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93L/4-5

TAKE POINT VENTURES LTD.	
HERD CLAIM GROUP Omica Mining Div, British Columbia	
PROPERTY LOCATION MAP	
Revised By: D. Baker	After: Nicholson, 1995
SCALE: 1:8,000,000	NTS: 94C/04E
DATE: DEC. 1996	FIGURE: 1

ALTERATION PATTERN

PROP (MUS, EPI, CHL, CAR, ETC)




ARG (MUS, KAO, ETC)

K-SIL (MUS, BIO, K-FSP, ETC, TM?)






GEOLOGICAL SETTING

LEGEND







SUPERGENE ZONES AND ORE TYPES

-  OXIDATION AND LEACHED CAPPING
-  OXIDIZED COPPER ORE
-  SECONDARY COPPER ORE (RICHER PORTIONS DARKER)

HYPOGENE ORE TYPES

-  COPPER ORE IN SILICATED ZONE
-  COPPER ORE IN VEINS AND BRECCIA PIPES
-  COPPER ORE - DISSEMINATED AND IN STOCKWORK
-  ZINC (LEAD) ORE
-  MAGNETITE ORE

ROCK TYPES

-  MARBLE LINE
-  LINE OF RECRYSTALLIZATION
-  BRECCIA PIPE (IN INTRUSIVE)
-  INTRUSIVE
-  CARBONATE ROCKS
-  SHALES, SANDSTONES, ± VOLCANICS

