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## ASSESSMENT REPORT

1990

## DIAMOND DRILL PROGRAM

## at the

**RED MOUNTAIN PROPERTY** 

ORO I .....7951 ORO II .....7952 ORO III .....7953 ORO IV .....7954 ORO V .....7956 ORO VI .....7957 HROTHGAR .....6760

## SKEENA MINING DIVISION

### LOCATED

15KM EAST OF STEWART, BRITISH COLUMBIA

Latitude 55 57' NORTH Longitude 129 42' WEST

NTS 103P/13

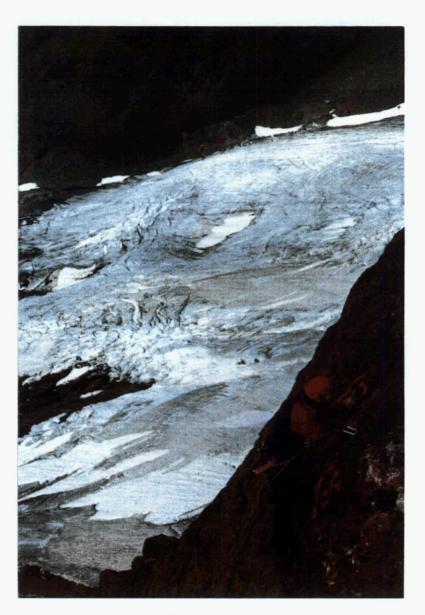
WOTAN OPTION

BOND GOLD CANADA INC.

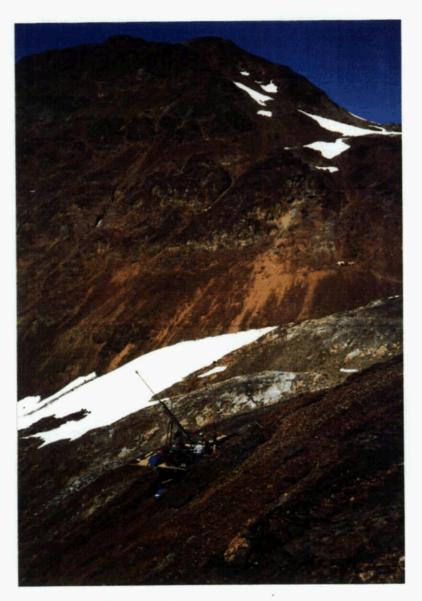
REPORT BY ANDREAS H.VOGT

DATE: DECEMBER 1990

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RED MOUNTAIN 1990 ROCK SAMPLING AT THE NORTH FACE RIO BLANCO SHOWING



RED MOUNTAIN 1990 DIAMOND DRILLING - GEOPHYSICAL HOLE GY90.01 RED MOUNTAIN SUMMIT AND MARC ZONE IN BACKGROUND

### SUMMARY 1990 RED MOUNTAIN DIAMOND DRILL PROGRAM

The Red Mountain property is located within the Skeena Mining Division of British Columbia, about 15 kilometres east of the town of Stewart. It is held by Bond Gold Canada Inc. under an option agreement with Wotan Resources. A 12,424 metre diamond drill program was conducted on this property during the period of July 20 to September 30, 1990.

Red Mountain, an extensive gossan located between Bromley Glacier and Cambria Icefield, is situated at the eastern margin of the Stikinia Terrane which forms part of the Intermontane Tectonic Belt of the Canadian Cordillera. The area is underlain by pyroclastic and sedimentary rocks of the Lower Jurassic Hazelton Group which have been intruded by Jurassic as well as Tertiary plutons and dike swarms.

In 1990 drilling was focused on extending the Marc Zone, a gold occurrence which had been discovered and drill-tested during BGC's 1989 exploration program. A total of 11,278 metres was drilled in 42 holes, testing the zone over a strike length of 350 metres. The most significant intersections were obtained from hole MC90.35 with a core interval of 55.5 metres yielding 12.08 g Au/t and from hole MC90.40 which yielded 36.37 g Au/t over 25.50 metres.

The Marc Zone is a transitional-type gold deposit with some skarntype affinities and is associated with the contact between the Goldslide Intrusion (hornblende-plagioclase porphyry) and adjacent interbedded sedimentary and pyroclastic rocks of the Unuk River Formation. The mineralization consists of densely disseminated and semi-massive pyrite replacement and/or pyrite stringers and veinlets with variable amounts of pyrrhotite and sphalerite. The morphology of the zone is controlled by the intrusive contact. Continuous mineralization was outlined between Sections 0+25S and 1+25N. In addition, Marc Zone-style mineralization with values of up to 8.78 g Au/t over a core length of 18 metres was intersected in the holes on Sections 2+25N to 2+75N.

A silver-rich sphalerite zone with associated anomalous gold, copper, and lead values was intersected in holes drilled on Sections 2+25N to 2+75N, up to 200 metres above the Marc Zone-style mineralization. Values obtained range up to 0.58 g Au/t, 69.22 g Ag/t, 5.60% zinc, 0.47% lead, and 0.06% copper over 9.0 metres of core length. This sphalerite zone appears to be related to the Marc Zone gold mineralization by zonation.

Several high priority EM conductors with associated magnetic anomalies, located south and west of the Marc Zone, were drill-tested during the 1990 program. A total of 1,146 metres in 13 holes was drilled on these targets. Anomalous gold values were found to be associated with the EM conductors in several of these holes.

Further drilling is warranted to extend the Marc Zone and the silver-rich sphalerite zone and to better define their morphologies. The encouraging results from the geophysical drill holes, especially in the area west of the Marc Zone, should be followed-up. Some of the remaining geophysical targets should also be considered for drilltesting.

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Between July 20 and September 30, 1990 a diamond drill program was conducted by Bond Gold Canada Inc.(BGC) on its Red Mountain property. A total of 12,424 metres BQTW core was drilled in 55 holes on the Marc Zone gold occurrence and on 10 high priority geophysical targets in its vicinity.

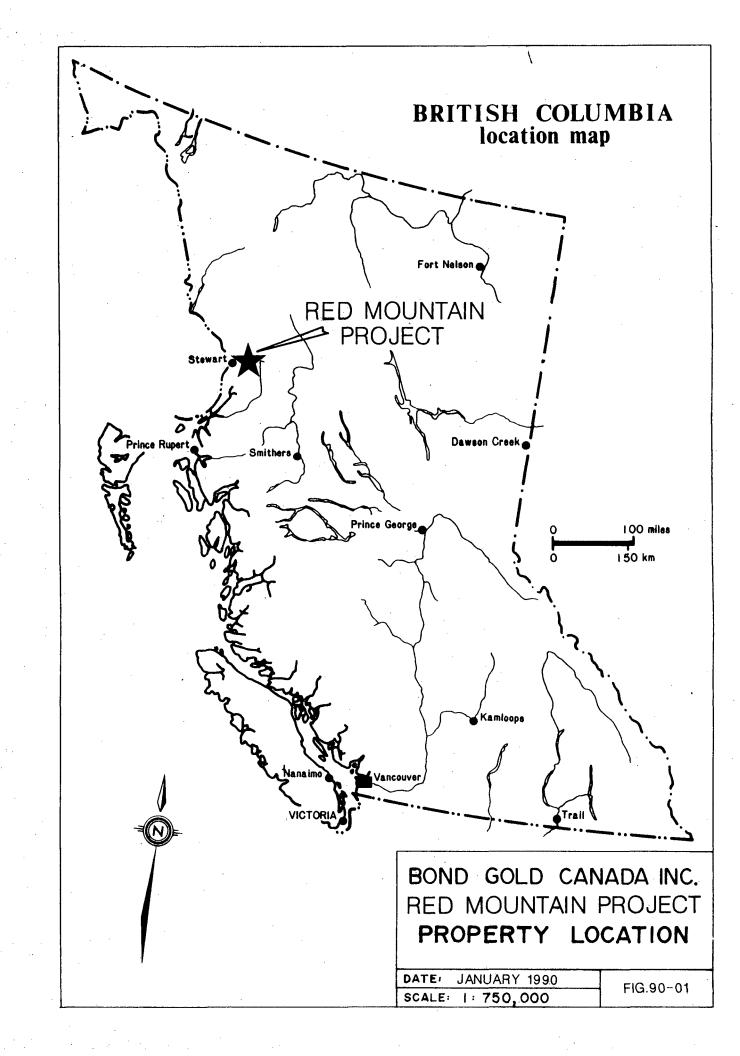
#### 1.1 LOCATION, ACCESS, AND PHYSIOGRAPHY

The Red Mountain property is located within the Boundary Range of the northern British Columbia Coast Mountains, about 15 kilometres east of the town and deep water port of Stewart, British Columbia (Figure 01). It is centred on latitude 55°57' North and longitude 129°42' West. The property covers a portion of Cambria Icefield, Red Mountain, and part of Bromley Glacier valley. Bromley Glacier feeds Bitter Creek, a tributary of Bear River.

