



**GETTY COPPER CORP. HIGHLAND VALLEY PROJECT:  
Geological Overview and Progress Report to December 31, 1997**

## GETTY COPPER CORP.

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### Abstract

Since 1993, Getty Copper Corp. (TSE:GTU) 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 35,927 meters (117,876 ft) diamond drilling program on the Getty North porphyry copper-molybdenum deposit, work by the Company to date on other areas of the property includes extensive bedrock trenching (1,500 m; 4,922 ft) and limited reconnaissance diamond drilling (3,236 m; 10,617 ft) on the Getty South breccia-hosted copper deposit (50% joint venture); a small amount of exploratory diamond drilling (3,374 m; 11,070 ft) which confirmed the presence of a copper-molybdenum porphyry system in the nearby Getty West zone IP chargeability anomaly, a portion of which is contained within the Transvaal claims, in which Getty Copper Corp. is earning a 50% interest 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 (98 ft) apart, resulting in a recent resource estimate of 72.1 million drill-indicated and inferred tonnes having an average grade of 0.31% Cu, including 10.03 million tonnes of oxidized material having an average grade of 0.40% Cu and 44.4 million tonnes of sulphide resource having an average grade of 0.37% Cu (KHA Resource Modelling, December, 1997), and the Getty South breccia-hosted copper deposit estimated to contain 36 million inferred tonnes having an estimated grade of 0.47% Cu, including 2-3 million inferred tonnes of subcropping oxidized material (Gower Thompson Associates, 1992; Watts, Griffiths and McQuat, 1996). These deposits are located respectively eight and five km north of the former Bethlehem Copper Mine, within a well-defined northerly trending structural zone which contains Bethlehem and later phase dykes and breccias, the Bethlehem deposits (93 million tonnes mined) and the very deep, unmined JA deposit (286 million tonnes).

The Getty North 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. The Getty South deposit occurs in a breccia body which intruded Guichon variety quartz diorite of the Guichon Creek Batholith. As presently defined by the Company's reconnaissance drilling and surface trenching, the breccia zone is approximately 260 m (852 ft) wide and 550 m (1805 ft) long, strikes northerly and dips moderately to steeply to the west.

The large induced polarization chargeability anomalies discovered during late 1996 and early 1997 in Getty Copper's Glossie and North Valley zones, located respectively 5 km and 9 km west of the Getty North deposit, are in a geological setting that is similar to that of some of the larger Highland Valley deposits and have recently been the subjects of magnetic susceptibility and geochemical soil surveys, and reconnaissance scale geological mapping.

### Property Profile

The Getty Copper Corp. Highland Valley Project mineral tenure is comprised of 212 square km of contiguous mineral claims located in the Highland Valley, British Columbia's premier copper producing area, approximately 200 km northeast of Vancouver (Figure 1). The local area contains excellent transportation and power infrastructure, a large pool of experienced mining and support personnel and a mining based economy.

The Getty Copper mineral tenure contains favourable Guichon Creek Batholith geology and adjoins to the south the huge Cu-Mo mining and milling operations of the Highland Valley Copper Partnership (HVC) owned by Cominco (50%), Rio Algom (33.6%), Teck (13.9%) and Highmont Mining (2.5%). In 1996, HVC produced 149,150 tonnes of copper in concentrate, 1338 tonnes of molybdenum in concentrate, 1,821,000 ounces of silver and 11,600 ounces of gold from 42,620,000 tonnes of ore milled.

Although sporadic, small scale mining of copper and gold in the district dates back to the turn of the century, the Highland Valley gained international prominence only 35 years ago as a result of the opening of the Bethlehem mine, Canada's first open pit porphyry copper mine. During the period 1962 to 1982, the four Bethlehem deposits produced 93 million tonnes of ore averaging 0.47% Cu and 0.012 g/t of gold. The larger Lornex and Highmont deposits were discovered in 1962 and the Valley deposit was discovered in 1967. Between 1980 and 1984, Highmont produced 34.7 million tonnes grading 0.22% Cu and 0.03% molybdenum. The Lornex and Valley deposits are currently in production at an average combined rate of 116,500 tonnes per day. In total, the Highland Valley camp has produced more than 7.8 billion pounds of copper from approximately 900 million tonnes of ore mined. All of the known deposits are hosted by various phases of the concentrically zoned Upper Triassic Guichon Creek Batholith.

Notably, the larger and slightly lower grade Lornex and Valley deposits, and the molybdenum rich Highmont deposits are structurally deep-seated and hosted by the innermost, younger phases of the batholith, whereas the Bethlehem deposits are situated at a much higher structural level and are hosted by slightly older phases. Consequently, deposits of the Bethlehem-type are smaller than the Lornex/Valley-type, structurally more complex, have a higher average copper grade and contain larger concentrations of gold.

Getty's claims span the entire width of favourable Guichon Creek Batholith geology (Figure 2) immediately to the north of HVC's holdings. Getty's most advanced projects, the Getty North deposit, the Getty South deposit and the Getty West-Transvaal prospect are located in the eastern part of the property in the same geological and structural setting as the Bethlehem deposits located five to eight km to the south. The large Glossie zone and North Valley zone induced polarization anomalies discovered in the central and western portions of the property are in a different geological setting, one that is similar to that of some of the larger deposits such as the unmined J. A. deposit which is estimated to contain 286 million tonnes grading 0.43% Cu and 0.017% molybdenum (Figure 2).

