EXPLORATION REPORT

BELLAS GATE PROPERTY

JAMAICA

FOR TREVCORP

TORONTO, ONTARIO

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NORMAN E. BREWSTER

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1.0.0 INTRODUCTION

Trevcorp's Involvement

On October 11, 1989, Trevcorp, formerly known as Trevco Oil and Gas Ltd., acquired the Bellas Gate Property in Jamaica from a consortium representing the interests of various individual owners. At that time, title to the property was secure under an existing Special Exclusive Prospecting Licence (S.E.P.L.) No. 318. This S.E.P.L., occupying an area of approximately 15 square miles, lies within the eastern portion of the Central Inlier, an area of Jamaica containing widespread metallic mineralization. The objective of the acquisition was to explore the property for deposits of base and precious metals, numerous indications of which were described in a variety of public and private exploration reports of previous work.

Initially, it was the intention of the company to focus this exploration effort on various known vein type deposits, records of which indicated the existence of high grade base metals ores, particularly copper. Surface exposures and abandoned exploration adits were remapped and resampled, confirming the status of the base metals deposits. The new work also showed that these deposits contained gold and silver in concentrations high enough to warrant their inclusion in any further investigation of the property.

The exploration emphasis of the company then shifted towards several known deposits of the lower grade but larger, disseminated type. These deposits had also been previously explored with the emphasis of that work being dedicated almost exclusively to their copper content. The work of the current program was directed towards the confirmation of those previous results and, at the same time, to determine whether there might be precious metals associated with the copper of these "porphyry" type bodies.

These various phases of exploration of the property have been completed and they have shown that, from geochemical and other surveys of the surface environment, anomalous gold and silver values are, in fact, found coincident with those previously known anomalies for copper. The exploration work has also demonstrated the validity of at least a portion of the data from past exploration, which was acquired during the course of an extensive literature search performed to support the current program.

The following report includes the results of the current exploration campaign and, as well, is a compilation of all of the work completed in the past. It has been constructed to provide a thorough basis for future exploration of the property, appropriate recommendations for which are described in the relevant portion of the accompanying text.

Gold and copper mineralization occurring on the property has generated periodic exploration since the 1850's. As a result of this exploration, there are several

prospects of porphyry style copper mineralization of which the Connors deposit situated near the village of Connors is best known. Previous exploration carried out over the Connors showing consisted of surface geological mapping, geochemical surveys, geophysical surveys, diamond drilling and was successful in partially delineating the Connors deposit. Mineralization is associated with a feldspar porphyry intrusion which represents a separate intrusive body adjacent to a more predominant and larger granodiorite body. The Connors deposit is the best known example of porphyry style disseminated mineralization within the S.E.P.L. The deposit occurs within a 2 mile long 700 - 800 foot wide area of hydrothermal alteration locally named the North Alteration Zone. Other showings of a similar type occur within a smaller zone locally called the South Alteration Zone centered on Camel Hill, lying approximately 2 miles from the Connors site. Geochemical and geophysical anomalies from previous as well as the current program, suggest that other prospects of this type may also be located within the property boundaries.

A second style of mineralization occurs in the southern part of the property near the village of Bellas Gate. Therein, copper and gold mineralization is associated with quartz carbonate veins that seal existing fracture and shear openings. Numerous outcroppings of these veins occur in the southern portion of the property ranging from stains of copper on hairline fractures to true veins mineralized with copper, gold and silver. Underground exploration and development work was carried out on two of the larger systems, namely Charing Cross and Stamford Hill, during the 1850's mineral boom.

Trevcorp has maintained a continuous exploration program on their property during 1990 consisting of local prospecting activity, geophysics, geochemical and geological surveys. Minroc Management has been involved in the management of this work. As a result, Minroc was commissioned by Trevcorp to prepare a report summarizing the information derived to date by both Minroc and Trevcorp as well as from a series of maps and documents obtained from the Geological Services Department in Kingston. This latter information consists of the culmination of extensive mineral exploration efforts undertaken on the property by Geophysical Engineering and Surveys Ltd. during the late 1950's and again during the late 1960's.

As part of the current program, Minroc had undertaken an extensive literature research of the contemporary issues of the Mining Journal in the United Kingdom, consulted with scientists at the British Geological Survey familiar with Jamaica, and with representatives of the Canadian International Development Agency (CIDA) in Jamaica. Trevcorp engaged A.C.A. Howe International Limited of London to perform an interpretation of early geophysical data. A copy of A.C.A. Howe's initial report is contained within Appendix 1 of this report.

2.0.0 LOCATION AND ACCESS

The special permit held by Trevcorp, S.E.P.L. 400, is located in the Bellas Gate area of St. Catherines Parish (Figure No. 1) in what is locally referred to as the "cockpit country" of central Jamaica. Bellas Gate is located approximately 40 miles west of Kingston, the capital of the country. Approximate co-ordinates for the village of Bellas Gate which lies in the south eastern quadrant of the permit, are as follows:

77 deg. 9' 32" west longitude

18 deg. 2' 38" north latitude

Access to Jamaica from either Calgary or Toronto is via Air Canada through Montego Bay to Kingston or by Air Canada/Air Jamaica via Miami. The author's experience is that the Miami route is to be avoided due to delays, missing luggage or other problems of a similar nature. From Toronto to Kingston, the travel time is approximately 3.5 hours.

Kingston has a deep water port and an international airport. Many freight forwarding/customs handling services are available to expedite shipment of goods and materials. Within Jamaica, due to the anti-drug activities, it is necessary to obtain permission for the shipment of rock samples out of the country, which permission is obtained from the Mining Commissioner's office.

Studies suggest that the dominant strike-slip fault zones on the island show azimuths at WNW-ESE directions. Those studies also suggest that most subordinate faulting is NW-SE trending and that the dominant structural fabric of the island is NW-SE. The S.E.P.L. 400 is situated at the eastern end of the Central Inlier and lies along the axis of a regional anticline. Within this area, the rocks are strongly faulted and changes in strike direction commonly occur. Locally, smaller folds have developed, but exposures are rare.

The stratigraphy of Jamaica can be subdivided on the basis of metallic mineral potential into the following:

A) Cretaceous: The oldest exposed rocks contain most metal occurrences and are considered to have the most economic potential.

B) Trough Sediments, Volcanics and Intrusives: Younger than the Cretaceous Inliers, and still having metallic mineral deposits.

C) Stable Shelf Carbonates: Low economic potential for metallic mineral deposits.

The Central Inlier is the second largest area of Cretaceous rocks in Jamaica; its length from east to west is 34 miles and its maximum width is 9 miles. Three major rock units are recognized on the Bellas Gate portion of the Central Inlier.

1) The Juan de Bolas Formation, which consists of well-bedded volcanic conglomerate, siltstone and claystone, with associated limestone, mudstone and shale.

2) The Brown's Hall Formation, which consists of poorly bedded, completely intermixed volcanic and volcanically-derived sedimentary rocks.

3) Rock River Formation - This unit is composed of massive volcanic rock, predominantly basalt with minor spilite.

A sequence of intrusive rock types are present on the property, some of which are sufficiently substantial to have formation status as follows:

The Ginger Ridge Stock, a bulb shaped body, occupying an area of two square miles is the largest intrusive body outcropping on the property. The body is composed of granodiorite, is massive, light grey to greenish grey when fresh with a medium grained granitoid texture. On the weathered surface, the rock is buff in color except where weathered ferromagnesian minerals impart a pale yellow, yellow brown or pale red color.

The Gold Mine Complex, which consists of four rock types namely feldspar-quartz porphyry, diorite porphyry, porphrytic microdorite and porphrytic oivine microgabbro.

A sequence of dykes which consists of micrograndiorite, basalt and andesite, all of which are predominantly porphrytic with a pilotaxitic groundmass.

Alteration of rocks of the Central Inlier take two basic forms on the property. Firstly, there are two very distinct and well defined zones. The disseminated copper deposits at Connors and Camel Hill appear related to each of these. The second form of alteration is more widespread, affecting the bulk of the prospective rock sequenced throughout the property. This latter alteration form gives all volcanic

rocks a somewhat greenish-grey appearance. Within the property, the two very distinct zones of hydrothermally altered rock of the first type mentioned above are referred to as the northern and southern alteration zones respectively. The largest associated with the Connors anomaly, is a broad, linear belt exposed along the west and south-western margin of the granodiorite stock through a length of two miles and a width of approximately 800 feet. Evidence is presented in the report which indicates that the second alteration type postdates alteration of the distinct northern and southern zones and that this later developed stage of alteration may be classified as epithermal.

Within the report, the following primary prospects are discussed individually; Connors, Camel Hill, Charing Cross, Stamford Hill and Congo Hill. The remaining showings are collectively discussed under the category of "others".

Trevcorp, as part of their initial evaluations carried out during the 1990 included a geochemical soil sampling program to cover the surfacial lateral extent of the northern and southern alteration zones. To organize the sampling, two grids were established utilizing baselines parallel to the strike of the alteration zone; lines were set off at 200 feet intervals with stations at 200 foot intervals along the lines. Soil samples were obtained from the B horizon wherever possible or, alternatively, where required, stream sediment or rock fragments were obtained. Samples were catalogued, packed and shipped to Acme Laboratories in Vancouver for analysis. At Acme Laboratories, samples were analyzed for thirty-one elements using the I.C.P. method. As a partial focus of Trevcorp's program was the assessment of gold potential in the Connors and Camel Hill intrusives, a further analysis for gold was carried out. This consisted of acid leach/atomic absorption techniques utilizing a 10 gm sample. The results

received from Acme Laboratories were reviewed upon receipt and from these contoured maps were prepared, utilizing the Surfer Software Program, for copper, gold, silver, arsenic and mercury in the case of Camel Hill and the preceding list less mercury in the case of Connors.

As part of their initial evaluations carried out during 1990, Trevcorp included surface VLF electromagnetic surveys of the southern portion of the property which generally corresponds to the area where mineralization of the copper-gold-silver assemblage has been observed. The surveys were carried out on grids which were horizontally and vertically adjusted for topographic effects. The stations utilized were Cutler, Maine and Seattle, Washington. The initial portion of the survey was interpreted by A.C.A. Howe International of London, U.K. utilizing the Karous Hjelt filter method, which produces a mathematical pseudosertion and thus can discriminate between bedrock and spurious anomalies. The Howe report is included as an appendix. The remaining geophysical data, while it has been transformed utilizing the Frazer filter, has not been treated by the Karous Hjelt Filter. This remains to be completed and then will be added as an addendum to this report.

Within S.E.P.L. 400, three main assemblages of potentially economic mineral occurrences can be identified. These are 1) porphyry style copper-gold; 2) vein type copper-gold-silver with smaller quantities of other base metals and, possibly, 3) epithermal gold-silver. Assemblage 1) is associated with intrusive bodies as at Connors and Camel Hill and represents porphyry style mineralization. Past exploration at Connors by Geophysical Engineering and Surveys Ltd. and others has established the presence of porphyry style copper mineralization and has indicated, to a limited extent, the presence of related gold mineralization at Connors. The

recently competed geochemical surveys by Trevcorp have demonstrated a clear and distinct relationship between copper and gold occurrences in the soil overlying porphyry style mineralized zones at both Connors and Camel Hill. Assemblage 2) is typical of the Charing Cross Prospect which has also been well explored in the past and, to some extent, the subject of previous mine development effort. Testing by Trevcorp established the relationship between base and precious metals in this deposit type on the property. The possible assemblage, 3), has not yet been identified in the field in the form of specific prospects or showings, but anomalies of this type can be seen on the recently completed soil geochemical surveys in S.E.P.L. 400, and by analogy with the findings of Simpson et al elsewhere in St. Catherine Parish. In this setting, mineralization would consist of gold-silver with arsenic and perhaps other trace elements. Four such relationships were found in the soil geochemistry maps with which there are not significant base metal associations.

Based on the results of the present exploration program combined with previous work, there are three areas where a preliminary calculation of reserves and resources is justified. These are in the disseminated body at Connors and the vein materials at Charing Cross and Stamford Hill.

A preliminary reserve calculation has been made for Connors, which shows that the drilled area contains about 6,000,000 tons of copper bearing rock at a cut-off of 0.5% copper. These reserves are partially classified as indicated and partially as inferred. The indicated reserve, containing 798,782 tons at a grade of 0.75% copper, was determined in the past by Geophysical Engineering and Surveys Ltd. Geophysical Engineering & Surveys Ltd. felt sufficiently confident about this tonnage to place it in a proven and/or indicated

category. We believe that, with due diligence to confirm their drilling procedures and results, this tonnage and the inferred category of tonnage would be upgraded in terms of reserve category. The gold content of this deposit would also be tested at that time. The interpretation upon which this calculation is based suggests that the deposit is open to the south and west.

The geochemical maps for the Connors Prospect show a gold anomaly coincident with the copper mineralization. In the same area, two holes that were tested by Geophysical Engineering & Surveys Ltd. also show gold mineralization. However, unlike copper, the data base for gold is not strong enough at this time to justify a separate reserve calculation for gold.

At Charing Cross, an estimate has been made which shows that about 144,000 tons of resources/reserves with a grade of 9.16% copper and 0.22 ounces of gold per ton existed prior to any mining efforts. Although it is not known how much of this material may have been removed by previous workers, a provision of 30% has been made leaving a total of about 100,000 tons, partially classified as inferred reserves and partially as resources. Of this, the inferred reserve is 28,800 tons, represented by a 300 foot zone sampled in detail by the writer and Trevcorp. A higher reserve category will be justified once due diligence drilling is carried out.

At Stamford Hill, the information base, although extensive in a historical context, is not detailed or conclusive enough to permit conventional reserve calculation. However, there does appear to be sufficient justification to estimate the potential size of the possible geological resource based on an idealized model of the Stamford Hill vein. Such an estimate has been made which suggests about 640,000 tons of resources

with an attendant grade of 5% copper. It is unknown what percentage of this material may have been removed by previous workers, but 30% is anticipated which would indicate a potential remaining resource of about 450,000 tons.

Further work is recommended on each of the Connors, Camel Hill, Charing Cross and Stamford Hill Prospects. This work should consist of underground inspection, surface trenching, topographic surveys, hand auger drilling and surface diamond drilling, as pertinent to each prospect. In addition, a general recommendation is made that where current geochemical coverage has not been completed by Trevcorp within the property limits, it be undertaken and completed on the same basis as the current coverage.

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MAPS

(SEE MAP BOX)

AM1

GEOLOGY MAP N11

CONNORS PROSPECT

N6 through N10
OCGS
OCSP
OCEM
OCGEOL
NCMS
CS1
CS2
BWG 3912-1 through BWG 3912-7

CAMEL HILL

N1 through N5
029
030
031

CONGO HILL

NGM6
NGE7
NGE8
NGL9
NGM10
NGE11
NGE12
NGL13

GEO HILL

GH1 through 3

GINGER RIDGE

GRGS

KEY MAP

MAP B

OLD MAPS

01 through 028

MINE WORKINGS

MW1 through MW7

SUMMARY

Trevcorp holds a 100 percent interest in a 14.8 square mile mineral property in Central Jamaica under Special Exclusive Prospecting Licence Number 400 (S.E.P.L. 400). The S.E.P.L. has a primary tenure for five years, from August 10, 1990, with a one year renewal right on the fifth anniversary date of the license for a total term of six years. The licence, which was originally granted for gold on August 10, 1990 was, on renewal, amended and copper and silver rights were added. Prior to the renewal, Trevcorp held the same property under a prior license, S.E.P.L. 318.

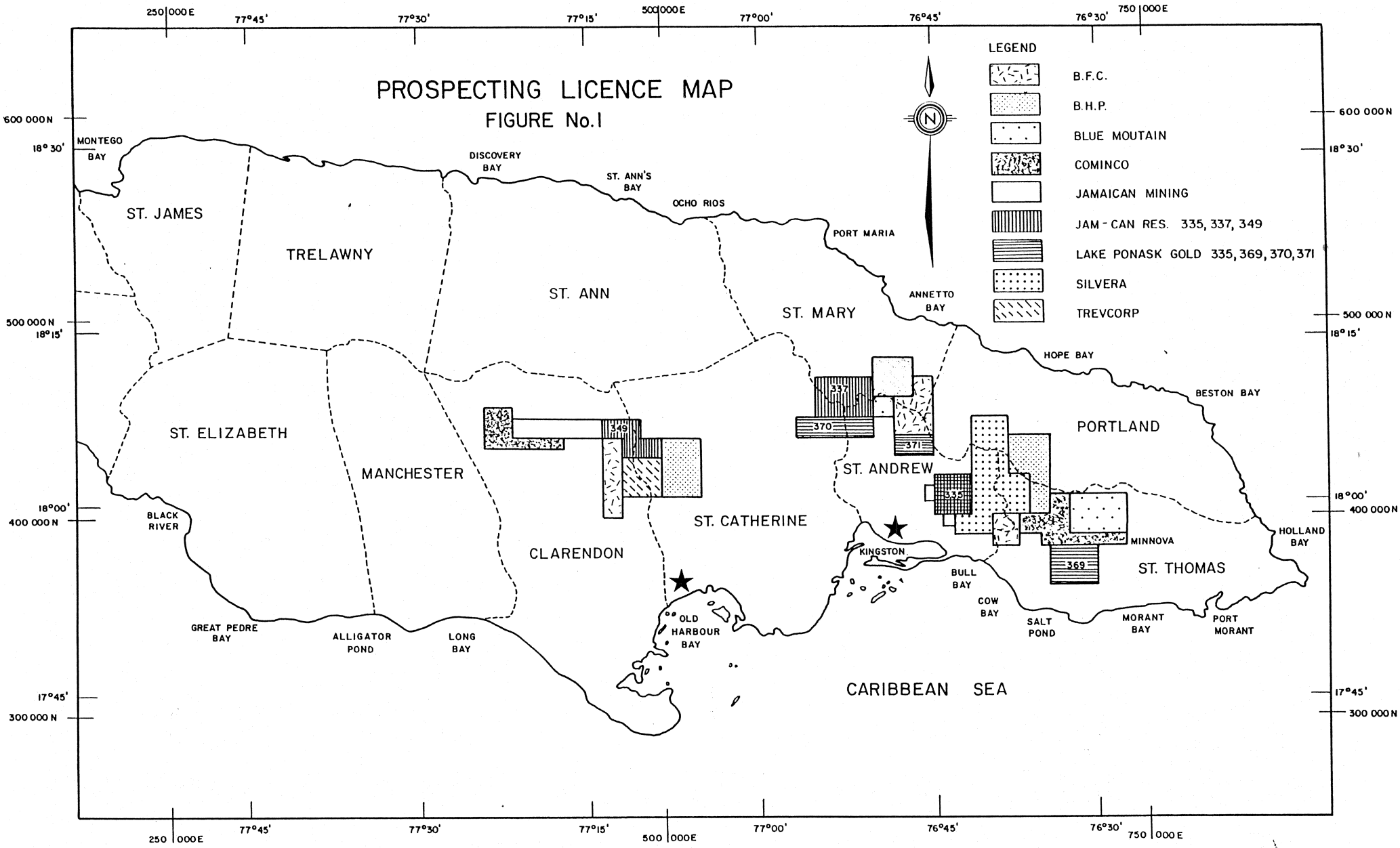
The special permit held by Trevcorp, S.E.P.L. 400, is located in the Bellas Gate area of St. Catherines Parish in what is locally referred to as the "cockpit country" of central Jamaica. Bellas Gate is located approximately 40 miles west of Kingston, the capital of the country. Jamaica lies within a tropical environment, and is thus subject to a seasonal wet and dry climate. The rainy season lasts from late August through november and during this period daily episodes of torrential rainfall lasting 1.0 - 2.0 hours are common, generally occurring in mid-afternoon.