Access to the property was by helicopter from Stewart. A 50 man exploration camp was established at Goldslide Creek within the cirque of Red Mountain, close to the old Zenore Resources Inc. exploration camp.

The most practicable road access would be from Highway 37A up Bitter Creek Valley to the base of Bromley Glacier and then up the Bitter Creek Valley wall to the cirque of Red Mountain. An old, partly washed-out logging road extends up Bitter Creek Valley for about 6.5 kilometres to within approximately 18 road kilometres of the Marc Zone area.

The property covers rugged mountainous terrain with elevations ranging from 655 metres to 2150 metres above sea level. The slopes are mostly steep to precipitous, making the use of technical mountaineering techniques necessary. Occurrences of snow and debris



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avalanches are common, both in Bitter Creek Valley and Red Mountain cirque. The area has a coastal climate. Snowfall is very heavy due to its high elevations, its northern latitude, and its distance from the open ocean. No observations are available from Red Mountain itself but in the Stewart area mean annual snowfall ranges from 520 centimetres at sea level and 1,500 centimetres at 460 metre elevation (Bear Pass) up to 2,250 centimetres at an elevation of 915 metres (Tide Lake Flats).

Vegetation consists of coastal rain forest with mature western hemlock, sitka spruce, fir, and black cottonwood amid a thick fern and moss ground cover. A thin veneer of subalpine spruce thickets, heather and alpine meadows occurs at higher elevations up to the treeline which varies with aspect and terrain between 1,200 and 1,400 metre elevation. Bare rocks and talus slopes with intermittent alpine vegetation mark the area above the treeline up to an elevation of about 1,700 to 1,800 metres. Avalanche paths are usually overgrown by an impassable cover of slide alder.

Wildlife consists of mountain goats, grizzly bears, black bears, wolves, marmots, martens, and ptarmigans. Trimlines in the Bromley Glacier valley indicate the maximum extent of the ice during the "Little Ice Age", which culminated in the nineteenth century. They indicate about 150 metres of down-wasting of the glaciers in recent time, leaving steep, marginally stable, vegetation-free slopes. This recent deglaciation has been responsible for the exposure of new showings.

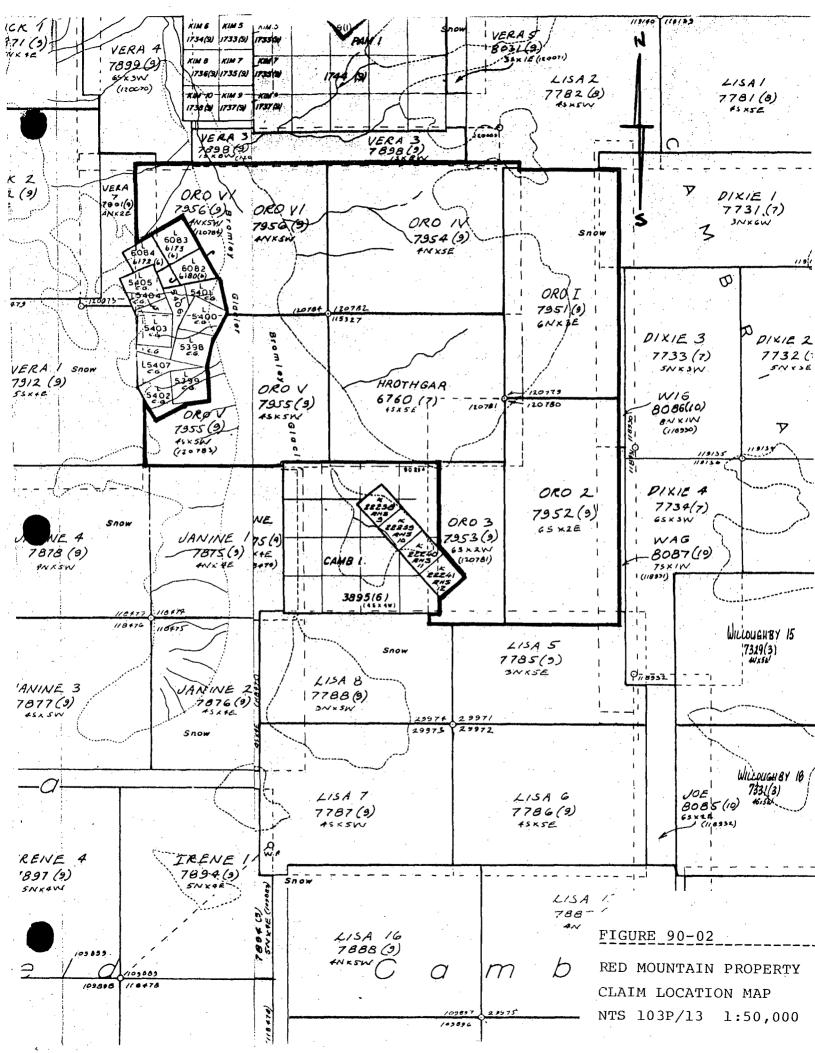
### 1.2 PROPERTY STATUS

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BGC's Red Mountain property is located within the Skeena Mining Division of British Columbia. It consists of 128 mineral units within 7 contiguous claims. The claims are held by BGC under an option agreement with Wotan Resources Inc. of Vancouver. Relevant claim information has been summarized in Table 1 and Figure 02 shows the disposition of the claims. Additional claims held by BGC surround the Wotan option.

Claim Name	Record #	Units	Date of Record
	*======================================		
ORO I	7951	18	Sept. 16, 1989
ORO II	7952	18	Sept. 16, 1989
ORO III	7953	12	Sept. 16, 1989
ORO IV	7954	20	Sept. 23, 1989
ORO V	7955	20	Sept. 23, 1989
ORO VI	7956	20	Sept. 23, 1989
HROTHGAR	6760	20	July 11, 1988

## TABLE 1: PROPERTY STATUS RED MOUNTAIN



#### **1.3 EXPLORATION HISTORY**

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Following limited gold exploration in the last years of the 19th century and the early part of this century the property was evaluated for molybdenum occurrences in the 1960s and 1970s. A molybdenum showing as well as native gold were discovered in 1965 at the south side of Red Mountain (Erin Showing, McAdam Point). Additional small molybdenum showings were located during subsequent exploration programs in the central cirque of Red Mountain.

Significant gold values (up to 37 g Au/t) were obtained in 1973 from Lost Mountain (R.H.S. claims), a nunatak immediately south of Red Mountain and separated from the latter by the northern branch of Bromley Glacier. Gold is associated with pyrite, galena, and sphalerite and occurs in strike-consistent, narrow quartz veins mainly within a sequence of black argillites.

Red Mountain remained unexplored for gold as it was mainly regarded as a setting favourable for porphyry molybdenum style mineralization. The reactivation of gold exploration in the area during the mid to late 1980s has focused on the Iskut and Sulphurets Gold Camps and the surroundings of the historic Silbak-Premier mine further to the north, all of which are situated in geological environments similar to that of Red Mountain.

1898 Exploration for placer gold in the Bitter Creek area.

1900

Gold exploration in the upper reaches of Bitter Creek.

1965 Discovery of molybdenite mineralization and visible gold at MacAdam Point (Erin Showing; MI103P/220); rock sampling, geological mapping, hand trenching, diamond drilling (one 70m AX hole). The rock sampling yielded an average of 0.0475% MoS2 over 137m. One of the trenches yielded values of 27.42g Au/t over 0.91m, 30.85g Au/t over 0.61m, and 64.45g Au/t over 0.61m; old reports pertaining to the location and style of the gold mineralization are not available.





