Prospecting Report

Hungry Creek Project

St Mary River Area, Southeast BC



Copper-ankerite bearing quartzites of the upper Middle Creston Formation at the 711 showing.

Introduction and Summary

The Hungry Creek property covers a large area (greater than 400 km²) within the metal endowed Mesoproterozoic Belt-Purcell basin. The Belt-Purcell hosts several world class deposits and districts including the SEDEX Sullivan Pb-Zn-Ag deposit, the Cu-Ag deposits of the Western Montana Copper Belt (Spar Lake, Rock Creek, Montanore etc.), the world class Coeur d'Alene Ag-Pb-Zn-Cu vein district and the polymetallic porphyry deposits at Butte. The basin also hosts significant copper-cobalt resources at Sheep Creek/Black Butte and within the Blackbird district. Exploration within British Columbia the Belt-Purcell has principally been targeted for SEDEX style mineralization within the Aldridge Fm with lessor attention being given to other potential deposit types. The region has also seen significant placer gold production.

Reconnaissance prospecting surveys completed on the Hungry Creek project have discovered an extensive area of strata-bound copper-lead+/-silver mineralization within Mesoproterozoic Middle Creston Fm quartzite strata which is correlative with the host stratigraphy of the Western Montana Copper Belt. Mineralized occurrences are predominantly hosted by thickly bedded fine to medium grained quartzite units within the upper and basal portion of the Middle Creston and occur along a greater than 30-kilometer strike distance.

Regional Geology and Setting

Belt-Purcell sedimentation represents the infilling of an intracontinental rift basin founded upon Archean and Paleoproterozoic craton. The Aldridge Fm is the lowest most member of the Belt-Purcell and is comprised of syn-rift clastic rocks and a voluminous component of gabbroic intrusions (Moyie Complex). Shelval equivalents of the Aldridge Fm include significant carbonate and stromatalitic units. The Aldridge fines upwards and is conformably overlain by the shallow water to arid (red-beds) Creston Fm. The Creston Fm is conformably overlain by the Kitchener Fm which is a tight unit comprised of platformal units (carbonates/clastics). The Kitchener is in turn overlain by higher stratigraphy of the upper Belt-Purcell series including the Nicol Creek basalts and shallow water clastics, carbonates, and red-beds.

The allochthonous Belt-Purcell has undergone several periods of deformation from the Mesoproterozoic through Cenozoic and has been translated in a north-east direction principally during Mesozoic compression. It has been well documented within the basin that growth structures active during Aldridge Fm deposition have been re-activated multiple times throughout Belt-Purcell sedimentation and also during subsequent deformation events. These structures are key exploration targets for mineral deposits.

In British Columbia within the Belt-Purcell the main structural features are related to the gently northnorthwest plunging Purcell Anticlinorium and associated fold structures which are coincident with the basinal rift-axis and the northeast trending Paleoproterozoic Kinasewich Structure.



Figure 1 Geological Map of the Belt-Purcell with major deposits and location of the Hungry Creek project (modified from Lydon, 2000).



Figure 2 Regional geology of the Hungry Creek project.

Property Geology

The Hungry Creek project lies on the western limb of the Purcell Anticlinorium generally covering a northerly trending belt of Creston Fm stratigraphy. The stratigraphy has been repeated a number of times along northerly trending thrust-faults parallel to the Hall Lake Fault, a growth structure active throughout sedimentation and during subsequent deformation. The property is bracketed to the north and south by the extension of the transverse Kimberley Fault and St Mary Faults. These structures are part of the northeast Paleoproterozoic Kinasewich Structure. The area has been intruded by several gabbroic and felsic bodies related to Mesoproterozoic events (Moyie Complex, Hellroaring Creek Stock) Three large Mesozoic granitic batholiths (early to late Cretaceous) flank the project to the north and south and many smaller granitic dykes and plugs intrude the project area. The area has also been intruded by many mafic to ultramafic dykes and plugs of various ages as well as quartz-eye porphyries.