### Getty North Deposit

The Company's most advanced project is the Getty North deposit, formerly known as the Krain deposit, located eight km north of the past-producing Bethlehem Mine within a well defined northerly trending belt of Bethlehem phase and later dykes and breccias which also contains the Bethlehem deposits and the Getty South deposit.

Prior to the formation of Getty Copper Corp. in 1993, several mining companies explored the deposit during the period 1956 to 1973. In addition to a variety of geological, geochemical and geophysical surveys, the previous work included a total of 15,322 m (50,271 ft) of diamond and percussion drilling, which provided the basis for a resource estimate by Quintana Minerals in 1972 of 14 million tons grading 0.56% Cu, more than half of which tonnage would by present day standards be classified as only as inferred (see also Christie, 1976).

Work by Getty Copper Corp. during the period January 01, 1993 to November 30, 1997 on the Getty North deposit included 35,927 meters (117,876 ft) of diamond drilling in 142 holes. The Getty North deposit has been systematically drilled on NE oriented sections established 30 m (98 ft) apart. The most recent resource calculation, based on drilling up to and including ddh GN97-64, yielded an estimate of 72,093,000 drill-indicated and inferred tonnes grading 0.31% Cu, which includes approximately 13,875,000 tonnes of oxidized material having an average grade of 0.29% Cu and also 44,405,000 tonnes of sulphide-copper bearing rock having an average grade of 0.37% Cu. The oxidized resource includes approximately 10,034,000 tonnes having an average grade of 0.40% Cu.

The Getty North deposit is very similar to the individual four Bethlehem deposits in many key aspects, including structural setting, host-rock type, style of rock alteration, overall 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 13.9 million tonnes grading 0.29% Cu, including 10.0 million tonnes grading 0.40% Cu. Metallurgical studies conducted by Dr. Morris Beattie and Process Research Laboratories (Vancouver, B. C.) have shown that the oxidized resource is amenable to heap-leaching and solvent extraction - electrowinning (SX-EW) technology.

The Getty North deposit is approximately 400 m (1312 ft) long in a NW-SE direction, 300 m (984 ft) wide and dips moderately to steeply to the southwest (Figure 3). Mineralization has been traced by drilling to 350 m (1148 ft) below the surface along most of the strike length, the deposit remaining open at depth. Mineralization and attendant alteration are centered on one or more complexly faulted dyke-like bodies of Crowded Feldspar Porphyry (CFP) which intrude Guichon variety granodiorite to quartz diorite (Figure 4). In the broader context of Guichon Creek Batholith geology, CFP is probably a Bethlehem Phase intrusive, which is interpreted to be an intramineral porphyry, likely the main mineralizer. The CFP was emplaced slightly before, during and slightly after the main mineralizing event along some of the structurally controlled pathways that were also used by mineralizing hydrothermal fluids. Numerous compositionally similar, barren to weakly mineralized, fresh to weakly altered porphyry dykes of late to post-mineral age cut CFP and Guichon quartz diorite. These are interpreted to be late differentiates or offshoots of the main CFP unit.

Mineralization at the Getty North deposit consists mainly of pyrite and chalcopyrite along with much smaller amounts of bornite and molybdenite. Most of the economically important mineralization occurs as finely disseminated partial replacements of mafic minerals and as thin fracture coatings and veinlets in Guichon quartz diorite and CFP which in proximity to copper-sulphide mineralization is usually moderately to strongly altered to sericite-chlorite-epidote and clay-carbonate products. A smaller amount of lower grade copper mineralization is occasionally found in weakly altered CFP and porphyry dykes. Potash feldspar flooding and veining, magnetite, hematite and tourmaline are less abundant.

As is common within other structurally controlled high-level porphyry copper systems, such as at Bethlehem Mine, the attendant structural complexity is greater than at the more deeply seated deposits, however the likelihood of nearby significant faulted offsets or companion deposits is also greater. An intense induced polarization anomaly located east of the Getty North deposit is an attractive exploration target of this type. Major through-going faults trend northerly to north-easterly and dip steeply at the Getty North deposit. Essentially, the deposit occurs within an uplifted block bounded to the northwest and southeast by northerly trending steep faults. Within this block at least five steeply northwest dipping, northeasterly trending faults progressively down-drop the mineralized zone to the northwest, thus accounting for the preservation of the valuable oxide cap within the northern half of the deposit.

### **Getty South Deposit**

The Getty South deposit ( 50% joint venture) is located five km north of the Bethlehem Mine in the same northerly trending belt of Bethlehem phase dykes and breccias which contains the Getty North deposit only three km further north. The Getty South deposit, previously known as the Trojan or South Seas deposit, occurs within a breccia zone measuring approximately 260 m (852 ft) wide by 550 m (1805 ft) long which is hosted by Guichon variety quartz diorite. The breccia consists of fragments of quartz diorite and feldspar porphyry set in a matrix of finely broken rock, specular hematite, tourmaline, brown biotite, quartz and calcite. Chalcopyrite occurs as stringers and coarse blebs in the breccia matrix.

