

GOLDEN RING RESOURCES LTD.
GOLDEN RING RESOURCES (JAMAICA) LTD.
THE HALF YEARLY EXPLORATION REPORT
ON
THE EXPLORATION AND DIAMOND DRILLING ACTIVITIES
INITIATED ON
SPECIAL PROSPECTING LICENSE 400
FROM
FEBRUARY 10, 1992 TO AUGUST 10, 1992
Prime Explorations - a division of
PRIME EQUITIES INTERNATIONAL CORPORATION

September 15, 1992

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INTRODUCTION

The Bellas Gate Property ("the property") is located in central Jamaica, West Indies, approximately 50 miles northwest of Kingston. The property covers an area of approximately 44 square miles and is comprised of contiguous Prospecting Licenses S.E.P.L. 400 and 411 held by Trev Corp as well as E.P.L. 349 to which Trev Corp has an option to earn a 100% interest subject to a 10% N.P.I. payable to Jam Can Resources Ltd. On November 6, 1991, Golden Ring Resources Ltd. entered into an agreement with Trev Corp whereby Golden Ring Resources Ltd. was granted an option to earn a 100% interest in the Bellas Gate Property. In January of 1992, Golden Ring Resources Ltd. initiated a program of diamond drilling to evaluate the Camel Hill and Connors Porphyry Copper Deposits as well a program of trenching, prospecting and ground magnetometer surveys to assess the further potential of the property to host large tonnage porphyry copper deposits.

CONCLUSIONS

The initial drilling of the Connors Deposit confirmed the presence of and expanded upon the previously drilled copper mineralization and low grade gold mineralization. As well, drill recoveries were improved and any potential enriched supergene capping was tested. As encouraging as our results were, the Northern Alteration Zone in the area of Connors is heavily inhabited and it would be both

costly and time consuming to conduct detailed exploration and development due to the massive compensation which would be required to secure the surface rights. Based on experiences from this limited phase of reconnaissance diamond and auger drilling in Connors, identifying and compensating property owners affected by a more advanced drilling program would be a long, costly process, involving lengthy litigation, arduous negotiation and ultimately government intervention. The northern extension of the North Alteration Zone has less population and has received little exploration. Although this area is topographically steep and heavily vegetated it may offer some more favourable opportunities.

Step-out drilling at Camel Hill failed to identify additional economic mineralization but did encounter a structurally complex, hydrothermally altered and mineralized volcanic-intrusive geological environment intruded by numerous post mineralization dykes.

Exploration drilling, to the northwest of Camel Hill along the northern extension of the Southern Alteration Zone indicates the potential for porphyry style mineralization at both the Mab Hill and Geo Hill areas. Geologic setting, alteration assemblages and style of mineralization at both Mab Hill and Geo Hill areas are very similar to that encountered at Camel Hill.

Initial exploration drilling conducted at Dry Hill failed to

intersect any significant stratiform mineralization. However, the potential for stratiform mineralization hosted within the Peter's Hill Formation sediments is still untested in some areas of Dry Hill and remains untested by diamond drilling on Pleasant Hill.

The Grants prospecting targets appear to be narrow discontinuous zones of fracture mineralization adjacent to feldspar porphyritic dykes of dacitic to andesitic composition near the south end of the North Alteration Zone. Present data does not support the potential for a large tonnage deposit occurring in this area.

Areas of Interest

Porphyry targets at the north and south ends of the Connors/Northern and Gold Mine/Southern alteration zones ring what is interpreted to be a deep buried intrusive volcanic complex. A new government geophysical (mag-gravity) interpretation of the Connors-Gold Mine area would suggest that Mountain Hill/Calabash Ridge is underlain at depth by a lobe of intrusive. Perhaps related to the Ginger Ridge Stock, dated at 83 my which is pre-mineralization and an old age intrusive for Jamaica. Younger high level quartz and feldspar porphyry calc-alkaline intrusions appear to be confined to two structural-alteration zones in the Connors and Gold Mine areas. Complex, late stage movements on these earlier faults is evident from multiple lineation/shear directions observed in the drill core.

These older volcanic rock sequences are then overprinted by younger andesite dyking which are probably feeders for younger overlying volcanic cycles. Copper-silver mineralization is thought to be related to a younger mineralizing event which is most often expressed as variable weak fracture and dissemination types.

The Early to Mid Cretaceous volcano-plutonic complex exposed within SEPL 400 is actively eroding with the area being unroofed approximately 9 million years ago. The present erosion level in the Gold Mine area just exposes the upper intrusive-volcanic contact zone which is overlain by interbedded volcanics and sediments in the younger upper volcanic zone. Therefore any additional porphyry systems will not be exposed, thus being a blind target requiring exploration utilizing geophysics and diamond drilling. Rock exposed in Rock River and its tributaries near Gold Mine are thought to be part of the older Arthur's Seat Formation and include andesitic flows, flow breccia and tuffaceous sediments. They commonly display evidence of intense alteration which occurs as veins and pervasive silicification accompanied by disseminated and vein pyrite with occasional traces of chalcopyrite and sphalerite or more weakly propylitically altered chlorite and quartz-epidote-carbonate veined volcanics or sediments.

The high grade silver-copper mineralization which occurs adjacent to the Little Juan de Bolas River between Content and Retreat could be further evaluated in conjunction with any other additional

work. Evaluation of known showings of this type to date indicate they are narrow high grade multi-element or Silver\Copper vein systems hosted in intermediate volcanics and sediments.

Other exploration targets to consider are high level precious metal epithermal systems. Evidence of this type of mineralization may be indicated by some of the C.I.D.A. sampling conducted on the property.

RECOMMENDATIONS

Exploration activities completed to date on S.E.P.L. 400 have been successful in partially defining two small geological mineral resources of low grade copper at each of the Connors and Camel Hill localities. Associated with each copper porphyry deposit is accessory gold, averaging in the range of 0.3 to 0.5 grams per tonne at Camel Hill. To improve on the economic potential of this License area, considerable size must be added to these deposits. In the Case of Connors, expansion to the south and southwest provides the greatest potential as the Ginger Ridge Stock confines the mineralization to the north and east. The best potential area at Camel Hill lies to the south and southeast, although structural complexities may limit expansion in this direction.

A more encouraging area to focus future exploration activities

towards identifying similar deposits is within the northward extent of the Southern Alteration Zone beyond Camel Hill. Golden Ring Resources Ltd.'s diamond drilling at both the Mab Hill and Geo Hill locations returned intersections of low grade copper and gold mineralization of similar tenor to that encountered at Camel Hill. As Geo Hill and Camel Hill lie some 6,000 feet apart, a considerable area of prospective ground remains to be fully tested. The only other drill hole in this area was the Mab Hill site. Additional similarly altered stratigraphy extends northwestward and beyond the GEO92-01 drill site which is also considered highly prospective.

Diamond Drilling at Dry Hill was targeted on existing areas of surface trenching. To further test the postulated strata-controlled (structural or lithologic capping) target at Dry Hill, the exploration focus should be to the south, west and east of the area drilled. A large circular shaped copper soil anomaly surrounds the cover rock of Dry Hill and may represent down slope dispersion from a gently dipping strata to the south. This potential is also supported by the topographic locations of the anomalous points being lower in elevation towards the south.

