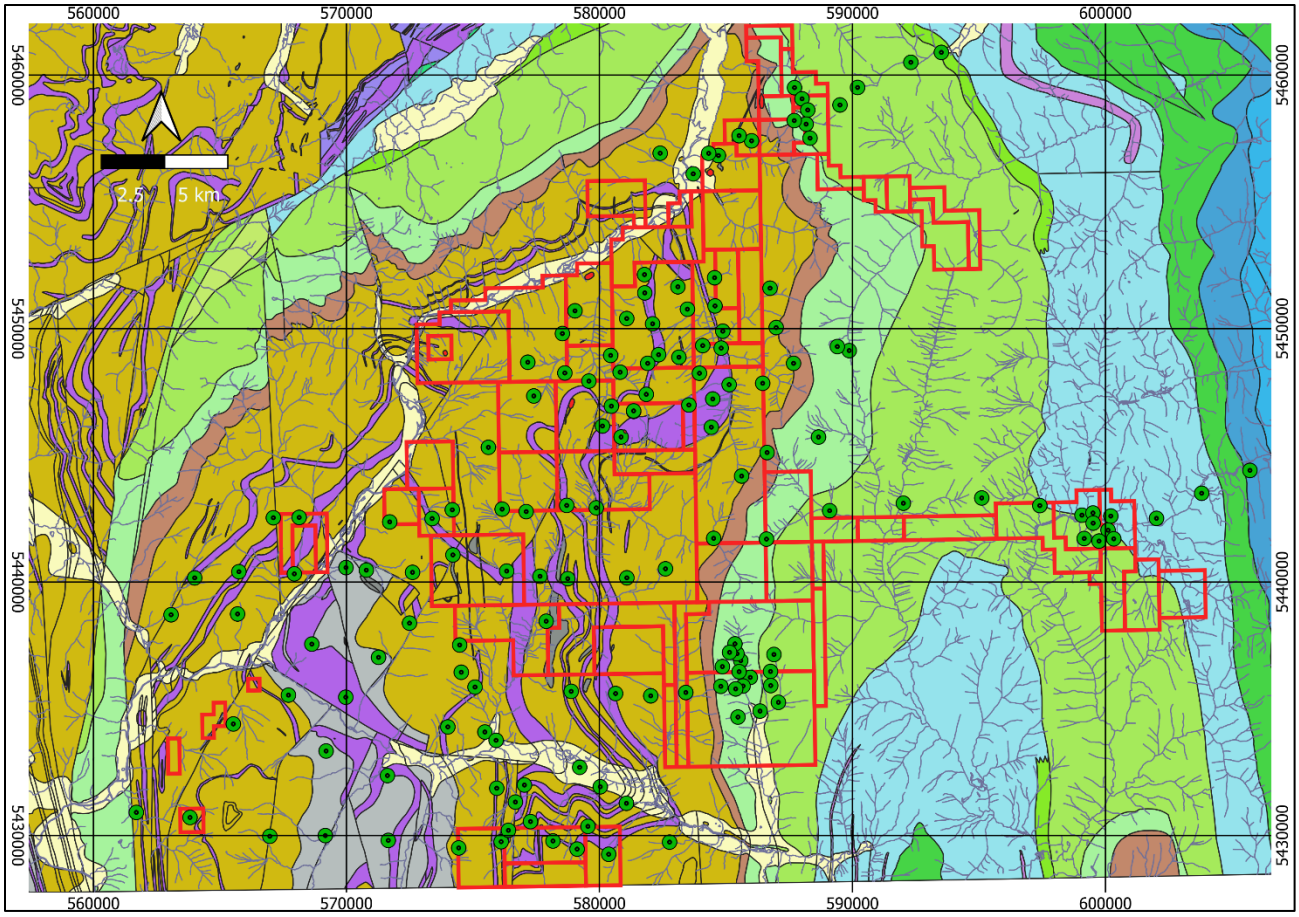
All of the points described form overlying layers of data used to prioritize the targets areas for further work. To date Kootenay is refining the regions, the highest priority targets are shown in the map above.

Magnetotelluric Survey and 2D and 3D Inversions

Lead by Dr Fred Cook, Kootenay combined historical datasets with newly acquired MT data to complete 3-D inversions on targets across the property. Many anomalies identified are associated with deep plumbing "conduits", representing long lived, ancient fractures plumbing the mantle and deep crust. This style of feature is well documented Australia, Olympic Dam is an excellent example of a giant deposit spatially related to deep >20km MT low resistivity anomalies. These anomalies are the key to identification of the next **TIER ONE DEPOSIT**.



