A REPORT ON THE

EARLY BIRD CLAIMS

Skeena Mining Division British Columbia

N. T. S.

103-C-16/E

Latitude:

52° 57.5' N

Longitude:

132⁰ 11' W

for

O'BRIEN-EVERGREEN JOINT VENTURE

bу

R. W. WOOLVERTON, P. ENG. EVERGREEN EXPLORATIONS LTD.

SUMMARY

Between 1852 and the turn of the century, two small but apparently very high-grade gold-bearing stringer veins were found on the shore of Mitchell Inlet, near the west coast of the Queen Charlotte Islands.

In 1981, the larger of the two deposits was unsuccessfully drill tested for depth extensions. Subsequent geochemical surveying and limited follow-up prospecting has so far found two new gold-bearing veins. A wide, pyritized, and geochemically-anomalous shear structure was also located.

The mineralization at Mitchell Inlet resembles the "upper ores" described by Gross in the stacked epithermal deposits at Guanajuato, Mexico, suggesting the possibility of larger gold deposits about 50 metres below the known stringer-vein deposits at Mitchell Inlet.

LIST OF CLAIMS - EARLY BIRD GROUP

<u>Claim</u>	No. of Units	Record Number	Expiry Date
Early Bird 1	1	1705	September 11/91
Early Bird 2	1	1706	September 11/91
Early Bird 3	1	1707	September 11/91
Early Bird 4	1	1708	September 11/91
Early Bird 5	8	3015	April 27/92
Early Bird 6	16	3016	April 27/92
Early Bird 7	12	3017	April 27/92
Early Bird #1 F	r.	3018	April 27/92
Early Bird #2 F	r.	3019	April 27/92

TABLE OF CONTENTS

SUMMARY SUMM			Page			
INTRODUCTION 1 Location 1 History 1 GEOLOGY 9 MINERALIZED AREAS 9 Camp Beach 9 McLellan's Mine 11 Hudson Bay's Workings 15 Hudson Bay South 17 American's Cut 17 GEOCHEMISTRY 22 CONCLUSIONS AND RECOMMENDATIONS 23 REFERENCES 25 Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Pird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 6 Figure 4 Camp Beach Area 8 Figure 5 Orilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	SUMMARY					
Location	LIST OF CLAIM	MS Control of the con				
MINERALIZED AREAS . 9 Camp Beach . 9 McLellan's Mine . 11 Hudson Bay's Workings . 15 Hudson Say South . 17 American's Cut . 17 GEOCHEMISTRY . 22 CONCLUSIONS AND RECOMMENDATIONS . 23 REFERENCES . 25 Figure 1 Location Map . 2 Figure 2 Sketch Plan & Section of the Early Pird Group by Mandy, 1932, Minister of Mines . 4 Figure 3 Silt Sample Survey . 6 Figure 4 Camp Beach Area . 8 Figure 5 Drilling at McLellan's Mine . 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) . 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico . 14						
MINERALIZED AREAS 9 Camp Beach 9 McLellan's Mine 11 Hudson Bay's Workings 15 Hudson Bay South 17 American's Cut 17 GEOCHEMISTRY 22 CONCLUSIONS AND RECOMMENDATIONS 23 REFERENCES 25 Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Pird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	History		. 1			
Camp Beach	GEOLOGY		. 9			
McLellan's Mine	MINERALIZED /	AREAS	. 9			
Hudson Bay's Workings	Camp Bead	ch	. 9			
Hudson Bay South	McLellan	's Mine	. 11			
American's Cut	Hudson Ba	ay's Workings	. 15			
GEOCHEMISTRY	Hudson Ba	ay South	. 17			
CONCLUSIONS AND RECOMMENDATIONS	American	's Cut	. 17			
Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Bird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	GEOCHEMISTRY		. 22			
Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Bird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 6 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	CONCLUSIONS AND RECOMMENDATIONS					
Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Bird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 6 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	DEFEDENCES		25			
Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Bird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	REFERENCES .	· · · · · · · · · · · · · · · · · · ·	. 25			
Figure 1 Location Map 2 Figure 2 Sketch Plan & Section of the Early Bird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	FIGURES					
Figure 2 Sketch Plan & Section of the Early Bird Group by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14		1200120				
by Mandy, 1932, Minister of Mines 4 Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	Figure 1	Location Map	2			
Figure 3 Silt Sample Survey 5 Figure 4 Camp Beach Area 8 Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	Figure 2	· · · · · · · · · · · · · · · · · · ·				
Figure 5 Drilling at McLellan's Mine 10 Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	Figure 3		5			
Figure 6 Section DDH 4 and 5 (McLellan's Mine) 12 Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	Figure 4	Camp Beach Area	8			
Figure 7 After W.H. Gross - Longitudinal Sections from Guanajuato, Mexico 14	Figure 5	Orilling at McLellan's Mine	10			
from Guanajuato, Mexico 14	Figure 6	-				
	Figure 7		14			
FIGURE O SECTION BUT O 400 A FUNCTION PAY A MOLKINGAL TO	Figure 8	Section DDH 8 and 9 (Hudson Bay's Workings)	16			