Initially, it was the intention of the company to focus their exploration effort on various known vein type deposits, records of which indicated the existence of high grade copper mineralization. Surface exposures and abandoned exploration adits were remapped and resampled, confirming the status of the base metal content, but the new work also showed that these deposits contained gold and silver in concentrations high enough to warrant their inclusion in any further investigation of the property.

The exploration emphasis of the company then shifted towards several known deposits having lower grades but which were of the larger, disseminated type. These deposits had also been previously explored with the emphasis of that work being dedicated almost exclusively to their copper content. The work of the current programs was directed towards the confirmation of those previous results and, at the same tine, to determine whether there might be precious metals associated with the copper of these "porphyry" type bodies.

Jamaica is positioned within an island arc setting on the northern margin of the Caribbean Plate. The Cayman Trench, forming the margin between the Caribbean Plate and the North American Plate, is an east-west trending tectonically active zone on which lateral movement is presently moving Jamaica and Hispaniola away from Central Jamaica. Jamaica is also positioned on the northeast trending Nicaraguan Rise, a belt of crustal thickening. Numerous precious metal deposits are present within the southwestern portion of this trend consisting of breccia pipes and vein systems which appear to occur in a similar tectonic environment to that of Jamaica. This is a geological environment of a kind within which epithermal mineral deposits have either been located or identified in recent years.

The island consists of a strong E-W anticlinal structure, modified by rift boundaries and block faulting in a NNW direction. East-west strike-slip faulting, primarily left-lateral, paralleling the Cayman Trench, occurred during the Cretaceous. Later NNW rifting and normal faulting produced the two major troughs which divide the island into three main blocks: the Hanover Block to the west, the Central Clarendon Block, and the Blue Mountain Block to the East. Regional


PROSPECTING LICENCE MAP
FIGURE No.1
LEGEND
B.F.C.
B.H.P.
BLUE MOUTAIN
COMINCO
JAMAICAN MINING
JAM - CAN RES. 335, 337, 349
LAKE PONASK GOLD 335, 369, 370, 371
SILVERA
TREVCORP
250 000 E
500 000 E
750 000 E
77°45'
77°30'
77°15'
77°00'
76°45'
76°30'
600 000 N
500 000 N
400 000 N
300 000 N
18°30'
18°15'
18°00'
17°45'
MONTEGO BAY
DISCOVERY BAY
ST. ANN'S BAY
OCHO RIOS
PORT MARIA
ANNETTO BAY
HOPE BAY
BESTON BAY
HOLLAND BAY
ST. JAMES
TRELAWNY
ST. ANN
ST. MARY
PORTLAND
ST. ELIZABETH
MANCHESTER
ST. CATHERINE
CLARENDON
ST. ANDREW
ST. THOMAS
KINGSTON
MINNOVA
BULL BAY
COW BAY
SALT POND
MORANT BAY
PORT MORANT
OLD HARBOUR BAY
BLACK RIVER
GREAT PEDRE BAY
ALLIGATOR POND
LONG BAY
CARIBBEAN SEA
337
370
371
349
335
369
N

The port of Old Harbour is located about 10 miles to the south of S.E.P.L. 400 and is directly accessible from Bellas Gate. This port has trans-shipment facilities and is the commercial center of the region.

The island of Jamaica is well covered by a pervasive network of roads, most of which were originally tarmac that has been allowed to fall into a general state of disrepair in the hinterlands. Access to Bellas Gate is along roads similar to this and, near the larger centers of Kingston and Old Harbour, are in good repair thus can be rapidly traversed. Outside the population centers, care is required to traverse the roads with standard passenger vehicles. The travelling time from Kingston to Bellas Gate is 1.5 hours by such vehicles.

Within the property, the most expedient form of transportation is, for all practical purposes, by foot. Very little of the property is at a greater distance than a 1.5 hour brisk walk from the central position of Bellas Gate. As the road network in general follows the contour line of the ridges and valleys and due to road conditions, the time required to reach any particular site by vehicle is frequently substantially longer than by walking across country.

3.0.0 TOPOGRAPHY, DRAINAGE AND CLIMATE

The Trevcorp property lies within a youthful, rugged geomorphic province. Except for an area of exposed granodiorite which crops out in an area of relatively high relief between elevations of 1490-1760 feet (A.S.L.), lithology bears little relationship to topography. On the deeply weathered and easily eroded granodiorite, a youthful topography characterized by steep slopes, knife edge ridges and zig-zag valleys has developed. Within the area there are a number of disconnected but apparently concordant, gently rounded hilltops, which occur between the altitudes of 2050-2200 feet. These surfaces are invariably represented by a bright red lateritic soil.

Drainage is dominantly by intermittent rivers and streams which are free flowing during the rainy season. The Rock River flowing in a southwestern direction is the most active of these. Valley heads, which begin on the mountain slopes, are deeply cut, steep sided, and vee shaped. Stream courses are irregular and braided and often have considerable gradient, uneven profile, and very rocky bottom. Tributaries flow into larger streams at an acute angle where typically, a dendritic pattern has developed. Owing to the steep slopes and loose, sometimes deep soils, erosion is substantial and landslides are frequent in times of heavy rainfall.

Jamaica lies within a tropical environment and is thus subject to a seasonal wet and dry climate. The rainy season lasts from late August through November and

daily periods of torrential rainfall lasting 1.5 - 2.0 hours are common, generally occurring in mid afternoon.

Local human habitation is strongly influenced by various factors of climate. Within the area, water availability controls population density; elsewhere population is concentrated along those cooler, rounded ridge tops.

4.0.0 EXPLORATION HISTORY

Metallic mineralization has been known in Jamaica since the time of the early Spanish settlers, who found the Arawaks wearing ornaments of gold. The Spanish are reported to have found some copper and Long (1774) in his History of Jamaica states that they recovered gold from the sands of the Rio Minho in Clarendon. Historical records also show that the British had extracted copper and lead ores from two mines located in the Liguanee Mountains between the period 1750-1770.

Contemporary with the resurgence of interest in mining brought about by the discoveries of gold in California in 1849 and in Australia two years later, there occurred a renewal of interest in mining activity in Jamaica. During this period, many new London based companies were subscribed having Jamaican interests and old workings were reopened, adits dug and new shafts sunk. Although considerable work was undertaken, no "mines" as such were established. All activities would be considered exploration. Within the S.E.P.L., remnants of the more extensive efforts are visible today at Charing Cross, Stanford Hill, and Gold Mine, the latter on the Clarendon - St. Catherine border. Elsewhere, efforts were concentrated at Job's Hill in St. Mary and Cooper's Hill in Portland.

During this period of activity, James G. Sawkins and Lucas Barrett arrived in 1859 to complete a systematic geological survey of the island; however due to higher grade and simpler mining systems in the Californian and Australian camps,

most miners tended to drift to these locations and the mining boom conditions in Jamaica soon died out. For the English companies then mining in Cornwall, grades in excess of 8% copper were required to compete with the Cornish deposits. Sawkins in his report "Reports on the Geology of Jamaica" (1869) states that between 1854 and 1857 some 207 tons of copper ore were shipped to Liverpool from the Charing Cross mine in Clarendon then operated by the Wheal Jamaica Copper Company. The closure of both the Charing Cross mine in 1859 and the neighbouring Stamford Hill mine in 1863 virtually ended work in the Parish until the beginning of this century when a new period of exploration began, this time instigated by U.S. interests.

Mr. A.E. Outerbridge in his report (1909) states that a considerable amount of work was underway to exploit copper in what today lies within the S.E.P.L. boundaries, by the Jamaica Consolidated Copper Company. He states:

> "there were about seventy-five labourers at work blasting out ore, and sixty-two openings had been made, from more than forty of which it was said that different kinds of ore had been taken showing profitable gold. At the time of my visit (March 1909), a little over 1200 feet of tunnels had been made. Since that time, the force of labourers has been doubled and development work has progressed rapidly, as will be seen from the annual report of the General Manager of the Consolidated Copper Co. dated October 13, 1909 just issued.

I am pleased to report most satisfactory progress at the mines during the past twelve months. Our development now stands as follows, in tunnels, crosscuts, upraises and drift;

Sylvia Mine	819 feet
Victoria Mine	205 feet
Cheltra Tunnel	403 feet
Iva Mine	341 feet
Elma Mine	384 feet
Clarissa Mine	156 feet
Copper Wood Mine	537 feet
Cyril Tunnel	47 feet
Congo Hill Mine	1271 feet
Macnish Tunnel	173 feet

making a total of 4356 feet with more than 2000 feet of open cuts and prospect shafts not included in the above."

All of the sites mentioned by Outerbridge are within the southern portion of the S.E.P.L. 400 held by Trevcorp or immediately outside the present border and address veins which contain high grade copper-gold-silver mineralization.

During the years 1957-59, Geophysical Engineering and Surveys Ltd. acted as contractor for a multi-faceted exploration program over the present S.E.P.L.

Their work included property wide soil geochemical surveys for copper; geophysical surveys including magnetometer, self potential, resistivity and limited electromagnetic techniques; hand auger drilling; geological mapping and diamond drilling at four locations namely Camel Hill, Geo Hill, Mab Hill and Connors. During 1964, Geophysical Engineering and Surveys Ltd. acquired a prospecting permit in their own name over what is now S.E.P.L. 400 and subsequent to further prospecting activities, carried out two campaigns of drilling, one each in 1969 and 1970 totalling 4050 feet of core drilling.

Elsewhere in Jamaica, Galena was discovered by the English and worked for a time in the eighteenth century. The Hope Mine located in the 1700's reported on by P. Brown in his "Civil and Natural History Of Jamaica", (1756) was reopened in 1856 by the Duke of Buckingham and became the biggest mine in Jamaica with five adits, the longest of which extends for 1624 feet. Operations at the mine ceased in 1860, but since then the site has been examined on several occasions; for example in 1943 - Mr. A.H. Edwards, Assistant Commissioner of Lands, surveyed the accessible workings, while in 1952 - Mr. L. Hersey reopened and dewatered several of the blocked tunnels. At the present time, this is E.P.L. #335 held by Lake Ponask Gold Corporation.

Other mineral resources that are currently being mined in Jamaica include bauxite, gypsum, limestone, marble, clay, shale and silica sand.

5.0.0 SUMMARY OF THE GEOLOGIC HISTORY

Throughout the Upper Cretaceous (Turonian-Maestrichtian) the area was the site for deposition of predominantly, volcaniclastic sediments.

The earliest recorded event (Turonian) was the deposition of limestone, shale and mudstone (Unit A, the Juan de Bolas Formation) in a relatively quiet water environment. Although the mudstone and shale beds appear to overlie well-bedded volcaniclastic rocks (Unit B, the Juan de Bolas Formation), the contact is not exposed and the true stratigraphic relationship of Unit B with respect to Unit A has not yet been determined.

The next recorded event (Maestrichtian) was the deposition of poorly sorted, infrequently bedded volcaniclastic sediments, principally conglomerate and breccia. It is believed that the volcaniclastic rocks were deposited primarily as a result of rapid denudation of andesitic and basaltic volcanoes during an inactive period. Non-pillowed, amygdaloidal basalt interbedded with the conglomerates and breccias, is consistent with criteria which suggest a lahar-like origin for the Brown's Hall Formation. The whole sequence was later intruded by a considerable number of andesite dykes, and a number of small heterogeneous rock types in the vicinity of Gold Mine.

At the end of the Cretaceous, the Laramide orogenic movements resulted in simple anticlinal folding and extensive faulting. These movements were accompanied by

the intrusion of a granodiorite stock. The intrusion metamorphosed a considerable area on the eastern side of the stock, producing a narrow, but well-defined zone (50-200 feet wide) of pyroxene-, and hornblende-hornfels closest to the contact, and adjacent to this a wider zone of igneous appearing volcaniclastic rock, characterized, locally, by the presence of actinolite and albite. Later, hydrogenetic fluids circulating through two zones of shearing, strongly altered and mineralized the pre-existing rocks. Details are provided in the following sections.

6.0.0 REGIONAL GEOLOGY

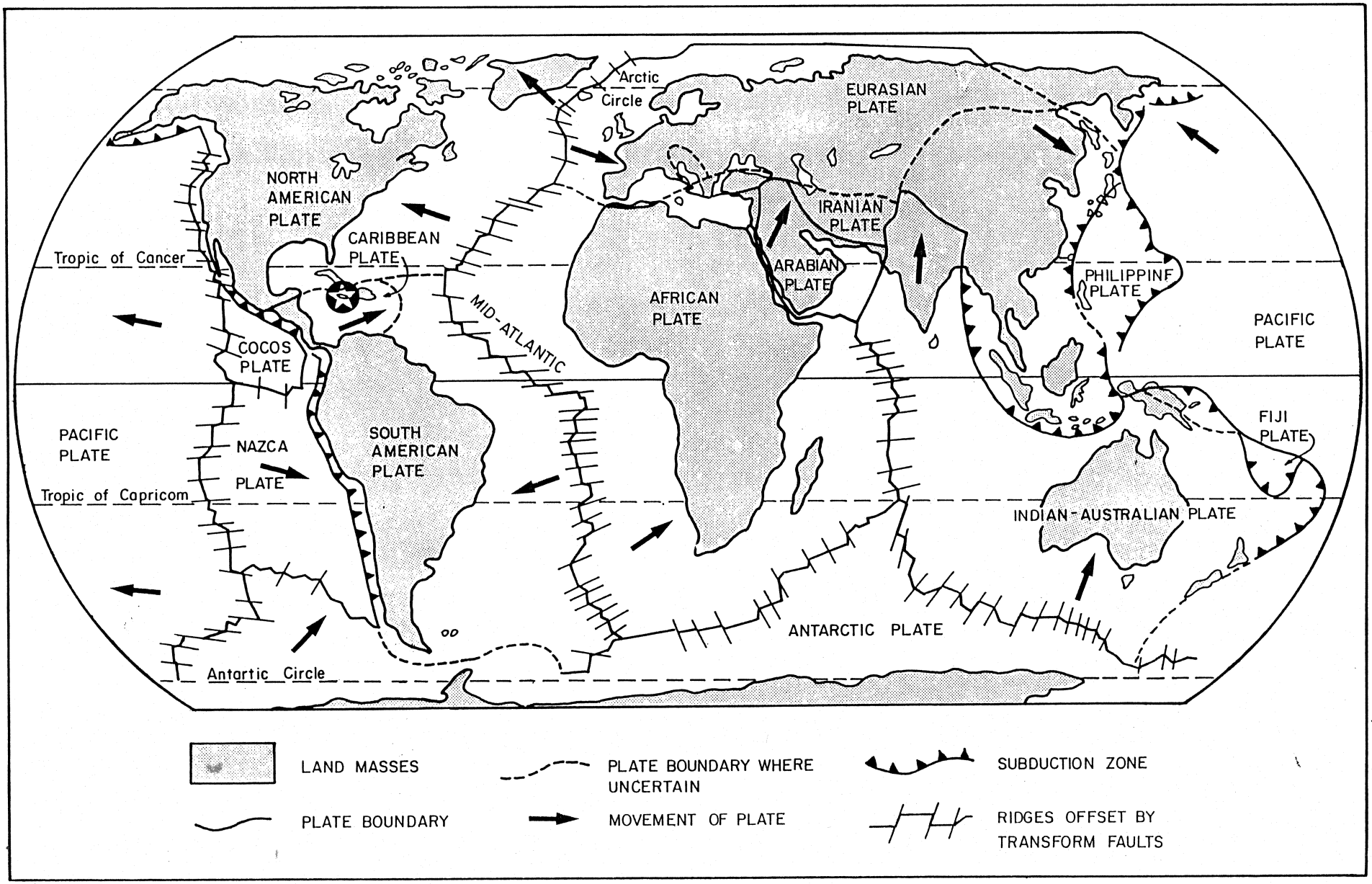
6.0.1 GENERAL STATEMENT

Jamaica is positioned within an island arc setting on the northern margin of the Caribbean Plate (see Figure No. 2). The Cayman Trench, forming the margin between the Caribbean Plate and the North American Plate, is an east-west trending tectonically active zone on which lateral movement is presently moving Jamaica and Hispaniola away from Central America. Jamaica is also positioned on the northeast trending Nicaraguan Rise, a belt of crustal thickening. Numerous precious metal deposits occur to the southwest along this trend within Panama and Costa Rica. These deposits consist of breccia pipes and vein systems which appear to occur in a similar tectonic environment to that of Jamaica. This is a geological environment of a kind within which epithermal mineral deposits have either been located or identified in recent years. Some examples include Papua-New Guinea, the Phillippines, and the Indonesian Arc. Evidence of epithermal gold mineralization has also recently been found in Jamaica, (P.R. Simpson et al. "New Evidence of Epithermal Gold Potential in Andesitic Volcanics of the Central Inlier, Jamaica." included in Appendix 2) and active exploration efforts for these types of deposits in Jamaica and the Caribbean region in general have been conducted throughout much of the past decade.

The stratigraphy of Jamaica can be subdivided on the basis of metallic mineral potential into the following:

MAJOR PLATES AND PLATE BOUNDARIES OF THE EARTH

FIGURE No. 2



A) Cretaceous: The oldest exposed rocks, contain most metal occurrences and are considered to have the most economic potential.

B) Trough Sediments, Volcanics and Intrusives: Younger than the Cretaceous Inliers, and still having metallic mineral potential.

C) Stable Shelf Carbonates: Low economic potential for metallic mineral deposits.

The distribution of various rock types is shown on the geological map of Jamaica (Figure No. 3) and the stratigraphic column (Figure No. 4) demonstrates the relationship between mineralization and the geological environment.

The Cretaceous rocks are exposed in seven major and twenty-one minor inliers. These rocks consist of volcanics, volcaniclastics, associated intrusives as well as coarse clastics, except in the western part of the island where marine shales predominate. In various locations, alteration events have modified the appearance of the original rock types.

The volcanic rocks exposed in these inliers are usually mafic flows and tuffs. A tranquil volcanic regime, as opposed to the more explosive island arc style with its greater magmatic differentiation, is considered to be depositional environment.