- 1967 Northgate Explorations Ltd.: geological mapping, geochemistry (263 samples, analyzed for copper, molybdenum, zinc); diamond drilling; 613m in 5 holes; 4 holes within the hornblende porphyry in the Red Mountain cirque area, 1 hole in the granodiorite at MacAdam Point.
- 1976 Jack Claims staked by J.Howard (central and southern portion of Red Mountain) and optioned to Zenore Resources Ltd..
- 1977/78 Zenore Resources Ltd.; logging and re-sampling of the 1967 drill core; these samples were assayed for molybdenum; geological mapping, rock geochemistry (assayed for copper, molybdenum, and gold), petrographic study.
- 1978/80 Falconbridge Nickel Mines Ltd.; reconnaissance program for porphyry copper-molybdenum targets in the Stewart area.
- 1988/89 Staking of the Red Mountain by Wotan Resources Inc..
- 1989 Red Mountain property optioned to BGC; discovery and drill testing of the Marc Zone (3,623 metres; values of up to 9.88g Au/t and 42.29g Ag/t over a core length of 66 metres) and Brad one (1,107 metres; values up to 7.22g Au/t over 1.5 metres) gold-silver mineralization.
- 1990 Continuation of the evaluation of the Red Mountain property by BGC (this report); diamond drilling (Marc Zone, geophysical targets), ground geophysics, geological mapping, rock geochemistry.

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#### 2.0 REGIONAL GEOLOGY AND MINERALIZATION

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#### GEOLOGY

The Red Mountain property is situated at the western margin of a broad, north-northwest trending volcano-plutonic belt composed of the Upper Triassic Stuhini Group and the Upper Triassic to Middle Jurassic Hazelton Group. This belt has been termed the "Stewart Complex" by Grove (1986) and forms part of the Stikinia Terrane. To the west the Stewart Complex is bordered by the Coast Plutonic Complex. Sedimentary rocks of the Middle to Upper Jurassic Bowser Lake Group overlay the complex in the east.

The Jurassic stratigraphy was established by Grove (1986) during regional mapping between 1964 and 1968. Formational subdivisions have been and are in the process of being modified and refined as a result of recent work being undertaken in the Stewart, Sulphurets, and Iskut areas by the Geological Survey Branch of the BCMEMPR (Alldrick 1984, 1985, 1989) and the Geological Survey of Canada (Anderson 1989, Anderson and Thorkelson 1990). A sedimentologic, stratigraphic, and structural framework is slowly emerging for this area.

The Hazelton Group represents an evolving (alkalic/calc-alkalic) island arc complex, capped by a thick succession of turbidites (Bowser Grove (1986) subdivided the Hazelton Group into four Lake Group). litho-stratigraphic units (time intervals defined by Alldrick 1987): The Upper Triassic to Lower Jurassic (Norian to Pliensbachian) Unuk River Formation, the Middle Jurassic Betty Creek (Pliensbachian to Toarcian) and Salmon River (Toarcian to Bajocian) Formations, and the Middle to Upper Jurassic (Bathonian to Oxfordian- Kimmeridigian) Nass Formation. Alldrick assigned formational status (Mt.Dilworth Formation) to a Toarcian rhyolite unit (Monitor Rhyolite) overlying the Betty Creek Formation. Rocks of the Salmon River Formation are transitional between the mostly volcanic Hazelton Group and the wholly sedimentary Bowser Lake Group and are presently treated either as the uppermost formation of the former or the basal formation of the latter (Anderson and The Nass Formation has now been assigned to the Thorkelson 1990). Bowser Lake Group.

The Unuk River Formation, a thick sequence of andesitic flows and tuffs with minor interbedded sedimentary rocks, host several major gold deposits in the Stewart area. The unit is unconformably overlain by heterogeneous marcon to green, epiclastic volcanic conglomerates, breccias, greywackes and finer grained clastic rocks of the Betty Creek Formation. Felsic tuffs and tuff breccias characterize the Mt.Dilworth represents the climactic and penultimate Formation. This formation volcanic event of the Hazelton Group volcanism and forms an important regional marker horizon. The overlying Salmon River Formation has been subdivided in the Iskut area into an Upper Lower Jurassic and a Lower Middle Jurassic member (Anderson and Thorkelson 1990). The upper member has been further subdivided into three north trending facies belts: the eastern Troy Ridge facies (starved basin), the medial Eskay Creek facies (back-arc basin), and the western Snippaker Mountain facies (volcanic arc). It is presently not known if the same subdivisions also apply for the Red Mountain property area further south.

Sediments of the Bowser Lake Group rest unconformably on the Hazelton Group rocks. They include shales, argillites, silt- and mudstones, greywackes and conglomerates. The contact between the Bowser Lake Group and the Hazelton Group passes between Strohn Creek in the north and White River in the south. The contact appears to be a thrust zone with Bowser Lake Group sediment "slices" occurring within and overlying the Hazelton Group pyroclastic rocks to the west.

Two main intrusive episodes occur in the Stewart area: a Lower Jurassic suite of dioritic to granodioritic porphyries (Texas Creek Suite) that are comagmatic with extrusive rocks of the Hazelton Group and an Upper Cretaceous to Early Tertiary intrusive complex (Coast Plutonic Complex and satellite intrusions). The Early Jurassic suite is characterized by the occurrence of coarse hornblende, orthoclase and plagioclase phenocrysts and locally potassium feldspar megacrysts. The Eocene Hyder quartz-monzonite, comprising a main batholith, several smaller plugs, and a widespread dike phase, represents the Coast Plutonic Complex.

Middle Cretaceous regional metamorphism (Alldrick et al. 1987) is

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predominantly of the lower greenschist facies. Biotite hornfels zones are associated with a majority of the quartz monzonite and granodiorite stocks.

## **MINERALIZATION**

The Stewart Complex is the setting for the Stewart, Iskut, Sulphurets, and Kitsault (Alice Arm) gold/silver mining camps. Mesothermal to epithermal, depth-persistent gold-silver veins form the most significant type of economic deposits. There is a spatial as well as temporal association of this gold mineralization with Early Jurassic calc-alkaline intrusions and volcanic centres. The intrusions are commonly of a distinctive two-feldspar porphyry type containing plagioclase phenocrysts and potassium feldspar megacrysts.

The most prominent example of this type of deposit is the historic Silbak-Premier gold-silver mine which has produced 56,600kg gold and 1,281,400kg silver in the time from 1918 to 1976. Current open pit reserves are 5.9 million tonnes grading 2.16 g Au/t and 80.23g Ag/t (Randall 1988). The ore is hosted by Hazelton Group andesites and comagmatic Texas Creek porphyritic dacite sills and dikes. The ore bodies comprise a series of en echelon lenses which are developed over a strike length of 1800 metres and through a vertical range of 600 metres (Grove 1986, McDonald 1988). The mineralization is controlled by northeasterly trending structures northwesterly and and their intersections but also occurs locally concordant with andesitic flows Two main vein types occur: silica-rich, low-sulfide and breccias. precious metal veins and sulfide-rich base metal veins. The precious metal veins are more prominent in the upper level of the deposit and contain polybasite, pyrargyrite, argentiferous tetrahedrite, native silver, electrum, and argentite. Pyrite, sphalerite, chalcopyrite and galena combined are generally less than 5%. The base metal veins crosscut the precious metal veins and increase in abundance with depth. They contain 25 to 45% combined pyrite, sphalerite, chalcopyrite and galena with minor amounts of pyrrhotite, argentiferous tetrahedrite, native silver, electrum and arsenopyrite. Quartz is the main gangue material, with lesser amounts of calcite, barite, and some adularia being present. The mineralization is associated with strong silicification, feldspathization, and pyritization. A temperature range of 250 to 260 degrees Celsius has been determined for the deposition of the precious and base metals (McDonald 1990).

Middle Eocene silver-lead-zinc veins are characterized by high silver to gold ratios and by spatial association with molybdenum and/or tungsten occurrences. This mineralization is less significant in economic terms. Porphyry molybdenum deposits are associated with the Tertiary Alice Arm Intrusions, a belt of quartz-monzonite intrusions parallel to the eastern margin of the Coast Plutonic Complex. An example of this type of deposits is the B.C. Molybdenum Mine at Lime Creek.

