

upgraded the local landing strip; repaired the local reservoir and upgraded water supply systems. Pre-feasibility studies currently underway include, column leach tests on composite core samples and environmental and geotechnical studies.

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The Dolores epithermal gold-silver deposit is a structurally controlled, low-sulfide, quartz-adularia, sericite system controlled by NW-trending high-angle shear zones. Mineralization is hosted in structurally prepared andesites and NW-trending subparallel latite dikes exposed in a horst structure that created a window exposing "Older Volcanic rocks" of the Sierra Madre. The older, intermediate, calc-alkaline volcanics (100 to 45 million years old) are overlain by caldera-related felsic ignimbrites and mafic volcanic flows (34 to 27 million-year old). Basin and Range extensional tectonism of Miocene age in the Sierra Madre resulted in the formation of horst-graben structures and related volcanic centers.

The principle ore mineralization is electrum and native gold and silver, with complex silver sulfosalt assemblages including: acanthite [Ag<sub>2</sub>S], pyrargyrite [Ag<sub>3</sub>SbS<sub>3</sub>], miargyrite [AgSbS<sub>2</sub>] and stromeyerite [(AgCu)<sub>2</sub>S]. Accessory sulfide minerals include; pyrite, galena, sphalerite, marcasite, arsenopyrite and chalcopyrite. Oxide minerals include: hematite, goethite, manganite and limonite.

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## **Getty North Porphyry Copper Deposit: A Geological Overview and Progress Report**

*Vic Preto, Getty Copper Corp. (TSE:GTY)*

Since 1993, Getty Copper Corp. has been conducting aggressive exploration of its 212 km<sup>2</sup> Highland Valley, B. C. mineral property which contains favourable Guichon Creek Batholith geology and adjoins the huge copper-molybdenum mining and milling operations of the Highland Valley Copper Partnership. In addition to an intensive 36,351m diamond drilling program on the Getty North copper-molybdenum deposit, work by the Company to date includes extensive bedrock trenching (1,500m) and limited reconnaissance diamond drilling (3,236m) on the Getty South breccia-hosted copper deposit in which Getty Copper Corp. is earning a 50% interest, a small amount of exploratory diamond drilling (3,374m) which confirmed the presence of a copper-molybdenum porphyry system in the nearby Getty West-Transvaal area optioned from Globe Resources Inc. (VSE:GBS) and extensive geological, geochemical and geophysical surveys

on selected geologically favorable portions of the property, some containing historic copper prospects or minor past-producers.

Getty Copper Corp.'s two most advanced deposits are the Getty North porphyry copper-molybdenum deposit which has been systematically drilled on NE sections 30 m apart (66.3 million tonnes grading 0.31% Cu, including 9.4 million tonnes of oxidized material grading 0.41% Cu and 32.4 million tonnes of sulphide resource grading 0.41% Cu; KHA Resource Modelling, November, 1997) and the Getty South breccia hosted copper deposit (36 million inferred tonnes grading 0.47% Cu, including 2-3 million inferred tonnes of oxidized material, Gower Thompson Associates, 1992; Watts Griffis McOuat, 1996). These deposits are located respectively eight and five kilometres north of the former Bethlehem Copper Mine, within a well-defined northerly trending structural zone which contains post-Bethlehem phase dykes and breccias, the Bethlehem deposits (93 million tonnes mined) and the JA deposit (286 million tonnes).

. The Getty North deposit is approximately 400 metres long in a NW-SE direction, 300 metres wide, dips moderately to steeply to the southwest and is in many respects very similar to the Bethlehem deposits, including structural setting, main host rock type, alteration, grade and size. A unique and economically important feature of the Getty North deposit is a pre-Tertiary oxidized cap which was preserved from Pleistocene glacial erosion by intervening Eocene volcanic and sedimentary cover, and which is estimated to contain 13.4 million tonnes grading 0.30% Cu, including 9.4 million tonnes grading 0.41% Cu. Metallurgical studies conducted by Dr. Morris Beattie have shown that the oxide resource is amenable to heap leaching and solvent extraction - electrowinning (SX-EW) technology.

The underlying sulphide-copper deposit presently contains 56.9 million tonnes grading 0.29% Cu, including 32.5 million tonnes grading 0.41% Cu, and remains open to expansion at depth and to the east and northeast. Mineralization and attendant alteration are centered on complexly faulted Bethlehem Phase Crowded Feldspar Porphyry (CFP) dykes which intrude Guichon variety granodiorite to quartz diorite and are interpreted to be intra-mineral porphyry dykes, possibly the main mineralizers. Numerous compositionally similar, fresh to weakly altered and barren to weakly mineralized porphyry dykes interpreted to be late differentiates or offshoots of the main CFP unit cut both CFP and Guichon quartz diorite. Mineralization consists mainly of chalcopyrite, and occasionally bornite, as fine, partial replacement of biotite and hornblende, and less frequently as narrow veinlets and fracture coatings in Guichon quartz diorite and CFP moderately to strongly altered to sericite-chlorite-epidote and clay-carbonate. Molybdenite occurs peripheral to the upper limb of chalcopyrite mineralization. Potash feldspar flooding and veinlets, magnetite, hematite and tourmaline are found less abundantly.

The deposit occurs within an uplifted block containing many steeply dipping northeasterly trending faults which fragment and progressively down-drop the mineralized zone to the northwest. The attendant structural complexity increases the likelihood of faulted offsets and companion deposits, which may be indicated by coincident magnetic susceptibility lows and induced polarization chargeability and resistivity features that occur within one km of the deposit in ground yet to be drilled.

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## **Finlayson Lake Update 1997 (Yukon, Canada)**

*Speakers - Andrew Turner of Westmin,  
Ian Foreman of Columbia Gold,  
Doug Eaton of Expatriate and  
Paul MacRobbie of Cominco*

Exploration for VMS deposits in the Finlayson Lake belt of the Yukon Tanana terrain continued to produce significant results in this emerging massive sulfide district. Columbia Gold Mines doubled the size of deposit of the Fyre Lake copper cobalt gold deposit by extending the previously known deposit and the discovery of a parallel trend, the West Kona. Cominco Limited discovered a second, apparently small but high grade zone located 725 metres south of the ABM deposit. The highlight of the season for the Wolverine joint venture of Atna and Westmin was the discovery of the Sable zone 1500 metres along strike from the Wolverine and Lynx zones. At the Ice property Expatriate Resources focused on defining this copper-rich Cyprus type VMS deposit.

Columbia Gold Mines has now defined the Fyre Lake deposit as two parallel trends of copper cobalt gold mineralization; the East Kona and West Kona. Both zones occur at the same stratigraphic level and have an eastern dip and plunge to the south. East Kona has been drill tested along a strike length in excess of 900 metres and is comprised of two distinct horizons, the Upper Horizon and the Lower Horizon, each of which have an average thickness of 8 to 12 metres and average widths of 100 to 125 metres. West Kona has a strike length in excess of 1500 metres a width of 125 metres and varies in thickness from 9 to 40 metres. Copper, cobalt and gold mineralization occurs as massive to banded sulphides in the East and as siliceous hosted sulfides and magnetite grading to massive sulphides in the West.

Cominco renewed exploration work on the Kudz Ze Kayah property with emphasis on geophysical surveys and diamond drilling in proximity to the previously defined ABM deposit. The