2D Section of processed MT data showing deep "fingers" terminating in low-resistivity anomalies



Location of MT Stations Across the Property

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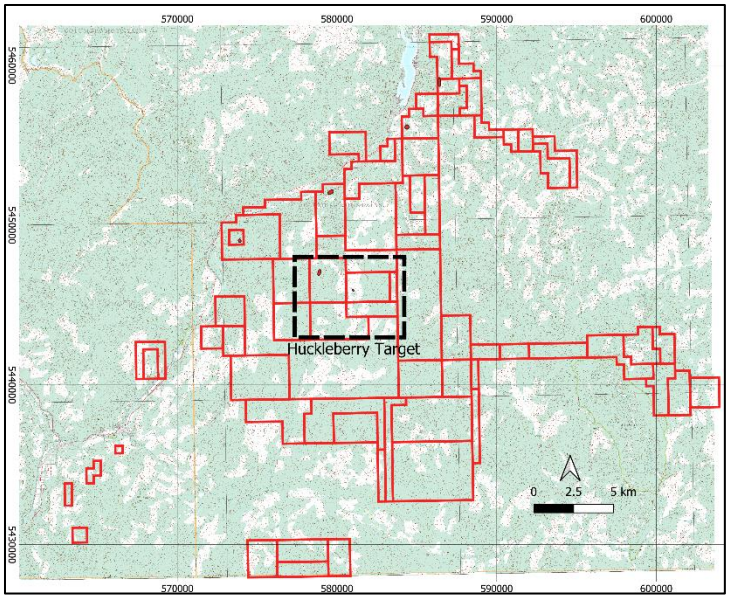
SELECTED INDIVIDUAL TARGET ZONES WITHIN MOYIE ANTICLINE PROJECT

TARGET:
Huckleberry-SuperNova

Vent facies/alteration zones with coincident magnetic, limonite and MT anomalies

SEDEX Style massive Sulphide Target

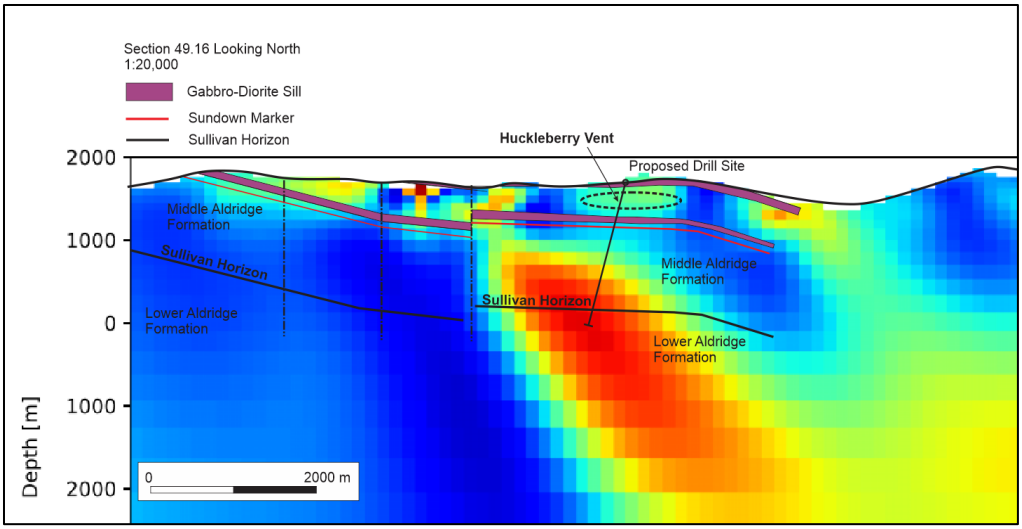
Great potential, located in the project center, at hinge zone of anticline along a major structural break and on flank of magnetic bullseye anomaly