TABLE OF CONTENTS (CONTINUED)

		Page
Figure 9	Hudson Bay South Area	18
Figure 10	American's Cut Area	20
Figure 11	Section DDH 10 (American's Cut)	21
Appendix I	APPENDICES British House of Commons Special Report, July, 1853.	
·	MAPS	
Map No. 1	Soil & Silt Geochemistry 1:1000 in	pocket

A REPORT ON THE EARLY BIRD CLAIMS

INTRODUCTION

Location

The EARLY BIRD Claims (Figure 1) are on the west side of Mitchell Inlet, near the west coast of Moresby Island, Queen Charlotte Islands, B. C., about 40 kilometres southwest of Sandspit. From the Sandspit Airport, they are accessible by both amphibious fixed-wing aircraft and helicopter. They can also be reached by boat from a logging road at Peel Inlet, 5 kilometres northeast of EARLY BIRD. One bridge on the road between Peel and Sandspit is limited to 10 tons.

Most of the shoreline of Mitchell Inlet is steep and rocky, with only a few small gravel beaches suitable for camping and off-loading aircraft. Local relief at the two old mine sites is only about 300 feet, although there are 1500 foot ridges nearby.

History

Around the middle of the last century, Haidas from the Queen Charlotte Islands began trading specimens of gold "ore" at the Hudson's Bay Post north of Prince Rupert. In July, 1851, the Hudson's Bay schooner Una was sent to Mitchell Inlet to find the source of the Haida's gold. As well as examining the vein from which the gold was taken, an additional 60 ounces was obtained by barter during their stay (P. 1, British House of Commons Special Report--see Appendix I to this report). One specimen of almost pure gold that they were unable to strike a deal on weighed 1 lb. 11 oz.

The Una returned to Mitchell Inlet in October and HBC employees began mining the vein, apparently the first hard-rock mining by Europeans in the

