

ABSTRACT

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The Eskay Creek Project is a gold exploration Joint Venture between Calpine Resources Incorporated and Stikine Resources Ltd., with Prime Explorations Ltd. as Project Operator. The project site is located 52 miles north of Stewart, British Columbia.

Mineral exploration activity in the area dates back to 1932, with most of the historical work concentrated in the southern and central portions of the property. Prior to the Calpine Joint Venture, eleven companies explored the property, undertaking various diamond drill campaigns totalling over 13,000 feet in 84 holes, plus underground development on the "Mackay" and #22 Zones. The area of current interest is to the north, in the vicinity of the #21 Zone. The #21 Zone itself was trenched and drill-tested by Premier Gold Mines and Kerrisdale Resources in 1937 and 1985 respectively.

Calpine made its discovery in November, 1988, during an initial (\$300,000 budget) phase of a \$900,000 programme, to earn a 50% interest in the property. Five of six holes were planned to test the #21 Zone and its possible extensions. Holes CA88-2, 4 & 5 penetrated strong mineralization within the deposit footwall, with 50 meter step-out holes CA88-3 & 6 actually penetrating the immediately overlying high grade sulphide body located at the rhyolite - andesite contact. The latter two holes are considered to be the discovery holes. Subsequent step-out drilling (totalling 151,000 feet in 204 holes to January, 1990) has extended the zone 4,600 feet along strike to the northeast. The zone remains open to the northeast and downdip.

The discovery area is underlain by Middle Jurassic Hazelton Group volcanic and sedimentary rocks. Within the drill area, the stratigraphic section is subdivided into a hangingwall unit of pillowed andesite flows, breccia and interbedded mudstone; the "Contact" unit mudstone and breccia; a footwall rhyolite unit breccia with subordinate mudstone and tuff; and a lower unit of dacite tuff with interbedded mudstone. Well-preserved fossils and rock textures indicate a subaqueous depositional environment. Metamorphic rank is sub-greenschist.

Within the #21 Zone two significant subzones, the 21A (formerly "South") and 21B (formerly "Central" and "North") are recognized. Mineralization in the 21A Zone comprises high-grade gold and minor silver associated with massive to disseminated stibnite and realgar hosted within the Contact unit, and underlain by footwall rhyolite-hosted stockwork breccia with disseminated sphalerite, tetrahedrite, galena and pyrite with modest gold and silver tenor. The footwall rhyolite stockwork-type mineralization appears to be localized within a series of subparallel structures which obliquely crosscut the trend of Contact-hosted mineralization.

The 21B Zone is characterized by sphalerite-rich mineralization of very high gold and silver tenor that is confined to a tuffaceous facies of the Contact unit. Along strike to the north, additional mineralization is present as gold and silver-rich base metal massive sulphide lenses hosted within hangingwall interflow mudstone beds, and as extensive zones of footwall rhyolite stockwork-type mineralization.

Mineralization is associated with pervasive quartz, chlorite, and muscovite alteration, with lesser gypsum, barite, feldspar and calcite.

In addition to #21 Zone depth and strike extent potential, other showings and anomalies are present on the property which are as yet untested. Exploration success to date has been largely predicated upon systematic testing of the favorable Contact Zone-Rhyolite Units. The role of faulting, folding or shearing in localizing mineralization is yet to be resolved. Comparisons in mineralization style, metal associations and rock alteration can be made between both "epithermal" and "volcanogenic" types of precious metal deposits, however, it is unlikely that the Eskay Creek discoveries will be easily stereotyped.

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