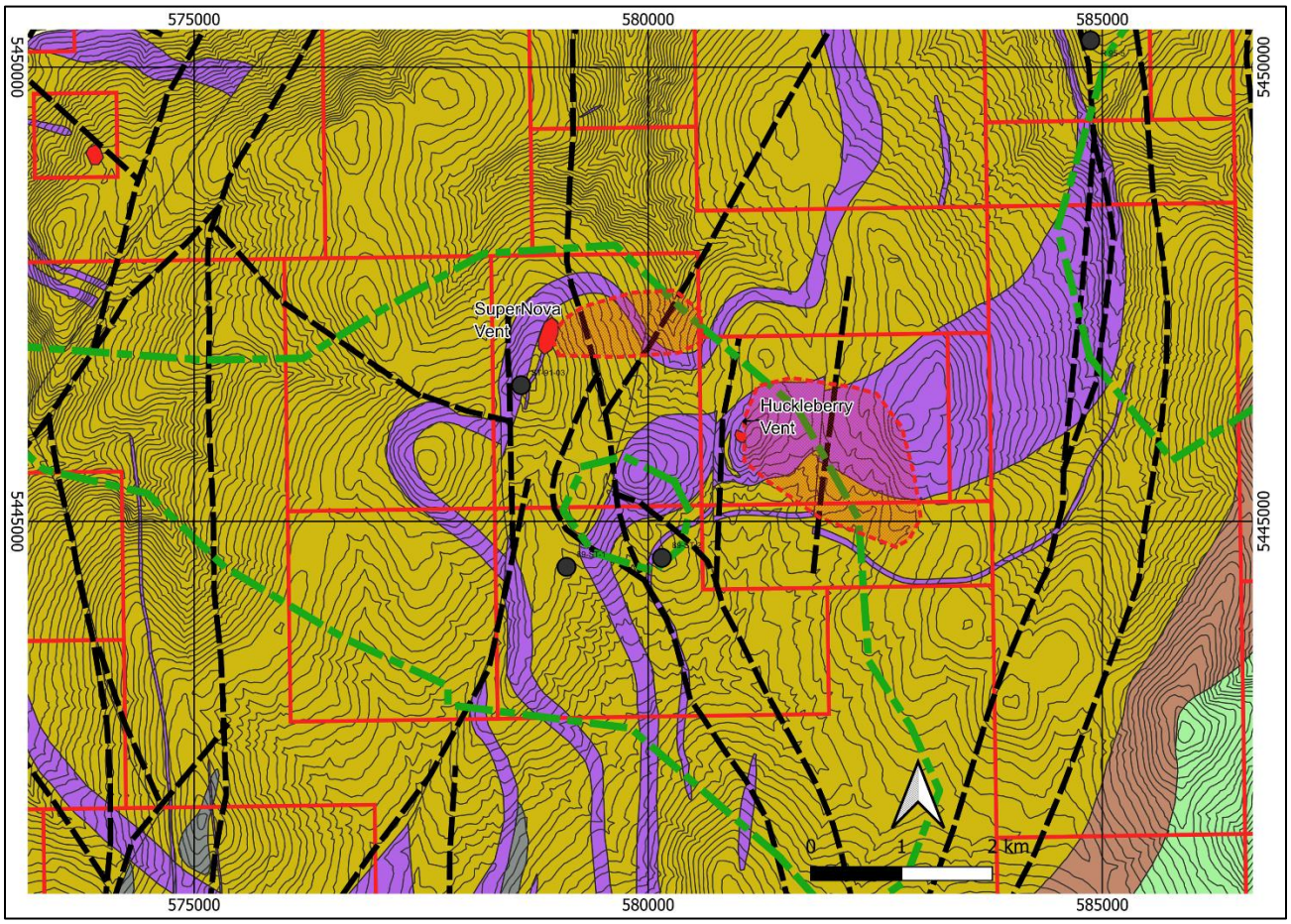
Drill Ready Prospect – Permit application submitted

KEY FEATURES

- Underlain by deep MT anomaly on the flank of significant magnetic low. Anomaly also connected to Supernova vent target area.
- Historical copper-in-soils anomaly immediately east and downslope from the surface expression of Huckleberry Vent.
- Anomalous Limonite Geochemistry - lead, arsenic and zinc limonite geochemistry outlines a +/- 1 km sq. area hosted in disrupted and fragmental rocks in the southern head waters of Stoney Creek.
- Huckleberry Mud Volcano/Vent Setting is located directly above a 3D MT anomaly detected and interpreted as being at or just above “Sullivan Time” within the stratigraphy.
- Previous activity includes shallow drilling in 1989 – 2 Shallow Drillholes (total 519.4m) completed by Minnova to test CSAMT targets.
- 1989 CSAMT targets very close to MT anomaly, though previous operator did not test the anomaly.
- **Fall 2024 work includes ZTEM/magnetic airborne survey over this high priority target**