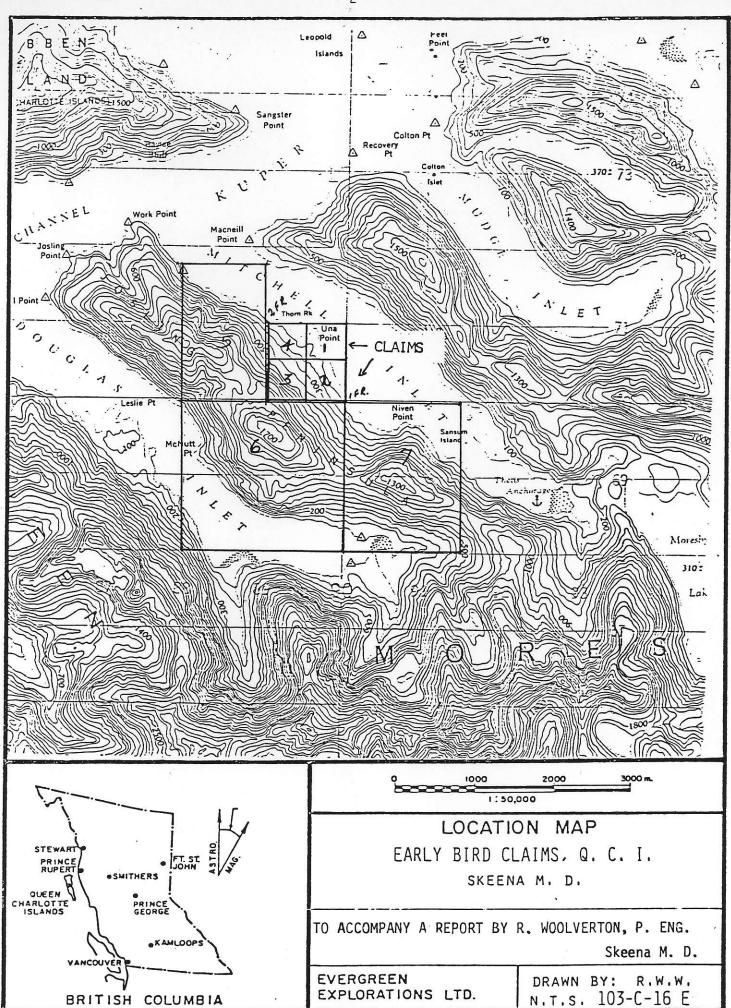


Figure 1

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Pacific Northwest. Specimens of 25% gold (P. 3, British House of Commons Special Report) were recovered. Increasing hostility from the Haidas limited the mining to 15 days. On its return trip to Victoria, during a storm on December 24, the Una and its' gold cargo were lost on a reef near Cape Flattery.

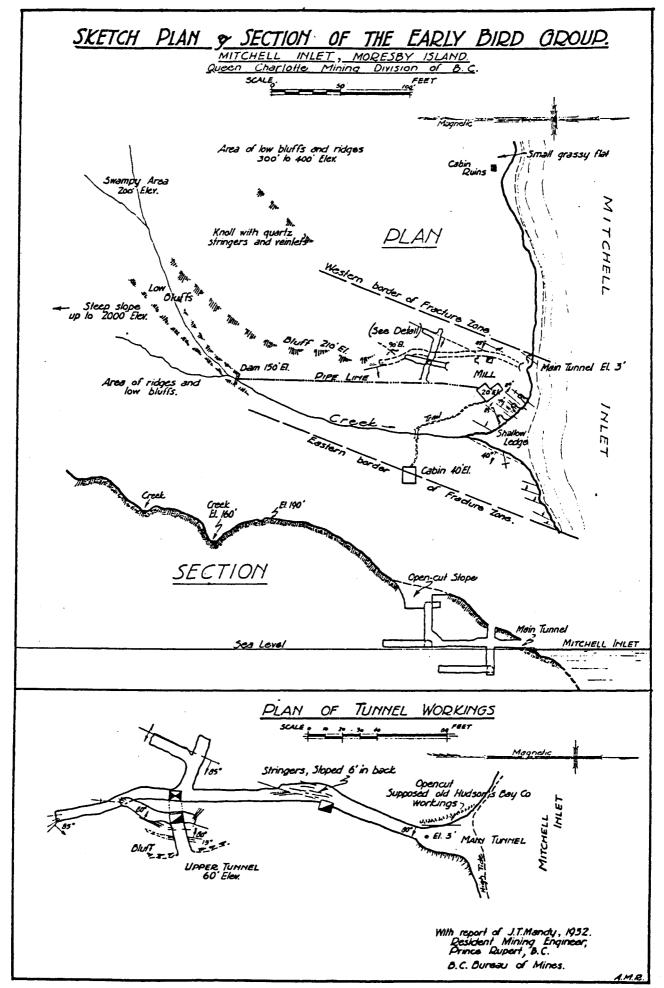
The HBC brig Recovery was sent to Mitchell Inlet the following spring and mining resumed under a more amicable arrangement with the Haidas. As well, the British frigate HMS Thetis spent the summer of 1852 "surveying" the general area. Sometime that summer the high grade ran out.