Prior to Getty Copper Corp.'s work during the period 1995-1997, exploration and underground development accomplished between 1956 and 1968 by previous operators included bulldozer trenching, 15,556 m (51,039 ft) of surface diamond drilling, 917 m (3009 ft) of underground drilling, the sinking of a 49.1m (160 ft) shaft and a total of 1,719 m (5640 ft) of drifting and cross-cutting. An inferred mineral resource of 36 million tonnes having an estimated average grade of 0.47% Cu, including 719,500 indicated tonnes having an estimated average grade of 1.41% Cu in three zones previously defined within the underground workings, was estimated by Gower, Thompson and Associates in 1992, and this estimate was later confirmed as reasonable by independent consultants Watts, Griffis & McOuat (WGM) in 1996. A 3,236 m (10,617 ft) initial reconnaissance diamond drilling program conducted in 1996 further explored the breccia body. During 1997, the Company conducted a 1500 m (4921 ft) bedrock trenching program which encountered extensive oxidized mineralization of excellent grade, along with smaller exposures of fresh high-grade copper-sulphide mineralization (Figure 5). The Company intends to follow up on the encouraging results of the surface trenching program by initiating a phased program of systematic cross-sectional large-diameter reverse circulation drilling which has been designed to yield data of sufficient spatial density to allow a resource estimate at the drill-indicated level of confidence for the entirety of the breccia hosted deposit.

### **Getty West – Transvaal Zone**

Getty Copper is earning a 50% interest from Globe Resources Inc., in the crown-granted Transvaal group of mineral claims containing the historic Transvaal adit and Chamberlain shaft, adjacent to the east and south of the Getty West claims and approximately 1.4 km southwest of the Getty North deposit. Previous operators reportedly obtained grades of up to 4.8% Cu with 0.07 oz/t gold across 4.6 m (15 ft) from the Chamberlain shaft, and similarly up to 1.37% Cu across 11.3 m (37 ft) from the Transvaal adit.

Induced polarization, ground magnetics and geochemical soil surveys completed by the Company during 1995 and 1996 revealed a large, complex induced polarization chargeability anomaly containing areas of anomalous concentrations of copper in the B-horizon of the local soil. Recent detailed geological mapping indicates that the local geological environment, which contains numerous structurally controlled surface showings of oxidized and fresh sulphide-copper mineralization hosted by Guichon quartz diorite cut by numerous CFP dykes, is similar to that of the nearby Getty North deposit. A small amount of reconnaissance diamond drilling by the Company in 1996 encountered 34 m (112 ft) of porphyry copper style mineralization averaging 0.29% Cu, along with minor molybdenum values, in a geological setting very similar to that of the nearby Getty North deposit. The Company intends to follow up on these results with a series of closely spaced diamond drill holes.

### **Induced Polarization Anomalies Requiring Drilling**

Induced polarization surveys conducted during 1995 by Peter E. Walcott and Associates Ltd., and by Lloyd Geophysics Inc. during 1996 and 1997, identified many chargeability anomalies which were further investigated by geological and geochemical soil surveys, and which may eventually undergo exploration by drilling.

### ***IP Anomalies in the Bethlehem Structural Belt***

A number of moderate to intense chargeability anomalies occur within or near the northerly trending belt of Bethlehem phase dykes and breccia that hosts the Bethlehem Mine, the Getty South and the Getty North deposits (Figure 6). All of these anomalies occur in areas containing moderately to strongly elevated concentrations of copper in the B-horizon of the soil and will eventually require further exploration by drilling. One of these anomalies adjoins the Getty South deposit to the west. Another lies immediately east of the Getty North deposit and may indicate a faulted offset of the known deposit or, perhaps, a companion deposit as is commonly the case with high level structurally controlled porphyry copper deposits, such as the nearby Bethlehem Mine and other British Columbia present and past producers (Mt. Polley, Bell-Granisle, Afton, Copper Mountain)

### ***Glossie and North Valley IP Anomalies***

These large IP chargeability anomalies are located in the central part of the mineral tenure, 6 to 9 km west of the Getty North deposit. The area is underlain by rocks of the Bethlehem, Guichon and Border phases of the batholith. The Glossie anomalies are underlain by Guichon quartz diorite and occur in areas having elevated concentrations of copper in the B-horizon of the local soil. The area between the two anomalies contains the old workings of the Glossie Mine, a minor past-producer, and numerous surface showings exposed in various old pits, trenches and shallow shafts, all of which occur in and along an extensive northwest trending structure, above which the B-horizon of the local soil often carries elevated or anomalous concentrations of copper.

The huge North Valley anomalies occupy an area approximately three by five km, are underlain by Border, Guichon and Bethlehem phase rocks, and contain scattered zones of elevated concentrations of copper in the B-horizon of the local soils. An exposure of weakly altered Bethlehem phase rock located near the southern anomaly was recently discovered to contain traces of copper mineralization.

### **Conclusions**

Getty Copper's vast mineral tenure is strategically located in favourable geology in British Columbia's premier copper producing area. The property contains two known deposits. The most advanced, the Getty North deposit, has been systematically drilled on sections established 30 m (98 ft) apart in order to outline a drill-indicated and inferred resource of 72,093,000 tonnes having an average grade of 0.31% Cu, including 13,875,000 tonnes of oxidized rock having an average grade of 0.29% Cu and 44,405,000 tonnes of sulphide bearing rock having an average grade of 0.37% Cu. The oxide resource includes 10,034,000 tonnes having an average grade of 0.40% Cu. Metallurgical studies have shown that the oxidized resource is amenable to processing by Solvent Extraction-Electrowinning (SX-EW) technology. The Getty North deposit is now at the pre-feasibility stage, in preparation for a full, bankable feasibility study.