FIGURE No. 3

78°00'W 77°30'W 77°00'W 76°30'W

18°30'N

18°00'N

Lucea
Montego Bay
Falmouth
Arturs Seat
Connors
Ginger Ridge
Flint River
Port Maria
Ugly River
Vineger Hill
Chelsea
Mulberry Hill
Durham Coopers Hill
Bellevue
Hope Bay
Port Antonio
Savonna-La-Mar
Kingston
Good Hope Mtn
Mocungo Hill
Stamford Hill
Charing Cross
Sue River
Belvedere
Camel & Goo Hill
Congo & Victoria Hill

Legend

Alluvium	— Pliestocene — Recent		
Coastal Group	— Mid. Miocene — L. Pleistocene		
White Limestone Group	— Mid. Eocene — Mid. Miocene		
Yellow Limestone Group	— L. Eocene — Mid. Eocene		
Richmond Formation	Wagwater Group — Paleocene — L. Eocene		
Wagwater Formation			
Undifferentiated sedimentary and volcanic rocks	— Cretaceous		
Newcastle volcanics	— L. Eocene		
Andesitic volcanics	— Cretaceous		
Granodiorite	— Upper Cretaceous		
Serpentinite	— Cretaceous		
Schists	— Cretaceous, probably older		

Symbols

- ○ Cu
- ● Fe
- ■ Mn
- ▲ Pyrilic Zone (with minor Cu)

Cretaceous Inliers

1	Blue Mountain Inlier	5	Central Inlier
2	Lazaretto Inlier	6	St. Ann Inlier
3	Benbow Inlier	7	Sunderland Inlier
4	Above Rocks Inlier	8	Marchmont Inlier
		9	Hanover Inlier

10 5 0 10 20 30 40 Miles

10 5 0 10 20 30 40 Kilometres

GEOLOGICAL MAP OF JAMAICA WITH MINERAL OCCURRENCES

STRATIGRAPHIC CORRELATION COLUMN OF JAMAICA

Showing Position of Known Mineral Occurrences

FIGURE No. 4

Age	Blue Mountain Wagwater	Benbow Inlier	Above Rocks Inlier	Central Inlier	Sunderland Marchmont Inliers	Hanover Inlier
Middle Eocene – Middle Miocene	White limestone group	White limestone group	White limestone group	White limestone group	White limestone group	White limestone group
Late Early Eocene – Middle Eocene	Yellow limestone group	Yellow limestone group	Yellow limestone group	Yellow limestone group	Yellow limestone group	Yellow limestone group
Paleocene – Early Eocene	Newcastle Volcanics [1]; Wagwater group including Chepstow lst [2] [3]					
Maastrichtian – Late	Various sedimentary and volcanic units [4]			Summerfield	Garlands Fm.	Redbeds; Jerusalem Mt. lst; Garlands Fm.
Maastrichtian – Middle				Guinea Corn Fm.	Veriallas with lsts Kensington lst	
Maastrichtian – Early				Slippery Rock Fm.	Shepherd's Hall Fm.	Shepherd's Hall Fm.
Maastrichtian – Late					Stapelton Fm.	Green Island Fm.
Campanian – Middle				Bull Head Fm/Main Ridge Volcanics	Newman's Hall Fm.	Hanover; Clifton lst Mbr; Fm [8]
Campanian – Early				Peter's Hill Fm.	Sunderland Fm.	
Santonian – Coniacian				Arthur's Seat Fm. [7]	Unnamed marine unit	John's Hall Fm.
Albian – Late		Tiber Fm.	Granodiorite [6]	Diorite meta-volcanics meta-lst		
Albian – Middle		Rio Nuveo Fm.	[5]			
Albian – Early, Aptian, Barremian		Devil's Race Course Fm.	Border Fm. Mt. Charles Fm.			
Earliest Cretaceous to Latest Jurassic	Mt. Hibernia schist group Serpentinite					
Pre – Cretaceous	Westphalia schist group					

[1] Mavis Bank – B.M.
Barbecue River – B.M.

[2] Castleton – P.M.
Ugly River – B.M.
Hope Mine – B.M., P.M.
Pencor River – B.M.

[3] Jobs Hill – B.M.

[4] Bellevue – B.M.
Cooper's Hill – B.M.
Macungo Hill – B.M.

[5] Flint River – B.M.
Belvedere – B.M.

[6] Sue River – B.M.

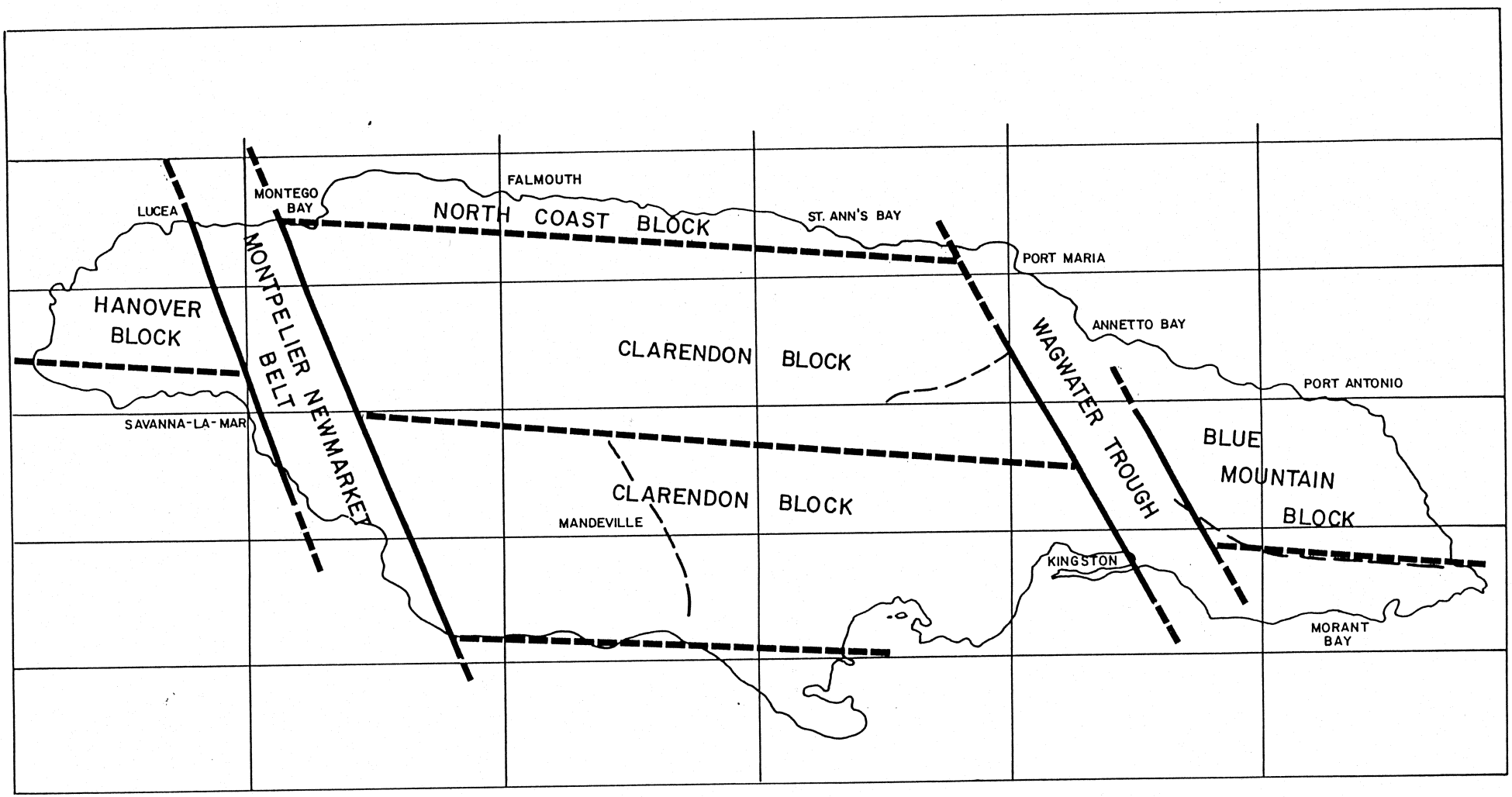
[7] Bellas Gate – B.M., P.M.

[8] Thermal Spring

At the end of the Cretaceous period, uplift resulted in an unconformity at the Cretaceous/Tertiary boundary. Rifting also developed in an ENE direction forming the Montpelier-Newmarket and Wagwater troughs. In the Wagwater, arenaceous sediments derived from the surrounding highlands were supplemented by volcanic extrusions along trough margin lines of weakness. This volcanic-sedimentary association varies laterally and vertically. Associated trough intrusives are exposed on either side of the Wagwater. In contrast to the Wagwater, no continental sediments, volcanics, or associated intrusives are exposed in the Montpelier - Newmarket trough. Any Wagwater equivalent sedimentary/volcanic trough sequence that may have existed is now covered with white Tertiary limestone and locally with yellow limestone. These latter rocks cover the majority of the island, lying unconformably on the stable crustal rocks that form the highlands, and conformably overlying the younger trough sediments.

The island as a whole consists of a strong E-W anticlinal structure, modified by rift boundaries and block faulting in a NNW direction. East-west strike-slip faulting, primarily left-lateral, paralleling the Cayman Trench, occurred during the Cretaceous. Later NNW rifting and normal faulting produced the two major troughs which divide the island into three main blocks: the Hanover Block to the west, the Central Clarendon Block, and the Blue Mountain Block (Figure No. 5) to the East.

STRUCTURAL INTERPRETATION FIGURE No.5



Two workers, A.R.D. Porter (1970) and A.D. Fenton (1975) have completed M.Sc. Theses for the University of West Indies and University of Toronto respectively describing the geological relationships in the Ginger Ridge and Connors areas; both of which lie within the S.E.P.L. 400. These works are the most comprehensive on the region and are quoted as appropriate. The author has also had the opportunity to discuss various aspects of the geology of the property with the former of these authors. A.D. Fenton's thesis is presented in Appendix 3 for the reader's reference.

6.1.0 STRATIGRAPHY AND CORRELATION

Three major rock units are recognized on the Bellas Gate Property.

1) The Juan de Bolas Formation, which consists of well-bedded volcanic conglomerate, siltstone and claystone, with associated limestone, mudstone and shale.

2) The Brown's Hall Formation, which consists of poorly bedded, complexly intermixed volcanic and volcanically-derived sedimentary rocks.

3) Rock River Formation

The mapped area of the property is considered to be composed of Cretaceous rocks of Cenomanian to Maestrichtian age. (Chubb in Zans et al.) 1962, Table 2, p. 7).

6.1.1 JUAN DE BOLAS FORMATION

The oldest rocks identified within the area are the limestone, mudstone and shale units of the Juan de Bolas Formation. According to Chubb (in Zans et al. 1962, p. 14), Zans discovered an Inoceramus within a lithologically similar shale and limestone series at Peter's Hill, six miles to the northwest of the village of Ginger Ridge. Chubb (in Zans et al. 1962, p. 14) has summarized evidence for the age of those two correlated horizons, stating that Dr. P. Bronnimann has suggested an Upper Cenomanian to Lower Turonian age on the basis of Foraminifera from Peter's Hill, and that Radiolitinids from Juan de Bolas are consistent with a Turonian age.

The Brown's Hall Formation is equivalent to the Upper Tuffaceous Series of Williams (1959), and is regarded as Maestrichtian in age on the basis of the foraminifera Kathina jamaïcensis found in rocks of the Upper Tuffaceous Series west of the mapped area (Chubb in Zans et. al. 1962, p. 15).

6.1.2 THE BROWN'S HALL FORMATION

The Brown's Hall Formation is the name proposed for a sequence of rock composed of complexly intermixed volcanic and volcanically-derived sedimentary material that crop out over approximately three-quarters of the area. The rocks, which include volcanic breccia, conglomerate, sandstone and siltstone with interbedded lava flows, are exposed along the main road from Brown's Hall in the east via Connors to the western edge of the mapped area.

The Brown's Hall Formation is intruded by a small granodiorite stock, and a large area of the volcaniclastic rocks adjacent to the eastern contact of the stock have been thermally metamorphosed. The type locality of the metamorphosed portion of the Brown's Hall Formation is along the main road from the Sandy Ground junction to the Marlie Hill school.

6.1.3 THE ROCK RIVER FORMATION

Trending parallel to the long axis of the granodiorite stock is a linear area of massive volcanic rock, which is traceable from the northern boundary of the S.E.P.L. in a south-westerly direction for one and a quarter miles before disappearing beneath thick soil cover. The unit is composed predominantly of basalt, with minor spilite. The Rock River Formation (Porter, A.R.D. 1970)

consists of massive volcanic rock, fresh exposures of which occur in the bed of Rock River southwest of the Connors prospect area.

One unweathered contact between the Rock River Formation and the Browns Hall Formation was observed along the road leading up to the village of Ginger Ridge. This contact rock is dark grey, very fine grained and indistinctly banded. The banding appears to have resulted from the baking of the country rock. The total width of the baked zone does not exceed 6 inches at this location.

In the vicinity of the Connors prospect, the Rock River Formation and the granodiorite stock are separated by a linear area of hydrothermally altered rock. In general, the massive volcanic rocks closest to the hydrothermal alteration zone have been fractured, partly silicified and pyritized, and heavily veined by epidote.

A sequence of intrusive rock types are present in the area, some of which are sufficiently substantial to have formation status as follows:

6.1.4 THE GINGER RIDGE STOCK

The Ginger Ridge Stock, in outcrop, is a bulb-shaped body occupying an area of approximately two square miles. It extends from the district of Sandy Ground in a northwesterly direction to the edge of the S.E.P.L. To the east of Sandy

Ground, granodiorite reappears in the form of a small, oval-shaped, satellitic outcrop. Although the village of Ginger Ridge is not geographically located on the stock, the name as reported by Williams (in Zans et. al., 1962, p. 58) has been retained.

Few contacts are exposed, but at the boundaries with country rock, contacts are generally sharp and can normally be located in the field to within a few feet.

Flanking the stock on its west and southwesterly margins is a broad, elongate belt of altered rock, and around the remainder of the stock is a narrow contact zone.

Road cuts exhibit the deep weathering of the granodiorite. The rock will crumble in the hand even in freshly cut exposures at a depth of as much as 20 feet. When fresh, the granodiorite is massive, jointed, light-grey to greenish-grey with a medium grained granitoid texture. When weathered it retains its original texture, but feldspars alter to white kaolin, and ferromagnesian minerals commonly leave residual iron oxides which locally endow the rock with a pale yellow to yellow brown, or pale red colour. Quartz, however, appears unaffected.

6.1.4.1 EMPLACEMENT OF THE STOCK

Several features of the stock are important with respect to its emplacement.

These are summarized as follows:

1) With the exception of joints, the stock is a structureless body, devoid of mineral lineation of planar foliation.

2) It possesses sharp contacts, and is partly enveloped by a narrow aureole produced by thermal metamorphism.

3) Apart from the variation in grain size of quartz, and the local occurrence of plagioclase phenocrysts, the stock is essentially homogeneous.

4) The stock is elongated NNW-SSE and is, therefore, discordant with the axial plane of the regional anticline, which trends WNW-ESE in the S.E.P.L.

According to Buddington (1959), Turner (1960), and Hatch (1961), the above criteria are indicative of a pluton emplaced at relatively shallow depth. These criteria are also consistent with epizone plutons, the bases of which are

considered by Buddington (1959, p. 676) to be commonly 4 miles in depth, but occasionally extend to 6 miles.

6.1.5 THE GOLD MINE COMPLEX

The Gold Mine Complex is the name proposed for a body of diverse igneous rocks, which are intrusive into the Brown Hall Formation in the area around and to the west of Gold Mine, a village that existed some time ago. Unweathered exposures of this sequence occur along the Rock River.

The Complex is composed of isolated outcrops of predominantly four rock types, as follows:

a) Feldspar-quartz porphyry

b) Diorite porphyry

c) Porphyritic microdiorite

d) Porphyritic olivine microgabbro

6.1.6 DYKES

Widely distributed and usually relatively narrow dykes occur within the area in all lithologies except the granodiorite stock. The great majority are steeply dipping, highly weathered, and can rarely be traced in the field. In width they

range from a few inches to approximately three hundred feet. With the exception of a micro-granodiorite, and a basalt dyke, all other dyke rocks examined belong to the Intermediate group, with andesite being the most common. These are predominantly porphyritic with a pilotaxitic groundmass.

Dykes close to fault zones and granodiorite contacts have been either albitized, kaolinized, or completely altered to epidote and calcite; elsewhere calcite has replaced much of the groundmass.

6.1.7 CONTACT METAMORPHIC ROCKS

Contact metamorphism accompanied the intrusion of the granodiorite and a narrow, but well-defined contact zone ranging in outcrop width from 50 - 200 feet flanks the eastern part of the stock. Owing to the igneous appearance of adjacent indurated volcaniclastic rocks, the contact zone is delineated from the country rock by textural and mineralogical changes determined microscopically.

No occurrences of granodiorite or quartz diorite dykes were identified within the contact zone, all materials having the appearance of hornfels.

Veinlets of epidote and quartz are uncommon within the contact zone, but a small number of calcite veins occur on a path approximately 2000 feet southeast of Ginger Ridge.

Although the predominant mineral assemblages in the contact zone belong to the pyroxene-, and hornblende-hornfels facies as defined by Fyfe (Turner et. al., 1958, p. 201, 206), isolated masses and imperfect exposures have not made it possible to detect any zonation. Pyroxene-, and hornblende-hornfels are grey, fine to medium grained, massive rocks, which locally contain porphyroblastic crystals of hornblende and biotite. These seldom exceed 1 cm.

7.0.0 STRUCTURE

The Central Inlier is the second largest area of Cretaceous rock in Jamaica. Its length from east to west is 34 miles, and its maximum width is 9 miles. Chubb (in Zans et. al., 1962, p. 14) has stated that, structurally, this Inlier is an anticline with a predominant E-W strike in the central part, and a WNW-ESE strike in the eastern and western ends.

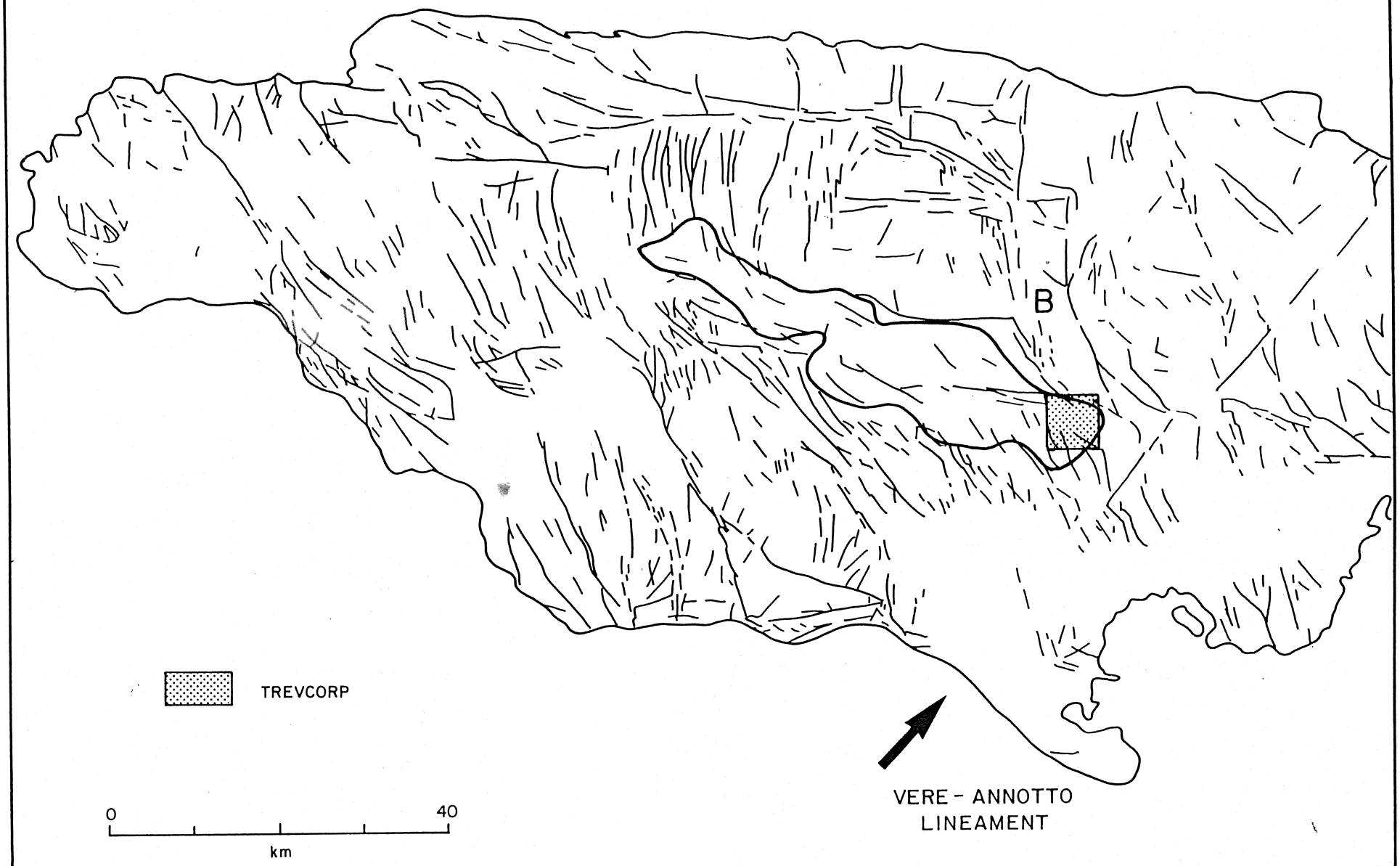
The S.E.P.L. 400 is situated at the eastern end of the Inlier and lies along the axis of the regional anticline. Within this area, the rocks are strongly faulted and changes in strike direction commonly occur. Locally, smaller folds have developed, but exposures are rare.