## GEOLOGY

The only available published geological map that covers the Red Mountain area is the 1:100,000 Unuk River-Salmon River-Anyox map by Grove (1986, Figure 2B). The property area is, according to Grove, underlain by Lower to Middle Jurassic rocks of the Hazelton Group (Unuk River and Salmon River Formations) which have been intruded by Middle Jurassic as well as Early Tertiary stocks and dikes. The younger intrusive sequence forms part of the Coast Plutonic Complex.

The portion of the property located east of Bromley Glacier is underlain by rocks of the Lower Jurassic Unuk Formation. This formation consists of clastic sediments, volcanic breccias, crystal and lithic tuffs, limestones and cherts. Rocks of the Upper Jurassic Salmon River Formation, a sequence of fine to coarse grained clastic sediments, limestones, rhyolites, and crystal and lithic tuffs are exposed west of Bromley Glacier (Oro V and VI claims). The Betty Creek Formation which stratigraphically underlies the Salmon River Formation appears to have been thinned out or eroded in the Red Mountain area (Grove 1986).

Stratified rocks occupy the ridges and the southern and northern slopes at Red Mountain (Geological Map 1:2,500; Figure 03) and consist of intermediate pyroclastic rocks (map unit 1: finely banded, waterlain ash and dust tuffs; map unit 2: coarse ash tuff; map unit 3: lapilli tuff; map unit 4: volcanic agglomerate; map unit 5: crystal tuff with up to 20% plagioclase crystals), finely banded, partly carbonaceous argillites and tuffaceous sediments (map unit 13), and cherts (map unit 16). The strata generally strike northwest and dip steeply towards the southwest but strike and dip can locally be highly variable, which appears to be the result of up-doming by the hornblende-feldspar porphyry (Goldslide Intrusion) and satellite intrusions. Top indicators within the tuffaceous sediments (load casts, graded bedding) indicate that the sequence is right side up.

A distinct volcanoclastic unit occurs northeast of the Marc Zone at

the edge of Cambria Icefield (east of the coverage of Figure 03). This unit consists of coarse limestone fragments in a fine-grained dacitic tuff. Due to finely disseminated pyrite within the matrix the unit weathers to a rusty brown colour. A similar rock occurs at Lost Mountain farther south. This unit could possibly be useful as a stratigraphic marker.

The volcano-sedimentary sequence appears to represent an intermediate to distal volcanic facies. The closest recognized Lower Jurassic volcanic centre is located in the Big Missouri-Premier area about 15 kilometres to the north (Alldrick 1989).

hypabyssal, hornblende-plagioclase porphyritic Α intrusion (Goldslide Intrusion; granodiorite to diorite; map unit 6) occupies the cirque as well as the western and eastern slopes of Red Mountain). The groundmass of the porphyry grades from weakly phaneritic at deeper levels to aphanitic at higher levels and closer to the contact. Euhedral hornblende crystals constitute up to 25% of the rock and are up to 2.0 centimetres long. Plagioclase crystals are usually smaller than 2mm and constitute up to 25% of the rock. The ratio of hornblende to plagioclase varies. A fine-grained and more equigranular phase of the intrusion is dominated by plagioclase (map unit 8). Phenocrysts of pyroxene, biotite, orthoclase, and quartz are less abundant. A wide contact zone occurs between the volcano-sedimentary package and the This zone is strongly brecciated and contains argillite intrusion. and/or pyroclastic rock fragments within an intrusive matrix (map unit Quartz stockwork is locally developed within the border phase of 19). this intrusion. Weak to intense silicification, sericitization, and propylitization are associated with these quartz stockwork zones. An extensive zone of pyritization and sericitization surrounds the Goldslide Intrusion and is responsible for the gossanous appearance of Red Mountain. Grove (1986) assumes a Middle Jurassic age for this intrusion and correlates it with the Texas Creek Pluton.

A granodioritic to quartz-monzonitic intrusion (Erin stock) is exposed at the southern tip of Red Mountain (south of the coverage of Figure 03) and appears to continue south under Bromley Glacier onto Lost Mountain. The stock and associated aplitic dikes intrude a sequence of

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thinly bedded argillites, calcareous sediments, and intermediate pyroclastics. The sediments have been extensively skarnified and hornfelsed. The stock itself is cut by a number of fine-grained basaltic dikes. A Lower Tertiary age has been indicated for this intrusion (Grove 1986, Figure 2B) which may be part of the Alice Arm or Hyder Intrusion satellite stocks (Coast Plutonic Complex).

Samples from both the Goldslide Intrusion as well as from the Erin stock have been submitted to the Geological Survey Branch of the B.C. Ministry of Energy, Mines and Petroleum Resources for age dating in October of 1990.

Several sets of dikes cut the sediments and pyroclastic rocks:

- a) Potassium feldspar porphyritic dikes light grey with subhedral feldspar crystal and quartz eyes in aphanitic matrix; mainly northeast trending; the appearance and relative age relationships indicate that these dikes may correlate with the Early Jurassic Texas Creek intrusive suite (map unit 9, south of the area covered by Figure 3.
- b) Microdioritic dikes green-grey, fine-grained feldspar-hornblende porphyry; generally northwest trending, and southwest dipping. Plagioclase occurs as anhedral to subhedral grains up to 1mm in size, hornblende as anhedral to prismatic crystals up to 1.5mm in size (map unit 7).
- c) Lamprophyre dikes green-grey, with minor vesicles, and typically composed of green acicular hornblende and plagioclase in a dense matrix. These dikes have a north-northwesterly trend and cut all other types of dikes; they appear to be related to the Oligocene-Miocene lamprophyre dike suite known from the Stewart Area (Grove 1986, Figure 13; south of area covered by Figure 03).

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STRUCTURE

The Red Mountain area as a part of the "Stewart Complex" has been subjected to tectonic activity from the Jurassic to the Tertiary. Lower Jurassic strata (Unuk River Formation) were folded as a result of Upper Lower Jurassic regional compression (Grove 1986). The north-northwest trending Bromley Syncline, the axis of which passes immediately west of the Red Mountain property, is an example for the large-scale folding affecting the Early Jurassic and older sequences. The rocks of the Unuk River Formation underlying Red Mountain consequently occupy the eastern The general north-northwest trending limb of the Bromley Syncline. tectonic grain observed at the western flank of Red Mountain (bedding, foliation) was imposed during this Early Jurassic deformation event. Subsequent deformation is mainly characterized by simple displacement along strike-slip faults and reactivation of older faults. Several main fault and fracture systems are reflected regionally as distinctive geomorphological features (Portland Canal/Bear River trend, Strohn Creek trend, American Creek trend etc.). At Red Mountain there are two main conjugate sets of fault and fracture zones:

- NNE-SSW and NNW-SSE

- ENE-WSW and ESE-WNW.

The relative age relationships of these structures is often obscured by recurrent activation of the faults but on some there are indications that the second set post-dates the first one. All of these structural trends are associated with alteration and sulfide mineralization. Subhorizontal to shallow dipping structures occur in the eastern half of Red Mountain and probably represent cooling joints and exfoliation structures related to the Goldslide Intrusion and associated satellite intrusions.

#### **MINERALIZATION**

Red Mountain is characterized by an extensive gossan, covering about 12 square kilometres, which has attracted exploration activities for porphyry-molybdenum type targets in the 1960s. The molybdenite mineralization is controlled by northerly trending fractures along the northern contact of the Erin Stock (McAdam Point). The most significant mineralization is restricted to within 25 metres of the contact and the overall occurrence was found to be not economic. An occurrence of visible gold and values of 27.42 g Au/t over 0.91m, 30.85 g Au/t over 0.61 metre, and 64.45 g Au/t over 0.61 metre have been mentioned for this area in reports from the 1960s. The exact location and mode of occurrence for this gold mineralization has not been reported.

The northern tip of Lost Mountain covers the southern contact of the Erin Stock. The molybdenite-bearing quartz veins extend likewise for only a limited distance from the southern contact of the Erin Stock into the skarn and hornfels. Significant gold and silver mineralization is associated with sphalerite, pyrite, pyrrhotite, galena, and chalcopyrite within narrow quartz veins and occurs further south on Lost Mountain (Mandy, Middle, Handy, and Andy veins; Kruchkowski 1984, Groves 1985). The veins are predominantly hosted by a sequence of carbonaceous argillites and have a northwesterly strike and dip steeply to the southwest.