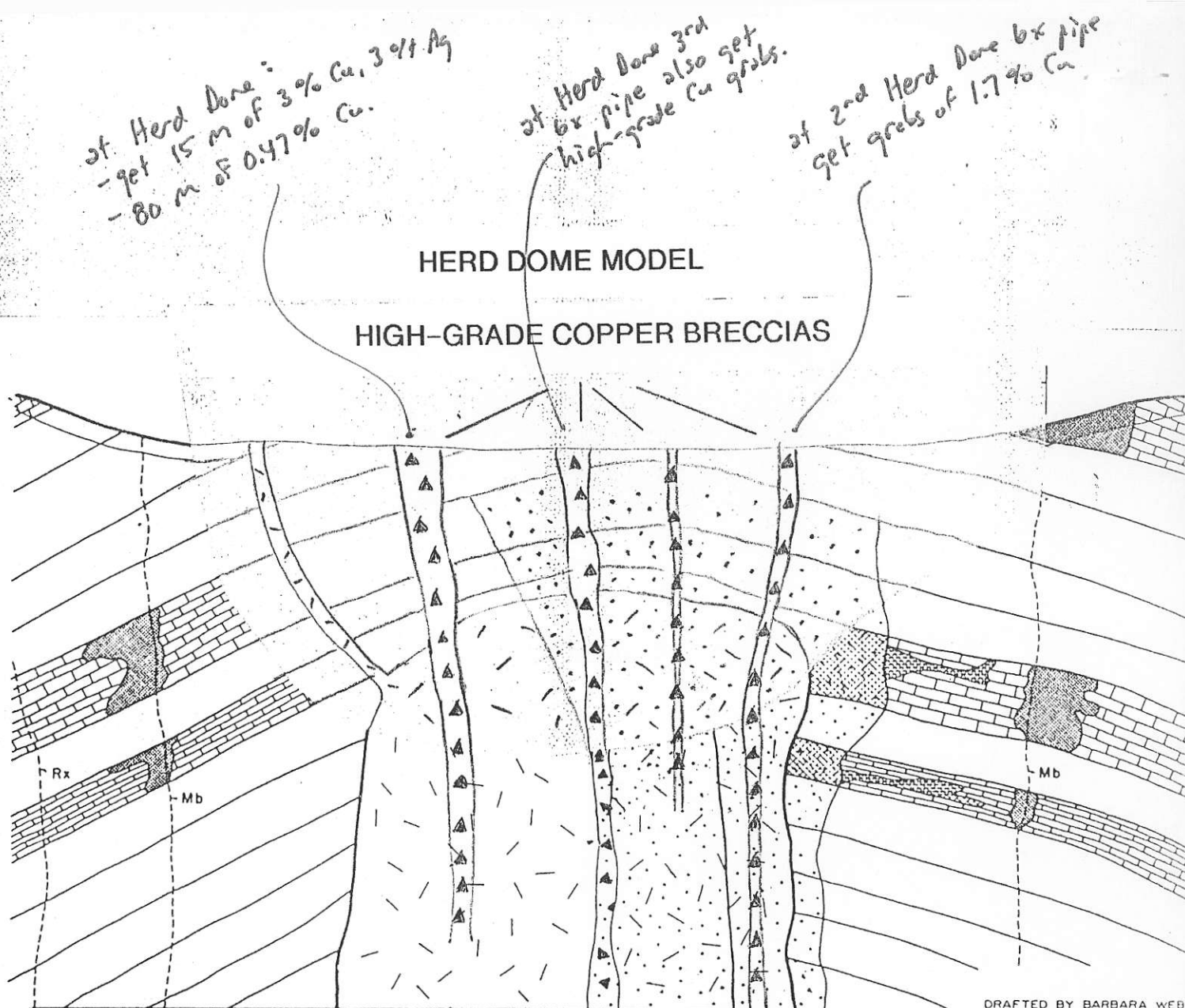


FIGURE 1.—Some generalizations and speculations, porphyry copper districts.

Some Features Pertinent in Exploration of Porphyry Copper Deposits

The next stage visualized is the revival of faulting and the formation of breccia pipes and shattered zones (stockworks) in the solidified intrusive and invaded rock. The breccia pipes and faults may be much more

abundant and occur at greater distances from the intrusive than the section indicates. Where the intrusive tops out at depth, its position may be revealed by breccia pipes observed at higher levels; the likelihood of an associated porphyry copper ore body at depth may be suggested by primary copper mineralization in