Subsequent exploration of S.E.P.L. 400 should consist of controlled grid establishment, detailed geochemical sampling, prospecting, geological mapping and hand trenching in the Dry Hill area and also the Camel Hill to Geo Hill trend of the Southern Alteration Zone.

Geophysical surveys by magnetometer and Induced Polarization techniques should also be considered.

Success in the initial ground-truthing programs should then be followed-up with auger drilling and diamond drilling.

Other areas of interest on S.E.P.L. 400 could be evaluated initially utilizing field prospecting and mapping techniques. Included in this category are the many C.I.D.A. identified geochemical anomalies, the east flank of the Ginger Ridge Stock, Ginger Ridge area and recently identified geochemical and/or geophysical targets not fully evaluated to date.

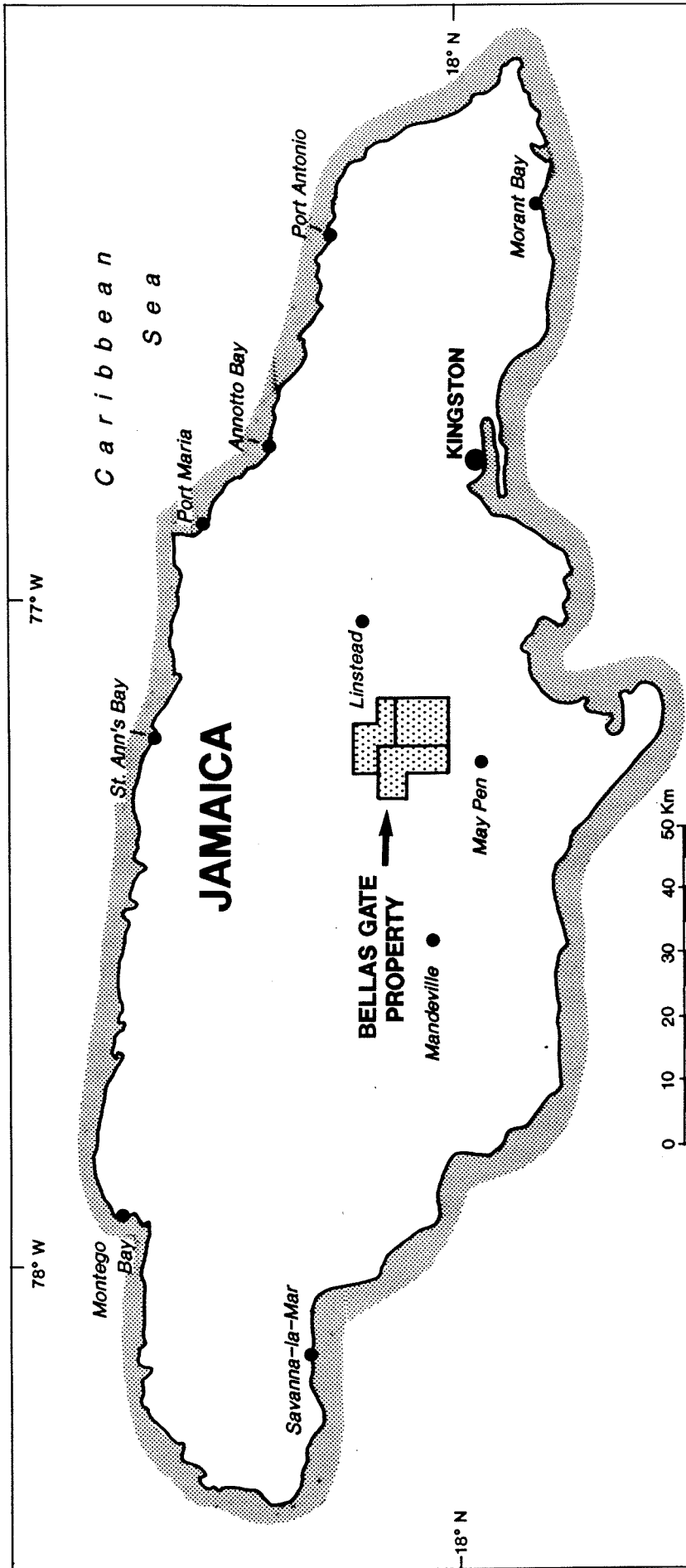
It is also recommended that a considerable amount of time, energy and funding be budgeted to undertake any form of exploration in this area. Exploration planning must allow for the time factors involved with community notification, education and compensation as well as the associated costs. The recommendations for further exploration presented in this report take into account these various factors and emphasize areas of lower population concentration such that work efforts will be less inhibited.

LOCATION AND ACCESS

The property is located in "cockpit [?]country" on the island of Jamaica, approximately 50 miles northwest of Kingston in the Parish of St. Catherines (See Figure #1). Access to and within the property is excellent. An extensive network of roads, trails and footpaths covers the property and most of the roads can be travelled by 4WD vehicles.

The property is situated within the central of three main Cretaceous Inliers that lie along the axis of the island (See Figure #2). The terrain is rugged with many rounded hills separated by deeply incised river valleys. Vegetation ranges from rain forests in the valleys where moisture can accumulate to arid grass and brush covered hilltops. Approximately 80 to 90% of the total area of land is utilized for agriculture, either for grazing or cultivation of various crops. Due to the wide network of roads and paths the population is widely distributed with local concentrations near the many villages or towns within the license area.

The climate is tropical with two distinct rainy seasons, one of unpredictable intensity and timing in the spring (usually around May), the other in the fall usually beginning in late August and lasting until November. During rainy season daily episodes of torrential rainfall are common making travel on some of the dirt