In the central and eastern portions of the Purcell Anticlinorium the Creston Fm can be subdivided into three divisions, a lower thin bedded dark siltite/argillite, a middle more quartzitic red-bed member with ubiquitous magnetite that is correlative with the Revett Fm of Montana, the principal host of the Western Montana Copper Belt, and an upper member consisting of thinly bedded green to purple argillite with some carbonate units. Within the central and eastern portion of the Purcell Anticlinorium these units are gradational internally and with the underlying upper Aldridge Fm and overlying Kitchener Fm. Within the Hungry Creek block internal contacts and contacts with the overlying Kitchener Fm are sharp. The Upper Creston division, which can be over 300 meters thick in the eastern Purcell Anticlinorium, is generally only a few tens of meters thick in the Hungry Creek block. These changes reflect a major change within the Creston Formation west of the Hall Lake Fault. This feature is likely an important factor in the development of the widespread copper found to date within the Hungry Creek block.

Several northwest trending cross-structures transect the Hungry Creek block. These structures where observed consist of phyllonitic base-metal bearing shear zones. Local stratigraphic variation within the Creston Fm along the strike length of the Hungry Creek block appears to be related to these northwest trending structures which are parallel to the ancestral basin rift-axis.

Northerly trending fault structures obliquely dipping to stratigraphy and sub-parallel to the Hall Lake Fault have also been documented to host base metal mineralization and may be an important control on ore deposition.



Figure 3 Summarized stratigraphic section of the Belt-Purcell in the Hungry Creek area with regional significant metal bearing horizons.

Property History

The Hungry Creek property was initially staked by DLP Resources in 2019 after discovery of numerous large (>1m²) semi-massive to massive sulphide boulder along Hungry Creek. Sulphide mineralogy consists of massive parallel bands of coabltiferous pyrite and clotty to massive chalcopyrite in a siliceous fine grained white crystalline rock. Assays from the boulder returned up to 5% Cu, 0.36% Co, 0.35 gpt Au, and 25 gpt Ag. Subsequent petrographic work has indicated the boulders may be sourced from a recrystallized quartz vein although this is not clear. Follow up work including prospecting, soil sampling, and geophysics failed to identify the boulder source although a prominent northerly trending structural zone was found to contain chalcopyrite and pyrite mineralization related to a mafic dyke swarm and numerous other mineralized showings hosted by quartz veins and or folds were discovered. Two helicopter supported holes were completed on the property in 2021 targeting the mineralized float train cut-off both of which failed to intersect the massive sulphide mineralization.

After drilling was completed further prospecting up Hungry Creek was initiated to locate the boulder source. During this work the north fork of Hungry Creek was discovered to host a significantly thick sequence of quartzite rich stratigraphy with widespread pyrite-manganese-carbonate alteration and several occurrences of disseminated and fracture-controlled chalcopyrite+/-galena. It was recognized that the mineralized quartzite units were part of the upper portion of the Middle Creston and therefore correlative with the Cu-Ag ore host of the Western Montana Copper Belt also that the mineralized style and alteration were consistent with a Revett Cu-Ag system. At this point additional prospecting was

completed south of Hungry Creek in Baribeau Creek (711 showing) where a significantly thick package of quartzites was discovered to host abundant finely disseminated and fracture-controlled chalcopyrite with minor amounts of galena and grey-copper. The property was then expanded to encompass the new showing at Baribeau Creek (711) and to cover the strike projection of the Middle Creston formation.

During 2022 a small helicopter supported drill program was initiated at the 711 testing the copper bearing quartzites discovered in 2021. Drilling was successful in coring significantly thick (up to 127 m) intervals of anomalous copper within 3 of 5 holes. Two of the holes did not intersect the copper bearing stratigraphy due to faulting.

Channel sampling of some of the copper bearing quartzites at 711 returned highly elevated copper including 0.2% Cu over 206 cm near the Upper Creston contact. Channel sampling also shows a vertical mineral zonation with the highest copper grades underlain by elevated values for barium, arsenic, antimony, and strontium.

Prospecting at 711 has shown a continuous mineralized extent within upper Middle Creston quartzites greater than 1.3 km that remains open along strike. Follow up prospecting east of 711 in 2022 identified a lower section of copper bearing quartzites over several meters (711 East) with nearly 2 km of strike length that remains open in both directions.