A small, but well preserved concentric fold is exposed along a path on the southern slope of the Juan de Bolas Mountain. The fold, which occurs within the Juan de Bolas Formation, plunges NNE at 14 deg. The axial plane of the concentric fold, which trends N 35 deg. E, is approximately perpendicular to the axial plane of the regional anticline. This suggests that, at least locally, minor compressional forces acted in a direction parallel to the axial plane of the anticline, along the northern limb.

Regional studies suggest that the dominant strike-slip fault zones on the island show azimuths at WNW-ESE directions (see Figure 6). Those studies also suggest that most subordinate faulting is NW-SE trending and that the dominant

JAMAICA STRUCTURAL FABRIC

FIGURE No.6



structural fabric of the island is NW-SE. (Wadge G. & Dixon T.H., 1987) in Proceedings of a Workshop on the Status of Jamaican Geology. Special Issue, Geological Society of Jamaica.

Although faults are often visible on aerial photographs as straight or gently curved S-shaped physiographic features, the deep weathering and heavy cultivation make them difficult to detect in the field. Locally, faults are exposed in road cuts, but owing to a general absence of distinctive marker horizons within the S.E.P.L. displacements can rarely be ascertained.

The most extensive fault within the S.E.P.L. is situated along the southern margin of the Juan de Bolas Mountain. At one locality along the fault, the rock is strongly foliated. The plane of foliation dips at approximately 75 deg. to the NNE. Vertical movement along this plane has brought the younger Brown's Hall Formation in contact with the older Juan de Bolas Formation.

8.0.0 ALTERATION

8.0.1 INTRODUCTION

Alteration of rocks of the Central Inlier takes two basic forms on the property. Firstly, there are two very distinct and well defined zones as shown on map AM1. The disseminated deposits at Connors and Camel Hill, later discussed, appear related to each of these. The second form of alteration is more widely manifest, affecting the bulk of the prospective rock sequence throughout the property. This latter gives all volcanic rocks a somewhat greenish-grey appearance.

Within the property, the two very distinct zones of hydrothermally altered rock of the first class mentioned above are referred to as the northern and southern zones respectively. The largest associated with the Connors anomaly, is a broad, linear belt exposed along the west and south-western margin of the granodiorite stock. It is approximately 600-700 feet in width and extends for more than two miles in length. The best exposure of rock in this zone is along an ESE trending path extending from the village of Ginger Ridge to the main road. Trending roughly parallel to this zone and lying approximately two miles to the south is a second zone of alteration adjacent to the Gold Mine Complex and designated as the Southern Alteration Zone. Unweathered exposures of rock in this zone occur only along the Rock River.

Weathering and silicification have generally obscured the original texture of the rocks in the distinct alteration zones, but relict granitic textures and phenocrysts of plagioclase indicate that biotite, granodiorite and lavas respectively have been extensively altered.

Fenton 1974 identified and described four distinct alteration assemblages related to mineralization at Connors which include; 1) quartz-sericite-pyrite assemblage; 2) biotite assemblage which also contains actinolite; 3) chlorite-calcite-epidote assemblage and 4) clay-calcite assemblage. Of these, assemblage (3) was identified as being propylitic and characteristic of fringe alteration in many porphyry copper deposits. Fenton concludes that the chlorite-calcite-epidote assemblage overprints both the quartz-sericite-pyrite assemblage and the biotite assemblage and is therefore younger than both.

Our observations from the property as a whole are that Fenton's assemblages 1) and 2) are characteristic of the first form of alteration manifest as the two distinct zones. However, influences of assemblages 3) and 4) do also affect these zones as Fenton observed. For the broad based alteration of the second form, it appears that assemblages 3) and 4) are typical. This may imply that widespread propylitic alteration processes have affected much of the property as a whole. Furthermore, Mitchell A.H.G. 1988 states that chlorite-epidote or chlorite-epidote-actinolite alteration assemblages indicate formation temperatures above 240 deg. C. These assemblages are characteristic of propylitic alteration, are most apparent in andesitic or basaltic rocks, and

can have widespread occurrence around an epithermal or porphyry system. Other minerals commonly occurring are quartz, illite, calcite up to 1% pyrite and relict magnetite.

Minerals within the distinct alteration zones are quartz, sericite, chlorite, epidote, biotite, calcite, colbrite, pyrite and potash feldspar. Less commonly present are the minerals tourmaline, borite and chalcopyrite. In certain parts of the distinct zones, a blue-grey saprolite has developed from the altered volcanic rocks.

Rocks in the distinct alteration zones are highly fractured and are cut by steeply dipping closely spaced joints, many of which show iron staining and have hairline pyrite veins. Fenton says that illite is widespread and is found in most rocks in the distinct alteration zones. The mineral occurs in irregular clots or is developed pervasively, interstitial to quartz. The mineral may be a supergene alteration product of other minerals such as sericite, biotite, chlorite and plagioclase.

Mitchell A.H.G. 1988 states that illite is the most common alteration type in the mid-to-upper part of epithermal systems. The illite alteration grades outward into propylitic alteration. Illite develops preferentially in andisitic and dacitic rocks rather than the more basic rocks.

Work carried out by Simpson et al 1988 in the Mountain River area (situated SE of Connors) in St. Catherine Parish shows the widespread occurrence of epidotization indicative of pervasive hydrothermal alteration or low grade metamorphism. Simpson and his co-workers had recovered fine gold in panned concentrates from a river draining volcano-sedimentary sequences of andesitic affinities. This gold was accompanied by geochemical haloes for arsenic and silver which are stated to be indicative of epithermal gold mineralization.

The range of values, measured in ppm, obtained therein by Simpson et al were for As 50; Zn 217-535; Sb 0-9; Bo 45-1034; Cu 53-231; and Mo 4-9. Those authors conclude that an epithermal environment can occur in any of the formations present in the area as long as the root is rocks of the Central Inlier type.

All of the evidence we have seen plus the conclusions that can be drawn from other workers in the area and from the literature characterizes the region as a broad epithermal environment. Therefore, the mineral deposit types that are possibly present on the property would include those that are typical of an epithermal environment as well as those characteristic of higher temperature environments.

Detailed mapping around the granodiorite stock reveals that in the southeastern end the contact zone is truncated by the more extensive alteration zone. This indicates that alteration post-dates the intrusion of the Ginger Ridge

granodiorite. The precise relationship between the alteration zone and the Ginger Ridge granodiorite is not known.

Weathering and silicification have generally obscured the original texture of the rocks in the alteration zone, but relict granitic textures and phenocrysts of plagioclase indicate that biotite, granodiorite and lavas respectively have been hydrothermally altered. The altered rocks in the smaller zone are predominantly breccia.

Minor actinolite, chlorite, and epidote are present in the altered rocks within the smaller zone. These minerals may be related to small dykes which intrude this zone.

Hydrothermally altered granodioritic rocks of the Ginger Ridge stock show that alteration has resulted in an increase in silica and potassium and a decrease in calcium and sodium.

9.0.0 MINERALIZATION

Within S.E.P.L. 400, on the basis of past and current results, perhaps three main assemblages of economic minerals can be identified. These are 1) copper-gold porphyry-style; 2) copper-gold-silver vein style with traces of other base metals and 3) gold-silver with limited or no base metals.

Assemblages 1 and 2 are associated with intrusive bodies as at Connors and Camel Hill and represent porphyry-style mineralization. Past exploration in the S.E.P.L. by Geophysical Engineering and Surveys Ltd. and others has established the presence of porphyry-style copper mineralization and has indicated to a limited extent the presence of related gold mineralization at Connors. Recently completed geochemical surveys by Trevcorp, Section 10.0.0, have demonstrated a clear and distinct relationship between copper and gold occurrences in the soil overlying porphyry-style mineralized zones at both Connors and Camel Hill.

The mineralization identified by Sawkins 1869 and others at Charing Cross and Stamford Hill, see Sections 15.4 and 16.2, represents single veins, up to 20 feet wide, containing copper-gold-silver mineralization with grades ranging from 5-20% Cu, 0.25 oz/ton Au, and up to 30 oz/ton Ag. In both cases, the veins and mineralization occur on the margin of, or are internal to, porphyry intrusive bodies.

The third possible assemblage has not yet been identified in rock samples in the field but appears evident as a result of the recently completed soil geochemical surveys in S.E.P.L. 400 and by analogy with the findings of Simpson et al elsewhere in St. Catherine Parish. In this setting, mineralization would consist of gold-silver with arsenic and perhaps other trace elements. Four such relationships were found in the soil geochemistry (see sections 13.7.0 and 14.5.0) with which there are no significant base metal associations.

The occurrence and sequence of mineralization within S.E.P.L. 400 may have distinct gaps between events or may represent a single continuous but pulsating episode related to the Ginger Ridge Stock. The following succession of events, while not meant to be definitive, is tentatively suggested as an example of the relationships that may prevail within the S.E.P.L.

EVENT	ALTERATION	MINERALIZATION
7) Weathering and Erosion	- Supergene	- Placer accumulations
6) Hydrothermal Alteration	- Clay-calcite - Chlorite-calcite-epidote	- Gold silver veins
5) Emplacement of Feldspar Porphyry, possibly dykes also	- Quartz sericite - Biotite	- Porphyry style - Base metal/ precious metal veins
4) Local shearing and faulting	- Quartz sericite	
3) Ginger Ridge Stock Intrusion 3) Further volcanism/sedimentation	- Contact metamorphism	
2) Deformation including faulting		
1) Volcanism/sedimentation		

While this progression of events may oversimplify the actual episodes occurring within the S.E.P.L., present information supports the need to relate the styles of alteration present in the S.E.P.L. with the various forms of mineralization as they occur within the overall geological environment.

10.0.0 GEOCHEMISTRY

Geophysical Engineering and Surveys Ltd., during the period 1957-59, carried out a multi-faceted exploration program over the presently defined S.E.P.L. 400. A major component of this program consisted of a copper soil geochemical survey over the entire holding. In designing the exploration program, the company subdivided the property into nine separate map areas (See Map No. 6) related to a common baseline. For each of these areas, a grid was established usually utilizing lines at 300 foot spacings with stations at 50 foot intervals along the lines.

Samples obtained by Geophysical Engineering and Surveys Ltd. were then analyzed using the Biquinoline method with values reported in ppm copper. The results were then displayed on maps showing the station and corresponding copper value, all of which were then contoured. Individual areas of elevated response were subsequently followed up by a more detailed sampling program, again for soil copper content. At this time, other exploration techniques were also employed, the type depending on the nature of geological target being addressed. The more important areas addressed include Connors, Camel Hill, Ginger Ridge, Geo Hill, Mab Hill and Weebar Hill, for which individual grids were established and further sampling carried out using techniques similar to the original survey. However, we have not been able to obtain specific details that describe the actual sampling procedure of that time such as sample size, horizon sampled and so on.

One of the considerations emerging from an assessment of this data is that no effort was made to sample for any of the metal elements other than copper. This philosophy parallels that of the earlier workers who also only viewed the various showings with regard only to their potential copper content. It is also consistent with the exploration philosophy of many mining companies of the late 50's to 60's era when worldwide exploration was dedicated to "porphyry copper" deposits.

Trevcorp, as part of their initial evaluations, carried out during 1990, included a geochemical soil sampling program to cover the surfacial lateral extent of the northern and southern alteration zones. To organize the sampling, two grids were established utilizing baselines parallel to the strike of the alteration zone; lines were set off at 200 foot intervals with stations at 200 foot intervals along the line. Soil samples were obtained from the B horizon wherever possible. Alternatively, where required, stream sediment or rock fragments were obtained. Samples were catalogued, packed and shipped to Acme Laboratories in Vancouver for analysis. At Acme Laboratories, samples were analyzed for thirty-one elements, using the ICP method, plus gold, gold being analyzed by a separate method.

Utilizing the ICP method, a 500 gram sample was digested with 3 ml of 3-1-2 proportions of hydrochloric acid, nitric acid and water at ninety-five degrees centigrade for one hour and then diluted to 10 ml with water. This results in a partial leach for Mn., Fe., Sr., Ca., P., La., Cr., Mg., Ba., Ti., B., W., and

limited for Na., K., and Al. Other elements analyzed for include Mo., Cu., Pb., Zn., Ag., Ni., Co., As., U., Th., Cd., Sb., Bi., V., Ti., and Hg. The detection limit for gold by ICP is only 3 ppm and so a different technique for this metal was used.

As a partial focus of Trevcorp's program was the assessment of gold potential in the Connors and Camel Hill intrusives, a further analysis for gold was carried out. This consisted of acid leach/atomic absorption from a 10 gm sample.

The results received from Acme Laboratories were reviewed upon receipt and from these contoured maps were prepared, utilizing the Surfer Software Program, for copper, gold, silver, arsenic and mercury in the case of Camel Hill and the preceding list less mercury in the case of Connors. These results are presented as maps No. N1 through No. N9 attached to this report. All retained sample materials plus pulps are presently stored by Acme.

11.0.0 GEOPHYSICS

Geophysical Engineering and Surveys Ltd. during the period 1957-59 carried out a multi-phase exploration program over the area encompassing S.E.P.L. 400. The company subdivided the property into nine separate map areas (see Map No. B) related to a common baseline. For each of these areas, a grid was established, usually utilizing lines at 300 foot spacings with stations at 50 foot intervals along the lines. These grids then became the common control for all the surveys subsequently carried out.

Prior to undertaking the ground work, a regional airborne magnetometer survey had been completed which covered the property as well as areas outside the present S.E.P.L. limits. A review of this airborne magnetometer map provides evidences of the major geological units and events occurring within the S.E.P.L. The dominant feature is the presence of two NNW trending distinct alteration zones; one passing through Ginger Ridge and the other passing through Camel Hill, Geo Hill and extending further north.

At Ginger Ridge and lying east of the alteration zone occurs a closed magnetic pattern which is elliptical in shape and which trends WNW, gradually fades out in the ESE direction and is flanked by an apparent fault south of Connors. The WNW margin of this pattern sharply abuts against the alteration zone. The maximum reading within this pattern is 3200 gammas. This pattern conforms to the Ginger Ridge granodiorite stock.

Lying between the two alteration zones and trending in a NNW direction is an intense magnetic pattern having a peak of 3200 gammas, west of Connors, extending south to Congo Hill and beyond and continuing to the Eastern edge of the map area, well off the S.E.P.L. This pattern wraps around the southern end of the Northern Alteration Zone and attains a high of 3400 gammas in the vicinity of Banana Ridge. There appears to be a faulted contact with the Ginger Ridge intrusive south of Connors. This magnetic pattern conforms to the Upper Volcanics of the Brown's Hall Formation (See Map No. AM1 in Map Box).

West of Congo Hill, south of Camel Hill and west of Geo Hill, the magnetic intensity is somewhat less, having a peak reading of 2400 gammas in the vicinity of Day Hill and a local high of 2900 gammas west of the Village of Simon, and the pattern is indistinct. The southern part of this area is underlain by white limestone whereas the more central and northerly portion is underlain by volcanic sediments and volcanics.

The north central portion of the survey area is affected by a WNW trending structural feature, which truncates the NNW trending patter and trends across the map area.

Within the S.E.P.L., Geophysical Engineering and Surveys Ltd. carried out numerous and various geophysical surveys. The methods utilized included magnetometer, resistivity, self potential and electro magnetometer (see Maps

Nos. 01 through 028, OCGS, OCSP, OCEM, GRGS, GH1 through GH3 and AM1 in map box). These surveys were not all completed for all grids or perhaps more accurately, maps are only partially available for certain of the surveys.

Where generally anomalous geochemical responses having been obtained, detail grids were established and local surveys performed conforming to the geochemical coverage. Within these local grids responses were quite distinct and showed good coordination with other exploration techniques; these are discussed elsewhere in this report. It should be noted that the literature search was unable to determine the specific instrumentation utilized or details of survey parameters which may have been used by the company.

12.0.0 DESCRIPTION OF MINERAL PROSPECTS

Within the Central Inlier, the Bellas Gate area is the locale of some of the better known copper and gold prospects in Jamaica. The most significant occurrences consist of disseminated or porphyry-type mineralization associated with intrusive bodies of intermediate composition and their altered host rocks. These include the Connors, Camel Hill, Geo Hill, and Mab prospects which are related to zones of fracturing and alteration.

Other deposit types occur within the Bellas Gate area which consist of vein, fracture-filling, and bedding plane replacement mineralization.

Bergy (1958) classified the Bellas Gate group of prospects into four main types:

"1. Low grade disseminated sulfide with a high pyrite/chalcopyrite ratio associated with zones of hydrothermal alteration near margins of intrusive bodies; e.g. Connors, Camel Hill.

2. Quartz and/or carbonate veins or zones of stringers containing high grade copper, some of which also contain gold; e.g. Charing Cross, Stamford Hill.

3. Replacement of calcareous sedimentary rocks by copper minerals without appreciable sulfide gangue; e.g. Dry Hill.

4. Dyke contacts or shear zones where disseminated malachite and azurite occur in sheared volcanics near diorite dykes; e.g. High Stone Hill."

The Bellas Gate group of prospects can be separated into categories according to the above classification.

Within category 1, metallic mineralization occurrences are located along two extensive zones of alteration which overprint shear zones, in one instance marginal to a granodiorite stock. Reference to Map No. AM1 shows the extent of development of these zones as understood previously. Map No. N11 illustrates our present understanding of the lateral extent of these zones; there are two zones of this type which have an average length and width of 15,000 feet and 1,000 feet respectively. Further enrichment typically occurs where faults intersect the shear zones. These areas of mineralization have historically been designated as the North Alteration Zone and the South Alteration Zone. Within the zones, there are altered crystalline rocks with chalcopyrite-pyrite finely disseminated, and which also occurs as veinlets and fracture fillings. The amount of pyrite varies from trace to 15% by volume, while the chalcopyrite-pyrite ratio is estimated to be up to 1:10. Bornite was found in minor amounts in drill hole cores; chalcocite was found partially replacing primary sulfides below the leached capping, and malachite is found in oxidized material in a few outcrops. Although gold mineralization was not explored to any significant

extent in Bergey's time, apparently four composite samples covering several hundred feet each of the drilled sequence were tested from two drill holes at Connors. These tests gave positive results without defining the specific location or the type of mineralization nor the range of concentration.