The breccia-hosted Getty South deposit has been extensively explored on surface and underground by previous operators and recently by a small amount of drilling and extensive surface trenching by Getty Copper Corp. An inferred resource of 36 million tonnes having an estimated average grade of 0.47% Cu, including 719,500 indicated tonnes grading 1.41% Cu has been estimated. The Company intends to follow up with a phased program of systematic cross sectional large-diameter reverse circulation drilling designed to allow a resource estimate to be obtained, at the drill-indicated level of confidence, for the entire breccia deposit.

The large Glossie zone and North Valley zone IP chargeability anomalies recently discovered in the central and western part of the mineral tenure are in a geological setting similar to that of some of the larger Highland Valley deposits. These exciting targets were the recent subjects of geological and geochemical surveys, and are in the process of evaluation for further exploration by diamond drilling.

Finally, upon receipts of favourable feasibility studies, the issuance of the relevant permits and the approval of the Board of Directors, the Company is poised to develop the Getty North deposit and the nearby Getty South deposit by using SX-EW technology in order to produce premium-primed cathode copper for shipment or further fabrication on-site.

### **References:**

- Christie, J.S., Krain, in *Porphyry Deposits of the Canadian Cordillera*, Edited by A. Sutherland Brown, Canadian Institute of Mining and Metallurgy, Special Volume 15, pages 182-185, 1976.
- McMillan, W.J., *Geology and Ore Deposits of the Highland Valley Camp*, in *Mineral Deposits Division Field Guide and Reference Manual Series, No. 1*, Edited by A.J. Sinclair, Geological Association of Canada, page 121.
- Gower Thompson & Associates Ltd., *Compilation Report on the Getty South Property*, May 15, 1992.
- K.H.A. Resource Modeling Inc., *Getty North Deposit Resource Estimate*, November 3, 1997.
- Lloyd Geophysics Inc., *A Geophysical Assessment Report on an Induced Polarization and Ground Magnetics Survey on the Highland Valley Project near Logan Lake, B.C.*, October, 1997.
- Peter Walcott & Associates Ltd., *A Geophysical Report on Induced Polarization Surveying at the Getty Property from June 23 - September 30, 1995*.
- Watts, Griffis & McQuat Ltd., *Report on the Highland Valley Porphyry Copper Property of Getty Copper Corp.*, May 6, 1996.