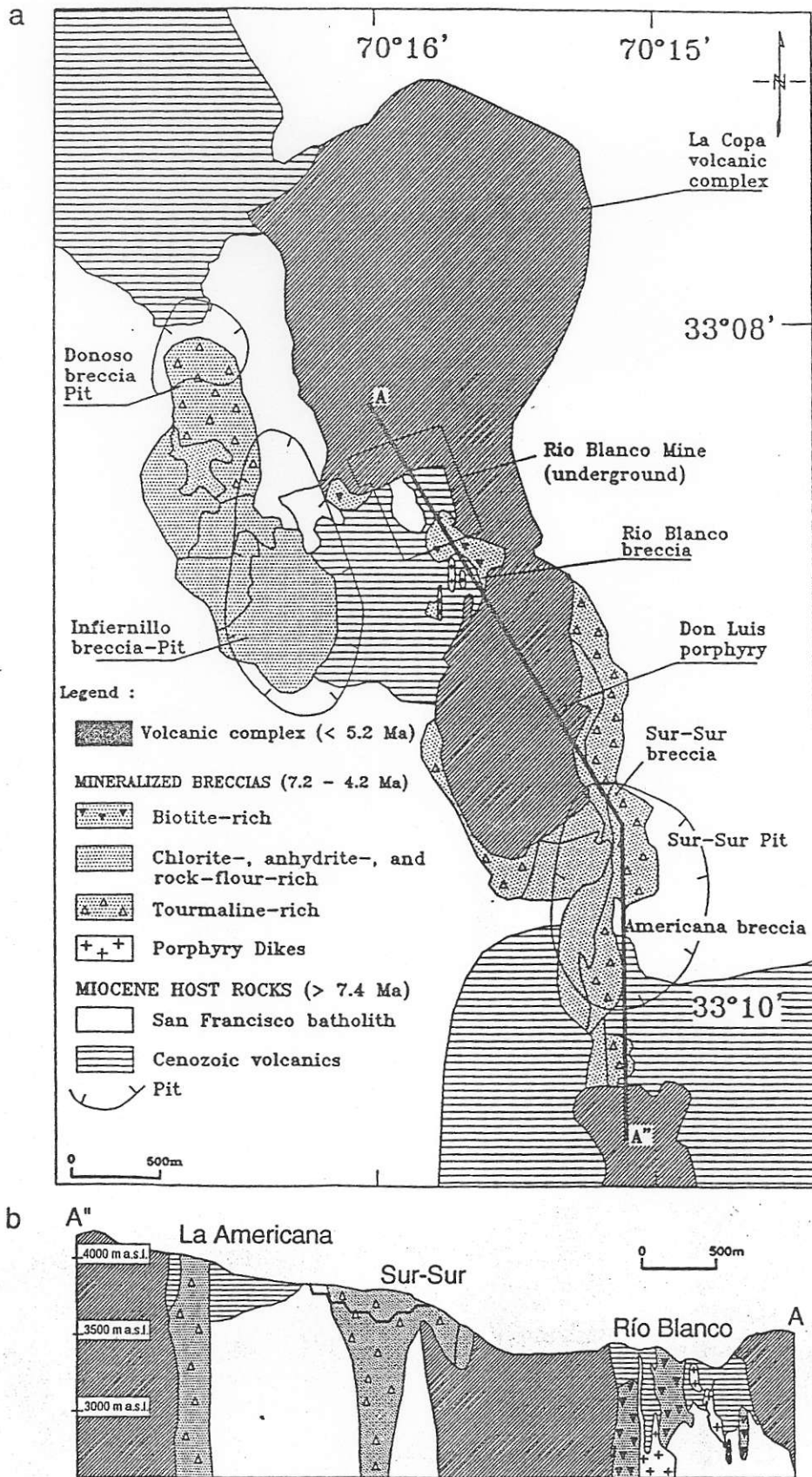


FIG. 1. a. Simplified geological map of the Rio Blanco-Los Bronces porphyry copper deposit. b. Longitudinal section A-A'' through the Andina portion of the deposit, looking west. Scale and legend as in 1a.

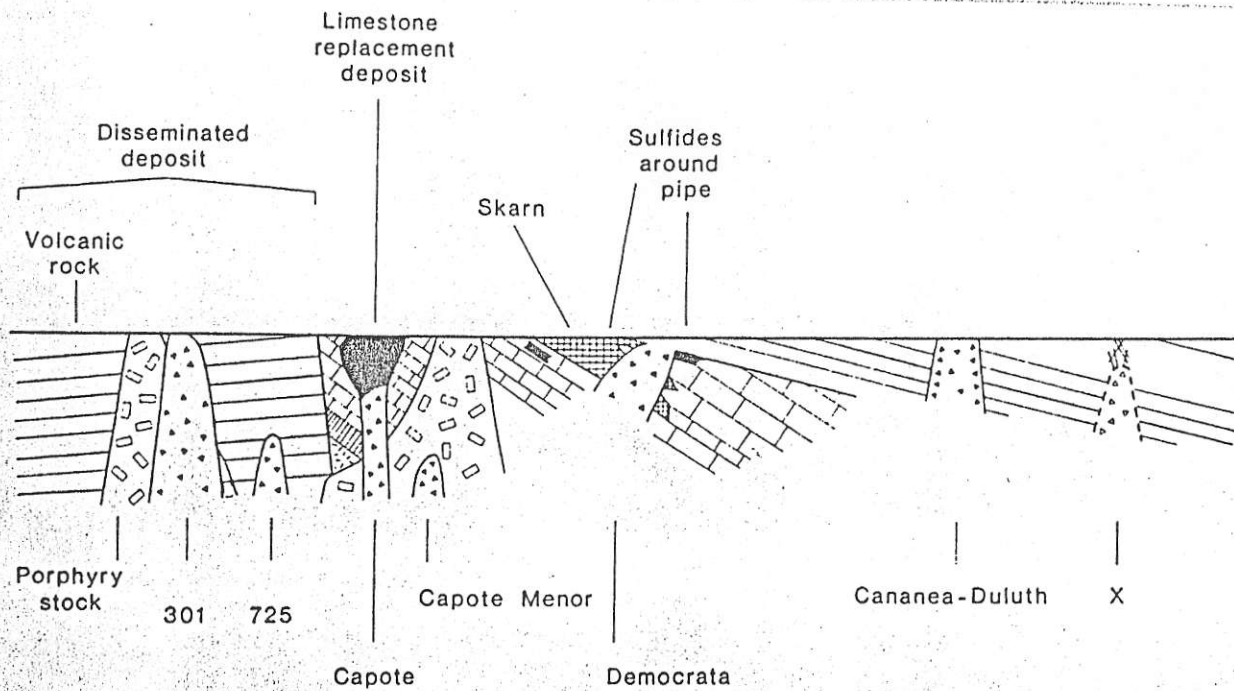


FIG. 5. Schematic relationships of various breccia pipes to rock and deposit types at Cananea. "X" represents breccia and/or intensely fractured rock with sulfide mineralization postulated to be near but not necessarily directly above the tops of breccia pipes.