Alteration minerals found in the zones include quartz, sericite, chlorite, pyrite, epidote, calcite, sphene, jarosite and biotite. K-feldspar is a rare constituent in the altered rocks. Toward the margins of the alteration zones, disseminated pyrite is absent, and the rocks grade imperceptibly from slightly altered volcanics with pyrite veinlets and fracture filling, into fresh rock.

Within the S.E.P.L. 400, numerous showings occur which have, over the previous exploration programs and the present work, received varying degrees of attention. The more important prospects and showings are discussed individually in subsequent sections of this report. Numerous other smaller showings have been identified by prospecting. These individually, do not warrant detailed description at this time, but collectively, however, they illustrate widespread mineralizing activity within the property perhaps also related to that which produced the larger prospects. Map No. N10 presents the location of the individual prospect or showing. The following primary prospects are discussed individually; Connors, Camel Hill, Charing Cross, Stamford Hill and Congo Hill. The remaining showings are collectively discussed under the category of "Others".

13.0.0 CONNORS PROSPECT

13.1.0 INTRODUCTION

The Connors Prospect is the most intensely prospected in the S.E.P.L. This prospect underlies the village of Connors, and topographically appears as a small knoll in the shallow valley formed by the Rock River. There are few surface indications of copper mineralization, which are usually present as small amounts of disseminated chalcopyrite and/or malachite. Pyrite is frequently present as hairline fracture fillings. Previous work carried out to test the Connors Prospect has included geochemistry, geophysics, hand auguring, diamond drilling, and geological mapping. Two M.Sc. Theses carried out in the area have commented extensively on the geology and characteristics of the Connors occurrence; one of these is included in Appendix A for the reader's reference.

13.2.0 HISTORY OF EXPLORATION OF THE PROSPECT

The first work in the area was undertaken during the 1850's, at which time mining activities were carried out on the Charing Cross Prospect and Stamford Hill showing. These activities were discontinued by the mid 1860's due to technical, financial, and/or management reasons. Although further work of an intermittent nature was carried out during the early part of this century, the Connors area did not receive much of the attention which was concentrated on the

investigation of the more traditional copper-gold-silver vein occurrences. Not until the late 1950's did the Connors area become the focus of extended exploration. At that time, Geophysical Engineering & Surveys Ltd. carried out an intensive prospecting program over the whole of what is now S.E.P.L. 400, and beyond. The Connors Prospect was one of several prospects identified as a result of these exploration efforts. A chronology of that and subsequent work is as follows:

1957 - geochemistry, geophysics

1959 - geology, diamond drilling - 6 holes for 2400 feet

1961 - diamond drilling - one hole for 750 feet

1969 - diamond drilling - four holes for 2000 feet

1970 - diamond drilling - four holes for 2050 feet

1987 - S.E.P.L. 378 acquired by Mr. Bruno Vijeon, limited prospecting carried out.

1989 - Trevcorp acquired S.E.P.L. from a vendor group including Mr. Vijeon and initiated an extensive prospecting, geophysical and geochemical exploration program.

13.3.0 GEOLOGICAL ENVIRONMENT

The Connors Prospect is located in an area of massive epiclastic rocks and subordinate lavas of the Eastern Volcanic Group which has been intruded by a small stock of equigranular granodiorite, the Ginger Ridge Stock. The clastic

rocks have been baked around the margins of the stock, and actonilite and epidote bearing rocks occur further away. In these rocks contact metamorphism has partially obscured clastic textures, which in hand specimen resemble lava.

A narrow belt, some 600 feet wide, of volcanic breccia and lava of andesitic composition has been identified in the Connors-Ginger Ridge area. This sequence has been named the Rock River Formation.

The Ginger Ridge Stock is elongated in a roughly NW-SE direction and is paralleled by a zone of alteration. The zone occurs over an area of northwesterly trending shearing along the margin of the granodiorite. Approximately two miles long and 700 - 800 feet wide, the rocks of the zone are bleached volcaniclastics which have been stained red, brown and purple on fracture surfaces. Only the rocks along the southeastern margin of the Ginger Ridge stock have been affected by alteration; the stock itself contains no significant mineralization. The alteration appears to postdate the intrusion of the stock as metamorphic minerals from the contact zone around the stock have been altered and the contact zone itself is truncated by the alteration.

A small plug of feldspar porphyry was intersected in drill holes at Connors, although surface exposures are limited to a few scattered and weathered outcrops. The feldspar porphyry is present over a lateral distance of 5000 feet in a north - south direction and, at its maximum is about 500 feet wide. The original composition of the feldspar porphyry is difficult to determine as the

rock type is never encountered fresh on surface in the area. These rocks have been altered by circulating fluids and contain sericite, pyrite and trace amounts of chalcopyrite.

A description of the porphyry is afforded from diamond drill observation. As recorded, the porphyry is light grey in color, porphyritic and has a fine grained saccharoidal groundmass. Plagioclase phenocrysts comprise about 40% of the rock by volume, becoming less abundant in their fine grained varieties. Quartz is abundant and is the main constituent of the groundmass, in part due to alteration. Rounded and corroded phenocrysts of quartz comprise less than 4% of the rock, but are characteristic of the unit. Quartz also occurs as vein mineral and as concentrations of grains in rounded patches. Mafic minerals of magmatic origin are not preserved; however pseudomorphs of biotite after hornblende have been observed. Apatite and magnetite are common accessory minerals.

At its east end, the alteration zone appears to be terminated by faulting. In the west section, the limits of the zone are less clearly defined. A number of faults have affected the distribution of the altered rocks in the area north of Simon immediately north of the north boundary of S.E.P.L. 400.

13.4.0 STRUCTURE

The Connors-Ginger Ridge area lies along the regional anticlinal axis of the eastern Central Inlier which trends WNW-ESE. The main subordinate structural feature of the prospect area appears to be faulting, but other types of structures are difficult to recognize in the field due to thick soil and vegetation cover. Identification of other subordinate structures is further complicated by the absence of distinctive horizons and the massive nature of the rock.

A significant fault is located at the southern margin of the Juan de Bolas Mountain just outside the northern limits of the S.E.P.L. Small scale faulting and shearing is evident in the linear alteration zone and in the Rock River Formation. Most faults are steeply dipping and accompanied by complex brecciation and often by mineralization. Fractures are lined with calcite, epidote, pyrite and in one instance barite.

A northeasterly trending fault in the vicinity of Connors is suggested by the outcrop pattern and by obvious tectonic disturbance at several locations. Small scale faulting is also suggested at the contact between the Brown's Hall and the Rock River Formations. A belt of strongly brecciated rock, trending northwest, contains fragments of rock from both units. The rocks are intensely epidotized and veined by quartz.

One conspicuous feature of the structure of the area as a whole is that the trend of the major rock units and of the linear alteration zone is discordant with the WNW-ESE trend of the regional anticlinal axis. The general NW-SE elongation of these units parallels the strike of regional faults, suggesting that outcrop patterns are controlled by faulting.

The location of the Connors copper prospect may be structurally controlled as it occurs close to the intersection of two important structural directions, i.e. NW-SE faulting and WNW-ESE trending uplift.

13.5.0 ALTERATION

The main characteristic of mineral assemblage of the rocks associated with copper mineralization at Connors are the alteration products of plagioclase feldspar, biotite and hornblende. These products have been used to define alteration assemblages which are named after the most important mineral or minerals by which they are recognized. No distinction is made between either late magmatic or deuteric alteration effects, and those resulting from the action of circulating fluids.

The principal alteration products are quartz, sericite, chlorite, potash-feldspar, epidote, leucoxene and rutile. The assemblages recognized are

referred to as (1) quartz-sericite-pyrite alteration; (2) biotite alteration; (3) chlorite-calcite-epidote alteration; and (4) clay-calcite alteration.

The clay-calcite assemblage appears to be developed only near highly fractured zones in the feldspar porphyry. Assemblage (1) is found mainly in the feldspar porphyry. Assemblage (2) is found mainly in the andesite. Portions of the feldspar porphyry dyke close to the contact with biotitized andesite show weak to moderate biotite alteration. Assembly (3) is found in the granodiorite, metamorphosed andesite and in the feldspar porphyry. This assemblage of alteration minerals is strongest along quartz veins in the andesite which have calcite and epidote.

13.6.0 MINERALIZATION

The predominant mineralization at Connors is copper which has a spatial association with the feldspar porphyry and is controlled by the extent of vein development. Ore grades increase with the increase in the amount of veining, and especially of quartz-sulphide veins. The feldspar porphyry is intensely veined, but vein development is at a minimum in the granodiorite and quartz veins are absent. Fracturing does not appear to be as important in controlling ore mineralization as it is in determining intensity of alteration. Map Nos. OCGS, OCSP, OCEM, NCMS, N6-N9, Dwgs. 3912-1 through 3912-7, CS1 and CS2 show the results of various exploration survey activities performed over this prospect.

The sulfides present at Connors are pyrite, chalcopyrite, chalcocite and minor pyrrhotite. Pyrite is the most abundant sulfide. Magnetite and hematite are also present as part of the alteration assemblage. Pyrite is a frequent vein mineral occurring in coarse, anhedral grains, forming up to 10% of the rock by volume. It is also found in knots of coarse-grained aggregates or finely disseminated in altered rock. Pyrite is a widely distributed mineral found not only in the hydrothermally altered rocks of the linear alteration zone, but in areas of intensely fractured volcanic rocks and commonly along faults.

Chalcopyrite is limited in distribution and volume and rarely exceeds 1% of the rock. It occurs as stringers accompanying pyrite in quartz veins, or as single bleb-like grains disseminated in the rock. In addition, chalcopyrite occurs as inclusions in pyrite grains and as narrow rims on them.

Chalcocite is present only in limited amounts as a supergene replacement product of chalcopyrite and pyrite. It occurs as small blebs in both minerals but there is extensive replacement of chalcopyrite locally.

Within the Connors deposit, there seems to be a strong relationship between silicate alteration assemblages and the sulfide and oxide minerals associated with them. As the degree of alteration decreases, the copper grades decrease and the sulfide content is low. Sulfide abundance is at its highest in rocks with quartz-sericite alteration. It has been observed at Connors that the highest copper grades are associated with the greatest intensity of

silicification. This follows as the highest ore grades are found in feldspar porphyry with accompanying sericitization. The most intensely altered rocks are therefore also the most silicified.

At Connors, thirteen diamond drill holes totalling some 6200 feet were cored in an area of 4.457 acres to test a copper soil geochemical anomaly. As a result of this limited amount of drilling, a zone of mineralization at a grade of 0.50% copper was outlined. It is indicated by the drilling that this grade of mineralization extends to a depth of 300 to 400 feet within which occurs a zone of enrichment with an average of 24 feet thick. Composite samples taken from two holes, namely diamond drill hole #2 and #3 returned values for gold of 0.02 oz. Au/ton over 320 and 300 feet respectively, but the gold distribution within these zones was not defined during that exploration program. One of the limitations of the previous exploration over this and other prospects of its type within the property is the fact that almost all of the work was dedicated to copper exploration. All other metal elements in the mineralized zones appear to have been essentially ignored. Perhaps due to the low gold prices in effect at the time that the drilling was carried out, consistent sampling and assaying for gold was not completed. The next section of this report addresses results of geochemical and other surveys performed in the current program which were designed specifically to investigate the distribution of gold and other elements.

A leached and weathered zone from surface to about 100 feet of depth is present above the zone of enrichment. Although this zone does not appear to have been assayed as part of the diamond drilling program, there is limited information available as a result of a hand drilling program. As seen on Map No. CS2 in map box, an area of copper mineralization is outlined at a grade of 0.5% copper, which occurs in the weathered zone, is near surface and has an average thickness of 21.7 feet.

The hand auger drilling program was carried out over a portion of the Connors prospect by Geophysical Engineering during their exploration activities. This program consisted of 36 holes drilled to various depths in the weathered overburden. Sample material obtained from this work was analyzed for copper with samples obtained at 5 foot intervals. These holes investigated a surface area of 4.457 acres overlying the Connors deposits (see Map N-10). An interesting feature shown by this work is the presence of copper values in the weathered material overlying the deposit, which had been cored through by the diamond drilling program and was presumed to have no values. In fact, as previously stated, the evidence shows an area of surfacial material with an average grade of 0.50% copper which in the past was presumed to be barren. Such material will form an easily retrievable source of additional tonnage and shows that the Connors Prospect is mineralized from surface. In addition, should the occurrence of such mineralized weathered product be consistently indicative of bedrock values, there is definite exploration usefulness in further auger drilling. Utilizing the >0.50% contour of surface auger values an inspection

of the map indicates that potentially the Connors Prospect is open for further drilling to the southeast and west of the present limits of mineralization.

13.7.0 GEOCHEMICAL SURVEYS OF THE CURRENT PROGRAM AT CONNORS

Because the previous work on the Connors Prospect was completed some time ago using techniques and analytical procedures that now may be regarded as dated, and because emphasis at that time was dedicated almost exclusively towards copper exploration, the current program included a soil survey designed to test for a variety of other elements besides copper. This program included a suite of thirty-one elements which were analyzed using techniques described in Section No. 10.0.0. The complete list of these elements is tabulated in that section and is also shown on the various Certificates of Analysis, copies of which are included in Appendix 4. The following discussion addresses some of these, namely, copper, gold, silver, arsenic and mercury. Map Nos. N6 through N9 present the results of contouring the analytical results of four of these elements, while the fifth, mercury, is simply discussed in the following text.

The rationale behind these investigations is in line with current thoughts concerning mineral associations. This is that many copper deposits discovered in the past have been also shown to contain commercial quantities of other metals, especially gold and silver.

Map N6 shows the results for the testing of soil samples for copper on a 200 foot grid over the Connors Prospect. Comparison between this map and a similar one produced in the past, Map No. OCGS, shows that both maps produced a similar result and the anomaly for copper is clearly defined. The current magnetometer survey, Map No. NCMS, as well as the past series of other geophysical survey plans, Map Nos. OCSP and OCEM, all confirm this anomaly. The maximum values for copper on the two geochemical maps do not necessarily achieve the same limits, but this is to be expected because the soil horizon chosen for analysis is not necessarily the same in both cases, the techniques and standards used in the analytical procedures vary, and the results of cultural activity all have an impact on any particular series of results.

Map N7 shows the results for gold assays from the same set of samples as tested in the current program for copper. Once again, the same area that displayed the copper anomaly clearly shows an anomaly for gold. It should be noted that the gold values used in this plot were determined by acid leaching followed by an atomic absorption finish. In the case of the Connors Prospect, overlaying the copper and gold plots shows that both anomalies center directly on each other.

Maps N8 and N9 show distributions for silver and arsenic respectively. The plot for silver shows some anomalous values also over the Connors Prospect while in the arsenic plot, there is nothing that appears significant over the Connors prospect itself. The arsenic values show the presence of a moderate anomaly with a peak value of 37 ppm which overlies a coincident gold value of 25 ppb

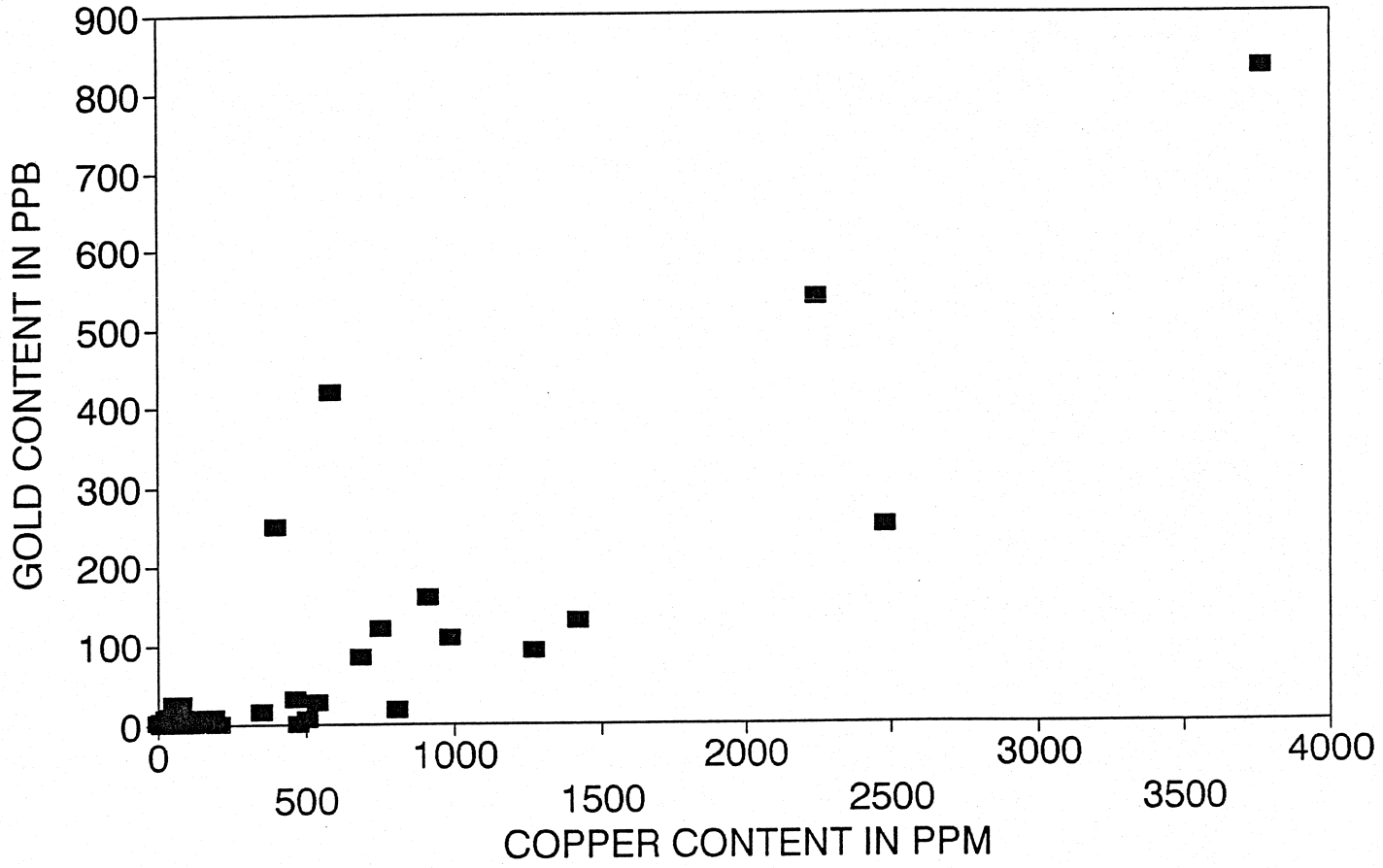
distant from the Connors anomaly. The gold represents a local anomaly unrelated to the main porphyry related anomaly. This coincidence between arsenic and gold (Simpson et al) may be indicative of a different style of mineralization.

The mercury assay results were inspected, and it was found that these showed only background values throughout the Connors Area. Consequently, it was determined that there would be no value in producing a separate plot. However, the results are available for inspection on the analysis sheets contained within Appendix 4.