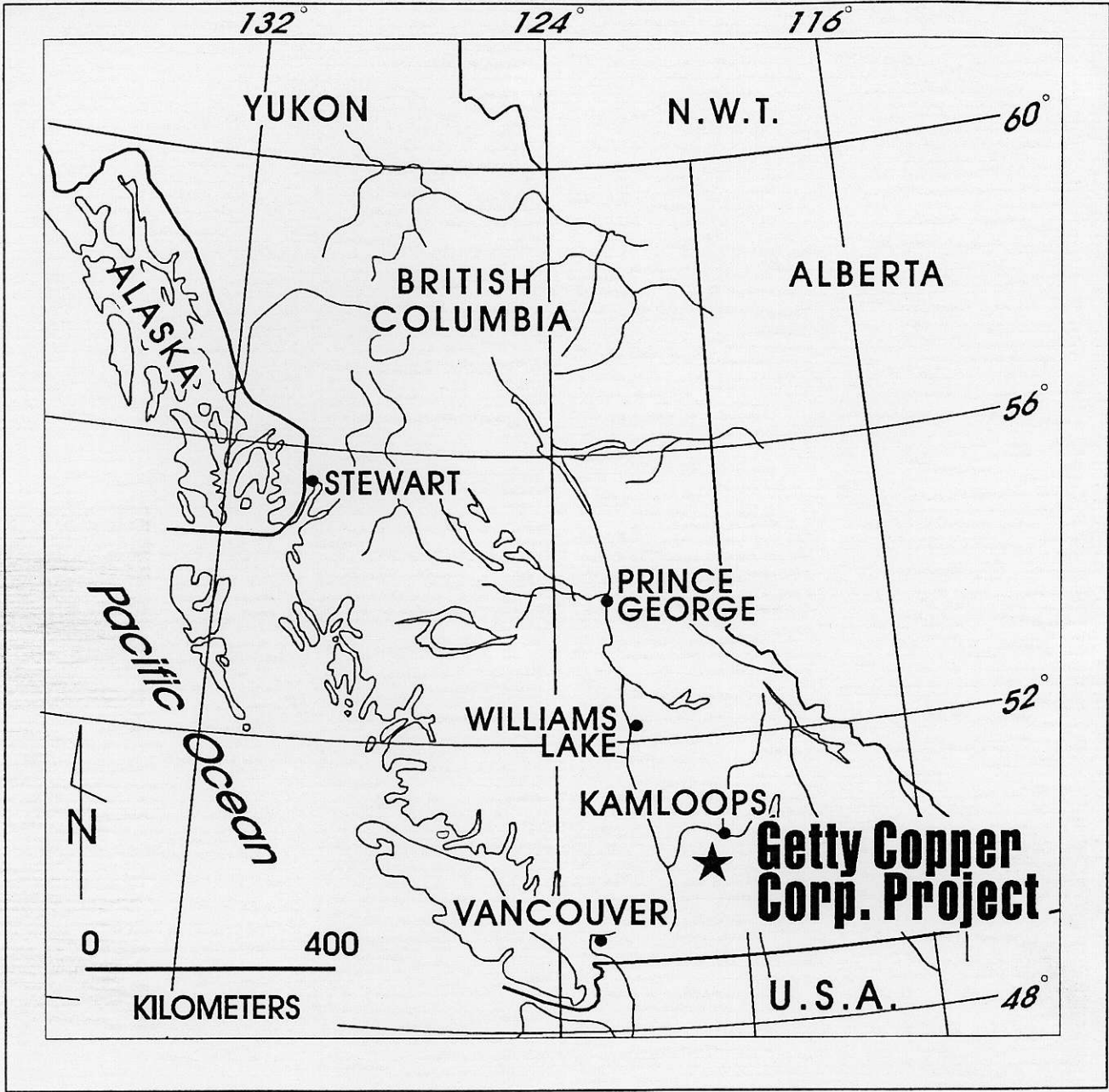


Figure 1: Location Map.

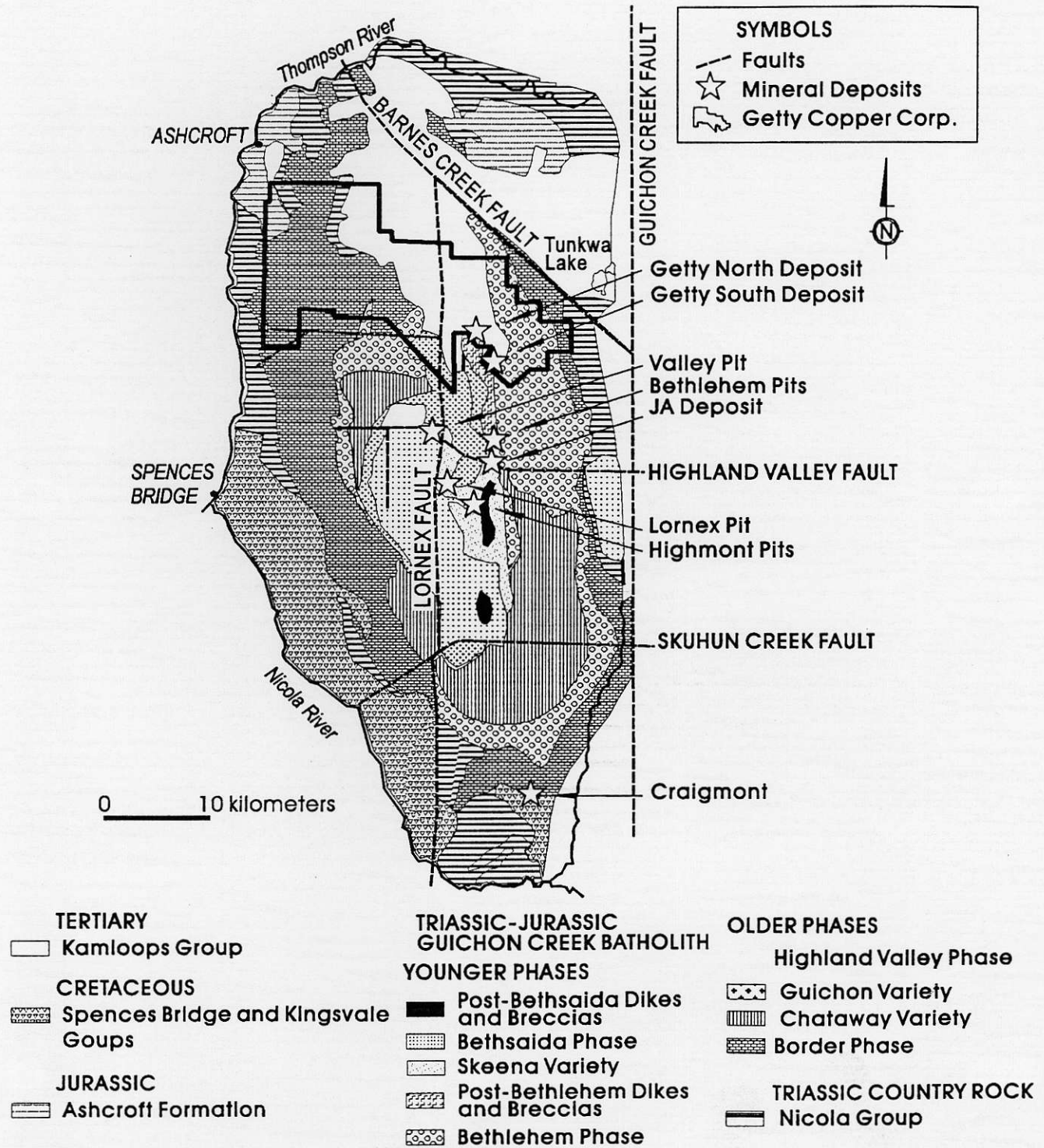


Figure 2: Generalized Geology of the Guichon Creek Batholith Showing Location of Getty Copper Corp. Claims and of Major Porphyry Cu-Mo deposits (modified after McMillan, 1985).