No other occurrences of gold were known at Red Mountain prior to Bond Gold Canada Inc.'s 1989 exploration program. Several gold showings were discovered during the 1989 program, all of which are spatially related to the contact of the Goldslide Intrusion with the surrounding sedimentary and pyroclastic rocks (BGC's 1989 Red Mountain Assessment Report). The mineralization is structurally controlled and occurs both within the intrusion as well as in the surrounding pyroclastics and interbedded sediments.

The Marc Zone represents the most significant gold occurrence encountered at Red Mountain to date. A total of 3,632 metres in 21 holes was drilled during 1989 and defined a well-mineralized zone up to several tens of meters in thickness along a strike length of 100 metres and a down-dip extension of 100 metres. Values of up to 9.88 g Au/t and 42.29 g Ag/t over 66 metres of core length were obtained during this program. The principal objectives of the 1990 diamond drill program were

- the follow-up of the result of the initial drilling at the Marc Zone
- in 1989 and the extension of this zone along strike and to depth and
- the drill-testing of several high priority geophysical targets in the vicinity of the Marc Zone.

A total of 11,278.13 metres BQTW-sized core in 42 holes (all on Oro I claim) was drilled at the Marc Zone, including the re-entry and deepening of one of the 1989 holes. In addition, 13 holes (8 holes on Oro I, 4 on Oro IV, and 1 on Hrothgar) with a total of 1,145.78 metres were drilled to test 10 high priority geophysical targets.

All the core was split and a total of 7,518 samples was submitted for 31 element ICP and gold fire assay to Min En Labs of North Vancouver. Approximately 55% of the core remains stored at the Red Mountain Camp site while the rest (5,600 metres) was shipped to Stewart for storage.

#### 4.1 MARC ZONE

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#### GENERAL

The Marc Zone is located in the northeastern portion of the Red Mountain property (Figure 03) south of Red Mountain summit. The discovery of this zone in 1989 resulted from tracing heavily mineralized float uphill to its bedrock source. The mineralization is exposed at the foot of a vertical cliff (elevation 1930 metres) and extends at surface for about 30 metres along strike with a width varying from 3 to 20 metres.

Figure 04 shows a surface plan of the Marc Zone drilling. Drill sections are contained in Figures 05 to 19. The drill logs have been included in Appendix C and the assay certificates in Appendix B.

## GEOLOGY AND MINERALIZATION

The Marc Zone mineralization consists of a number of discrete lenes which are closely associated with the brecciated contact (intrusive breccias) between a sequence of interbedded argillites, tuffaceous sediments, and intermediate pyroclastic rocks (IAT-Unit) and а hornblende/feldspar porphyritic intrusion (Goldslide Intrusion). The morphologies of the mineralized lenses are controlled by these zones of (intrusive) brecciation, strong fracturing, and, to a minor extend, shearing along the intrusive contact. The host rocks include pyroclastic rocks (dacitic ash, lapilli, and crystal tuffs), interbedded sediments (tuffaceous sediments, argillites), fine-grained hornblendeplagioclase porphyry, as well as intrusive breccias containing all of the mentioned rock types. The hydrothermal alteration consists of strong to pervasive sericitization, moderate to strong pyritization, silicification. moderate chloritization, and moderate The silicification reflects mainly an increase in modal quartz as a consequence of the sericitization. Moderate to strong potassic alteration as well as albitization occur locally. The presence of tourmaline is restricted to silicified zones within the hornblendefeldspar porphyry intrusion. Breccia fragments are strongly corroded and partly digested by the hydrothermal alteration.

There are indications of several intrusive phases but their distinctions is hampered by the alteration overprint. The morphology of the intrusion is complex and appears to include sill-like protrusion. The texture of the intrusive rocks range from porphyritic to equigranular and the composition from dioritic to granodioritic.

The Marc Zone gold mineralization typically consists of densely disseminated to semi-massive pyrite replacement (up to 30%) within a dark grey to black matrix and/or pyrite stringers and veinlets. Varying amounts of pyrrhotite and minor chalcopyrite, arsenopyrite, galena, and tetrahedrite are associated with the pyrite. High gold values are usually associated with the semi-massive, coarse-grained pyrite aggregates but also occur with stockwork of pyrite stringers and veinlets. Specks of visible gold were noted only in one instance (MC90.22; 73.70 g Au/t over 1.50 metres) within a small quartz vein. Native gold as observed in polished thin sections ranges in size from 10 to 500 microns and occurs as sporadically distributed threads, interstitial pockets, and partial networks within the pyrite as well as moulded on to the periphery of pyrite fragments within the gangue and altered wall rock. Lead-, silver-gold-antimony- , and bismuth tellurides are associated with or contain the gold (BGC's 1989 assessment report). Dark reddish-brown sphalerite occurs peripheral to the gold mineralization, with zinc values being commonly inversely correlated with gold values. The close association of gold with pyrite and its mode of occurrence suggests two main mechanism for the Thio complexes transporting gold in the precipitation of gold. hydrothermal fluids are destabilized by sulfidization of the wall rock, resulting in the increase of Eh, oversaturation and precipitation of gold. A second process is the plating of gold onto pre-existing pyrite (piezoelectric effect), а process effective even in fluids undersaturated with respect to gold.

Small quartz veinlets carrying up to 5% galena and light yellow, honey coloured sphalerite are crosscutting the Marc Zone gold mineralization and represent a younger phase of mineralization.

Numerous post-mineralization faults and fractures with variable orientations transect the sequence. The amount of off-set along these structures is difficult to assess due to the lack of marker horizons. In the few instances were the amount of offset could be established it was less than 40 metres.

### 1990 DIAMOND DRILL PROGRAM

The drilling at the Marc Zone was designed to define the morphology of the mineralized zone and to extend it along strike and down-dip. Three of the holes (MC90.28, 29, 38) also tested geophysical anomalies. The drill hole azimuth was generally 090 degrees, but a number of holes were drilled as scissor holes at an azimuth of 270 degrees. The geophysical holes were drilled at an azimuth of 180 and 360 degrees in order to test a possible east-west striking component of the Marc Zone mineralization.

The program tested the Marc Zone over a strike length of 350 metres (Section 0+75S to Section 2+75N; Figures 05 through 19). Very good hole to hole and section to section correlation of the mineralization is possible from Sections 0+25S to 1+25N. Continuous mineralization of complex morphology has been defined between those two sections. The best intersections were obtained from drilling on Section 100N (Figure 12). Hole MC90.40 returned 25.50 metres of 36.37 g Au/t and 19.68 g Ag/t, and hole MC90.35 yielded 55.5 metres of 12.08 g Au/t and 53.91 g Ag/t, including a 27.0 metre interval yielding 20.12 g Au/t and 56.49 g Ag/t. A composite sample of mineralized intersections from holes MC90.23, MC90.26, MC90.31, and MC90.35 yielded 12.8 g/t gold, 46.0 g/t silver, 0.21% zinc, 0.011% lead, 0.036% copper, 0.045% arsenic, 9.72% iron, 0.007% antimony, and 0.0034% tellurium.

Marc Zone style mineralization was also intersected in the holes on Sections 2+25N (Figure 07; MC90.49: 8.78 g Au/t and 47.53 g Ag/t over a core length of 18 metres), 2+50N (Figure 06; MC90.59: 2.78 g Au/t and 24.84 g Ag/t over 16.50 metres), and 2+75N (Figure 05; MC90.62: 1.76 g Au/t and 4.6 g Ag/t over 1.5 metres). However, intervening drilling on Sections 1+50N, 1+75N, and 2+00N (Figures 8 through 10) did not intersect any significant gold mineralization. The single holes drilled on Sections 2+00N, and 2+75N are insufficient to delineate the core of the Marc Zone, given its complex morphology.

The southern extension of the Marc ("East Lens"; south of Section 0+25S) is presently poorly defined and most probably complicated by faulting and/or the existence of parallel zones to the east. Further drilling would be necessary in this area.

A silver-rich sphalerite zone was intersected up to 200 metres above the Marc Zone style gold mineralization in holes on Sections 2+75N, 2+50, and 2+25N (Figure 05 and 06). The mineralization consist of 5-8% sphalerite, 3-5% pyrrhotite, 3% pyrite, and traces of chalcopyrite. The sulfides occur as matrix fill, anastomosing stringers, and fine lamina parallel to bedding within a moderately to highly brecciated sequence of interbedded argillites and tuffs (IAT-Unit) at the intrusive contact. The morphology of the mineralized zone indicates that it is intimately associated with the brecciated contact zone of the hornblende plagioclase porphyry. The undulating intrusive contact dips with about 55 degrees to the south between Sections 2+75N and 2+50N and forms a trough around 2+50N. The IAT Unit pinches out at Section 2+25N and so does the zinc mineralization.