The copper and gold values were further examined. A cross-plot, Figure No. 7 was prepared in which the gold and copper values for individual samples were compared. This is not an intensive form of statistical analysis of the geochemical data, nor does one appear to be justified at this time. This is because the samples that were tested were from soils, rather than fresh ore or rock, and as such, are subject to variation due to climate variation effects as well as to influences caused by the local human habitation. Such analyses may well be justified once materials unaffected by these peripheral influences are available.

Nevertheless the plot of Figure No. 7 tends to indicate that there is a relationship between the copper and gold mineralization such that with increasing copper content of the samples, the gold content also increases. This is, we believe, an important observation since it points to the need to fully

CONNORS PROSPECT SOILS GEOCHEMISTRY
COPPER VS GOLD FIGURE No.7



evaluate the gold content of the mineralization of this prospect, at least to the same extent as the copper content has been studied.

14.0.0 THE CAMEL HILL SHOWING

The Camel Hill showing lies within the Southern Alteration Zone located about 2.5 miles east of Rock River village.

The area can be reached by a secondary or parochial road between Rock River and Bellas Gate. Within the area, there are many tracks, trails and steep gullies which provide exposure of the mineralized zone, although heavily overgrown by foliage. The easiest means of travel within the area is by foot as most of the original roads have deteriorated due to the combined effects of heavy rainfall and neglect of maintenance.

14.1.0 HISTORY

The Southern Alteration Zone was included in the area investigated by Geophysical Engineering and Surveys Ltd. initially on contract for Jamaica Copper and Iron Ltd. The Camel Hill area was investigated by a series of surveys which included soil geochemistry, magnetic, restivity and self potential surveys as well as geological mapping and limited diamond drilling. That drilling campaign tested the Camel Hill Prospect as well as the Mab and Geo Hill Showings, all of which had returned anomalous results in the original surveys. Limited additional core drilling was subsequently carried out by the Geological Survey in 1972. Details of the latter work are unavailable.

14.2.0 GEOLOGICAL ENVIRONMENT

The Camel Hill area is underlain by rocks of the Eastern Volcanic Group. This unit includes massive clastic rocks, breccias, conglomerates, sandstones and subordinate porphyritic lavas. Small plugs of feldspar porphyry have intruded the rocks of the Eastern Volcanic Group and have produced minor baking along their margins.

Enclosing the area underlain by the Camel Hill, Mab and Geo Hill Showings is a zone of alteration which trends in a northwest direction as far as the village of Simon where it appears to be cut off by a WNW trending fault. At its Eastern end, the alteration zone appears to die out gradually. Within this extensive alteration zone, surface samples from the feldspar porphyry consisted of plagioclase phenocrysts, rounded quartz grains with corroded margins, in a saccharoidal groundmass with predominant quartz and minor plagioclase feldspar. Mafic phenocrysts have been completely replaced, commonly by pseudomorphs of at least two of chlorite, epidote, calcite, or sphene. Feldspar phenocrysts are replaced either by epidote or sericite.

14.3.0 STRUCTURE

The Camel Hill, Mab, Geo Hill area lies along the regional anticlinal axis of the eastern Central Inlier which trends WNW-ESE. As at Connors, the main

subordinate structural feature appears to be faulting, but recognition is difficult in the field due to thick soil and vegetation cover. Once again, the lack of distinctive horizons further complicate the geological picture.

Within the area, faults trending roughly N-S, NW-SE, and NE-SW respectively intersect the alteration zone; displacements appear to be in the range of a few hundred feet. Many of the small faults and minor shears in the area, within as well as outside the alteration zone, are also associated with secondary copper minerals.

14.4.0 MINERALIZATION

The Camel Hill, Mab, Geo Hill Showings are associated and due to proximity are all treated as the "Camel Hill" Prospect. All have strong, copper soil geochemical anomalies which appear to be diagnostic for the region. Malachite, occurring on fractures, frequently causes a copper bloom in the overlying sediments; one such bloom occurs locally at Mountain Hill. Other mineralization identified in the area includes minor quantities of disseminated chalcopyrite and disseminated molybdenum on fracture surfaces and in a quartz vein. A one inch vein of sphalerite has also been reported in outcrop. Disseminated copper mineralization occurs in the feldspar porphyry plug which outcrops at Camel Hill. A review of the limited available data shows mineralization to consist of pyrite and chalcopyrite occurring in fractures in altered volcanics marginal

to feldspar porphyry plugs and in the porphyry itself. Seven holes were drilled by Jamaica Copper Iron Ltd. totalling 2744 feet in an area of about 500' by 500'. Assays from the two holes having the strongest mineralization showed an average grade of 0.53% Cu over an average length of 366 feet.

The Mab and Geo Hill Showings are associated with feldspar porphyry intrusives within the trend of the Southern Alteration Zone. Although not linked at surface with each other or with the Camel Hill intrusive, it is quite probable that there is a common feature controlling the relationship and emplacement at depth. Both showings are marked by moderately high soil geochemical anomalies and associated magnetic anomalies. Two diamond drill holes totalling 423 feet at the Mab Showing encountered minor copper values associated with pyrite and chalcopyrite mineralization in altered quartz diorite, andesite and andesite tuff.

Two holes totalling 1060 feet drilled at Geo Hill to test the soil geochemical anomaly appear to have been drilled at the margin of the alteration zone and to have consequently missed the target. Veinlets of massive chalcopyrite occur in outcrop while malachite in fracture zones associated with faulting are present in feldspar porphyry. The drilling did show minor chalcopyrite to accompany pyrite mineralization and alteration (Bergy 1958).

14.5.0 GEOCHEMISTRY

14.5.1 INTRODUCTION

As part of the same work program referred to above, Geophysical Engineering Services Ltd. carried out a program of soil geochemistry for copper. This survey covered all of what is now S.E.P.L. 400 including the Camel Hill area. In the current program, the previous soil sample results were compiled as a data base to display a property wide soil copper content. Maps were gridded, contoured, and prepared utilizing the Surfer Software Program. A detailed presentation of this data follows later.

As a number of anomalies were apparent in the Camel Hill area, Trevcorp undertook a detailed soil sampling program in the area to cover the Camel Hill, Stamford Hill, Mab, and Geo Hill showings. All samples after collection were sent to Acme Laboratories in Vancouver and were assayed for gold and analyzed for the thirty-one other elements. In addition to testing specific areas and providing geochemical data for gold, the survey results allow a direct comparison with the prior data for copper. Detail maps featuring the results of the recent soil sampling program are contained in the map box and are numbered Maps No. N1 through No. N5. A discussion of these results follows:

14.5.2 GEOCHEMICAL SURVEYS OF THE CURRENT PROGRAM AT CAMEL HILL

As at Connors, the previous work on the Camel Hill Showing was completed some time ago using techniques and analytical procedures that now may be regarded as dated, and emphasis at that time was dedicated exclusively towards copper exploration. The current program included a soil survey designed to test for a variety of other elements besides copper. This program included a suite of thirty-one elements which were analyzed using techniques described in Section No. 10.0.0. The complete list of these elements is tabulated in that section and is also shown on the various Certificates of Analysis, copies of which are included in Appendix 3. The following discussion addresses some of these, namely, copper, gold, silver, arsenic and mercury. Map Nos. N1 through N5 present the results of contouring the analytical results of these elements.

Map N1 shows the results for the testing of soil samples for copper on a 200 feet grid over the Camel Hill Showing, etc. Comparison between this map and similar ones produced in the past, ("O" series maps) show that both maps produced a similar result and the anomaly for copper is clearly defined. The past series of geophysical survey plans all confirm this anomaly, especially the self-potential and magnetometer maps. The maximum values for copper on the two geochemical maps do not necessarily achieve the same limits, but this is to be expected because the soil horizon chosen for analysis is not necessarily the same in both cases and the techniques and standards used in the analytical procedures vary.

Map N2 shows the results for gold assays from the same set of samples as tested in the current program for copper. Once again, the same area that displayed the copper anomaly clearly shows an anomaly for gold. It should be noted that the gold values used in this plot were determined by acid leaching with an atomic absorption finish. In the case of the Camel Hill Showing, overlaying the copper and gold plots shows that both anomalies do not quite center directly on each other; the center of these two anomalies are offset about 200 feet in a northerly direction with respect to each other.

Maps N3, N4 and N5 show distributions for silver, arsenic and mercury respectively. The plot for silver shows some anomalous values also over the Camel Hill Showing while the arsenic plot shows the presence of discrete areas of elevated values which are coincident with enhanced gold and silver values, but are unassociated with significant copper values. Based on data and interpretations previously cited, such instances may represent the presence of a different style of mineralization unrelated to porphyry systems. The mercury plot simply shows background values.

The copper and gold values were further examined. A cross-plot, Figure No. 8 was prepared in which the gold and copper values for individual samples were compared. This is not an intensive form of statistical analysis of the geochemical data, nor does one appear to be justified at this time. This is because the samples that were tested were from soils, rather than fresh ore or

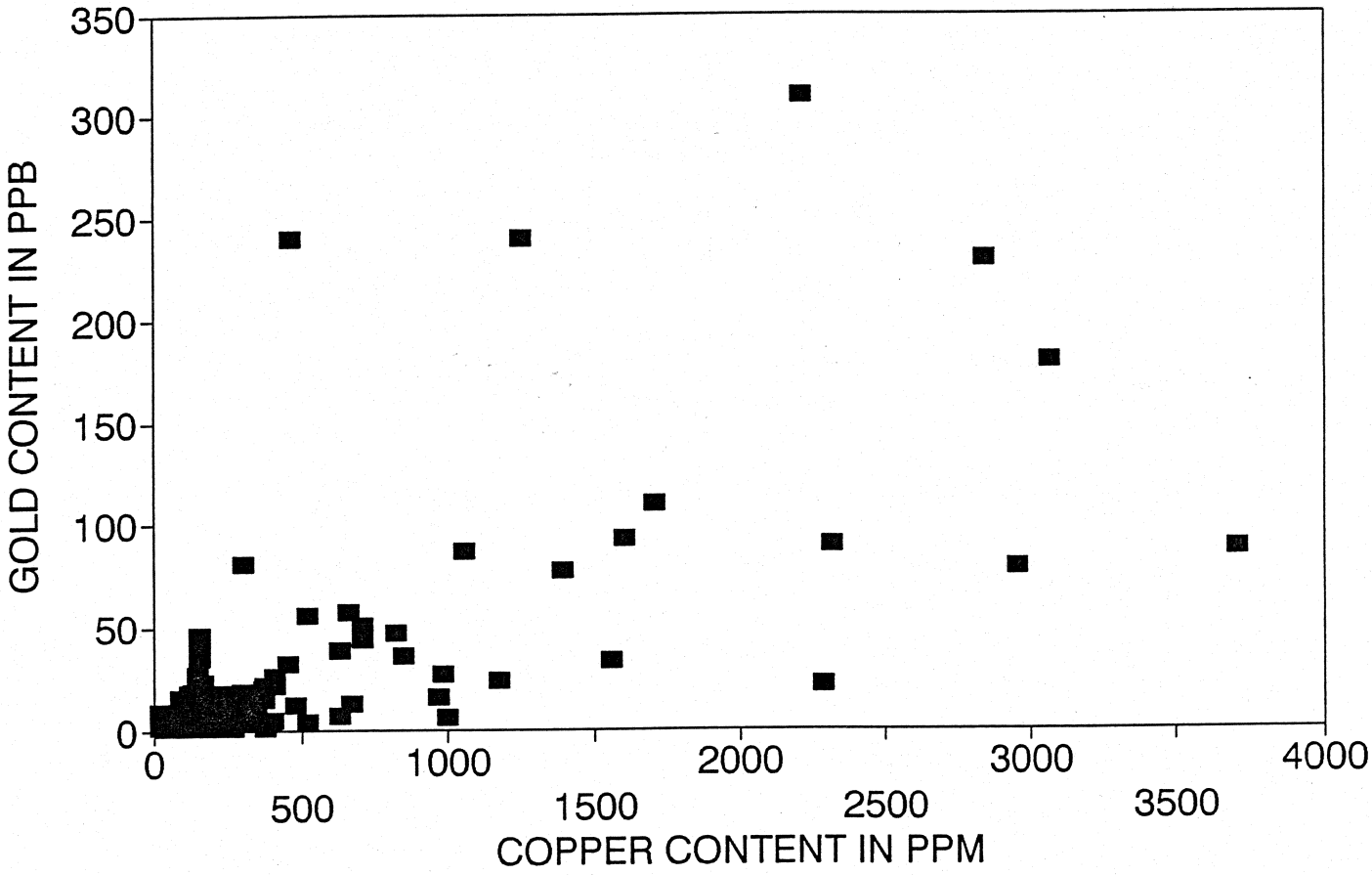
rock, and as such are subject to variation due to climate variation effects as well as to influences caused by the local human habitation. Such analyses may well be justified once materials unaffected by these peripheral influences are available.

The plot of Figure No. 8 tends to show that there may be a relationship of gold and copper content, but there is a far greater scatter of the results than was seen for the equivalent plot at Connors. This is believed to be consistent with the "shift" of the anomalies as seen on Maps Nos. N1 and N2. It is suggested that the cause for this shift is a function of the difference of mobility of the elements examined; the Connors anomaly is centered on a hill with roughly equivalent slopes in all directions from the top of the hill. The Camel Hill anomaly is distinctly located on the side of a grid-northerly facing slope giving one element the opportunity to be moved further than the other during processes of weathering and soil formation.

The maps also show anomalous results at various other showings within the area as mentioned above. In those cases, anomalies are coincident and the physiography of each is such that the mineralization occurs at the top of hills or knobs, as at Connors.

Once again, these relationships between copper and gold indicated that there is justification for further testing of these combined elements in subsequent exploration work.

CAMEL HILL PROSPECT SOILS GEOCHEMISTRY
COPPER VS GOLD FIGURE No.8



14.6.0 GEOPHYSICS

During the prospecting program carried out by Geophysical Engineering & Surveys Ltd., a number of geophysical surveys were completed over the Camel Hill area; these included magnetometer, resistivity, and self potential surveys. The maps compiled as a result of these surveys were obtained by Trevcorp and were subsequently redrawn. The original readings have been digitized and the maps regenerated to create property wide category maps where the existing density of coverage permitted. The type of instrumentation and parameters of both instrument and nature of survey other than grid spacing are unknown. Copies of these are included in the "O" series maps in the map box. Briefly, the self-potential survey and magnetic survey results reflect the geochemical results over the Camel Hill Prospect showing a clear coincidence of the results from various exploration techniques.

14.7.0 DIAMOND DRILLING

Geophysical Engineering & Surveys Ltd. carried out a limited drilling program of the Camel Hill Showing consisting of seven diamond drill holes totalling 2744 feet in an area of about 500 x 500 feet. These holes were drilled to test a soil geochemical anomaly with coincident magnetic and self potential responses. The geochemical anomaly showed dimensions of 1000 x 700 feet. Two of these, holes nos. CH1 and CH2 appear to have intersected the more extensively

mineralized rock as grades averaged 0.53% Cu through 366 feet, while the remaining holes appear to be outside the main influence of mineralization at the tested depths. The best results of the drilling showed values averaging between 0.6 and 1% copper over a section of 40 to 50 feet.

In contrast to the mineralization at Connors which is predominantly associated with feldspar porphyry, with the lower grades occurring in the altered volcanics, at Camel Hill mineralization is predominately associated with altered andesite. This may indicate that the mineralization at Camel Hill is at a higher position in the mineralized sequence and is within the peripheral mineralized alteration aureole with the responsible intrusive body lying at a greater depth than at Connors. Therefore, deeper drilling may be required at Camel Hill to test the extent of mineralization. It should be noted that none of the drill samples at Camel Hill were tested for gold or any other element besides copper. The existence of the gold anomaly in the soil samples of that area, as described in the previous section, suggests that such testing is warranted.

15.0.0 CHARING CROSS

The Charing Cross Prospect is situated three quarters of a mile SW of Bellas Gate. Positioned on the side of a southerly trending ridge, the prospect can be reached from Bellas Gate by a motorable road for a distance of one half mile and thence by a steep and winding path leading to a south flowing tributary of the Little Juan de Bolas River. This prospect is very different from those previously described; it is an example of the other major class of prospect on the property consisting of high grade copper-gold-silver mineralization.

The prospect consists of an adit, one of six, driven into the side of the hill on a NE bearing; an area of rubble located about the adit level on the hillside and in evidence on the approach path is also part of this prospect. The Charing Cross Prospect exposes oxidized and carbonated copper mineralization occurring with chalcopyrite in a WNW striking shear zone. Information in the literature states that the Charing Cross lode varies from four to eight feet wide. Trevcorp has rehabilitated the lowermost adit and exposed the lode in an underground drift through a length of 300 feet. Massive mineralization occurs on the footwall portion of the shear zone over a width of 1 to 1.5 feet; although sporadic mineralization is present in the remaining portion of the vein. The footwall portion of the lode was sampled separately from the remainder of the lode, both sections carry values. Mineralization extends beyond the sampled limits in both directions.

Previous reports indicate that a total of six adit levels, winzes and one shaft are present in the Charing Cross workings. All of these drivages excavated during the 1850's are blocked at present except for the lower most or 65 fathom level crosscut and were not inspected or sampled in the recent program by Trevcorp. A report made by the mine captain in January of 1858, approximately 18 months before work was suspended at Charing Cross amounted to 1176 fathoms (7056 feet). Following this report, in addition to normal works, a shaft was sunk for approximately 150 feet and the 65 fathom cross cut was excavated through 582 feet.

15.1.0 HISTORY

The Charing Cross Prospect is one of the many showings that was explored during the 1850's as a result of renewed interest in mining that occurred during the worldwide mining boom that followed the discovery of gold in California in 1848 and then in Australia two years later. The Charing Cross Prospect was investigated by a London company organized to carry out exploration on the property. This company, called the Wheal Jamaica Mining Company, carried out a series of exploration tests consisting essentially of underground work, which, at the time, was the main method of exploration. During this period of activity lasting from 1854 until 1859, the six adits were excavated and shaft was sunk through a distance of 150 feet from the No. 2 adit level to the 65 fathom cross cut. Sawkins J.G. (1869) reports that the company shipped 207 tons of copper

ore to Liverpool which assayed 14.3% copper; the range of values appears to have been from 14 to 23%. There does not appear to be any indication that the ore was known to be auriferous. In April if 1858, Captain Tregoing, (M.Eng., C.Eng.), visited Jamaica and inspected all the operating "mines" in the country. His recommendations at Charing Cross were to sink an engine shaft from surface to depth to investigate the mineralized vein. The company "Wheal Jamaica Copper Company" carried out this recommendation and such a shaft from the No. 2 adit level to the 65 fathom crosscut level as this was drained by the existing workings and required no machinery. Following the completion of the shaft and faced with the necessity to subscribe additional funds to purchase the required machinery for an engine shaft, the Company suspended operations due to an inability to raise additional funds.

There is no record of any further work being carried out at the Charing Cross Prospect, although during the early 1900's, the area was again looked at by mining interests from the U.S.

In the 1950's, two adits were reopened by the Jamaica Copper & Iron Company Ltd. for a total length of over 2000 feet.

During 1954 - 1955, Base Metal Mining Corp. held an exploration licence over an area which included the Charing Cross Prospect although only reconnaissance exploration was carried out. During that period, Geophysical Engineering Services acted as contractor to Jamaica Copper Iron Ltd., the Charing Cross

adits were cleaned out and investigated. While the deposit was considered to be mineable at the right price for copper (Bergy 1957), no such work was initiated at the time, as the company was looking for larger high grade targets than that represented by the Charing Cross Prospect (personal communication H. Stockard).