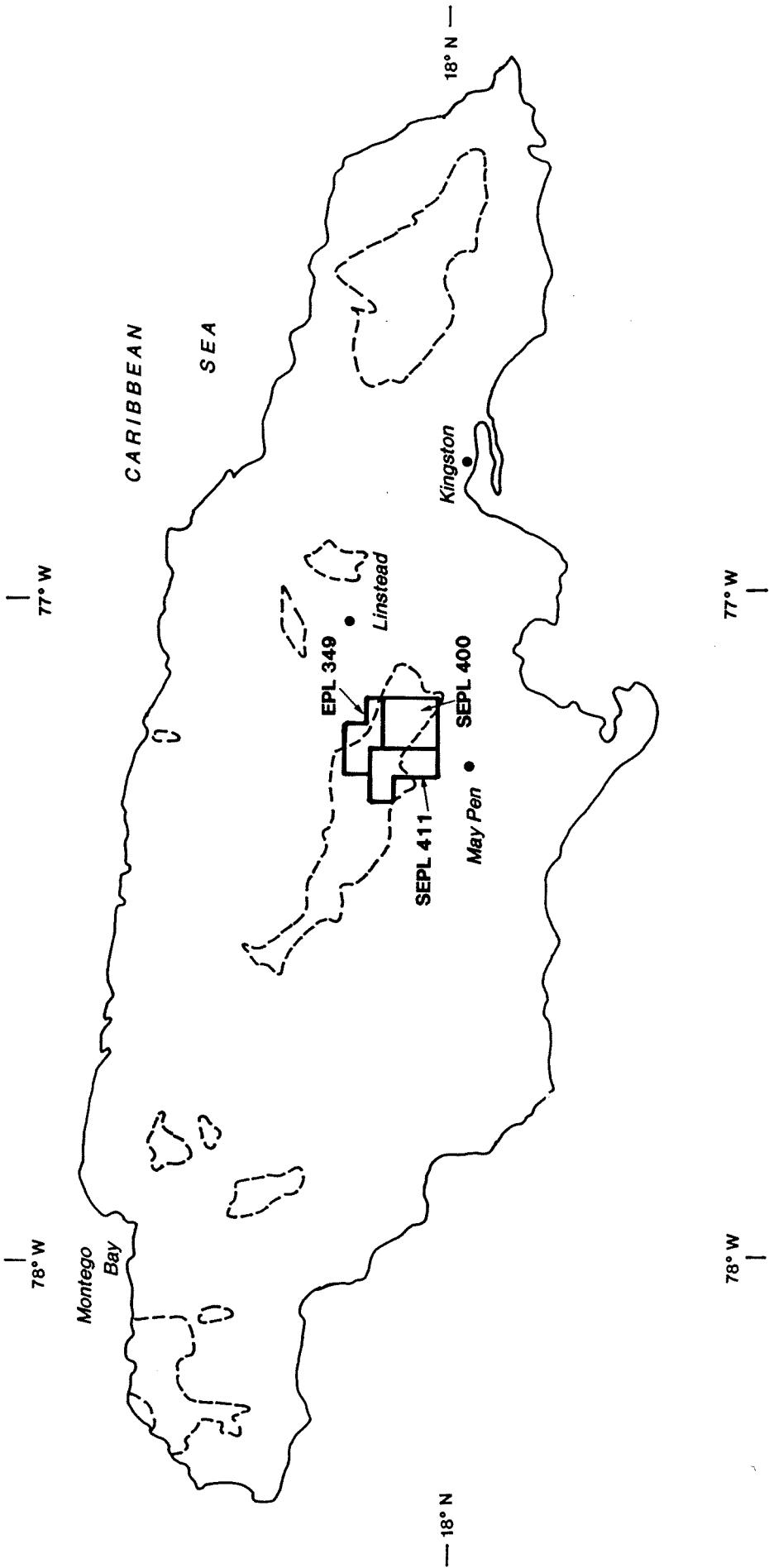


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GOLDEN RING RESOURCES LTD.
BELLAS GATE PROPERTY, JAMAICA
LOCATION MAP
Date: April 27, 1982
Drafted by: E.R.
FIGURE 1

77° W
└

78° W
└





GOLDEN RING RESOURCES LTD.

BELLAS GATE PROPERTY, JAMAICA

REGIONAL GEOLOGY

PRIME EXPLORATIONS
 & division of Prime Equities International Corporation

Date: April 24, 1992

Drafted by: E.F.

FIGURE 2

○ Cretaceous Inliers



roads and paths extremely difficult. Many streams and rivers are seasonal and a water supply for drilling and human consumption becomes severely limited during the dry seasons. A crude intermittent water system exists in most of the communities on the property. Water is pumped from rivers to supply reservoirs where the water is chlorinated and pumped to various villages depending on location and elevation. Water supply is largely dependant on the river supply and in the dry seasons pumping stations usually only operate a few hours per day.

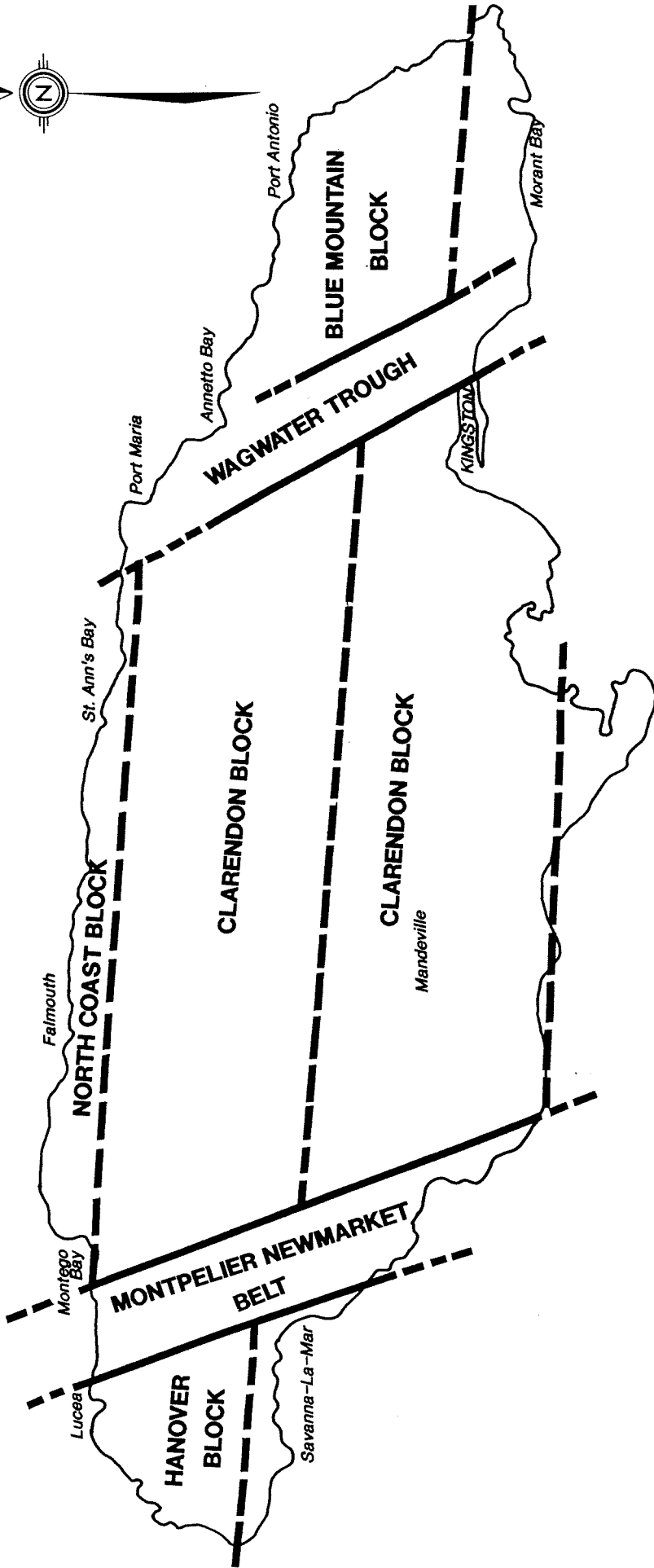
REGIONAL GEOLOGY

The island of Jamaica is part of the Greater Antilles island arc system, situated on the northern Caribbean plate margin where it abuts the north American Plate. The two plates are separated by the east-west trending, tectonically active Cayman Trough. The Greater Antilles island arc system hosts large porphyry copper and copper/gold systems in Puerto Rico and the Dominican Republic. Jamaica is also situated on the Nicaraguan Rise, a northeast trending zone of crustal thickening. Numerous precious metal and porphyry copper deposits occur along this trend to the southwest in Panama and Costa Rica.