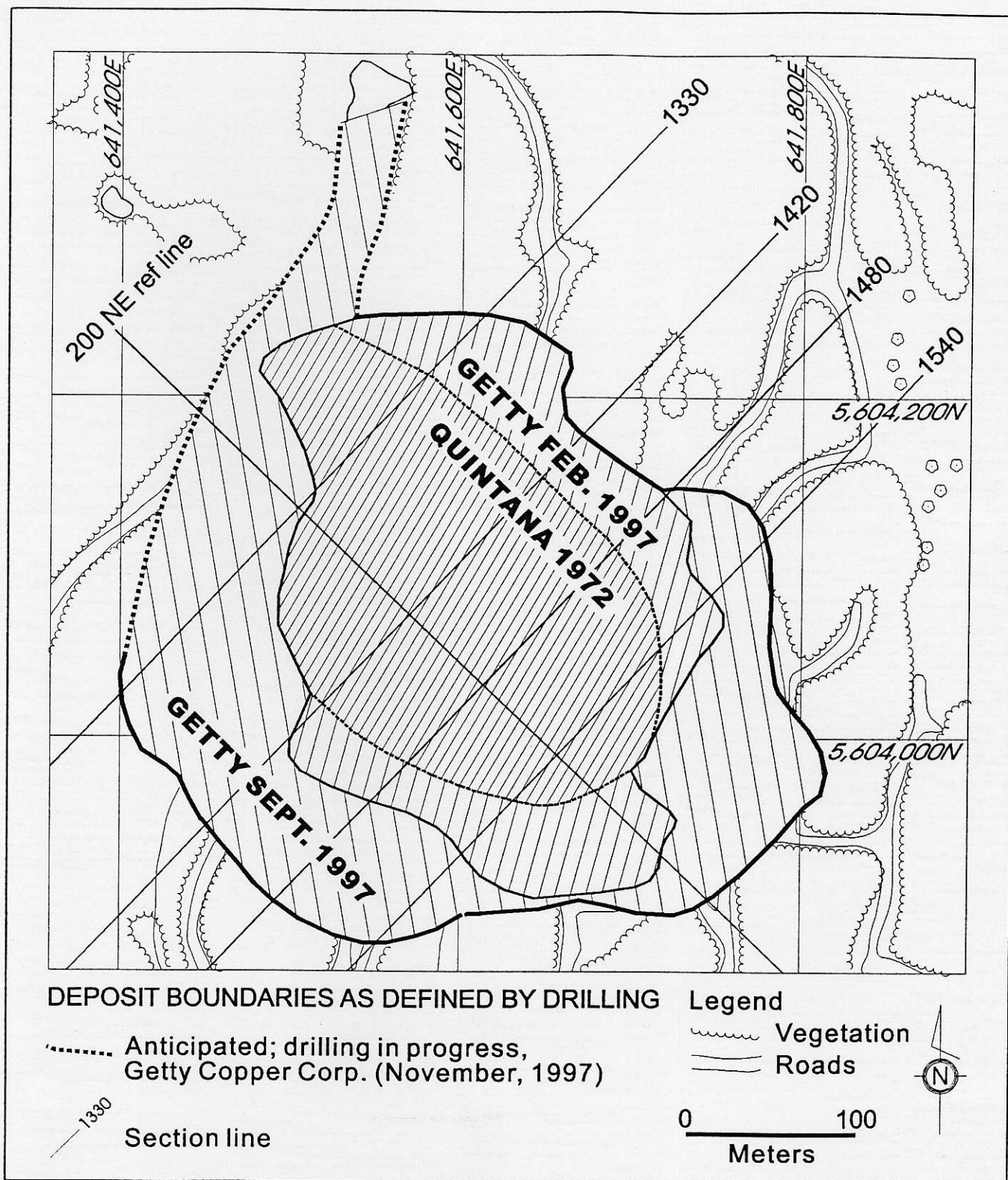


Figure 3: Surface Projection of Getty North Deposit Showing Outline in 1972, February 1997 and September 1997.