This zone yielded 0.58 g Au/t, 69.22 g Ag/t, 5.6% zinc, 0.47% lead, and 0.06% copper over a core length of 9.0 metres in hole MC90.62, the most northerly hole drilled to date (Section 2+75N). The same zone returned 0.96 g Au/t, 46.2 g Ag/t, 2.66% zinc, and 0.11% zinc over a core length of 18.0 metres in hole MC90.58 on Section 2+50N. Hole MC90.59, drilled on Section 2+50N as well, intersected 7.5 metres of 0.67 g Au/t, 29.5 g Ag/t, 1.13% zinc, and 0.13% lead and 6.0 metres of 1.50 g Au/t, 42.23 g Ag/t, and 1.12% zinc. This sphalerite zone is typically associated with anomalous cadmium and weakly anomalous arsenic A similar silver-rich sphalerite zone was encountered during values. the 1989 drilling on Section 0+25N, approximately 125 metres above the Marc Zone.

These intersections indicate a weakly auriferous base metal zone in the hanging wall of the Marc Zone. Its relationship to the latter appears to be by zonation. Silver/gold ratios for the sphalerite zone are considerably higher than those for the Marc Zone gold mineralization (40 to >100 versus 1-10) but similar to the respective ratios for the sphalerite aureole surrounding the Marc Zone.

## 4.2 GEOPHYSICAL HOLES

The second component of the 1990 drill program was the testing of a number of geophysical targets in the vicinity of the Marc Zone. A 5,220 line kilometre airborne magnetic and electromagnetic survey was carried out by Aerodat Ltd. over the Red Mountain property in the period of September 1989 to April 1990 (separate report). The airborne data were acquired along east-west lines, spaced 200 metres apart. Supplementary lines were flown at 100 metre spacing over Red Mountain and Willoughby Nunatak. This survey defined numerous medium to high priority EM anomalies property wide, many of them associated with magnetic anomalies. Four of these airborne targets at Red Mountain were covered by a detailed magnetic and electromagnetic (Genie EM) ground survey on a 45 line kilometres grid (secant chained). This detailed survey succeeded in outlining two large, sheet-like conductors. One starts about 200 metres south of the Marc Zone and extends for a distance of The second conductive sheet extends for 1,800 metres to the south. about 1,200 metres to the west of the Marc Zone. Within these large conductive responses are "core" areas of higher conductivity.

A total of 1,147.78 metres was drilled in 13 holes, testing 10 of the highest priority geophysical targets. Holes GY90.01 trough 09 were drilled within the area of the southern conductor, the remaining holes tested the western conductor. The targets were in most cases adequately explained by the presence of pyrrhotite in the form of interconnected stringers or semi-massive to massive concentrations. Anomalous gold values were associated with the conductive zones in 3 of the 13 drill holes.

Figure 04 shows the location of the drill holes. Drill section are contained in Figures 20 through 29. The results of the drilling has been summarized in the following table. Assay certificates are contained in Appendix B. The drill logs have been included in Appendix C and the geological legend for the drill sections in Appendix A. TABLE 2: SIGNIFICANT DIAMOND DRILL INTERSECTIONS GEOPHYSICAL HOLES

HOLE	FROM(m)	TO (m)	CORE LENGTH(m)	Au(g/t)	Ag(g/t)
GY90.01	6.5	8.0	1.50	1.04	1.4
	15.5	17.0	1.50	8.20	3.3
GY90.02	15.0	18.0	3.00	1.21	2.9
	19.5	21.0	1.50	1.40	1.2
	28.5	30.0	1.50	4.22	1.1
GY90.03	59.0	60.5	1.50	1.14	0.4
GY90.05	42.5	44.0	1.50	1.00	1.0
GY90.07	21.0	25.5	4.50	2.82	1.6
GY90.08	11.0	12.5	1.50	2.79	1.2
	15.5	17.0	1.50	1.73	0.8
GY90.11	67.5	75.0	7.50	2.30	5.4
	90.0	93.0	3.00	1.02	0.7
GY90.12	126.5	128.0	1.50	1.20	0.6

#### GY90.01

This hole was drilled with a 45 degree dip to the east at 250S/70E and was designed to test a west dipping EM conductor with partial magnetic correlation. Several conductive zones were intersected, including two massive pyrite and pyrrhotite sections at a depth of 7.3 metres and 25 metres, as well as sections with pyrite and pyrrhotite stockwork and stringers at 51.5 and 58.8 metres, respectively. Only the first of these intervals yielded a slightly anomalous gold value (1.04 g Au/t over 1.5 metre core length). Values of 8.20 g Au/t and 3.3 g Ag/t over 1.5 metre were obtained from the contact between dacitic lapilli tuff and the Goldslide Intrusion at 15.5 to 17.0 metres.

#### GY90.02

This hole tested a west dipping, moderate to good EM conductor associated with the MCEX Zone 40 metres further to the east. The MCEX Zone was defined during the 1989 exploration program (BGC's 1989 assessment report) and is located approximately 350 metres southsoutheast of the origin of the Marc Zone. It forms a moderately steep, gossany dip-slope at the eastern side of the Red Mountain cirque. The structure controlling the mineralization is developed along the contact of the Goldslide Intrusion with the overlying volcano-sedimentary sequence and has an orientation that varies from 155/50SW to 168/67W. The mineralization consist of up to 35% granular pyrite within a strongly sericitized and chloritized, as well as moderately silicified host rock which represents a fine border phase of the Goldslide Intrusion. Values of up to 4.48 g Au/t, 4.82 g Ag/t, and 0.35% copper over 9.0 metres were obtained. Minor molybdenite mineralization occurs as coatings along fracture planes. Three grab samples of massive pyrrhotite and minor chalcopyrite, taken from what appears to be the same zone 40 metres further south, yielded an average of 15.35 g Au/t, 14.83 g Ag/t, and 0.78% copper. This southern portion of the zone is slightly off-set along an east-west trending fault with dextral movement.

Hole GY90.02 intersected two very small (<5cm) sections with massive pyrrhotite (at 29.0 and 31.4 metres) which are inadequate to explain the conductor. A re-interpretation of the EM data indicated that the conductor is probably gradational and the drill hole intersected the weak southern edge of the west dipping conductive sheet. Drilling further north was not possible due to the presence of an ice/snow field. It was, therefore, decided to test this conductor again with holes GY90.07 and 08 (see below).

Values of 1.21 g Au/t and 2.9 g Ag/t, 1.40 g Au/t and 1.2 g Ag/t, and 4.22 g Au/t and 1.1 g Ag/t were obtained from the intervals 15.0 to 18.0 metres, 19.5 to 20.0 metres, and 28.5 to 30.0 metres, respectively.

GY90.03

This hole was designed to intersect a strong, shallow, west dipping conductor associated with a magnetic reversal. The strong conductor can be explained by the presence of several segments of interconnected fine pyrrhotite stringers. None of these sections is associated with anomalous gold values.

The interval 59.0 to 60.5 metres yielded values of 1.14 g Au/t and 0.4 g Ag/t.

## GY90.04, GY90.05

Hole GY.90.04 and GY90.05 were drilled from the same set-up, vertically and at an angle of 45 degrees to the north, respectively. They tested some complex EM and magnetic responses that indicated a possible ENE-WSW trending structure superimposed on the west-dipping conductive sheet tested by the previous holes. The EM and magnetic anomalies were in both cases adequately explained by a wide zone of conductive, interconnected pyrrhotite stringers hosted by an altered lapilli tuff.

No significant gold values were encountered in hole GY90.04. The interval 42.5 to 44.0 metres in GY90.05 yielded values of 1.00 g Au/t and 1.0 g Ag/t. This interval does not coincide with the conductive zone.

#### GY90.06

This hole tested the southern continuation of the conductor intersected in hole GY90.03. As in the latter hole the EM conductor was explained by the occurrence of sections with interconnected fine stringers of pyrrhotite. The stringers are mainly hosted by the fine tuff overlying the Goldslide Intrusion.