Section Looking North showing deep anomaly at Huckleberry



Huckleberry and SuperNova Vents coincident with MT (hatched red) and magnetic (green dotted line) anomalies at depth

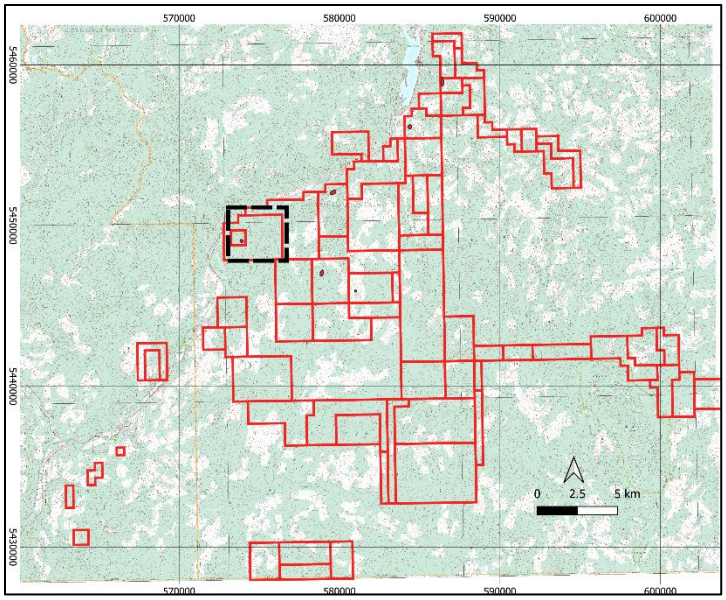
TARGET
Lady Slipper/Orchid

Target area 1,500 hectares

SEDEX Style massive Sulphide Target

Includes Several Showings with well developed alteration zones

Strong limonite geochemistry at several centers in target area



Lady Slipper/Orchid

- Located south of Stoney Creek on the east side of the Moyie River.
- Prospective for SEDEX lead-zinc-silver and or structurally controlled lead-zinc-silver.
- The area explored in the past by geological mapping, prospecting, and rock and soil geochemistry identifying bedded and cross-cutting tourmaline and albite-chlorite+/- sulphide alteration associated with fragmental sedimentary rocks near the intersection of a north-northeast and northwest trending structure.
- Rock geochemistry indicates elevated lead-zinc+/-antimony, bismuth, copper, gold, silver, and tellurium associated with siltite/argillite stratigraphy and tourmaline alteration within the upper middle portion of the Middle Aldridge Fm
- Soil sampling in 1999 identified elevated values for lead, zinc, and copper scattered across a 1x1.4 km grid.
- 2019 re-processing of geophysical data including regional seismic information indicated that the Lady Slipper area may be transected by an active growth fault within the Lower Aldridge Fm.
- In 2022 Limonite geochemistry identified a strong anomaly in new logging road cut, strong Lead, Zinc seen, hand specimens also contain secondary lead mineral pyromorphite

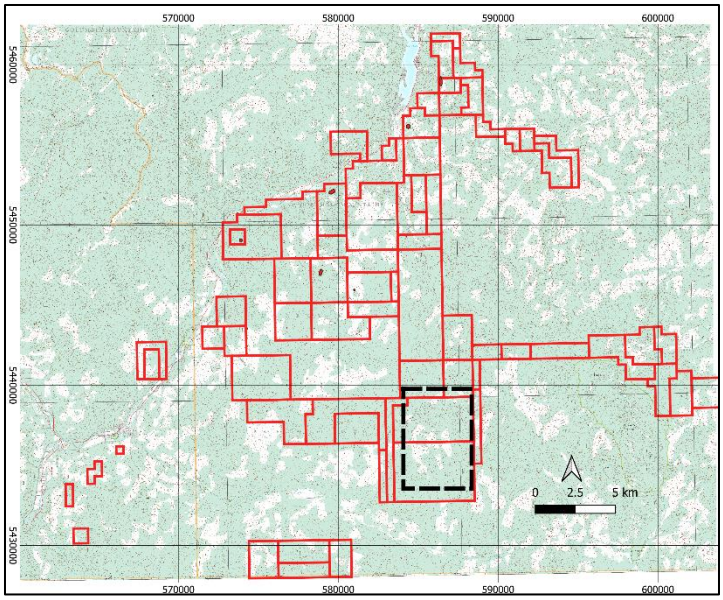
TARGET
Down Dip / MM0

Roughly 2,000 hectares target

SEDEX Style massive Sulphide Target

Down dip is a series of Hydrothermal vents recognized along a 2km trend at surface with strong tourmalinization