During 1958, Bergy reports that certain high grade sections of the Charing Cross vein contain good gold values with one nine inch section reportedly assaying 0.67 oz. of gold per ton.

During 1989-1990, Trevcorp carried out a program of rehabilitation on the No. 5 adit followed by an underground sampling program on the mineralized shear zone exposed through a distance of 300 feet. The sampled section of the vein was channel sampled and results obtained showed an average grade of 9.16% copper and 0.22 oz. of gold per ton over an average width of 1.5 feet. A program of surface geophysical surveying was also carried out to identify additional structures. Trevcorp has also completed a surface soil geochemical program which investigated, in part, extensions of the Charing Cross mineralized system.

15.2.0 GEOLOGICAL ENVIRONMENT

The Charing Cross Prospect is underlain by rocks of the Upper Volcanic Group and consists of volcaniclastic rocks, bedded volcanic - derived rocks and andesitic

flows. The regional geological setting and relevant rock types have been described elsewhere in this report in some detail and will not be redescribed at length in this section.

The Charing Cross Prospect is a quartz-carbonate vein striking at 330 degrees and dipping steeply to the SW. Contemporary reports refer to a light colored decomposed porphyry occurring in association with the vein (G.B. Nethersol, 1956). Further comments from contemporary writers on Charing Cross indicate that the workings are confined to one lode.

> "This lode is from 4 to 5 ft. wide and underlies at a regular angle, about 10 inches or 1 foot in a fathom; the walls are also regular and well-defined. Operations have been carried on by means of adit levels in the side of the mountain in which the lode runs, and which rears itself, at a high angle, to an elevation of about 800 feet about the valley. Hence, the adits rapidly gain a good "back" or height. Several levels have been extended on the course of the lode at vertical distances, averaging 12 or 13 fms. apart. In each level, good ore has been found running in regular branches, chiefly on the footwall of the lode. In the upper levels, the ore is of a somewhat ferruginous nature. In depth it alters to a compact ore, free from gossan, but very quartzose. The ore occurring in these mines is almost entirely yellow pyrites, often finely iridescent, and breaking on crystalline planes into small rhombidol lumps, black on the faces, but consisting of solid ore; small quantities of green

and blue carbonate, resulting from the decomposition of the yellow ore, also a minute quantity of grey ore is found in the upper level. The lode is generally very soft and easy to work and can be stoped away at a low price per fathom. It is of a priany nature, with branches of yellow ore and quartz running through its whole extent, and from the bottom level a considerable quantity of water issues." (George Darlington 1856).

Since the 1850's, little new work has been carried out on the Charing Cross vein.

15.3.0 STRUCTURE

The Charing Cross Prospect is located in a WNW striking structure. Within the property, the dominant structural trends are NS or EW, accompanied by secondary structures which trend in a ENE or WNW direction. These overall trends compare with the general WNW-ESE trends which are common on the eastern and western ends of the Central Inlier and its anticlinal structure. Locally the majority of subordinate structures in the Charing Cross area are quite probably peripheral fractures related to the intrusion of the Ginger Ridge granodiorite stock and the minor intrusives in the Camel Hill area or its underlying parent intrusive. A preliminary interpretation of the structural patterns occurring in the vicinity of the Charing Cross Prospect is presented in the report by A.C.A. Howe

International Limited appearing in the attachments to this report. The interpretation is based on data derived from a VLF EM16 electromagnetic survey which had been subsequently treated by the Karous-Hjelt filter method.

15.4.0 MINERALIZATION

At the Charing Cross Prospect and immediate area, mineralization consists of various copper minerals. Sawkins in his report on Charing Cross remarked,

> "The character of the ores is in many particulars as those of Cuba - the carbonates overlying the oxides, and the oxides the sulphurets, the two latter being separated by quartz and iron pyrites..." (Capt. Francis, May 1859).

The principal carbonates that have been identified in hand specimen are malachite, azurite and calcite; oxides include cuprite and chalcocite; sulfides include chalcopyrite, bornite and covellite; other copper bearing minerals include turquoise and chrysocolla. On surface outcrops all minerals, except for the sulfides, are present in gossans, generally accompanied by orange and yellow and rusty iron staining. Little quartz or other gangue minerals are present in outcrop.

15.5.0 GEOPHYSICS

During the course of the prospecting program carried out by Geophysical Engineering & Services between 1957-59, several property wide surveys were completed. In the Charing Cross area, these included magnetic, resistivity and self-potential surveys. No further work was recommended as a result of these surveys. Trevcorp was able to recover the original data which was subsequently digitized and where possible regenerated into property wide maps for the appropriate survey. The map data and their interpretations are presented in the map box. During 1990, Trevcorp completed an area wide VLF electromagnetic survey utilizing a EM16 tuned to Cutler and alternately Seattle. This material has also been compiled on computer and is displayed along with the magnetic survey data on several maps (Maps nos. NGM10, NGE11, NGE12 and NGL13 in the map box).

15.6.0 GEOCHEMISTRY

Briefly, the maps show that Geophysical Engineering & Services Ltd., as part of the prospecting program they carried out in 1957-59, completed regional soil sampling for copper. A rather local but strong geochemical anomaly for copper was located near the outcrop of the Charing Cross vein. No additional work appears to have been carried out. It was noted that the Charing Cross vein may support a small mining operation under an improved copper price.

During the present program carried out by Trevcorp, the Charing Cross area was not specifically targeted for geochemical testing although the northern portion of the area falls within the Camel Hill grid.

As with the geophysical data, the geochemical data retrieved from the Geophysical Engineering & Surveys Ltd. work has been regenerated utilizing the Surfer Software Program. Where Trevcorp has recently carried out their own geochemical surveys, it will be possible to make direct comparisons with the older data to determine its present day reliability.

15.7.0 DIAMOND DRILLING

Although two diamond drill collars can be located in the 65 fathom crosscut level at Charing Cross which are reported to have been drilled during the 1957-59 prospecting campaign by Geophysical Engineering & Services Ltd., no record of the results are available.

16.0.0 THE STAMFORD HILL PROSPECT

The Stamford Hill Prospect is located approximately 1 mile NW of the village of Bellas Gate and near the Camel Hill Prospect. Surface indications of the prospect consist of a shaft plus two adits, although three are reported in the literature, which are situated on a hill side located north of the road linking Bellas Gate to the old village of Gold Mine. A north flowing tributary of the Rock River forms a valley near the prospect. The most prominent landmark in the vicinity of the prospect is a rock chimney which formed part of the shaft equipment.

Terrain is steep in the vicinity of the former workings and, as a consequence, the best method of reaching them is by foot from the village of Bellas Gate. Except for the last .25 mile, this is by easily traversed parochial road.

16.1.0 HISTORY

The Stamford Hill Prospect is akin to the Charing Cross Prospect in that it was extensively explored during the mineral boom of the 1850's. Physically the Stamford Hill Prospect is located only three quarters of a mile north of the Charing Cross workings and their histories are somewhat similar. In fact, at

one time there was consideration given to linking the two prospects underground and working both properties from the lower elevation of the Charing Cross site.

The Stamford Hill Prospect was explored by the Clarendon Consolidated Copper Mining Company of Jamaica which began work in 1852-53 having an initial capitalization of 80,000 pounds sterling. Operations continued until 1863 during which time the company initially excavated three access adits for a minimum of 540 feet and subsequently sank an access shaft to a depth of 102 fms. (622 feet) out of a target depth of 128 fms. (780 feet). The latter depth was never reached due to a combination of a number of events, namely, death of the mine captain, failure of pumps, inadequacy of the engine to reach the target depth and a lack of sufficient capital to remedy all the above problems.

However, during the coarse of work on the Stamford Hill site, the company opened eight levels at roughly 75 foot intervals, carried out extensive drifting and raising on these levels, and erected all the necessary infrastructure to support the mining activity, including the clearing of a 4 mile road over mountainous terrain between the minesite and the village of Retreat where an ore dressing facility was established. During this period, all work described by the contemporary accounts appears to have been of an exploratory and development nature rather than concentrated on mining exploitation itself.

After company officials realized in 1863 that their existing equipment was inadequate to reach the depths desired, there was some consideration given to

the acquisition of the adjacent Charing Cross workings, which was by then on care and maintenance, to carry out simultaneous exploration. The lowest adit level at Charing Cross was at a lower elevation than the deepest level at Stamford Hill. This course of action was recommended by Captain A. Tregoing, M.Eng., C.Eng., a noted engineer of the time who was familiar with many of the Jamaican "mines", but as the company had not the means, the recommendation was not followed and instead the directors elected to dissolve the company.

No further work appears to have been undertaken on the Stamford Hill Prospect since that period other than the general coverage that would have occurred as part of the regional geochemical and geophysical programs carried out by Geophysical Engineering & Services during the 1957-59 period.

Detailed mapping is reported to have been carried out by the Geological Survey in a portion of the area in 1977; the workings are presently inaccessible. The Stamford Hill area is covered in the geochemical survey carried out by Trevcorp in 1990.

16.2.0 GEOLOGICAL ENVIRONMENT

Rock types in the vicinity of Stamford Hill consist of poorly bedded volcanic sandstones and massive coarse-grained epiclastic rocks. Minor feldspar porphyry dykes have intruded previous rocks producing minor baking on their margins. A

small dyke, about 20 feet wide, occurs at the mouth of the upper adit and trends in a roughly E-W direction. The lower adit is located in the Southern Alteration Zone, thus the rocks in this vicinity are pyritized and silicified; however further south, the pervasive alteration dies out and in the area of the upper adit, no disseminated pyrite is seen.

Contemporary accounts show that the Stamford Hill Lode cropped out on surface was 2-3 fathoms (12-18 feet) wide and continued to a depth of 108 fms. (622 feet) without interruption and maintained the same width. On surface, the lode occurred in porphyritic rock and was made up of one large vein and numerous small branches carrying copper ore (A. Tregoing, 1857). As depth increased, contemporary reports indicate that mineralization was disseminated making it necessary to take the whole lode to get the sought after minerals. This contrasts with the Charing Cross lode where the mineralization was concentrated along one margin of the vein, a condition which was generally preferred by the miners as less material had to be moved to obtain the desired metal content.

During the period of exploration activity on the Stamford Hill Prospect, there were two mine captains whose tenure lasted approximately 5 years each. These gentlemen, Captain F.C. Harpur and Captain J. Martin, presented bi-monthly reports to the directors of the company, many of which were reproduced in the Mining Journal. Brief references to the mine geology are made in certain of these reports. The two adits were excavated to initially reach the vein for 294 feet at the 46 and for 246 feet at the 58 fathom elevations respectively. In

both instances, the adits traversed porphyry with mundic for, in essence, the entire distance. There is reference to a further adit at the 22 fathom level, however no detail is given.

The lode when encountered lay in a NE-SW attitude and dipped in a northerly direction. Several veins appear to have been encountered in the workings, one of which was confirmed as being the Charing Cross vein, which was encountered and explored on the 46 fathom level. The main vein, "Stamford Hill Vein", appears to have been continuous through a distance of 648 feet from surface to the bottom of the shaft and to the 480 foot level, at least, was a consistent 20 feet in width. Mineralization seems to have occurred in a disseminated fashion throughout the vein, a feature not considered favorable at the time. The overall grade is difficult to establish from the accounts available save to say that it appears to have been in the range of 5% copper, although in areas where mineralization assumed a more massive character, which occurred on the 46 level, values up to 25% are reported. Those comments regarding ore grade do seem to be consistent in that the overall grade was less than the adjoining Charing Cross mine where grades were in the 15-20% copper range. At the time, it was considered that grades would need to be in the 8% copper range to compete with the Cornish mines and bear the additional shipping cost from Jamaica to England for processing.

The veins are reported to lie in dark porphyry and to consist of quartz, quartzose material and variously accompanied with prian, flookan or mundic;

mineralization consists of malachite, chalcopyrite, black oxides of copper and flourspar with iron staining.

Within the mine workings, there appear to have been several minor veins which were intersected while driving on the main vein, some of which were also drifted on; however, the information on these is too slight to determine their importance.

The main structural feature in the mine is a N-S fault which dislocates the main vein in the 276 and 348 levels at approximately 250 feet to the NE offsetting the vein 96 feet to the south. The vein was relocated east of this fault and appeared to still carry mineralization.

16.3.0 GEOPHYSICS

During the course of carrying out their regional prospecting program in 1957-58, Geophysical Engineering & Services Ltd. completed several surveys which would have covered a portion of the Stamford Hill area, although none were specifically designed to investigate the Stamford Hill Prospect. The resistivity and self-potential surveys that were carried out at the time did not appear to return anything of significance.

During the course of 1990, Trevcorp carried out an extensive VLF EM16 electromagnetic survey over an area which includes a portion of the Stamford Hill system. A number of conductive sources were located as a result of this survey, many of which are interpreted to be the result of ground conductors. A detailed description and interpretation of these anomalies is presented in the Howe report in the attachments and on the maps within the map box (Map Nos. NGM6, NGE7, NGE8, NGM10, NGE11, and NGE12).

16.4.0 GEOCHEMISTRY

During the regional program carried out by Geophysical Engineering & Services Ltd. in 1957-59, the Stamford Hill area was investigated as part of the program. Broad geochemical anomalies were found to occur in the vicinity of the Stamford Hill workings. These anomalies as reported by the company were due to widespread low-grade copper mineralization related to several basic dikes. These latter dikes may have some relationship to the dark porphyry as reported in the accounts of the underground workings at Stamford Hill.

Trevcorp, during the latter part of 1990, carried out an extensive soil geochemical sampling program over the Camel Hill area, which includes the Stamford Hill workings. These samples were taken at 200 foot intervals on grid lines spaced at 200 foot intervals. All samples were sent to ACME Laboratories for 31 element analysis plus gold.

A detailed description of the results is included in Section 14.2 along with the results for Camel Hill and the individual maps of the elements copper, gold, silver, arsenic and mercury.

16.5.0 DIAMOND DRILLING

No diamond drilling has been carried out to date at the Stamford Hill Prospect.

17.0.0 THE CONGO HILL SHOWINGS

The Congo Hill Showings, of which there are three, consist of small outcroppings of vein material on the flanks of a hill located in close proximity of the Charing Cross site. Occurring near the crest of Congo Hill, the Congo Showings are separated by a distance of approximately 400 feet from each other. The showings in total are situated approximately two miles from the village of Bellas Gate. Access is similar to that of the Charing Cross Prospect from which point, rather than descend into the valley to the mouth of the adit, one continues along the contour of the hillside until reaching each of the showings in succession.

17.1.0 HISTORY

During the early part of the present century, an extensive exploration effort was made in the vicinity of the Congo Hill Showings by Jamaica Consolidated Copper Company which was reported on by Mr. A.E. Outerbridge. He reports that a total of 1271 feet of underground exploration was completed at the Congo Hill Mine. Outerbridge stated that the Congo Hill Mine contains more than 1 million tons of ore grading about 2% copper (1909).

In 1926, the American Metal Company investigated the workings and their representative, a Mr. Norcross, expressed doubt on the estimate of tonnage at

the Congo Hill site. Norcross stated that the showings in this part of the property are stringy and seam-like with the veins varying from knife-blade thickness of copper carbonate stain to 4 or 5 inches of sulfide. The veins which occur in sheared areas strike E-W, dip near vertically and partially fill fractures with disseminated or replacement type mineralization. No other contemporary accounts of the work carried out during the period are available to the writer.

During the regional prospecting program carried out by Geophysical Engineering & Services in 1957-59, geochemical and geophysical surveys were carried out over the Congo Hill area. No further work was recommended in the area as a result of these surveys.

During 1990, Trevcorp carried out an extensive VLF EM16 electromagnetic survey over the Charing Cross Congo Hill area. The results are presented on Maps Nos. NGE7, NGE8, NGE11 and NGE12 contained in the map box. Only a partial interpretation of this data has been made, utilizing the Karous Hjelt filter technique, and is presented in the Howe report in Appendix 1. The remaining interpretation when completed will form an addendum to this report.

17.2.0 GEOLOGICAL ENVIRONMENT

The Congo veins occur in a series of fractures related to the regional shearing trends. The veins, 1 to 2 feet wide, strike at 270 to 315 degrees and dip

vertically. Host rocks are purple-maroon volcanics. The most distinguishing feature about the volcanics is the presence of white equant plagioclase crystals, which in places have been replaced by malachite.

Within the veins, mineralization consists of malachite, in boxwork texture, azurite, chrysocolla, turquoise with minor cuprite, chalcopyrite, and possibly sphalerite. Chalcocite, jarosite and orange iron staining are also present. In one instance, at elevation 1580 feet on the path north to Bellas Gate, limestone float was located in the vicinity of the vein. This was the only such occurrence in the area. Numerous samples have been obtained from the Congo veins as they are not only conspicuous but also the largest of the copious copper showings located in the southern section of the property and are apparently immediately unrelated to porphyry intrusives.

17.3.0 GEOPHYSICS

Geophysical Engineering & Services carried out a self-potential survey over the Congo Hill area during their work program of 1957-58. No follow up work was recommended as a result of the geophysical surveys.

During 1990, Trevcorp carried out an extensive VLF EM16 electromagnetic survey which covered the Congo Hill area. Readings were taken utilizing two stations, Cutler and Seattle, allowing the investigation of all structural directions.

A companion magnetometer survey was also carried out at the time utilizing a Crone Magnetometer.

17.4.0 GEOCHEMISTRY

As previously described, Geophysical Engineering & Surveys Ltd. carried out a regional soil sampling program, for copper only, which included the Congo Hill area. Although broad geochemical anomalies were indicated in a portion of the map area, these were unrelated to the Congo Hill showings and no further work was recommended on them. No further broad based geochemical surveys have been carried out by Trevcorp in this portion of the property.

17.5.0 DIAMOND DRILLING

No diamond drilling has been carried out over the Congo Hill area.

18.0.0 OTHER SHOWINGS

During 1990, Trevcorp, as part of their initial investigation of the S.E.P.L., has carried out a wide ranging surface prospecting program. A large portion of this activity was concentrated on that portion of the property lying south of Bellas Gate. This work was initially directed towards the high grade copper-gold-silver veins of the Charing Cross type Prospect which was consistent with the corporate objectives of that time. The deposits of greater lateral extent but lower grade discussed towards the beginning of this section were explored in the latter half of the program, as the exploration objective of the company changed. As a result, there are numerous showings that on surface appear to be of limited extent within the southern portion of the property, which is more open, and naturally more readily prospected. Native prospectors have been more active in this area and numerous showings were reported and shown to the company's field agent. Virtually all of these were investigated, samples taken, details recorded and the locations of the showing noted on a field map.

Aside from those prospects previously described, the perponderence of these showings consist of small (< 5 inch wide) veins and fracture planes showing malachite, azurite, turquoise, chalcocite and infrequently cuprite mineralization. Limonite staining and sometimes hematite is also present. Frequently these showings have returned high values in precious metals, however the writer has not seen any gold or silver in the numerous specimens from such sites or at those sites visited. This would be consistent with the fine grained

19.0.0 PRELIMINARY RESERVES

Given the status of results of the present exploration program combined with previous work, there are three areas where a preliminary calculation of reserves and resources appears justified. These are in the disseminated body at Connors and the vein materials at Charing Cross and Stamford Hill.