Values of 0.82 g Au/t and 1.6 g Ag/t was obtained from the interval 31.5 to 33.0 metres which does not coincide with a conductive zone.

## GY90.07 and GY90.08

These two holes were designed to test the northern extension of the shallowly dipping conductor tested with hole GY90.02. Hole GY90.07 was drilled vertically, hole GY90.08 at an angle of 45 degrees to the east. The EM conductor was explained in both holes by core intervals containing a network of fine pyrrhotite stringers.

Anomalous gold values are in both cases associated with the conductive zone. Hole GY90.07 yielded 2.82 g Au/t and 1.6 g Ag/t over a core interval of 4.5 metres and hole GY90.08 1.73 g Au/t and 0.8 g Ag/t over 1.5 metres as well as 2.79 g Au/t and 1.2 g Ag/t over 1.5 metres.

#### GY90.09

Hole GY90.09 was drilled about 1,000 metres south-southwest of the origin of the Marc Zone and was testing the interpreted extension of the conductor intersected in hole GY90.06. The EM conductor was explained by intersections containing a stockwork of pyrrhotite stringers.

No significant gold values were encountered.

Holes GY90.10 through GY90.13 were drilled west of the Marc Zone to test the western conductive zone.

GY90.10

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Hole GY90.10 tested the southwestern edge of this conductive structure. The hole cored predominantly argillites and no conductive sections were intersected.

GY90.11 and GY90.12

Holes GY90.11 and 12 were drilled from the same set-up. Several conductive sections, including zones of semi-massive to massive pyrrhotite and pyrite, were encountered between 55 and 75 metres in the

vertical hole (GY90.11). These conductive zones are consistent with the good EM responses obtained at surface. The geometry appears to be a single shallowly north dipping sheet.

The interval 67.5 to 75.0 metres averaged 2.30 g Au/t and 5.4 g Ag/t. This mineralized zone contains an average of 12% pyrrhotite, 6% pyrite, as well as traces of sphalerite within a graphitic argillite. The interval 90.0 to 93.0 metres, overlapping the contact between argillite and highly altered intrusion downhole, yielded 1.02 g Au/t and 0.7 g Ag/t.

The second hole from this set-up was angled at 60 degrees to the north. A strongly graphitic argillite intersection (58.00 to 87.50 metres) explained the EM anomaly in this case. An interval of semimassive pyrrhotite (60% pyrrhotite, trace pyrite) in the lower portion of this hole, i.e., beyond the deep penetration capacity of the EM survey, yielded 1.20 g Au/t and 0.6 g Ag/t.

GY90.13

Hole GY90.13 tested the western edge of the large conductive structure. Narrow intersections with minor pyrrhotite were intersected which may be insufficient to explain the conductor. The possibility exists that the conductor has been truncated at depth by the hornblende porphyry intrusion. No significant gold values were obtained from this hole.

## CONCLUSIONS

The Marc Zone is a transitional type gold mineralization with some skarn-type affinities. The mineralization occurs as lenses of irregular shaped morphology, the location of which is controlled by (intrusive) brecciation and deformation at the contact of the Goldslide Intrusion. The Goldslide Intrusion is believed to be of Lower Jurassic age. Gold is closely associated with pyrite which occurs in semi-massive to massive aggregates, stringers, veinlets, and disseminations. Associated sulfide minerals are sphalerite, pyrrhotite, arsenopyrite, chalcopyrite, galena, and tetrahedrite. Native gold and electrum are closely associated with tellurides. The host rocks are strongly sericitized and moderately silicified (intrusive) breccias, fine-grained hornblendewell interbedded sedimentary plagioclase porphyry, as as and pyroclastics rocks (Lower Jurassic Unuk River Formation of the Hazelton Group).

Drilling to date has tested the Marc Zone for 350 metres along strike. The 1990 program outlined about 150 metres of continuous mineralization along strike in the central portion of the zone and has, in addition, indicated a similar zone of gold mineralization further to the north (Section 2+25N to 2+75N). The single holes drilled on section 2+00N and 2+75N are insufficient to delineate mineralization, given its complex morphology.

A separate, sphalerite-rich zone occurring up to 200 metres vertically above the Marc Zone gold mineralization was intersected in the holes on sections 2+00N to 2+75N. It appears to be related to the latter by zonation within the same hydrothermal system.

A good correlation between geophysical anomalies and anomalous gold values was obtained in some of the geophysical holes (GY90.08, 09, 12) drilled during this program.

### RECOMMENDATIONS

Further drilling should be considered for the Marc Zone during the next exploration phase at Red Mountain. The main objectives would be to confirm and refine the interpretation of the morphology of the mineralization as well as to extend the zone both along strike and downdip. One area to be drill-tested is the "East Lens" intersected in hole MC89.06 at the southern limit of the area drilled to date. Another area for drill testing would be west of the intersection in hole MC90.43 (Section 1+25N).

A detailed structural study of the Marc Zone area should be initiated to define the ore-controlling structures as well as the postmineralization structures. The results of this study will be crucial for further drill planning.

Additional geophysical targets should be drill tested in the area of the extensive conductive sheet west of the Marc Zone. Some of the more subtle geophysical anomalies could also be considered for drill testing.

# 6.0 COST STATEMENT

# 1990 RED MOUNTAIN DIAMOND DRILL PROJECT

Salaries and wages	178,249.95
Meals	1,857.57
Travel and accommodation	33,672.16
Vehicle rental and expenses	1,088.54
Camp Expenses	16,100.00
Camp and field equipment	36,518.42
Diamond Drilling	1,687,421.32
Aircraft Charter Fixed Wing	17,466.05
Aircraft Charter Rotary	111,137.78
Assays and Analyses	166,666.87
Postage, courier and shipping	18,325.27
Equipment rentals	20,173.10
Equipment repairs and maintenance	157.85
Office supplies	838.37
Reproduction, drafting, photos, and maps	9,267.46
Computer rental	5,697.27
Computer supplies	1,557.44
Telephone and fax	415.03
Report preparation (Estimate)	 3,000.00
Total Expenditures	\$ 2,309,610.40



## 7.0 CERTIFICATE OF QUALIFICATION

I, Andreas Hans Vogt, of 3342 West 7th Avenue, Vancouver B.C. do hereby certify that:

- 1. I have studied Mining Geology at the Universities of Muenchen and Goettingen (both West Germany) and the Austrian Mining University in Leoben and have received a M.Sc equivalent in Mining Geology from the Austrian Mining University in December of 1982.
- 2. I am a fellow in good standing of the Geological Association of Canada.
- 3. I am a member of the German Geological Society, Geological Society of America, Computer Oriented Geological Society, Society for Geology Applied to Mineral Deposits, affiliated member of the Association of Exploration Geochemists.
- 4. I have continuously practised my profession since my graduation in Canada, Spain, West Germany, Cyprus, Austria, and Chile.
- 5. I am employed by Bond Gold Canada Inc..
- 6. The statements in this report are based on field work and office compilation on the Red Mountain property. The field work was carried out from July 20 to September 30, 1990, the office compilation from November 20 to December 07, 1990. I have personally conducted or supervised the work described in this report.

Dated at Vancouver this 10th day of December, 1990.

- 31 -

Certificate - Saeed H. Nisyif

I, Saeed H. Nisyif of the city of Vancouver in the Province of British Columbia, do hereby certify that:

- 1. I graduated in 1986 from the University of Rajasthan, Jaipur, India with a M.Sc. in Geology;
- 2. I have worked as a geologist in Udaipur, India and British Columbia since June 1986;
- 3. I have assisted in logging drill core from the Red Mountain property in the period of July 20 to September 30, 1990.

Dated at Vancouver, Province of British Columbia, this 27th day of November, 1990.

A.A.L

Saeed H. Nisyif, M.Sc.

#### <u>CERTIFICATE</u>

I R.A. Campbell, of the City of Hamilton, Province of Ontario do hereby certify that:

- 1) I reside at 18 Donegel Place, Hamilton, Ontario.
- 2) I am a graduate of the University of California at Santa Barbara with a Bachelor of Arts Degree (1978) in Geology and the University of Western Ontario with a Master of Science Degree (1985) in Geology.
- 3) I have worked as a geologist for the past twelve years in the United States and Canada.
- 4) I am employed by LAC Minerals Ltd.
- 5) I have assisted in logging drill core from the Red Mountain property from August 14th to September 7th, 1990.