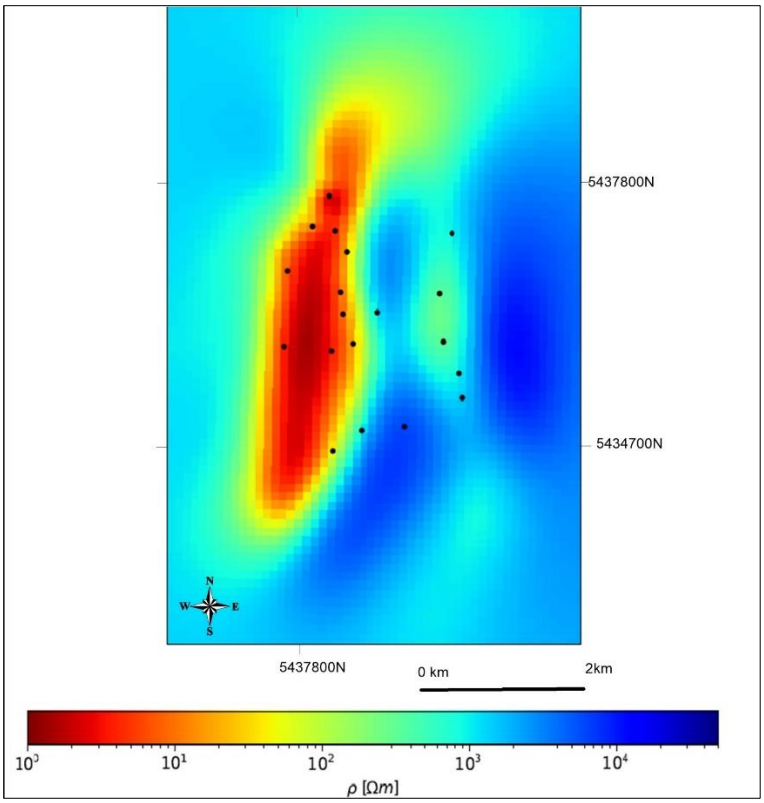
At depth and to eat lies a strong 6km long MT Anomaly ("MM0")



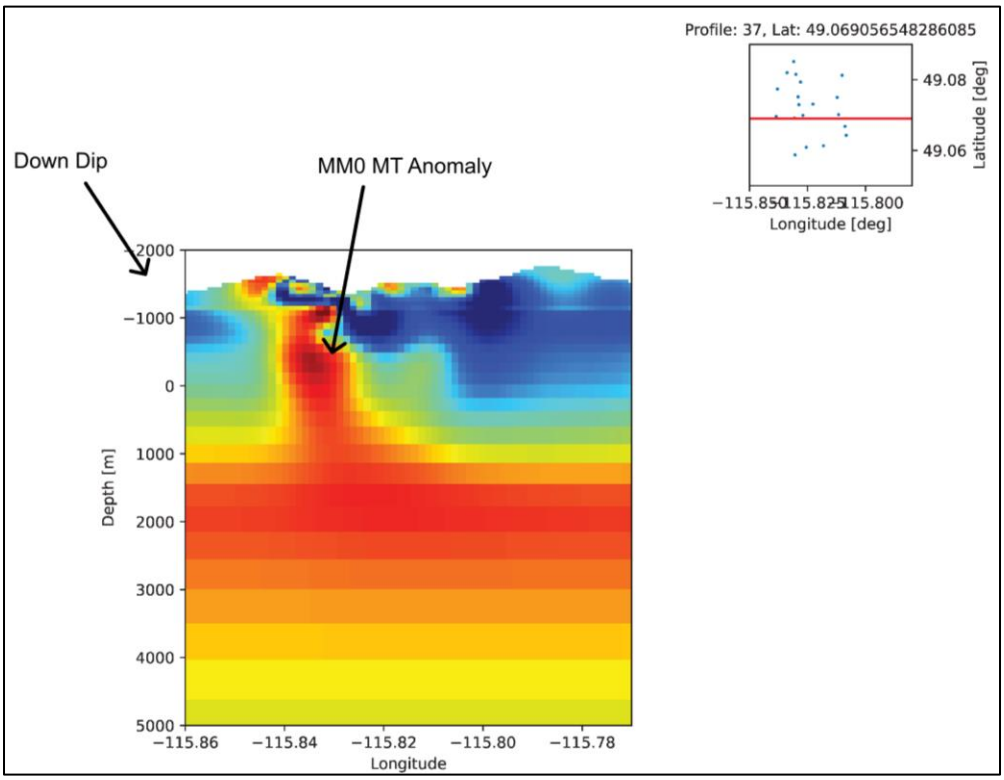
Down Dip showing is predates the discovery of MM0 target, though orientation indicates they are possibly related.