Jamaica is underlain by an island arc built upon Cretaceous or older Jurassic oceanic crust. Early Cretaceous plate convergence produced an island-arc-margin basin system that was modified by

Tertiary strike-slip movement. During Early Cretaceous arc evolution, sedimentary rocks were deposited in small and discontinuous basins which represent a wide variety of depositional environments. Volcanic rocks are dominantly calc-alkaline in nature, but the earliest stages of volcanism produced a more primitive island-arc series (Draper, 1990). More evolved Mid Cretaceous volcanism resulted after a major plate re-adjustment. Late Cretaceous granitoid intrusions were emplaced during deformation of the early and Mid Cretaceous volcanic arc.

The island stratigraphy has been deformed resulting in a well developed east-west anticlinal structure modified by rift boundaries and block faulting in a NNW direction (Brewster, 1991). During the Cretaceous, east-west, left lateral strike-slip faulting occurred paralleling the Cayman Trough. During the Tertiary, Palaeocene to mid Eocene, fracturing and rifting along major north northwest trends was accompanied by minor dacitic and basaltic volcanism and intrusion, best exemplified in the Wagwater Trough. It was this rifting event that developed the present block and graben structure forming two major troughs which divide the island into three structural blocks, the Hanover Block to the West, the Central Block and the Blue Mountain Block to the East (See Figure #3). A 30 million year period of quiescence occurred from the mid Eocene to late Miocene during which gradual subsidence of the island was accompanied by deposition of several thousand feet of platform carbonates which cover much of Jamaica today.



GOLDEN RING RESOURCES LTD.

BELLAS GATE PROPERTY, JAMAICA

STRUCTURAL INTERPRETATION

PRIME EXPLORATIONS
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Date: April 24, 1982

FIGURE 3

Drafted by: E.R.

The present morphology is dominated by features resulting from Late Miocene to present, east-west trending left lateral transcurrent tectonics. Movements are postulated to be in the order of hundreds of kilometres. Structures developed during these tectonic episodes include the youngest east-west, left-lateral transcurrent faults, northeast-southwest normal faults and older northwest-southeast reverse faults often with complex scissors movement and folding.

A major problem in describing the Cretaceous rocks of Jamaica is the lateral variation in the stratigraphic succession that resulted from deposition in small basins marginal to the island arc system. Each Cretaceous Inlier has a different stratigraphy and the larger inliers have lateral facies variations that make correlation across them difficult.

PROPERTY GEOLOGY

In south central Jamaica, within SEPL 400, the Cretaceous island arc sequence is exposed in a major northwest-southeast anticlinal structure, the Central Inlier. The inlier is overprinted by the recent Crawle River fault system, a left lateral zone of deformation. Sedimentological evidence indicates that erosional unroofing of the Cretaceous Central Inlier began in the Mid Miocene about 9 million years ago, probably marking the initiation of major Tertiary deformation which continues today.

SEPL 400 is underlain dominantly by Cretaceous volcanic, sedimentary and lesser intrusive rocks. To the south, these older rocks are unconformably overlain and/or in fault contact with Tertiary platform carbonates. Within the Licence area vegetation, soil and talus cover, along with tropical weathering, strongly affects the local rock exposure which is often less than five percent by area.

The oldest dated rocks are the Arthur's Seat Formation, Eastern volcanics or locally known as the Gold Mine or Connors Volcanics. These volcanics and interbedded sediments are of Santanian, early to mid Cretaceous age, based on fossil evidence from the Arthur's Seat Formation found to the north. The volcanic succession comprises a wide variety of andesitic and lesser basaltic flows, breccia, pyroclastics and interbedded volcanoclastic sediments. The rocks are commonly altered to greenschist facies or are propylitically altered and contain chlorite-actinolite-epidote-albite-carbonate-pyrite mineralogy.

The lower volcanic stratigraphy is succeeded by thinly bedded shale and fossiliferous limestone of the Santanian to early Campanian, mid Cretaceous age. This, the Peter's Hill Formation occurs as hilltop remnants and sparse outcrops at Bellas Gate, Sunhold, Sand Hole, Dry Hill and Pleasant Hill.

Brewster (1991) describes the property geology as three main

stratigraphic units, the oldest being the Juan de Bolas Formation overlain by the Browns Hall Formation and the Rock River Formation. Brewster describes the Juan de Bolas Formation as "the oldest rocks within the area" and lithologically as "well bedded volcanic conglomerate, siltstone and claystone, with associated limestone, mudstone and shale". Volcanic conglomerate was observed along the Rock River valley and we agree that the conglomerate is some of the oldest exposed strata on the property, however, we believe the volcanic conglomerate as well as most of the rocks on the property belong to the Arthur's Seat Formation. Limestones and sediments, described as being part of the Juan de Bolas Formation were not observed in any of the lower stratigraphy traversed on the property and the only limestone occurrences noted were the remnants of Peter's Hill Formation observed on some of the hilltops within the license area. The Brown's Hall and Rock River Formations defined in Brewster's Report (1991) would be the stratigraphic equivalent of what we interpret to be Upper Arthur's Seat and Lower Peter's Hill Formation.

The lower volcanic succession is intruded by a compositionally diverse sequence and age of small plutons, stocks and dykes. They range in composition from basalt to granite, some of which are feeders to younger volcanic sequences. The most significant of these bodies, the Ginger Ridge Stock, is a large, bulbous-shaped granodiorite body outcropping over an area of approximately two square miles (Brewster, 1991).

Recently, an interpretation of the Camel Hill-Connors area geology based on newly processed geophysical maps has been made by a joint effort between C.I.D.A. and the Jamaican Geological Survey. This data indicates that the area is underlain at depth by intrusive rocks. Steep faults bound the area and a reverse fault is postulated to expose the older Ginger Ridge Stock pre mineralization intrusive which has been dated at 83 my (Porter, 1970). Northwest trending fault zones flank the buried intrusive at Connors and Camel Hill and appear to be the loci for younger intrusive activity, hydrothermal alteration and copper mineralization. This information suggests that these fault zones may be prospective areas for the discovery of buried porphyry style mineralization as also indicated by preliminary drilling results at Mab Hill and Geo Hill.

MINERALIZATION

Within the Licence area, the most significant mineralization discovered to date, consists of disseminated copper which is associated with small intrusive bodies of intermediate composition and their altered host rocks (Fenton, 1974). A number of mineral occurrences, including the porphyry targets at Gold Mine and Connors are associated with two, roughly northwest trending zones of hydrothermal alteration, structural complexity and intrusive activity (See Figure #4). These alteration zones have been the focus of the vast majority of previous exploration (Fenton, 1974).