Between September 11 and 17, 1981 fourteen man days were spent on the property in prospecting and sampling on the H D M claims.

The northern half of H D M and almost all of H D M 3 to 6 were prospected for new showings of copper mineralization. Some geology was mapped although this was only on a cursory basis and detailed mapping was not undertaken at this stage of the investigation.

One zone approximately 150 Metres by 400 metres running in a northwesterly direction along the north east sholder of the highest peak on the claim group was selected for sampling. A chain and compass survey was established for controll. Fourteen samples were taken over various lengths along this traverse.

The length of each seperate sample was determined both by the rock type being sampled and the estimated visual mineral content. Where either the rock type or the mineral content appeared to change a new sample was started (see Fig. 5).

Chips of the outcrop were taken randomly at one half metre intervals along the sample traverse length. Since time in the area was limited it was impossible to prepare the sample sites so that unweathered rock could be sampled. It was therefor necessary to sample the weathered surface of the rock outcrops. Care was taken to assure that this sampling was random. In only two samples was any selection of the rock chips made on the basis of examination for mineral content. In these two samples there was some selection of the chips, that is H D M 11 and 12.

Eight other samples were taken at various sites on the property and the position and lengths of sample along with the assay results are plotted on Fig. 3.

All of the samples were sent to Chemex Labs Ltd., 212 Brooksbank Ave., North Vancouver B.C. for rock geochemical analysis. These results are reported in ppm for copper, lead, zinc and silver and in ppb for gold.

Two samples, H D M 18 and H D M 6100 were then selected for a more difinitive assay. H D M 6000 was selected for a thirty one element Spectrographic analysis.

RESULTS

Although most of the chip samples were taken from weathered outcrop surfaces some surprising assay values were obtained, most notably H D M I, H D M II, H D M I6, I7, I8 and H D M 6000 - 6100 all in the region of the north and north western portion of the area sampled. This zone of good assay results lay in an area roughly 250 metres long by about 100 metres wide.

The above assay results were obtained in areas where the apparent surface weathering did not appear as intensive as other areas sampled, ie. H D M 9, H D M I0, H D M I2 and H D M I5 where the rocks were very rusty and yellow sulphur stains coated some of the rock outcrop surface.

The assay result of H D M I9 would suggest that further prospecting should be conducted towards the southern portion of the H D M 2 claim in a further search for the grey green volcanics of type one which seems to be the more favourable host for copper mineralization.

CONCLUSION

Strata bound?

The results of the sampling to date has outlined a zone of good grade copper mineralization with interesting associated silver values, this zone being of sufficient areal extent to warrant further exploration on the claim group. This mineralization at this time would appear to be restricted to the interbedded grey green volcanic breccias and flows (rock type I, Fig. 3) and particularly within the northern portion of this group of rocks where there are fewer siliceous and rhyolitic tuff beds.

There may be an extension of this rock type to the west under the red and maroon breccias and flows (rock type 2, Fig. 3).

Further exploration to the south of H D M I9 should be undertaken to see if there are other zones of type I volcanics that contain copper mineralization.

Since little copper mineralization had been observed in the red and maroon breccias and flows few samples were taken for assay. However some further work should be done on these red beds.

More time should be spent on mapping the geology of the area. Some detailed mapping of the mineralized zones should be conducted on the areas of mineralization to determine the controls of the mineralization.

This property would appear to be a property of some merit and further exploration should continue.

1.0 SUMMARY

The HD claims #1-8 were staked by prospector, Frank Onucki, in July 1991 to cover known and suspected copper-silver-gold mineral occurrences near Herd Dome Mountain in central British Columbia. These claims, composed of 60 claim units were optioned by F. Onucki to Placer Dome Inc. who immediately arranged for the staking of additional claims (152 units in HD 9-18) to protect the "core claims". The claims are located on map sheets 93L 4&5 and are centred approximately at 54° 15'N latitude and 127° 39'W longitude.

During August and September of 1991, Placer Dome personnel carried out prospecting, rock sampling and geologic mapping on the property. In addition, heavy mineral stream sediment sampling was carried out in drainages which drain the periphery of the property.