KEY POINTS

- The Down Dip target represents a SEDEX lead-zinc-silver target in the upper portion of the Middle Aldridge Fm within the 'upper gabbro sill package' on the east side of Cold Creek (UTM 579169 E-5436928 N)
- Geological mapping, prospecting and soil and rock geochemistry conducted in the area in the late 1990s by Abitibi Resources identified five areas of fragmented and altered sedimentary units interpreted to represent seafloor hydrothermal vent systems.
- The hydrothermal vents occur along a 2 km north-south trend across approximately 300 meters of stratigraphy and are hanging-wall to a larger 150-250-meter-thick package of fragmented sedimentary rocks which have been traced for 6 km along strike.
- Hydrothermally altered fragmental rocks (biotite, sericite, tourmaline) locally host lead-zinc mineralization as disseminations, clots, and fracture fills (Kennedy, 2016) with anomalous arsenic, bismuth, copper, gold, mercury, silver, and tellurium.
- Two short diamond drill holes (154 m total) were completed near the GPS vent occurrence (one of the five hydrothermal-vents identified by Abitibi Resources) in 2001 by Abitibi Resources intersecting fragmental rocks with variable alteration. Both holes ended within the 'Sundown' gabbro sill
- 2021 MT analysis detected a huge anomaly to the east and down-dip of the down dip prospect area.
- 2023 MT work further refined the anomaly to reveal a large, 6km long sub vertical low-resitivity feature oriented north-south atop a larger, less well defined anomaly at depth.



Plan View of MM0 anomaly – 6km long following major reginal north-south trend



Section looking north showing MM0 at depth and projection of the Down Dip target at surface

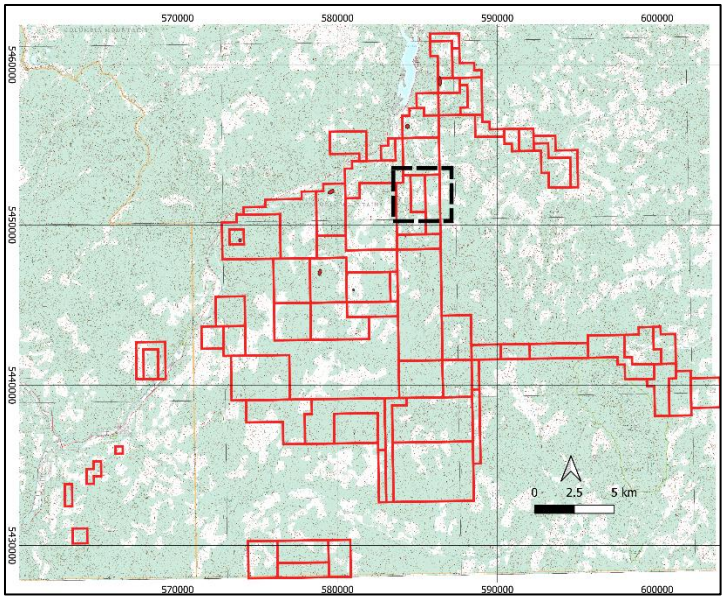
TARGET
Spike's Big Adventure (SBA)

Roughly 2,000 hectares target

Vent complex, part of SEDEX Style massive Sulphide Target

Fragmentals, mud volcanoes identified with tourmaline alteration

Spikes area includes several potential vents and massive sulphide boulders have been found at surface