Also during 1852, seven U.S. vessels visited Mitchell Inlet. One group set up camp on "Nutts Island" and began working a vein "not far from that of the Hudson's Bay Company", but "had not found sufficient gold to make it worth their while to continue" (P. 11, British House of Commons Special Report). This vein is probably the one exposed in the most southerly old working that the present owners have named the "American's Cut".

The HBC tried again in 1859, when they sent William Downie to Mitchell Inlet with 27 men. They unsuccessfully explored the old open cut and nearby inlets. In 1906, two mining engineers, John McLellan and F.J. Bourne, found a "small rich vein in nearby quartz" and staked the first EARLY BIRD Claims (Dalzell, Book 2, P. 262).

The description of McLellan's EARLY BIRD Mine, on page K77 in the 1909 Report of the Minister of Mines, states in part that "the quartz vein, although small, contains innumerable specs of free gold, no difficulty being experienced in finding it in any part of the vein exposed". "No general sample of the vein was taken for assay as it was so evidently rich". The gold was recovered by grinding the ore in an arrastre.

A stamp mill was installed in 1910 (Minister of Mines, 1918), powered by a water-driven pelton wheel. The mill feed was upgraded to plus 2 oz. by hand sorting. Additional ore was found on a lower level, but it was 30 feet below sea level and flooded. Production apparently ceased by



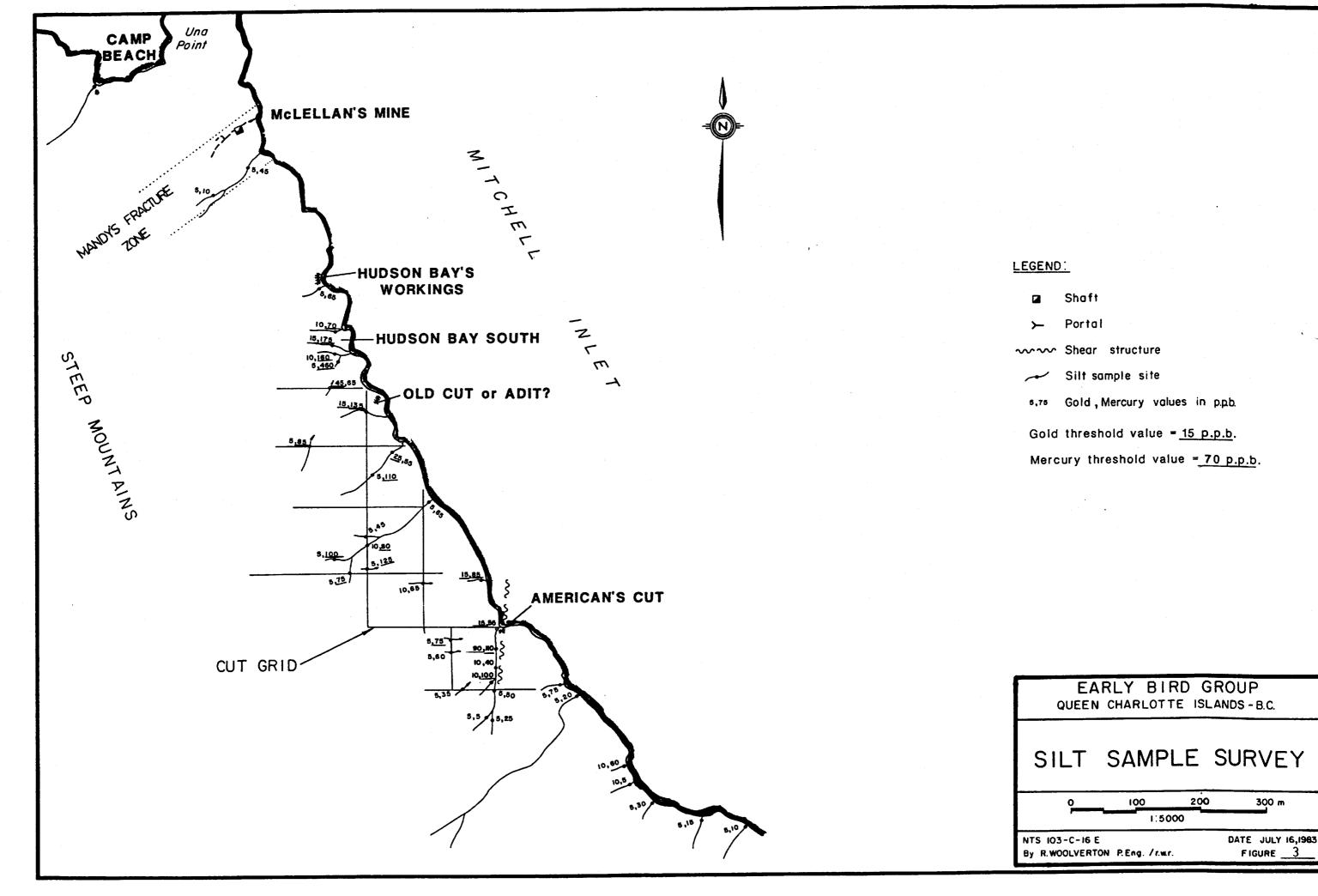
about 1920.

