



CHACO BEAR COPPER-GOLD-SILVER PROSPECT

The Chaco Bear copper-gold-silver prospect consists of 9 mineral claims consisting of 148 units which occupies an area of about 4 km by 8 km representing about 9,000 acres. It is located in the Omineca Mining Division about 100 miles due north of Smithers close to the British Columbia Railway and a major logging road.

To date approximately \$1 million has been spent on exploration.

Prospecting, sampling, very limited drilling, and extensive geological mapping, has revealed the "*big-picture*" presence of two mineralized magmatic centres one an intrusive centre and the other an extrusive centre with each being a fully preserved **transitional** mineralizing system from an epithermal gold-silver environment to a porphyry copper-gold environment. Both low-sulphidation and high-sulphidation gold mineralizing systems are present. The geological model is a subaerial analogue to the rich Eskay Creek sub-sea epithermal gold-silver deposit.

Whole rock analyses of the andesitic volcanic pile and the dacite and rhyolite flows from the extrusive centre show that the magmas and their extrusive equivalents are **shoshonitic**.

Regional stream sediment sampling by the British Columbia Geological Survey revealed that the separate drainages from each magmatic centre contain the largest areal extent and highest magnitude values of integral **Au+Sb+As+Ag+Hg** epithermal gold signature elements and overprinted **Cu+Pb+Zn+Ag+Ba** base metal signature of the entire 5,400 mile map sheet which supports the thesis that large precious metal and copper producing hydrothermal systems underly these two contiguous target areas. These geochemical signatures are consistent with near-surface epithermal precious-metals mineralization

Intrusive Centre

The **intrusive centre** exposed at the surface by a large 1 mile by 1½ mile alteration zone consisting of a large altered area which is so extensively hydrothermally altered that the protolith is destroyed and replaced by a porous assemblage of finely disseminated pyrite and quartz-sericite. Numerous gold-silver-copper bearing vein structures are found throughout the hydrothermally area and beyond in the propylitically altered area. The veins assay up to: 16.8% Cu, 0.74 oz/t Au, and 4.67 oz/t Ag. The intrusive centre is drained to the south.

Several drill targets areas, all with precious metals signatures and/or base metals signatures and/or epithermal/mesothermal gold indicator element signatures are found within this complex including but not limited to: a milled-matrix fluidized-breccia pipe; a heavily pyritized, volcanic-flow breccia; a probable diatreme-breccia Maar-Volcano, and a mineralized sheeted ? zone approximately 4,000 feet in length that intersects the Maar Volcano.

A large tonnage copper-gold porphyry target is predicted below the alteration zone within the aureole of a 500 gamma to 1,000 gamma ring structure.

Extrusive Centre

The **extrusive centre** is interpreted from a central intensely silicified dacite unit which exhibits chaotic flow banding and ribboned quartz veins over an area at least 1,000 feet by 2,600 feet which is overlain by an altered rhyolite. This extrusive centre is interpreted as a dome complex and representative of a fully preserved epithermal mineralizing system. The extrusive centre is drained to the east.

The extrusive centre has not been delimited but it is anomalous in arsenic, silver, and molybdenum. The rhyolite flow is extensive and its base which is represented by a gossan zone also contains vuggy vein structures which assay up to 6.2% Cu, 0.51 oz/t Au and 31.1 oz/t Ag.

In drill testing a mineralized shear structure at depth within the andesites, yet below the large rhyolite flow from the extrusive centre intensely altered rhyolite dykes and their altered wall rocks were found to contain significant gold mineralization. The bulk gold content over the total mineralized section of the altered rhyolite-andesite averaged 0.724 grams/t Au over a total interval of 239 feet. This serendipitous discovery is considered to be a zoning feature to a much larger gold mineralizing event.

There are at least four significant epithermal-mesothermal gold targets defined in this system including but not limited to: a manganese-carbonate subaerial epithermal gold-silver target; an epithermal to mesothermal gold-silver target below or offset from the silicified zone at the top of the volcanic centre; and an epithermal to mesothermal massive sulphide vein system mid way between the manganese carbonate zone and the volcanic centre.

At about 1 km due south from the extrusive centre angular **massive sulphide** vein float was found distributed in a linear fashion which assayed 307 ounces of Ag per tonne and 37% Cu and is reminiscent of the massive sulphide veins found at surface in the discovery stage of the Comstock Lode in Nevada in 1859. Within the local area of the extrusive centre aureole near the massive sulphide vein occurrence there are at least 5 defined areas hosting a preponderance of quartz, quartz-carbonate and carbonate veins containing specularite, pyrite, chalcopyrite, tetrahedrite etc. which assayed up to 12.86% Cu, 0.43 oz/t Au, and 12.8 oz/t Ag.

A large tonnage copper-gold porphyry target is predicted at depth below the silicified epithermal alteration zone however it may be too deep to be of economic significance. ?