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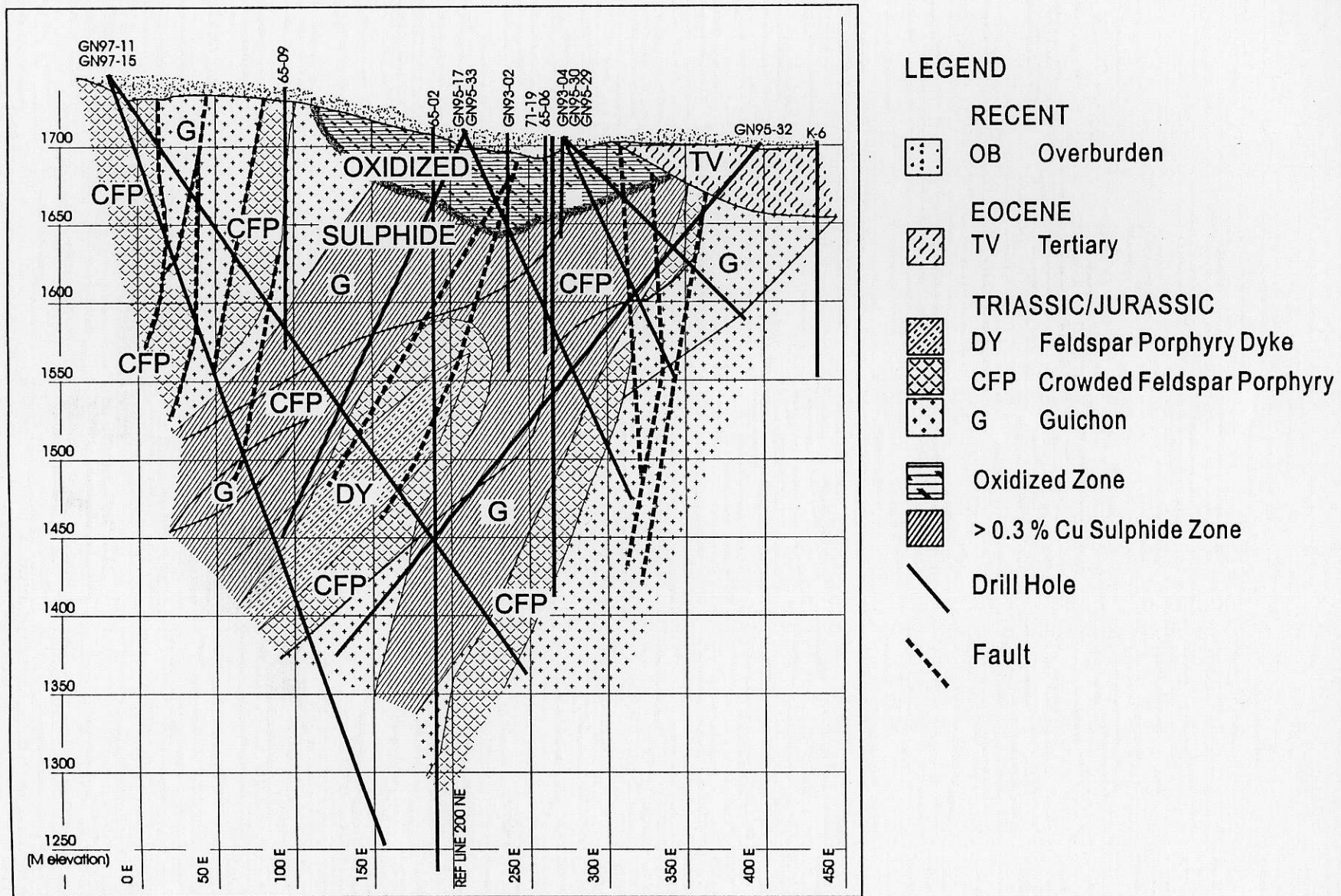


Figure 4: Getty North Deposit, Section 1480 SE.