Several types of alteration related to porphyry mineralization have been recognized (Bergey, 1958; Fenton, 1974) and include; potassic, phyllic and propylitic types. Potassic alteration is restricted to the core of the porphyry alteration and comprises quartz-K-feldspar-biotite sericite, magnetite and chalcopyrite. Phyllic alteration is also restricted to the core zone of porphyry alteration and comprises quartz-sericite-chlorite and minor K-feldspar ± magnetite-pyrite and chalcopyrite. Propylitic alteration marks the periphery of the porphyry alteration and is comprised of chlorite-calcite-epidote and pyrite.

The best copper mineralization encountered to date at both the Connors Deposit and the Camel Hill Deposit is associated with magnetite and therefore has a strong magnetic signature. Additional types of mineralization encountered in the licence area include; quartz and/or carbonate veins containing high grade copper and some precious metals as at Charing Cross or Stamford Hill; replacement of calcareous sediments by copper as at Dry Hill and at dyke contacts or shear zones where disseminated malachite occurs (Fenton, 1974).

PROSPECTING EVALUATION

Previous field work completed in the Licence area by Geophysical Engineering and Surveys Ltd on behalf of Jamaica Copper and Iron

Ltd.(1955 to 1975) included an airborne magnetometer survey, geological mapping, prospecting, ground geophysics (magnetics, resistivity and self-potential) and geochemical soil and silt surveys.

Evaluation of the existing geochemical and geophysical data was in progress by Trev Corp, prior to optioning SEPL 400 to Golden Ring Resources Ltd. Trev Corp had performed regional and follow-up silt and soil sampling in conjunction with prospecting, to further define anomalous geochemistry and new prospecting discoveries.

Numerous areas within the Licence area were deemed to constitute high to intermediate priority, reconnaissance to advanced exploration targets (Molloy, 1991). These targets were characterized by a number of favourable attributes including surface mineralization, alteration, structural complexity and are coincident with geochemical and geophysical anomalies.

Several prospective areas were selected by Golden Ring Resources Ltd. for exploration including the priority northern Connors and southern Camel Hill porphyry trends. In addition, several other nearby areas including Grants-Bellas Gate, Dry Hill and Mitchell's-Pleasant Hill were explored. Following initial prospecting, evaluation comprised an orientation examination of the mineralized areas. Promising areas were hand trenched and sampled. Samples were described and tagged prior to shipment to Technical Services

Laboratories in Canada for analysis. Copper and gold analysis were performed routinely with many samples being analyzed for thirty elements. A summary of the location of the various prospected areas is presented in Figure .

BELLAS GATE-GRANTS AREA

In the Bellas Gate-Grants area several locations were explored. They represent different sites along the strike of several dacitic to andesitic feldspar porphyry dykes. These NNW-SSE trending dykes cut obliquely across the volcanic stratigraphy and are exposed in a series of discontinuous outcrops on Grants Ridge immediately south and east of Bellas Gate.

The local volcanic stratigraphy comprises a thick sequence of dark green to mottled reddish andesitic to basaltic feldspar porphyritic flows, pyroclastics and volcanoclastic sediments which are tentatively correlated with the older Arthur's Seat Formation. Both the dykes and the adjacent volcanics are locally altered and veined by mineralization. Mineralization comprises veins, fracture coatings, blebs and disseminations of pyrite and chalcopyrite occasionally with rare traces of sphalerite and galena. It occurs in a gangue of quartz, carbonate, epidote, chlorite and possibly feldspar.

Thicker more competent, brittle-fracturing volcanic units and the

dykes themselves have the best developed vein systems and mineralization. Certain volcanic horizons are preferentially altered and mineralized due to their more reactive primary compositions. Locally enhanced copper values were encountered in the tropically weathered soil-rock profile developed above the bedrock. At many trench localities secondary copper as malachite is concentrated along with carbonate minerals at what appears to be the water table oxidation-reduction zone. In some trenches only secondary copper minerals were observed, while veins and disseminated primary mineralization is an obvious source for secondary malachite in most other trenches. Pitch limonite was observed in many of the Grant's trenches and is distinguished from limonite by its brown resinous appearance and shining black conchoidal fracture which commonly shows red internal reflection.

A distinctive reddish brown limonitic to dark brown goethitic soil is developed locally along the dyke's several hundred metres of strike exposure. This distinctive coloration appears to be in part the result of orange weathering iron carbonate and disseminated sulphides which occur in the dyke and adjacent volcanic wallrocks.

Sixty-two prospecting samples were collected from the Grant's area. Five areas were hand trenched and thirty-three chip samples were collected. Mineralization sampled to date, although locally high in copper, generally has low erratic precious metal content and does not display a distribution of copper values conducive to large

tonnage potential.

MITCHELL'S-PLEASANT HILL

Previous exploration identified numerous small discontinuous primary copper or copper-silver occurrences. Mineralization as veins, fracture coatings and disseminations or as secondary malachite is hosted by a variety of volcanic rocks exposed in the area. The volcanics comprise a thick sequence of pyroclastics, flows and volcanoclastic sediments including tuffaceous marls and shales. These reddish to purplish weathering, hematitic, feldspathic volcanics are probably in part subaerial in origin. Their correlation to other geological units is tentative but they most closely resemble the upper part of the older Eastern Volcanics. They are intruded by numerous brown weathering feldspathic basaltic dykes which commonly are locally altered.

Several types of copper mineralization were observed in the various trenched areas. At Long Hill, south of Mitchell's Hill toward Retreat occur several narrow high grade copper-silver vein showings. They contain chalcocite, bornite and possibly tetrahedrite mineralogy. Copper mineralization occurs with quartz-carbonate-chlorite-epidote gangue mineralogy. At Mitchell's Hill, numerous malachite occurrences are hosted within structural zones, which most commonly occur adjacent to the many basaltic to andesitic dykes. Volcanics adjacent to the dykes contain quartz-

carbonate-epidote-chlorite alteration assemblages.

At Bigwood, immediately north of Mitchell's Hill, a 4-5 foot north-south trending fault-shear transects the reddish hematitic volcanics. Chlorite schist, part of the fault zone hosts quartz-carbonate-epidote veining which contains chalcopyrite and secondary malachite.

At Pleasant Hill, west of Mitchell's Hill, several mineralized areas were trenched. On the northeast hillside occurs a zone of strongly fractured calcareous and tuffaceous sediments which contain malachite and azurite coated fracture zones. The sediments are correlated to the younger Peter's Hill Formation and overlie sheared and altered feldspathic volcanics which were observed south of Pleasant Hill. Mineralization occurs predominantly as malachite fracture coatings but occasionally as primary chalcopyrite-bearing quartz-carbonate-chlorite-epidote veins. This structurally controlled mineralization is exposed in a series of hand trenches from Pleasant Hill southward towards to Wilson's area along Community Gully. Immediately to the west, at Spring Gully, mineralization as malachite coated fractures and occasionally chalcopyrite-pyrite disseminations is exposed in several trenches. Most mineralization is hosted within quartz-carbonate-chlorite-epidote altered and fractured feldspathic volcanics, and occasionally in altered feldspathic dykes.