The CHACO BEAR
EPITHERMAL to MESOTHERMAL GOLD-SILVER PROSPECTS
&
PORPHYRY COPPER-GOLD PROSPECTS

Analyses of the igneous rocks hosting the several epithermal to mesothermal gold-silver targets and the copper-gold porphyry targets, within the Chaco Bear claim area, shows that the rocks are shoshonitic. Shoshonites, are of considerable economic importance as many world class, high gold content, porphyry copper-gold deposits and related world class (100-tonnes Au inventory) and giant (500 tonnes Au inventory) epithermal and mesothermal gold deposits are found within shoshonitic rocks.

The property consists of 9 mineral claims covering an area of about 9,000 acres. It is located about 40 miles south of the Kemess Mine in British Columbia close to the British Columbia Railway and a major logging road. To date approximately \$1 million has been spent on exploration yet none of the 10 targets thus identified have ever been tested.

Extensive geological mapping and sampling, has revealed the "*big-picture*" which is the presence of two mineralized magmatic centres one an intrusive centre and the other an extrusive centre each interpreted as being a fully preserved **transitional** mineralizing system from an epithermal to mesothermal gold-silver environment to a porphyry copper-gold environment. The geological model with its altered and mineralized dacite and rhyolite flows at the top of the alteration pile is a subaerial analogue to the rich Eskay Creek sub-sea epithermal gold-silver deposit.

Regional stream sediment sampling by the BCGS shows that the combined drainages from each magmatic centre contain the largest areal extent and highest magnitude values of integral **Au+Sb+As+Ag+Hg** epithermal gold pathfinder elements and overprinted **Cu+Pb+Zn+Ag+Ba** base metal signatures found on the entire 5,400 square mile map sheet indicating near surface epithermal/mesothermal precious-metals mineralization.

The Intrusive Centre represented at surface by a 1 mile by 1½ mile alteration zone consists of a large altered volcanic pile so extensively hydrothermally altered over large areas that the protolith is destroyed and replaced by a porous assemblage of finely disseminated pyrite, quartz, and sericite alteration. Numerous gold-silver-copper bearing vein structures are found throughout this area and beyond in the surrounding propylitically altered area. The veins assay up to: 16.8% Cu, 0.74 oz/t Au, and 4.67 oz/t Ag. The intrusive centre drains to the south and is geochemically extremely anomalous.

None of the several drill targets in this centre and surrounding area have been drilled. All targets have precious metals signatures and/or base metals signatures with epithermal-mesothermal gold pathfinder element signatures. Targets include but are not limited to: a milled-matrix fluidized-breccia pipe; a heavily pyritized, volcanic-flow breccia; a probable diatreme-breccia Maar-Volcano, and a mineralized sheeted zone? 4,000 feet in length and up to 500 feet in width that intersects the Maar Volcano.

In addition to the epithermal-mesothermal gold targets a large tonnage copper-gold porphyry target is predicted below the central alteration zone within the aureole of a prominent 500 to 1,000 gamma magnetic ring structure anomaly.

The Extrusive Centre is interpreted from a central intensely silicified dacite flow unit which exhibits chaotic flow banding and ribboned quartz veins over an area at least 1,000 feet by 2,600 feet which is overlain by a thick unit of altered rhyolite. This extrusive centre is interpreted as a dome complex and representative of a fully preserved epithermal mineralizing system. The extrusive centre is drained to the east and is geochemically extremely anomalous.

The extrusive centre has not been fully delimited but it is anomalous in gold pathfinder elements arsenic, antimony, silver, and molybdenum. The rhyolite flow is extensive and its base which is represented by a gossan zone also contains vuggy vein structures which assay up to 6.2% Cu, 0.51 oz/t Au and 31.1 oz/t Ag.

In drill testing a mineralized shear structure at depth within the andesite sequence in the extrusive centre, yet below the rhyolite flow intensely altered rhyolite dykes and their altered wall rocks were found to contain significant gold mineralization. **The bulk gold content over the total mineralized section of the altered rhyolite-andesite averaged 0.724 grams/t Au over a total interval of 239 feet.** This serendipitous discovery is considered to be a zoning feature to a much larger gold mineralizing event below surface.

There are at least five significant epithermal-mesothermal gold targets defined in this system including but not limited to: a manganese-carbonate subaerial epithermal-mesothermal zoned gold-silver target; an epithermal to mesothermal zoned gold-silver target below or offset from the silicified zone at the top of the volcanic centre; and a zoned epithermal to mesothermal massive sulphide vein system mid-way between the manganese carbonate zone and the volcanic centre.

At about 1 km south of the extrusive centre, angular **massive-sulphide** vein float was found distributed in a linear fashion striking north which assayed 307 ounces of Ag per tonne and 37% Cu. The nature of this occurrence is reminiscent of the massive sulphide veins found at surface in the discovery stage of the Comstock Lode in Nevada in 1859. Within the extrusive centre local area surrounding the massive sulphide vein occurrence there are at least 5 defined areas hosting a preponderance of quartz, quartz-carbonate, and carbonate veins containing specularite, pyrite, chalcopyrite, tetrahedrite, etc., which assayed up to 12.86% Cu, 0.43 oz/t Au, and 12.8 oz/t Ag.

A second copper-gold porphyry target, the heat and mineral fluid source to the gold and silver vein structures, is predicted at depth below the silicified epithermal alteration zone.

JMA
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