KEY POINTS

- The area hosts significant alteration (actinolite, biotite, garnet, sericite, tourmaline) associated with discordant and strata-bound fragmental rocks interpreted to represent hydrothermal venting in the upper portion of the Middle Aldridge.
- Venting and fragmental deposits are localized along north-south trending structures and near northwest-north-south structural intersections along a greater than 4 km long trend.
- Scattered throughout the SBA area a number of base metal rich (lead-zinc) float boulders. Mineralization in outcrop consists mainly of narrow sphalerite bearing fractures and minor disseminated galena associated with chlorite and garnet bearing fragmental units.
- Public geophysical data show the SBA area is associated with a coincident gravity and magnetic high located near the intersection of a northwest and north-south structure.
- Just north of SBA id the "Rise" occurrence, 1.1 km south of Moyie Lake along the northern extension of the SBA vent complex.
- Characterized by a discordant highly sericitic fragmental unit and thin bedded varved siltite with minor tourmalinite interpreted to be part of a hydrothermal vent system.
- Four holes were drilled on the Rise occurrence in 1995 intersecting discordant and strata-bound fragmental rocks with associated tourmalinite, sericite, and garnet alteration, fracture and disseminated lead-zinc, a strata-bound lead-zinc horizon below the Ginty stratigraphic marker and lamprophyre sills (Walker, 1996).
- The deepest hole drilled into the complex was ended at 758 meters below the Sundown stratigraphic marker and was still within fragmental and zinc bearing rocks.
- No deep drilling has been completed in the SBA-Rise area to test to the Lower-Middle Aldridge contact.

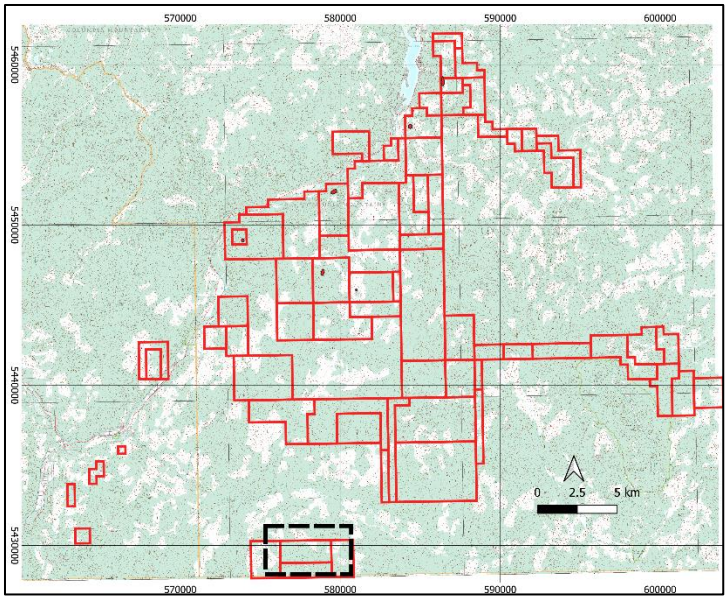
TARGET
Sweet Spot (South Hawkins)

Roughly 2,000 hectare area prospective for SEDEX Style massive Sulphide Pb Zn Target

Southern boundary of target area is the Canada-USA border

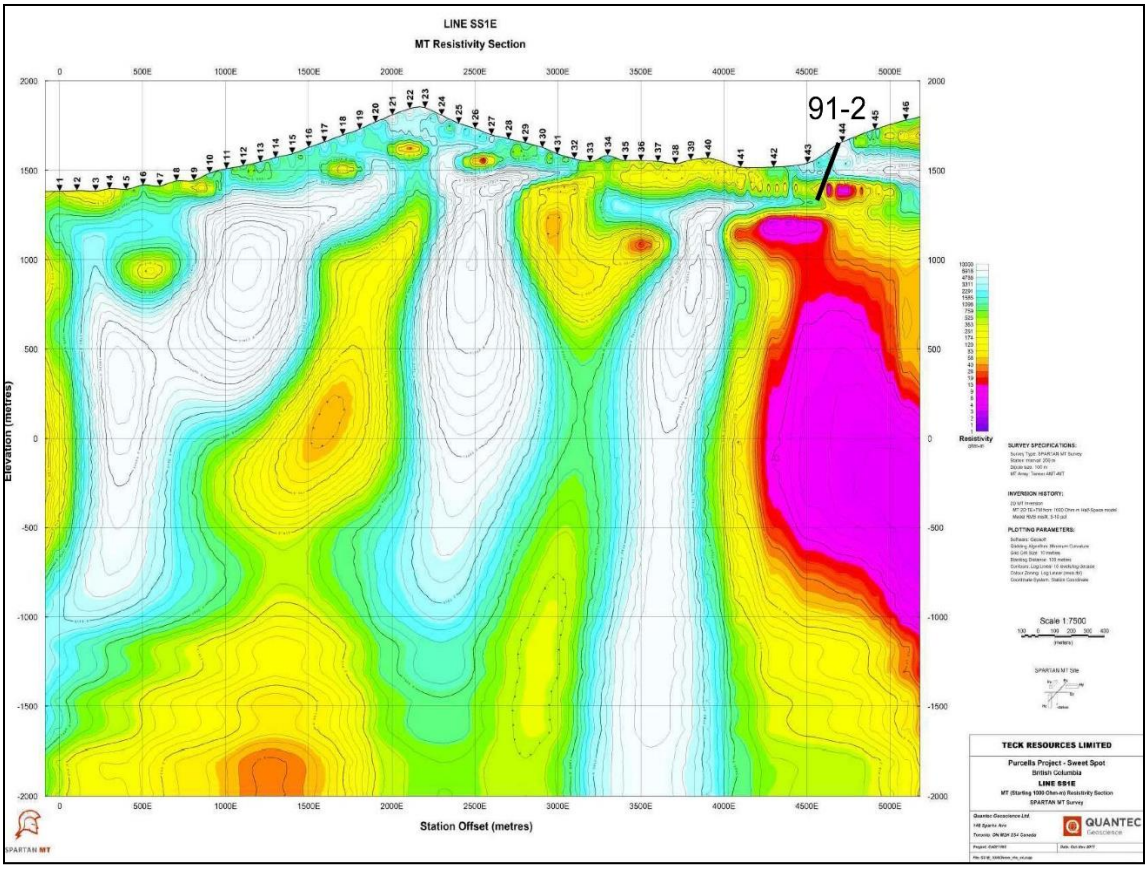
Multiple exploration programs by Cominco exploration, Abitibi and then Teck since 1989