Structurally controlled vein and fracture mineralization, sampled to date in the Mitchell's-Pleasant Hill area may locally be high grade but is erratic and discontinuous in nature. Mineralization appears to all be related to faulting and intrusion of the younger dykes.

One hundred and forty two prospecting samples and 59 trench samples were collected in the Mitchell's-Pleasant Hill area.

DRY HILL

At Dry Hill, initially several areas were examined and subsequently two areas, Copperweed and Bergy's, were hand trenched. They are located near the Dry Hill access road on the northeast and east slopes of Dry Hill. Two types of mineralization occur in outcrop and within trenches. The first style is secondary mineralization in tropically weathered and leached outcrops which contain reactive carbonate and more commonly, primary mineralization occurring as copper bearing veins and disseminations hosted by weakly altered andesite volcanics, possibly part of the upper Eastern Volcanics, which occur immediately below the Peter's Hill Formation.

In the Copperweed trenches chalcopyrite-pyrite mineralization occurs in vuggy quartz veins and fine fractures. Mineralization is

hosted by quartz-carbonate-chlorite-epidote altered feldspar porphyritic andesites. The volcanics comprise flows, flow breccia, pyroclastics and interbedded volcanoclastic sediments. Feldspar porphyritic andesite or basaltic dykes commonly intrude the volcanic sequence, and possibly even the Peter's Hill Formation sediments.

On the northeast slope of Dry Hill, a large area of copper fern - a variety of fern which commonly occurs on many of the copper showings, occurs coincident with the trench area. This vegetation extends to the east toward the Copperweed trenches. In the lower trench, malachite fracture coatings and quartz-carbonate-chlorite-epidote veins with chalcopyrite disseminations are hosted in weakly altered and fractured andesite. In the upper trench, an irregular contact between Peter's Hill Formation sediments and a dark green, weakly feldspar porphyritic andesite is observed. Mineralization occurs as chalcopyrite disseminations and fracture coatings in the quartz-carbonate-chlorite-epidote altered and veined andesite. In addition, secondary malachite is concentrated along bedding within the adjacent sediments.

Some of the mineral occurrences previously described and the broad copper geochemical dispersion pattern emanating from below the calcareous Peter's Hill Formation, may indicate the possibility for stratiform or stratabound copper mineralization, perhaps related to a stratigraphic, structural or chemical trap.

The large geochemical anomaly on the northwest flank of Dry Hill in the Gold Mine adit area is interpreted to be the result of down hill dispersion emanating from several small scattered mineral occurrences where malachite occurs on fractures and in veins or disseminations within propylitically altered and sheared andesitic volcanics adjacent to the numerous feldspar porphyritic andesite dykes and fracture zones.

CAMEL HILL

Field work was performed in conjunction with auger sampling and diamond drilling at the Camel Hill-Gold Mine porphyry target. Initially soil and rock samples were collected from along the Gold Mine access road. Several weakly anomalous areas were identified and most of the various rock types were sampled. The geochemical results were used to evaluate this easily accessible portion of the alteration zone, most of which is peripheral to the Camel Hill porphyry target.

Surveyors, John Mais and Co., of Kingston, Jamaica, established a two hundred by two hundred foot picketed grid covering the Camel Hill target at Gold Mine. The grid was utilized to locate drill and auger sites and to control field mapping and a magnetics survey (See Figure #5). The grid was extended north-northwest, as a topofil grid, to cover the northern extension of the Camel Hill

geochemical and geophysical trends.

Geophysical surveys (magnetic, resistivity and self-potential) performed by Geophysical Engineering and Surveys Ltd. outlined a large self potential-resistivity anomaly east of and adjacent to Camel Hill. This anomaly appears to be intense silica-pyrite altered volcanic rocks developed at the intrusive contact. The alteration is best observed in outcrop along the Rock River, and a southerly tributary at Gold Mine. Intense silicification both as stockwork veining and pervasive alteration has affected the older volcanic sequence. This is distinctly different from the central and west portion of Camel Hill which has a lower pyrite content but has a strong magnetics signature. Drilling indicates that the magnetic high in this area is related to increased magnetite content. The magnetite, at least locally, is thought to be hydrothermal in origin as it occurs with the better copper mineralization both within the intrusive and the contact biotite hornfels developed within the adjacent mineralized volcanics. The biotite-magnetite-chalcopyrite hornfels would appear to be an early alteration as it occurs in volcanic xenoliths within the margin of the intrusive.

A younger feldspar porphyritic andesite intersected in holes CAM92-7 and CAM92-12 cross-cuts the older intrusive and mineralization. However, in CAM92-12 the porphyritic andesite is intensely pyrite altered. Pyrite occurs with chlorite and epidote mineralogy which

is more indicative of propylitic alteration commonly found above or peripheral to the hydrothermal or intrusive source. Young East-West structures which appear to offset the older dominant Northwest-Southeast structural grain may control the emplacement of some of the younger andesite dykes.

A magnetics survey was performed along portions of the southern alteration zone (Camel-Mab-Geo Hill) due to the known close association of copper mineralization with magnetite and magnetic highs (See Figures #6,7 and 8). At Camel Hill a pronounced magnetic high occurs overlying the best copper mineralization drilled to date. Pronounced magnetic highs were located at Mab and Geo Hill. These magnetic highs were utilized in conjunction with soil geochemistry and geology to spot subsequent drill sites.

AUGER DRILLING PROGRAMME

Auger drilling on the Bellas Gate Project began on January 13 and continued intermittently until April 8. During this period, sixty-one holes totalling 1,277 feet were drilled in two areas, Connors and Camel Hill. Continuous, two-foot samples were collected utilizing a tractor-mounted, auger drill incorporating a (two-foot) split spoon sampling system. Samples were blended, for analytical purposes, to form a four foot sample, and sent to TSL for similar analysis to that used for the drill core.

Auger drilling proved to be an effective tool for evaluating geochemical anomalies prior to drilling and for evaluation of near surface supergene enrichment related to underlying primary mineralization. It also proved to be effective in checking copper grades in the upper parts of drill holes, where recovery of the tropically weather rock is poor due to its extremely friable nature. Preliminary evaluation of mineralization utilizing two foot sample intervals is recommended in the early stages of a testing program at least until such time as sufficient information becomes available as to the thickness of the zone to allow routine five foot sampling or composite sample intervals where two foot samples are combined.

Auger sites and drilling is limited by the mobility of the tractor mounted auger drill which is most suited for flat to rolling topography. In the future other techniques could be evaluated such as all terrain vehicle mounted or track mounted augers or hand portable punjar drills. This type of tool is only somewhat useful for evaluating geochemical targets and is of greatest use when evaluating advanced targets. Locations of Auger Drill Sites on the Connors and Camel Hill Deposits are presented in Figures 9 and 10.