The objective of this field work was to first investigate the area in the vicinity of a sub-circular "pipe" or a ring-like structure where the prospector had in earlier days located well-mineralized float rock samples which carried significant values in copper, silver and gold. In addition, prospecting in other areas was planned in an attempt to locate and to investigate other areas of mineralization.

The results of this work confirmed the presence of copper mineralization in the brecciated or fragmental volcanic rocks in the vicinity of the "pipe" and also in two areas peripheral to it. A total of 103 rock samples were collected for ICP and assay analysis.

It is recommended that more follow-up work should be carried out on these mineralized occurrences to evaluate their potential for bulk tonnage copper-precious metal deposits. Large areas of the property are unexplored and continuation of prospecting of these areas is also recommended.

2.0 INTRODUCTION

This report summarizes the exploration work which was carried out by Placer Dome Inc. on the HD claims in the Omineca Mining Division in the fall of 1991.

The Herd Dome property consists of 18 contiguous claims totalling 208 units which are located about 68 km southwest of Houston, B.C. The property is presently only accessible by helicopter.

Frank Onucki, prospector, staked the DH #1-8 claims in July 1991 to cover copper-silver-gold mineralized occurrences that he had first observed in the early 1970's. He optioned the claims to Placer Dome Inc. on August 7, 1991 who followed up with the staking of additional claims, HD #9-18.

It is believed that the claim area has undergone only a minor amount of prospecting work and that the mineralization has never been tested by drilling. This may have been due in part to the rugged mountain terrain and the presence of snowfields on some of the ridge tops, in the canyons and valleys which tend to inhibit exploration activities.

3.0 LOCATION & ACCESS, AND TOPOGRAPHY

The Herd Dome property is located on the east flank of the Coast Mountains in west-central British Columbia. The claims are centred at approximately 54° 15'N latitude and 127° 39'W longitude. Access to the property is by helicopter from Houston, 68 km to the east-northeast or from Smithers which is 70 km to the north-northeast. An all-weather gravel road from Houston and along the Morice River and Morice Lake logging roads provides road access to staging areas which lie within 10 km of the north and east boundaries of the Herd Dome property.

7.0 MINERALIZATION

Only a relatively small portion of the Herd Dome property has undergone prospecting, sampling, and geologic mapping. However, Placer Dome personnel have succeeded in identifying three areas within the central part of the property which contain copper and silver mineralization. These are the Pipe Area Mineral Zone, the Onucki Mineral Zone, and the Bragg Lake Mineral Zone, with the Pipe Zone area having received most of the attention to date. Results of rock chip sampling in these three mineralized zones are plotted on Figure 6.

In the Pipe Area mineral zone, copper and silver minerals have been found in brecciated or in fragmental volcanic flow rocks, mainly of andesitic to dacitic composition. Petrographic studies have identified the favoured host rock as an albite-quartz-chlorite-pyrite altered dacitic porphyry or a dacitic coarse lapilli tuff or breccia. Chalcopyrite is the main copper mineral which occurs as discontinuous veinlets, blebs, specks, disseminations, in vesicles or in small shears. Bornite, covellite, and chalcocite have also been identified in the dacitic flows in the Pipe area, and malachite - azurite stains and coatings are conspicuous on some outcroppings ^{on} cliff faces. Pyrite is fairly common as minute specks or as disseminations ^{and} has also been observed to be associated with finely-disseminated chalcopyrite in some of the hematized andesitic fragments which are often surrounded by a quartz-calcite matrix. Chip and panel sampling of one mineralized outcrop returned 0.55% Cu and 12 ppm Ag over an interval of 6 m and grab samples obtained from other outcrops have returned values of up to 1.65% Cu.

About 40 outcrop rock chip or panel samples were collected by Placer Dome geologists for assaying and geochemical analysis from an area measuring approximately 250 m x 250 m in the Pipe Zone. The limits of the mineralization are not precisely defined because much more work is required and also because

extensions of mineralization appear to be concealed by talus cover and snow, or may be abruptly cut-off by steep cliff faces.

The copper and pyrite mineralization in the Onucki Mineral Zone (located about 1 km east of the Pipe Zone) was discovered fairly late in the season and consequently was only examined and sampled in a cursory fashion. The chalcopyrite-pyrite-silver mineralization in this locality appears to be associated with andesitic tuffaceous rocks and assay results from samples collected here suggest that the copper and precious metal values are lower than those in the Pipe area. Two chlorite-epidote, magnetite-rich, diorite dykes were also noted in the vicinity and their relationship, if any, to observed mineralization has not been determined.