19.1.0 CONNORS

A total of thirteen diamond core holes and thirty-six shallow auger holes were drilled and assayed for copper by Geophysical Engineering and Surveys Ltd. in the past. These diamond core holes occupy an area of only 4.457 acres while most of the shallow holes were also drilled in this area. Geophysical Engineering considered at least portions of this data base to be strong enough to calculate proven reserves as shown on Map No. 028 in map box. Their calculation showed the presence of an indicated and proven reserve of 798,782 tons at a grade of 0.75% copper. That calculation addressed only six of the thirteen holes and none of the shallow holes and so addresses only part of the area described above. They also prepared a series of cross sections, copies of which are also included in the map box, but they appear to have few interpretations of these. The data base appears to be powerful enough and the distance between drill holes short enough to have justified a conventional reserve calculation in their day. However, we have not had access to their

cores, testing parameters and many other details even though we have a series of maps that show their results. Thus we feel it is appropriate at this time to make a preliminary estimate of reserves, which would be upgraded in status to a higher reserve status once appropriate due diligence drilling of the previous work was completed.

Such preliminary reserve calculation has been made which indicates that the drilled area contains about 6,000,000 tons of copper bearing rock at a cut off of 0.5% copper. These reserves are classified as inferred except the Geophysical Engineering portion which are all classed as indicated. The interpretation that accompanies this calculation indicates that the deposit is open to the south and west.

Although the geochemical maps show a coincident gold anomaly and two holes that were tested did show gold mineralization, the data base for gold is not strong enough to justify a similar calculation for that metal at this time.

19.2.0 CHARING CROSS

A total of six adit levels, several winzes and one engine shaft with a depth of 150 feet were excavated at the Charing Cross site by the Wheal Jamaica Copper Mining Company during the period 1854 to 1859. These openings investigated a strong and consistent vein system carrying copper which is now known to be

auriferous. Bergy 1959 states the vein has been traced through 1500 feet on surface; present workers including the writer have sampled the vein through 300 feet on the 65 fathom crosscut level; and contemporary mines manager reports from the Stamford Hill mine three quarters of a mile to the north state that the Charing Cross vein was intersected on the 46 fathom (276 foot) level in the Stamford Hill Workings. Sawkins confirms that a total of 207 tons of copper ore was excavated from the Charing Cross workings and shipped to Liverpool where the material averaged 14.3% copper and varied from 13 to 23% copper. Sampling carried out during the 1990 work program showed an average grade of 9.16% copper and 0.22 ounces of gold per ton on the Charing Cross vein.

As at Stamford Hill, the data available are not strong enough to permit conventional reserve calculation. There does appear to be justification to provide a preliminary order of magnitude estimate of the potential geological resource possible in a model of the Charing Cross vein.

Such an estimate has been made and indicates about 144,230 tons of resource with an attendant grade of 9.16% copper and 0.22 ounces of gold per ton. Although it is unknown as to how much of this material may have been removed by previous workers, 30% would not seem unreasonable, therefore leaving a total of 100,961 tons of resources. Of this, approximately 28,846 tons, classified as inferred reserves, would be representative of the 300 foot zone sampled by the writer and Trevcorp which will justify a higher reserve category once due diligence drilling is carried out.

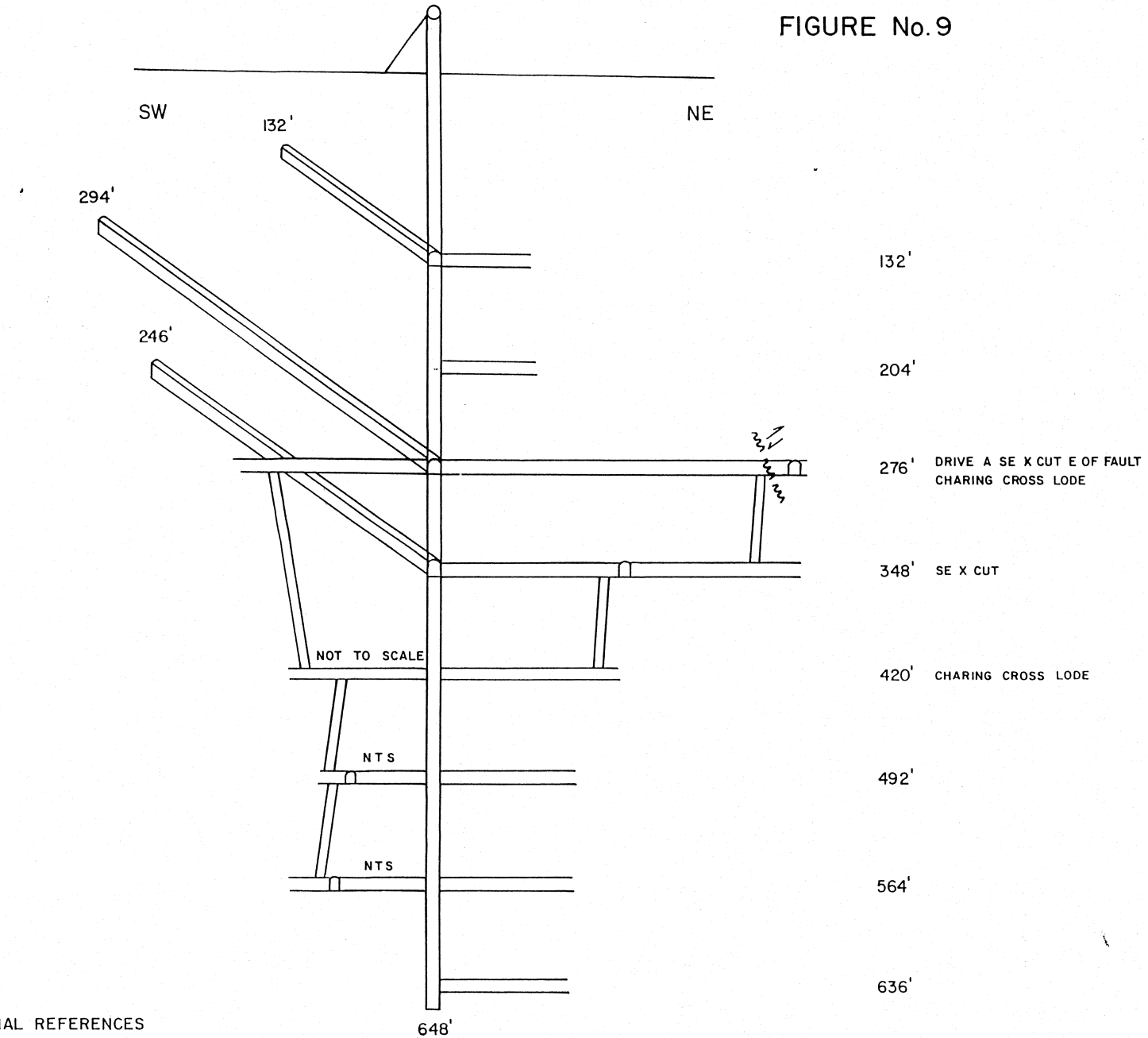
19.3.0 STAMFORD HILL

A total of three adits, eight levels and one shaft to a depth of 638 feet were excavated by the Clarendon Consolidated Mining Company during the period 1853 to 1863 to explore the Stamford Hill Prospect. These openings investigated a vein system that was reported as being 20 feet wide continuous from surface to at least 480 feet in depth. While the extent of exploration on the levels is obscure, contemporary mine managers report identify significant lengths of mineralized vein reaching to 500 feet on certain levels (see Figure 9, a composite sketch compiled from comments in literature). The grade of the material appears to have been in the order of 5% copper, although occasional higher values to 20% copper are reported. What is apparent from the contemporary writings reviewed in the literature search for S.E.P.L. 400 is that only a little stoping was carried out on the upper levels and that the bulk of the efforts at Stamford Hill consisted of utilizing subscribed capital to excavate and explore the vein system.

The data base available to Trevcorp at present, although extensive, is not powerful enough to permit conventional reserve calculation. However, there does appear to be sufficient justification to estimate the potential size of the geological resource possible in a model of the Stamford Hill vein. Such an estimate has been made and indicates about 641,025 tons of resources with an attendant grade of 5% copper. It is unknown what percentage of this material

STAMFORD HILL SKETCH OF UNDERGROUND WORKING (LOOKING NORTH)

FIGURE No. 9



SCALE 1"= 100'

COMPILED FROM MINING JOURNAL REFERENCES

may have been removed by previous workers, but a minimum of 30% would not seem unreasonable, which would indicate a potential resource of 448,718 tons.

20.0.0 INVESTMENT CLIMATE

The JAMAICA NATIONAL INVESTMENT PROMOTION (JNIP) has undertaken aggressive efforts to attract investment to Jamaica.

As a consequence, the Ministry of Mining, Energy and Tourism are receptive to any serious mineral exploration and development proposal. The various types of government taxes and duties which are attracted by the mining industry are:

1) income tax rate of up to 45% on profits less capital allowance

2) royalties payable to the government range upwards from 5% of profits (the actual royalty appears to be based on the relationship of profit to gross metal value)

3) capital allowance (inclusive of exploration costs and land acquisition) is 20% annually on the initial investment plus not less than 5% annually on capital expenditures

4) plus:
   - import duty (Customs Act and Amendments)
   - excise duty on selected locally produced commodities (Excise Act)
   - consumption duty on specific commodities (Consumption Duty Resolution, 1978)

- stamp duty on customs for consumer goods
- retail sales tax on a limited number of items
- taxation on documents.

Jamaica and Canada have a Double Taxation Treaty. Tax incentives currently consist of tax holidays for up to ten years and/or exemption from import duties. Other relevant laws with respect to incentives are:

a) Industrial Incentives Act which is designed for enterprises that propose to market their products within the domestic or regional market.

b) The Export Industry Encouragement Act which is designed for enterprises proposing to supply extra regional markets exclusively.

c) The Factory Construction Act which is relevant to mine, milling and smelter facilities.

In order to invest capital in Jamaica and take advantage of tax incentives, an entity must obtain "Approved Status". The initial approval must be obtained from the Bank of Jamaica through written application to JAMPRO, a government investment advisory body, with final approval required from the Joint Ministerial Committee based on a presentation from JAMPRO. There is some indication that limits exist for the import of foreign currency (40,000 US), but

it is not clear over what period this applies. More importantly, there does not appear to be a restriction on the repatriation of capital.

Exploration support exists from the Ministry of Mining, Energy and Tourism (Geological Survey Division) and the University of West Indies (Department of Geology). The Canadian International Development Agency (CIDA) has conducted geological and geochemical surveys in Jamaica since 1986, and one of the primary objectives has been the development of technical expertise. During 1990, CIDA initiated a two year mission in Jamaica including the compilation of existing data on known showings and the completion of geological mapping of the known mineral bearing areas.

The Canadian dollar is currently valued at six point seven Jamaican dollars and trades in a narrow margin around this value.

Trevcorp has obtained copies of the various acts referred to, save for the Income Tax Act and all are available in company files for review.

21.0.0 MINING REGULATIONS

Save for the Trevcorp property held under a S.E.P.L. (Special Exclusive Prospecting Licence), all of the lands controlled in Jamaica are held through an Exclusive Prospecting Licence E.P.L. It should be noted that Trevcorp's S.E.P.L. was issued on August 10, 1990, subsequent to a prior held title. The new S.E.P.L. 400 is valid for five years from August 10, 1990, with a one year renewal right on the fifth anniversary date of the license for a total term of six years. (A copy of this license appears in the attachments in Appendix 5).

The holder of an Exclusive Prospecting Licence (E.P.L.) has the sole right to prospect for the mineral or minerals in the licence on the land covered by his licence. He does not need to own the land, but he must notify the landowner before entering.

All the rights, powers and privileges conferred on, and the obligations and duties imposed on, and all the provisions of the Mining Act applicable to, the holder of an Exclusive Prospecting Licence shall also be conferred on, imposed on, and applicable to, the holder of a Special Exclusive Prospecting Licence except where there is a specific variance therewith by reason of any special terms and conditions imposed by the Minister.

An E.P.L. shall be rectangular in shape and shall comprise not more than two co-ordinate squares, having one side in common, on the 1:50,000 topographic map of Jamaica. The application fee for an E.P.L. is J$20.00. An E.P.L. is valid for one year, but may be renewed yearly for six years for lode deposits, and three years for alluvial deposits. The application fee for renewal of an E.P.L. is J$6.00. A refundable J$100.00 damage deposit is required to be lodged with the Commissioner of Mines.

The holder of an E.P.L. will be required to expend per year, on prospecting alone, a sum at the rate of not less than J$200.00 per square mile of his licence, and he is required to report to the Commissioner of Mines on the progress of his work.

The holder of an E.P.L. may make application to have the licence endorsed for other minerals after these minerals have been discovered in the area covered by the licence. When the holder of an E.P.L. has carried out sufficient work to prove the existence of a commercially-exploitable ore deposit and has fulfilled all the conditions as indicated by law, he may then apply for a Mining Lease to permit him to mine and sell product of the mine.

The holder of a Mining Lease has the exclusive right to prospect, mine and dispose of the mineral or minerals specified in the lease, within the area of the lease.

The applicant for a Mining Lease must be the holder of a Prospecting Right or an Exclusive Prospecting Licence. In the latter case, the area of the Mining Lease applied for must be wholly within the boundaries of the Exclusive Prospecting Licence.

The application fee for a Mining Lease is J$100.00. A Mining Lease is valid for a term not exceeding 25 years but may be renewed for one further period of 25 years.

A refundable J$500.00 damage deposit is required to be lodged with the Commissioner of Mines.

A copy of the Mining Act promulgated on the 13th of October 1947 is included in Appendix 6 for review.

22.0.0 ENVIRONMENTAL CONSIDERATIONS

In the process of selecting sites for all mining activities in Jamaica, an Environmental Impact Assessment of the selected sites shall be completed.

The impact elements to be considered are as follows:

1) Noise and vibration
2) Air quality
3) Subsidence
4) Surface and groundwater resources
5) Road transport and traffic
6) Land use
7) Socio-economics and planning
8) Historic and cultural resources
9) Ecology
10) Landscape and visibility

Within these global headings, a number of guidelines have been outlined for the prospective mineral developer to consider in the preparation of environmental studies for presentation to the Ministry of Mines, Energy and Tourism which are herein included in Appendix 7 at the back of this report.

23.0.0 CONCLUSIONS AND RECOMMENDATIONS

The information available from the work carried out by Trevcorp, by other workers on the property and by information from the literature appear to demonstrate that at least two and perhaps three styles of mineralization are present within S.E.P.L. 400. These are:

1) copper-gold porphyry style represented by Connors and Camel Hill Prospects
2) copper-gold-silver vein style represented by the Charing Cross, Stamford Hill and Congo Hill Prospects
3) gold-silver with limited base metal mineralization.

Of these, only assemblage 1) has been extensively explored for during this century and due to the predisposition of exploration philosophy prevalent at the time, only the base metal components were actively sought. Assemblage 2) was actively explored for during the 1850's and 1860's and again only the base metal components of the assemblage appear to have been actively sought. Assemblage 3) has only been recently indicated in the field by initial geochemical results obtained by Trevcorp over portions of the Camel Hill grid and a limited area of the Connors grid and by analogy with the results of Simpson et al in another portion of the St-Catherine Parish.

It is my opinion that the present information shows that further work is warranted to explore for possible economic concentrations of minerals of the three assemblage types within S.E.P.L. 400. In particular, given the present

level of information, further work on the Connors deposit typifying assemblage 1 is immediately warranted to test specifically for the presence of gold mineralization to the same extent that it has previously been tested for copper content.

In view of the above conclusion, my recommendations for further work on the various showings within the S.E.P.L. are:

Connors

A program of diamond drilling is warranted to 1) complete a due diligence test of the work performed by Geophysical Engineering and Surveys Ltd. on the Connors deposits; in addition, as the mineralization appears to be open to the south and west, its extension in these directions should be tested. A program of 20 holes of approximately 400 feet each by core drilling is warranted as the first phase of further evaluation of the deposit, with particular attention placed on investigating gold content. Should this work prove successful, then a somewhat more extensive program of definition drilling using a rotary drill will be warranted.

Camel Hill

Potentially, the tonnage available at Camel Hill, due to its topographical location and position within the mineralization sequence is much larger than at Connors. However, the present data base, while geochemically and geophysically promising is not as extensive as at Connors. I believe that an auguring program

to completely cover the geochemical and geophysical anomalies is warranted and is herein recommended. Proper topographic survey control of the present diamond drill hole locations is recommended and following the above, a diamond drilling program is recommended. Such a program will be exploratory in nature and will need to consist of deeper holes than at Connors. It is recommended that up to six holes possibly up to 1200 feet deep be carried out as the preliminary phase of exploration at the Camel Hill site. Any further work at the Mab and Geo Hill sites should follow the completion of and be dependent on the results of work at Camel Hill. These two sites are sufficiently close to the Camel Hill site that they have been considered as common to the main Camel Hill Prospect.

Charing Cross

A limited program of core drilling is warranted to upgrade the status of the preliminary tonnages calculated on the Charing Cross Vein. As the Charing Cross Vein was partially explored in the Stamford Hill workings, three quarters of a mile to the north, an effort is warranted to define the vein between the Charing Cross and Stamford Hill workings. A five thousand foot drill program is recommended and surface trenching of known showings and conductors should be carried out before such drilling is undertaken.

Stamford Hill

Little is known of the Stamford Hill Prospect except that gleaned from the

literature. This situation should be remedied as, from the literature, there appears to be sufficient reason for Charing Cross/Stamford Hill to be considered to be a continuous system. It is evident that a substantial effort and large sums were previously spent on Stamford Hill and appear to have indicated a vein system 628 feet deep, approx. 500 feet long and 20 feet wide carrying in today's terms significant copper values. It is not known if the vein is also auriferous, however as numerous other veins are, including the Charing Cross vein, the possibility exists at Stamford Hill.

It is recommended that should one of the three adits at Stamford Hill be open that the vein be visually inspected, mapped and sampled to the extent possible within the constraints of safety. The literature refers to the vein being exposed on surface in at least two locations; geochemical and geophysical responses exist in the vicinity of the Stamford Hill workings. All of these should be trenched where possible and examined. Further work which is recommended would consist of diamond drilling initially consisting of a 5000 foot program, but should be carried out subsequent to and in response to the results of work on the Charing Cross Vein.

General

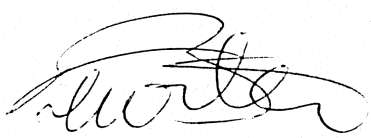
There is a large percentage of the property that has been prospected and numerous occurrences of copper-gold-silver veins have been found. In addition, there is some evidence that gold-silver with arsenic are present on the

property. Present evidence suggests that neither of these assemblages have been systematically explored for in the past for reasons cited in the text. Present exploration concepts have changed and precious metals do represent valid exploration targets today. Trevcorp's efforts during 1990 have shown that geochemistry is a valid exploration tool in the area and that VLF electromagnetic surveys appear to be successful in detecting bedrock conductors.

It is recommended that those portions of the property presently not covered by the current geochemical sampling program be covered, particularly in the southern portion of the Concession where numerous copper-gold-silver bearing veins have been located by prospecting techniques basically because of malachite being readily visible to the native prospector. It is possible that less visibly obvious mineral bearing features may have been missed by the surface prospecting program, particularly in areas of limestone terrain where replacement deposits are a valid target. Further work in this area will be dependant on the geochemical results on a case by case basis.

All of which is respectfully submitted,

Minroc Management Limited



Norman E. Brewster