In the Camel Hill area a leached cap containing supergene copper mineralization is developed. Quartz-pyrite veins and disseminated pyrite comprising the Camel Hill porphyry stockwork result in acid leaching. Due to the lack of carbonate, very little malachite

forms resulting in the development of supergene copper sulphides such as chalcocite. The underlying hypogene mineralization is typically associated with a quartz, magnetite-quartz or biotite-K feldspar-quartz and consists of fracture coatings, veins and disseminations of pyrite and chalcopyrite with occasional traces of sphalerite and galena.

Only local remnants of the tropically weathered supergene cap remain due to rapid erosion and mass wasting which occurs during the two rainy seasons. Local slumps and slides are common in this actively eroding steep mountainous area. Erosion is promoted in areas cultivated by local farmers using slash and burn techniques. Once stripped of the natural thick and lush vegetation which binds the soil, slumping and rapid erosion is common.

DIAMOND DRILLING PROGRAMME

The 1992 diamond drilling programme on the Bellas Gate Project began on January 14 and was completed on June 16. A total of twenty-four holes were drilled for an aggregate footage of 12,989 feet, testing five geographically distinct but geologically related targets within the project area. Assay summary, Drill Logs and individual assays for all of the drill holes are located in Appendices I, II, and III.

Geotech, of Kingston, Jamaica completed a total of 5,847 feet,

utilizing a Boyles 56 drill rig recovering NQ core. The majority of the holes, however, were collared with the larger HQ core in an attempt to enhance recoveries in the upper portions of the hole. Falcon Drilling Ltd. of Prince George, B.C. completed a total of 7,142 feet, using a small, F1000 hydraulic drill recovering BDBGM (thin wall BQ) core.

Overburden was recovered and sampled in minimum two foot widths. Core was split and sampled in even five foot intervals over the entire hole. Samples were sent, by air, to Technical Services Laboratories (TSL) in Saskatoon, Saskatchewan where they were analyzed utilizing a 31 - element I.C.P. Technique plus copper and gold. Rock quality index (RQI) and Recovery data was recorded for each five foot interval throughout each drill hole.

Connors Area

A total of three diamond drill holes and nineteen auger holes were collared in the Connors target area (See Figure #9) where previous drilling (13 diamond drill holes and 36 overburden holes) had outlined a deposit containing approximately 3.9 million tons grading 0.5% copper or 2.4 million tons grading 0.6% copper (Molloy, 1992). The 1992 drilling program was designed to verify these results and to provide a more comprehensive evaluation of the gold potential of the deposit.

The Connors target area is situated in the Northern Alteration Zone which consists of a sequence of variably silicified, bleached and chlorite/magnetite-rich, intermediate volcanics of the Arthur's Seat Formation. The volcanics are dominated by massive to porphyritic andesite flows and their sub-volcanic equivalents together with lesser tuffs. A northwest-trending granodiorite intrusion, the Ginger Ridge Stock parallels the trend of the Northern Alteration Zone and cuts the aforementioned volcanic units.

The three diamond drill holes were spotted within volcanic stratigraphy adjacent to the granodiorite contact to the northeast. Holes CON92-1 and CON92-3(b), collared furthest away from the intrusion, cut an alternating sequence of massive to porphyritic andesite flows and coarser, possibly sub-volcanic/high level intrusions of similar (dioritic) composition. Tuffaceous debris, dominated by ash to lapilli sized material was noted locally throughout the volcanic stratigraphy. Hole CON92-2, spotted immediately adjacent to the intrusive contact, collared in granodiorite down to 48 feet and then cut a package of intermediate volcanics and intrusive equivalents similar to those encountered in CON92-1 and 3(b). Both CON92-1 and 2 bottomed in a massive, equigranular granodiorite containing numerous, variably digested, massive to porphyritic andesite xenoliths.

A strong to intense, randomly oriented fracturing is developed

throughout much of the volcanic and intrusive stratigraphy encountered. The granodiorite intrusion, emplaced along a prominent northwest-trending structure, appears to be further affected by movement along this feature. This is shown in holes CON92-1 and 2 as a prominent shatter zone with clayey gouge. The magnitude and direction of movement along this structure is unknown.

A moderate to intense propylitic alteration of the volcanic stratigraphy is characterized by variable amounts of disseminated and fracture filling pyrite, fine pervasive chlorite or coarse patchy chlorite as an alteration of mafic phenocrysts and trace to minor amounts of (rarely greater than 1%) patchy and/or vein and fracture filling carbonate and epidote, frequently associated with quartz and/or magnetite.

The granodiorite is commonly pristine, displaying only local chlorite alteration of the mafic phenocrysts and weak to moderate clay and/or K-feldspar alteration in the vicinity of prominent faulting observed within the unit.

A strong to intense patchy to pervasive silicification occurs throughout much of the volcanic stratigraphy while magnetite occurs in variable amounts, occasionally exceeding 10%. Both appear to be associated with a hydrothermal event unrelated to the emplacement of the relatively unaltered granodiorite intrusion to the

northeast. The presence of strongly altered and frequently mineralized andesitic xenoliths within the granodiorite points to an earlier hydrothermal event accounting for the widespread destruction of ferro-magnesian minerals and their subsequent replacement by magnetite. The same event, possibly related to an earlier more mafic phase of the granodiorite, or to a series of sub-volcanic feeders to the overlying flows, could also explain the strong silicification present throughout the volcanic stratigraphy and would be a likely source for the copper and gold within the deposit.

Mineralization in the Connors area is characterized by a thin supergene cap consisting of trace to minor amounts of chalcocite and bornite occurring as films or coatings along fractures, and minor fracture-filling chalcopyrite, underlain by a thick (up to several hundred feet) hypogene zone of finely disseminated and fracture-filling chalcopyrite. CON92-1 cut 435 feet (35'-470') grading 0.56% copper and 0.014 oz/ton gold, including 210 feet (35'-245') grading 0.64% copper and 0.018 oz/ton gold. CON92-2 intersected 320 feet grading 0.69% copper and 0.011 oz/ton gold from 45.0-365.0 feet, including 120 feet (210'-330') grading 0.86% copper and 0.018 oz/ton gold. CON92-3 cut a 320 foot section grading 0.46% copper and 0.005 oz/ton gold from 45.0-365.0 feet. The hole was terminated in mineralization at 365.0 feet due to drilling difficulties.

Camel Hill/Gold Mine Area

The Camel Hill - Gold Mine target areas represent a three mile strike length of the northwest-trending Southern Alteration Zone which hosts the Camel Hill, Mab, Mountain Hill and Geo Hill occurrences.

At Camel Hill, Jamaica Copper and Iron Limited drilled seven holes totalling 2,744 feet in an area of about 500 x 500 feet that indicated an average grade of 0.4% copper over a strike length of 1,000 feet and an average width in the vicinity of 700 feet, with sections 40 to 50 feet thick averaging between 0.6% and 1% copper (Fenton, 1979). Individual intersections were reported to range up to 0.44% Cu over 449 feet but no assaying for gold was carried out. Numerous copper soil geochemical anomalies and coincident geophysical anomalies were also outlined.