Chalcopyrite-pyrite-malachite mineralization has been observed as fracture fillings and as veinlets in porphyritic and fragmental andesitic outcrops in the vicinity of Bragg Lake. This mineralization appears to be localized and restricted in size but prospectors have reported some signs of copper mineralization occurring in similar rocks lying proximal to the southwest. This area requires follow up work to determine if extensions or continuity of mineralization can be established.

Prospecting and mapping of an area southwest of Herd Dome Mountain failed to locate any signs of copper mineralization although the amount of rock outcrop exposure was considered excellent.

The prospectors, operating out of a fly camp located near the southeast corner of claim HD-#4, discovered three pyrite-chalcopyrite-malachite stained showings. These showings, although appearing to be local and small, were observed to occur within fragmental or brecciated andesite-dacite flows and would warrant some follow-up work in view of their similarity to the mode of copper occurrences in the Pipe Zone area.

CC-1

Mineralized (copper), brecciated trachytic lithic breccia

General description

Host rock

Brecciated trachytic lithic breccia. High fragment to matrix ratio. Ghost-like lithic fragments, although of similar mineralogy, show textural, subtle grain-size and colour differences. Probable polymictic volcanic origin (crystal tuffs and possible flows).

Lithic fragments are composed of partially altered plagioclase crystal fragments/phenocrysts and glomerophenocrysts and widely scattered (<1%) microcrystalline quartz fragments. Plagioclase phenocrysts show partial alteration to sericite, and red-brown alteration dusting. The lithic fragment matrix is microgranular/microcrystalline K-feldspar-rich (confirmed in stained slab) with varied abundance of weakly foliated plagioclase microcrystals. Some lithic fragments contain conspicuous grains and clusters of grains of very fine-grained quartz. Both flow and tuffaceous textures are suspected. The matrix is obscured by reddish brown alteration dusting and iron-staining. Small clusters of microgranular chlorite and epidote (?) alteration affects specific lithic fragments.

The protolith breccia matrix between lithic fragments is inconspicuous because of overprints of successive stages of fracturing, fracture filling and impregnation. The matrix is composed of microgranular (tuffaceous) material similar to lithic fragments which locally has a layered appearance.

Crackle brecciation (superimposed)

Very irregular multistage crackle brecciation, with some dislocation of wall rock fragments. Infilling of successive stages is by K-feldspar, followed by quartz, followed by about 10% copper sulphides (in this section) accompanied by some quartz and minor sericite. Late fracturing (brecciation) is infilled with additional quartz, secondary copper minerals (including covellite), and hematite. CC-3 contains carbonate in late fractures with remobilized secondary copper minerals.

Mineralization: 10%

Copper mineralization has strong fracture (breccia) control but does show some fine disseminated sulphides (bornite, diginite, covellite) extending a few millimetres from breccia matrix out into wall-rock. The lithic fragments are not uniformly altered and mineralized. In approximate order of abundance the sulphides include chalcopyrite and bornite with lesser diginite. Secondary minerals include covellite which rims and veins primary sulphides and is intergrown with malachite, azurite (present) and hematite (and associated iron-stain).

CC-1 (Continued)

Reflected light

Opagues; 10%, Strong fracture controlled with very minor disseminated impregnation (to <0.5 cm) of wall rock adjacent to fracture systems. Mineralized fracture systems are almost entirely sulphides with some associated quartz and weak sericite. Lesser secondary(?) sulphides are associated with late carbonate in other sections.

Primary

Chalcopyrite; <5%, anhedral, (<.01 to masses >3.0 mm) with bornite and veined by bornite, covellite. Fracture controlled and associated with quartz gangue.

Bornite; <5%, anhedral, (<.01 to aggregates of grains >0.5 mm). Irregular masses associated with chalcopyrite, overlapping and post chalcopyrite deposition. Strong fracture control. Weak disseminated impregnation for a few mm into wall rock. Associated quartz gangue.

Digenite; <<1%, anhedral, (<.01 to 0.1 mm), irregular grains in fractures, cutting bornite and limited dissemination as for bornite in wall rock.

Secondary

Chalcocite, secondary; <<1%, anhedral (<.01 to masses 0.2 mm) Fracture controlled. felted intergrowths of covellite.