R. Anderson Campbell

R.A. Campbell

Dated at Toronto this twenty-sixth day of November, 1990.

I, Jane Wegenast, of the city of Toronto, in the province of Ontario, do hereby certify that:

I graduated in 1983 from Queen's University,
Kingston, Ontario, with a Bachelor of Science in
Geology.

2. I have worked as a geologist throughout Canada and in Finland and Costa Rica since 1983.

3. I have assisted in logging core from the Red Mountain Property, British Columbia, in the period August 8th -September 4th, 1990.

Dated in Toronto, province of Ontario, December 10th, 1990.

Jane Wegenast B.Sc.

Certificate of Qualifications - Eric Timoshenko

I, Eric D. Timoshenko of the City of Brampton in the Province of Ontario, do hereby certify that:

1. I graduated in 1985 from the University of Waterloo, Waterloo, Ontario with a B.Sc. in Geology;

2. I have worked as a geologist in various areas of Canada since June, 1986.

3. I assisted in logging drill core from the Red Mountain property between August 7 and October 1, 1990.

Dated at Brampton, Province of Ontario, this 13th day of December, 1990.

Timorlarko



Eric Timoshenko

#### 8.0 REFERENCES

ALLDRICK, D.J. (1984): Geologic setting of the precious metal deposits in the Stewart Area; in: Geological Fieldwork 1983, BCMEMPR, Paper 1984-1, p. 149-164

ALLDRICK, D.J. (1985): Stratigraphy and Petrology of the Stewart Mining Camp (104B/1); in: Geological Fieldwork 1984, BCMEMPR, Paper 1985-1, p.316-341

ALLDRICK, D.J. (1989): Geology and Mineral Deposits of the Salmon River Valley - Stewart Area, 1:50,000. BCMEMPR Open File Map 1987-22.

ALLDRICK, D.J. (1989): Volcanic Centres in the Stewart Complex (103P and 104A,B); in: Geological Fieldwork 1988, BCMEMPR, Paper 1989-1, p 223- 240.

ALLDRICK, D.J., GABITES, J.E. and GODWIN, C.I. (1987): Lead Isotope Data from the Stewart Mining Camp; in: Geological Fieldwork 1986, BCMEMPR Paper 1987-1, p. 93-102

ALLDRICK, D.J., BROWN, D.A., HARAKAL, J.E., MORTENSEN, J.K. and ARMSTRONG, R.L. (1987): Geochronology of the Stewart Mining Camp (104B/1); in: Geological Fieldwork 1986, BCMEMPR, Paper 1987-1, p. 81-92.

ANDERSON, R.G. (1989): A stratigraphic, plutonic, and structural framework of the Iskut River Map Area, northwestern British Columbia; in: Current Research, Part E, Geological Survey of Canada, Paper 89-1E, p. 145-154.

ANDERSON, R.G. and THORKELSON, D.J. (1990): Mesozoic stratigraphy and setting for some mineral deposits in Iskut map area, northwestern British Columbia; in: Current Research, Part E, Geological Survey of Canada, Paper 90-1E, p. 131-139

BROWN, D.A. (1987): Geological Setting of the Volcanic-hosted Silbak Premier Mine, Northwestern British Columbia; Unpublished M.Sc Thesis, The University of British Columbia, 216 pages

BURTON, A. (1977): Report on the Jack Mineral Claim, Skeena Mining Division B.C., Zenore Resources Inc.; BCMEMPR Assessment Report # 6,580



BURTON, A. (1978): Report on the Jack Mineral Claim No. 345, Skeena Mining Division B.C., Zenore Resources Inc.; BCMEMPR Assessment Report # 7,152

DOWNING, B. (1980): Reconnaissance Work, 1979 - Stewart Area, N.T.S. 103P, 104A, 104B/9; unpublished report

GROVE, E.W. (1986): Geology and Mineral Deposits of the Unuk River-Salmon River-Anyox Area; BCMEMPR, Bulletin 63, 434p

GROVES, W.D. (1985): Report on the Camb Claims, Upper Bromley Glacier - Bitter Creek - Stewart Area, for Aaron Enterprises Ltd., Vancouver

HEAH, T. (1984): Geology and Geochemistry of the R.H.S., Skeena Mining Division B.C., Falconbridge Limited; BCMEMPR Assessment Report # 12718

KRUCHKOWSKI, E.R. (1984): Geological Report on the Camb 1-10 Claims, Northern B.C., for Billikin Resources Inc.; BCMEMPR Assessment Report # 12,275

McDONALD, D. (1989): Metallic Minerals in the Silbak Premier Silver-Gold Deposits, Stewart; in: Geological Fieldwork 1987, BCMEMPR, Paper 1988-1, p. 349-352

McDONALD, D. (1990): Temperature and Composition of Fluids in the base metal rock Silbak Premier Ag-Au Deposits, Stewart, B.C.; in: Geological Fieldwork 1989, BCMEMPR, Paper 1990-1, p. 323-335

RANDALL, A.W. (1988): Geological Setting and Mineralization of the Silbak Premier and Big Missouri Deposits; in Field Guide Book, Major Gold-Silver Deposits of the Northern Canadian Cordillera, Society of Economic Geologists, p 85-99

REEVE, A. (1967): Geological and Geochemical Investigation of the MOS2 Claim Group, Skeena Mining Division B.C., Erin Explorations Ltd.; BCMEMPR Assessment Report # 1,588

VOGT, A. (1990): Report on Geological, Geochemical Exploration and Diamond Drilling at the Red Mountain Property. BCMEMPR Assessment Report

# APPENDIX A

# LEGEND FOR DRILL SECTIONS

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RT	ROCKTYPE	ALT	GEOLOGICAL LEG	END F INT		ECTIONS	MIN	MINERALIZATION	SU
	PYROCLASTICS	A	chloritic			,		PYRITE	······································
1	ASH/DUST TUFF -1/16mm	B	epidote	i.	very weak	(matrix)	a	disseminated	X
2	CDARSE ASH TUFF -2mm	C	carbonate	. 2	weak (mat	rix)	Ъ.	diss.cubic pyrite	7.
3	LAPILLI TUFF -64mm	D	albite	3	weak (phe	nos)	c	stringers	X.
4	AGGLOMERATE +64mm	E	propylitic	4	weak (mat	rix+phenos)	d	diss + stringers	7
5	CRYSTAL TUFF	F	sericitic	5	patchy		е	qtz/cc stringers	%
		6	silica/cherty	6	moderate		• f	small pods	7,
	INTRUSIVE ROCKS	H	silica/stwork	7	strong		9	veinlets	%
6	HBL PORPHYRY	Ĺ	phyllic	8	pervasive	(NRT)	ħ	semi-massive	X
7 ″	HBL FORPHYRY DYKE	ĸ	tourmaline			* s	· i	massive	X
8	HBL/FLAG FORPHYRY	L	adular			· · ·		, 1 X 1	
9	KSPAR GRANODIORITE	M	biotite			•		PY AND FO	`•
10	APLITE DYKE	N	potassic	•	:		k	disseminated	7.
11-	ANDESITIC DYKE	0	argillic			· · · ·	1	stringers	7.
12	QUARTZ DIORITE	Ρ.	clay,				ត	diss + stringers	- 7.
		Q .	pyrite			• .	n	small pods	7.
·	SEDIMENTARY ROCKS	R	hornfels				o	veinlets '	7,
13	ARGILLITE	T	limonitic		· * *		p.	semi-massive	7
14	SHALE	U	MnOx		1		q	massive	Z
15	FOSSILIFEROUS LIMESTONE					,			•
16	CHERT							PY/PO +SPH/6A	
17	GREYWACKE						r	disseminated	1
18	CONGLOMERATE		•				s	stringers	7,
. 19	HETEROLITHIC BRECCIA			· .			٠t	diss + stringers	X
20	SANDSTONE		1997 - 1997 - <b>1</b> 99				u	small pods	7.
				,			v	veinlets	X
MS	MASSIVE SULFIDES		· · · ·				W	semi-massive	· %
FZ	FAULT ZONE		· · · · · ·			· ·	x	massive	X
BX	BRECCIA				1	•	1.		
· ##	BROKEN CORE					· · · ·		and the state of the	