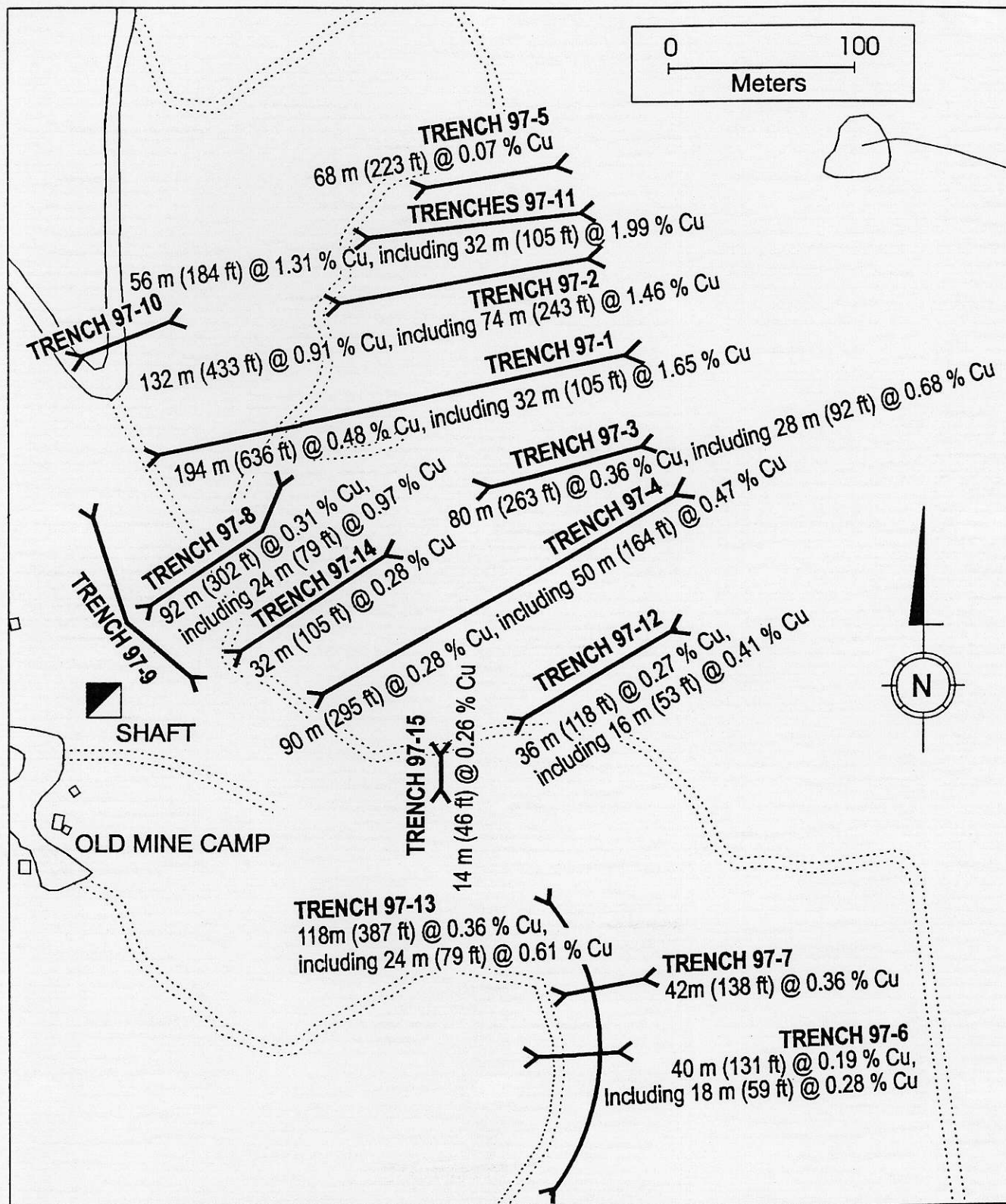


Figure 5: Getty South Deposit, Surface Plan Showing Distribution of 1997 Trenches.

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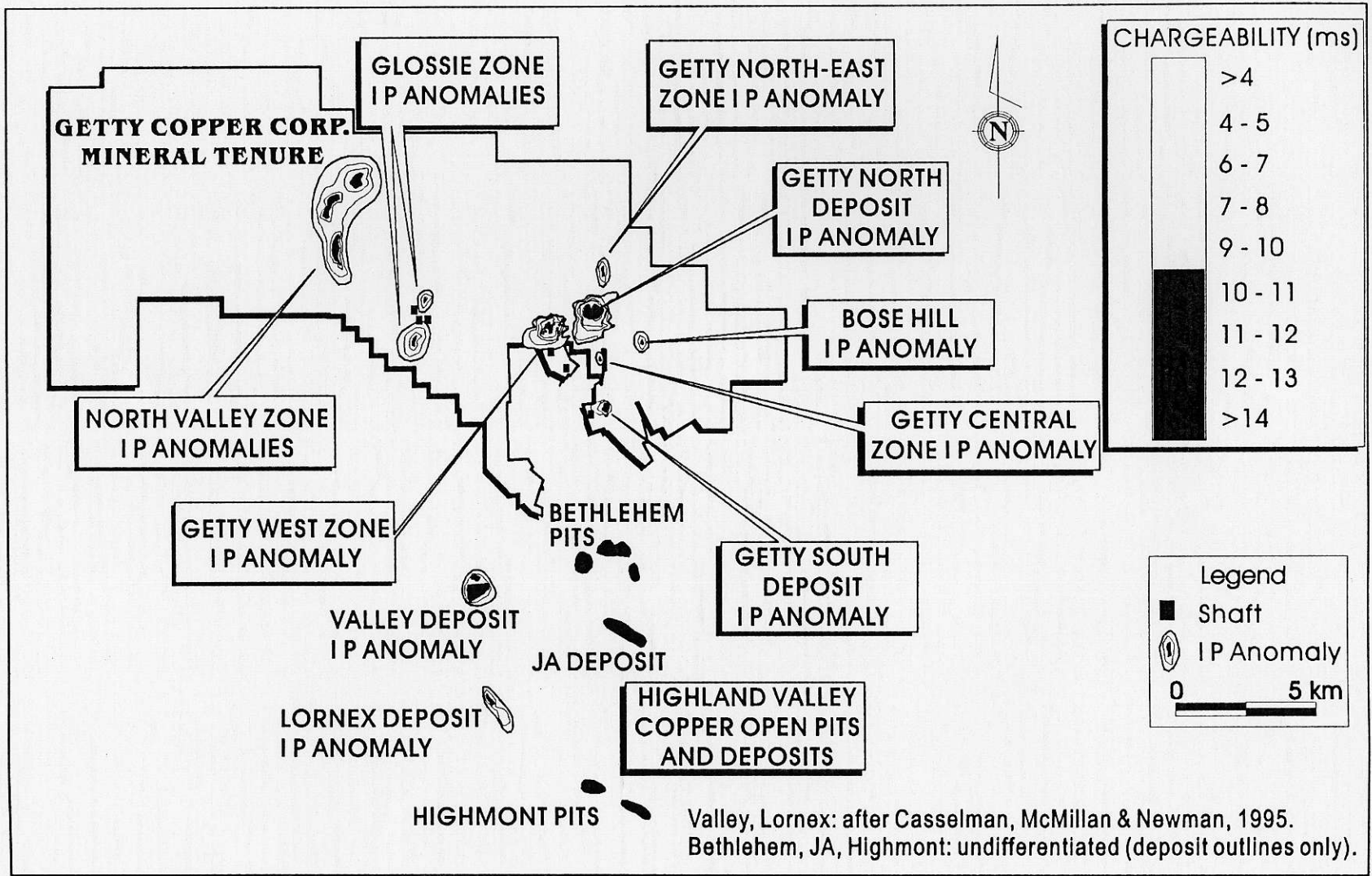


Figure 6: Regional Geophysics.