Covellite; <1%, anhedral, (<.01 to .05 mm) felted clusters rimming and veining bornite chalcopyrite and digenite. Fracture control and weak dissemination replacing digenite and bornite. Felted intergrowths with chalcocite.

Malachite; fracture filling.

Azurite; very minor fracture filling.

Hematite and iron stain; conspicuous fracture filling.

Note: no silver-bearing minerals were noted in this section.

CC-1A

As for CC-1. Polishes section contains the same opaque mineral assemblage and in approximately the same proportions as CC-1. The presence of tetrahedrite was anticipated but not detected.

Note: no silver-bearing minerals were noted in this section.

CC-2

Mineralized (copper brecciated trachyte/trachyandesite lithic breccia

General description

Host rock

Brecciated trachyandesite lithic breccia. High fragment to matrix ratio. Ghost-like lithic fragments very indistinct outlines. Stained slab and thin section illustrates polymictic nature of lithic fragments showing textural differences (felted flow and fragmental tuff fragments), differences in colour and mineralogy (including original K-feldspar-rich and plagioclase-rich).

Similar to CC-1 except polymictic lithic fragments more conspicuous. Alteration weak sericite, very weak chlorite, and epidote(?) as for CC-1. Microgranular breccia matrix more conspicuous than in CC-1.

Superimposed multistage crackle brecciation and infilling appears similar to that described for CC-1. Early stage fracturing introduced K-feldspar in addition to the original K-feldspar present in most lithic fragments. One of the crackle brecciation stages controlled copper mineralization and was accompanied by quartz as for CC-1. Relative abundance of copper minerals as for CC-1. Shows more abundant diffuse disseminated mineralization into wall rock adjacent to crackle brecciation (to several mm) with selective impregnation of certain fragments. Thin section and hand specimen shows late quartz veining and silicification unaccompanied by mineralization.

Reflected light

As for CC-1 with a total of 5% sulphides. Shows bornite with exsolved(?) chalcopyrite and partial replacement by digenite and felted covellite.

Suggested paragenesis

Chalcopyrite	_____
Bornite	_____
Digenite	-----
Covellite	_____
Sphalerite/galena	_____

CC-3 Large slab

Mineralized, multistage brecciated, lithic breccia

Macroscopic description

The rock has had a complex history of brecciation, simple fracturing, infilling with gangue and mineralization.

A suggested sequence of events is as follows:

The first period of brecciation was accompanied by K-feldspar infilling/impregnation. Subsequently there was refracturing with quartz veining followed by additional fracturing, mineralization by copper sulphides with minor quartz. This was followed by additional quartz veining and late fracturing filled with secondary copper minerals, copper carbonates, hematite and scattered carbonate.

The protolith is a polymictic lithic breccia composed of subrounded to subangular lithic fragments ranging in size (>5.0 cm with most 0.5 to 2.0 cm). The breccia has high fragment to matrix ratio. The original breccia matrix, where discernable, is composed of lithic fragment material grading downwards to <1 mm.

Most of the coarse breccia fragments are of similar texture, weak to moderate fine crystal fragments (phenocrysts(?)) in a microgranular (aphanitic) matrix. Some fragments have the irregular laminated textures of laminated felsites (welded?). Colour ranges widely through shades of grey, grey-brown, red-brown, orange brown etc. Stained slabs from CC-1 and CC-2 have strong K-feldspar content in most fragments with a few conspicuous plagioclase-rich, K-feldspar deficient fragments. CC-3 contains one fragment (approximately 1 cm diameter) which is microgranular epidotized.

Portions of the polished slab CC-3 show areas where the matrix between coarser lithic fragments are composed of similar but smaller lithic fragments grading downwards (to <1 mm). The remainder of the breccia matrix is impregnated and obscured by K-feldspar and siliceous (?) impregnation.

A subsequent episode of strong crackle brecciation was accompanied by chalcopyrite-bornite-digenite mineralization of breccia voids (fractures) with lesser fine disseminated mineralization in adjacent wall rock. This stage of mineralization was accompanied by coarse quartz infilling. Secondary digenite-covellite occurs as rims around the earlier copper minerals and in late fractures commonly accompanied by hematite, lesser malachite. Patchy carbonate fracture filling appears to be very late and contains lesser blebs of secondary or remobilized mineralization.