Limited additional prospecting in 2022 across the property identified several more significant sections of copper bearing quartzites near the same stratigraphic position as at 711 expanding the overall dimensions of the mineralized zone to over 30 km. Prospecting has also demonstrated that the upper portion of the Middle Creston is almost ubiquitously pyrite-manganese-carbonate altered. The alteration and expansive area of mineralization within within the Hungry Creek claim block is interpreted to be reflective of a regional scale mineral system similar in nature and size as the Western Montana Copper Belt.



Figure 4 Thickly bedded 'glassy' glassy quartzites with malachite stain (711 area).

Target Type

The Hungry Creek property is being targeted by DLP Resources for a Revett-type Cu-Ag deposit. The project covers correlative stratigraphy as the Revett Fm, the principal ore host in the Western Montana Copper Belt (WMCB). The WMCB has seen production from the Spar Lake and Snowstorm deposits and contains numerous other deposits including Hecla's Rock Creek and Montanore projects. The WMCB is estimated to contain >400 million tonnes of ore with >2.9 million contained tons copper and >2,600 tons of contained silver (Boleneus et al., 2005).

Revett-type Cu-Ag deposits are a sub-type of the broader sediment hosted copper systems. They are hosted within drab to bleached (reduced) porous sandstone/quartzite units within the more broadly oxidized/red-bed environment and are typically focused adjacent to syn-sedimentary structures and at structural intersections. Revett-type deposits exhibit a general lateral and vertical zonation with pyrite-calcite and low-grade copper mineralization forming distal shells around a higher-grade core. Ore zones are commonly stacked throughout the stratigraphic sequence within favourable 'reduced' packages. Timing of ore deposition is unclear although recent work (Perello et al., 2021) suggests copper deposition may have occurred during the Grenville-orogeny (1200-1000 Ma) other workers have suggested both syngenetic to early diagenetic as well as late diagenetic associated with the East Kootenay orogeny (1380-1300 Ma). A general model envisages copper bearing fluids being expelled from the basin during orogenic contraction. These fluids ascend along re-activated syn-sedimentary faults and precipitate copper-silver within favourable, reduced (methane bearing) stratigraphy. Mineralization bleeds out along favourable horizons and becomes increasingly weak distal to the main feeder structure.



Fracture controlled chalcocite and bornite (dark mineral) from the Montanore deposit. Note the chalcocite and bornite 'bleeding' out along bedding laminations distal from the fracture.



Figure 5 Plan map of the 711 area.



Figure 6 Sketch map from the 2022 channel sampling at 711.



Figure 7 Geology of the Hungry Creek project with showings discovered by DLP Resources from 2021-2022

Exploration Model at Hungry Creek and Work Recommendations

Thus far limited prospecting, mapping, and rock geochemistry coupled with a small drill program have been successful in defining a significant and brand-new area of strata-bound copper mineralization in Revett equivalent Middle Creston quartzites. The property is large, encompassing over 400 km² with the vast majority of the property having been completely unexplored historically.

An exploration model similar to the one applied with success in Montana/Idaho should be incorporated at Hungry Creek with the goal of defining one or more copper-silver deposits. These models broadly hinge upon defining potential feeder structures and drill testing favourable stratigraphy adjacent to them. Geochemical surveys (stream sampling, contour soils) incorporated with additional prospecting and mapping will be key to further evaluating the property. Mineral species and geochemistry are an important vector within these deposit types therefore defining copper species and importantly silver values may help to vector towards feeder structures.

As much of the stratigraphy on the property is inclined moderately to the west the recognition of structures with dips oblique to bedding may play an important role for defining drill targets. Structural intersections involving northerly trending faults and northwest trending cross-structures as well as fold structures are also key targets.

Drill targets will be defined through filtering geochemical, mapping, and prospecting data and constraining this data within the broader framework of a Revett-type model. The property has a significantly large alteration and mineral footprint related to major basinal changes within Belt-Purcell stratigraphy and has the potential to host one or more large strata-bound copper-silver deposits.



Figure 8 Deposit model for a Revett-type Cu-Ag system.