A total of fourteen (14) diamond drill holes, numbered CAM92-1 through CAM92-14 inclusive, were targeted to test the Camel Hill occurrence on 200 foot centres both in the immediate vicinity of previous drilling and as a series of step-outs (See Figure #10). A single hole, CAM92-15, was collared on the Mab Hill showing, located approximately 1,500 feet to the north of CAM92-6 and one hole, CAM92-16, was targeted on the Mountain Hill occurrence, one thousand feet to the north of CAM92-6 (See Figure #4). Hole GEO92-1, located some 4,500 feet to the northwest of CAM92-6 and

representing the largest step-out within the same regional alteration zone as that which hosts the Camel Hill deposit, was targeted to test the Geo Hill occurrence.

A total of forty-two (42) auger holes were also drilled in the immediate vicinity of the Camel Hill occurrence, in an attempt to guide the on-going diamond drilling program (See Figure #10).

The Camel Hill area is underlain by an alternating sequence of rocks dominated by porphyritic and lesser massive andesite flows and their sub-volcanic (dioritic) equivalents. The dominantly volcanic package of rocks is bounded to the northwest and southeast by prominent north-northeast trending structures which also clearly define outer limits to the mineralization.

The structure to the west is expressed magnetically as a prominent closure, separating the relatively higher magnetics to the southeast from a broad magnetic low to the northwest. The latter is correlative with a generally non-magnetic to very weakly magnetic porphyritic intrusive of andesitic composition, intersected in both CAM92-7 and CAM92-9. The structure to the east is marked by a well defined 'shift' or 'jog' in the magnetic contours and is manifested as an abrupt change in rock types from largely porphyritic flows to the northwest to a sequence of andesitic tuffs and subordinate flows on the southeast side of the structure. This dominantly tuffaceous package, cut by CAM92-12

through 14, is thought to represent a portion of a downthrown block. Although the actual extent of movement is unknown, a magnitude in the order of several hundred feet is inferred on the basis of an apparent correlation between relatively flat-lying clastic sediments mapped along the road a few hundred feet to the south (and presumably up section) of CAM92-12 and 13 and those observed nearer to Bellas Gate, at least 500 feet higher in elevation. Both features are also manifested in drill core as prominent shatter zones with at least local gouge.

A third structure, trending northwesterly, is manifested as a linear magnetic trough separating two (high) magnetic lobes bounded by the two previously described, northeasterly trending features. The upper portion of the hole is marked by a prominent shatter zone cut by massive, grey-white quartz veining between 182.0-240.0 feet.

Minor granodiorite and lesser, possibly related, quartz-feldspar porphyry dyking occurs locally within holes CAM92-2, 6, 10 and 11, and in at least the latter three, likely represents a splay or an apophysis off the main granodiorite body mapped (and forming the prominent ridge) between CAM92-8 and 11.

Alteration within the Camel Hill deposit area is characterized by a locally well developed biotite + quartz ± magnetite ± chalcopyrite assemblage representing a potassic to phyllic alteration zone, variably overprinted by a propylitic assemblage

characterized by chlorite-carbonate-epidote-pyrite.

Mineralization within the deposit area is intimately associated with the biotite-quartz-magnetite assemblage occurring dominantly within the wall rock as a hornfelsing event. The highest copper grades occur where the complete assemblage is best developed.

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APPENDIX I

DRILL ASSAY SUMMARY

BELLAS GATE PROJECT-DRILL ASSAY SUMMARY

HOLE #	SECTION	FROM (Feet)	TO (Feet)	INTERVAL (Feet)	COPPER (%)	GOLD (oz/ton)
CON92-01	19+50N	0	470.0	470.0	0.53	0.014
		including 0	35.0	35.0	0.12	0.019
		35.0	470.0	435.0	0.56	0.014
		including 35.0	245.0	210.0	0.64	0.018
CON92-02	20+00N	45.0	365.0	320.0	0.69	0.011
		including 100.0	330.0	230.0	0.77	0.014
		210.0	330.0	120.0	0.86	0.018
CON92-03	17+00N	45.0	365.0	320.0	0.46	0.005
CAM92-01	0+00	40.0	770.0	730.0	0.48	0.006
		including 40.0	455.0	415.0	0.63	0.008
CAM92-02	2+00N	0.0	585.0	585.0	0.40	0.006
		including 0.0	75.0	75.0	0.50	0.007
		75.0	275.0	200.0	0.45	0.007
CAM92-03	2+00N	10.0	230.0	220.0	0.36	0.004
		including 55.0	110.0	55.0	0.43	0.007
		200.0	230.0	30.0	0.50	0.008
CAM92-04	4+00N	90.0	175.0	85.0	0.22	0.003
CAM92-05	4+00N	11.0	505.0	494.0	0.43	0.007
		including 11.0	290.0	279.0	0.52	0.007
		170.0	290.0	120.0	0.63	0.010
		455.0	505.0	50.0	0.42	0.012
CAM92-06	4+00N	60.0	1,122.0	1,062.0	0.29	0.004
		including 60.0	610.0	540.0	0.34	0.005
		60.0	145.0	75.0	0.41	0.006
		330.0	390.0	60.0	0.41	0.010
		470.0	550.0	80.0	0.45	0.006
		915.0	975.0	60.0	0.34	0.004
		1,030.0	1,122.0	92.0	0.35	0.003
CAM92-07	No significant results					

HOLE #	SECTION	FROM (Feet)	TO (Feet)	INTERVAL (Feet)	COPPER (%)	GOLD (oz/ton)
CAM92-08	00	10.0	405.0	395.0	0.26	0.003
		including				
		10.0	175.0	165.0	0.29	0.004
		130.0	175.0	45.0	0.44	0.008
		375.0	405.0	30.0	0.33	0.005
CAM92-09		No significant results				
CAM92-10	2+00N	35.0	220.0	185.0	0.35	0.008
		including				
		35.0	160.0	125.0	0.41	0.009
		35.0	105.0	70.0	0.45	0.011
		440.0	490.0	50.0	0.25	-
CAM92-11	4+00S	52.0	747.0	695.0	0.26	0.003
		including				
		52.0	250.0	198.0	0.37	0.004
		52.0	185.0	133.0	0.41	0.005
		52.0	150.0	98.0	0.44	0.005
		505.0	595.0	90.0	0.32	0.005
		715.0	747.0	32.0	0.35	0.007
CAM92-12		No significant results				
CAM92-13		105.0	255.0	150.0	0.16	NSR
CAM92-14		No significant results				
CAM92-15	16+00N	44.0	194.0	150.0	0.33	0.006
		including				
		94.0	119.0	25.0	0.40	0.010
		464.0	507.0	43.0	0.25	0.005
CAM92-16		No significant results				
DH92-01		45.0	105.0	60.0	0.34	-
		including				
		45.0	90.0	45.0	0.41	-
DH92-02		No significant results				
DH92-03		No significant results				
GR92-01		No significant results				
GEO92-01	42+00N	130.0	529.0	399.0	0.35	0.005
		including				
		130.0	280.0	150.0	0.42	0.008
		345	410.0	65.0	0.51	0.005

APPENDIX II

DRILL LOGS