Recent Spartan MT with 2D inversion on target.

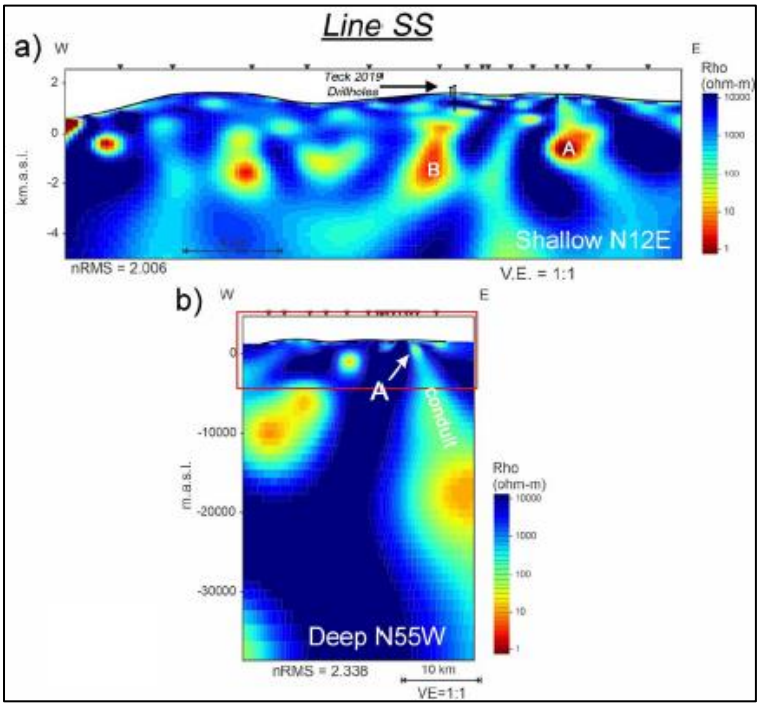


KEY FEATURES

- Project Located in southernmost reaches of the property, has seen several phases of exploration by major companies
- Comprehensive soil sampling grids define Pb Zn in soils anomalies
- Best hole to date drilled by Cominco C91-01 returned **9.3m averaging 0.46% Zn and 0.27% Pb** from 165m downhole
- Cominco hole C91-02 appears to have collared above a compelling MT anomaly but did not achieve sufficient depth to test.
- Most recent exploration activities by Teck Corp included soil geochemistry, MT ground geophysics with a 2D inversion and limited diamond drilling
- Kootenay MT processing work identifies strong, deep plumbing conduit to the east of historical drilling work.
- **Best anomalies to date were not tested by drilling**.
- Targets are drill ready, permits awaited.



Cominco drillhole 91-2 may not have drilled sufficiently deep to test the true anomaly (Anomaly A on right of diagram below)



2D Inversion by F Cook showing upper level (top 4km), near surface frequencies and deeper level >30km) inversion from same dataset