The only published thorough examination of McLellan's Mine was by J.T. Mandy (Minister of Mines Report, 1932, P. 41), the Resident Mining Engineer at Prince Rupert. He estimated about 200 tons of rock in the dumps, presumably the minus-2-oz. hand-sorted rejects, that "might contain good milling values". Unfortunately, he erroneously reported that the HBC Cut was immediately adjacent to McLellan's main portal, and accordingly misplotted it on his map (Figure 2).

A diesel-powered compressor and an amalgamating mill were installed by a Vancouver company in 1933. The dumps were milled during that season, and either "about" 140 ozs. (Minister of Mines, 1933, P. A39), or 53 ozs. (Minister of Mines, 1934, P. A16) was produced. Coincident exploration failed to located any new ore.

The last known production at EARLY BIRD was in 1939 by a Vancouver consultant, Dr. D.F. (Cap) Kidd. Although there is no record of his work, a 1930's-vintage compressed-air-powered water pump next to the flooded shaft, and air hoses protruding from the water, suggest that Kidd managed to mine the flooded ore shoot. Sutherland Brown reports Kidds "official" production at 150 ozs. from 15 tons of ore (B.C. Department of Mines Bulletin 54, P. 217). He also gives the EARLY BIRD production figures for the period 1907 to 1933 of 154 ozs. of gold from 172 tons. However, as previously noted, Mandy estimated 200 tons of mill feed in the dump, which was processed in 1933. Apparently, the government's figures apply only to these mop-up operations. In addition, the stope and open-cut volumes suggest production of about 1000 tons. Intriguingly, in the early 1960's, prior to his death, Kidd told Sutherland Brown (per. comm.) that he'd recovered \$100,000 worth of gold from the EARLY BIRD in 1939.

In 1979, four, one-unit claims were staked over McLellan's old EARLY BIRD mine by R.C. O'Brien of Port Clements, Queen Charlotte Islands. Assuming that the Haida-HBC open cut was at the portal of McLellan's main adit, as shown on Mandy's 1932 map, it appeared that these old workings

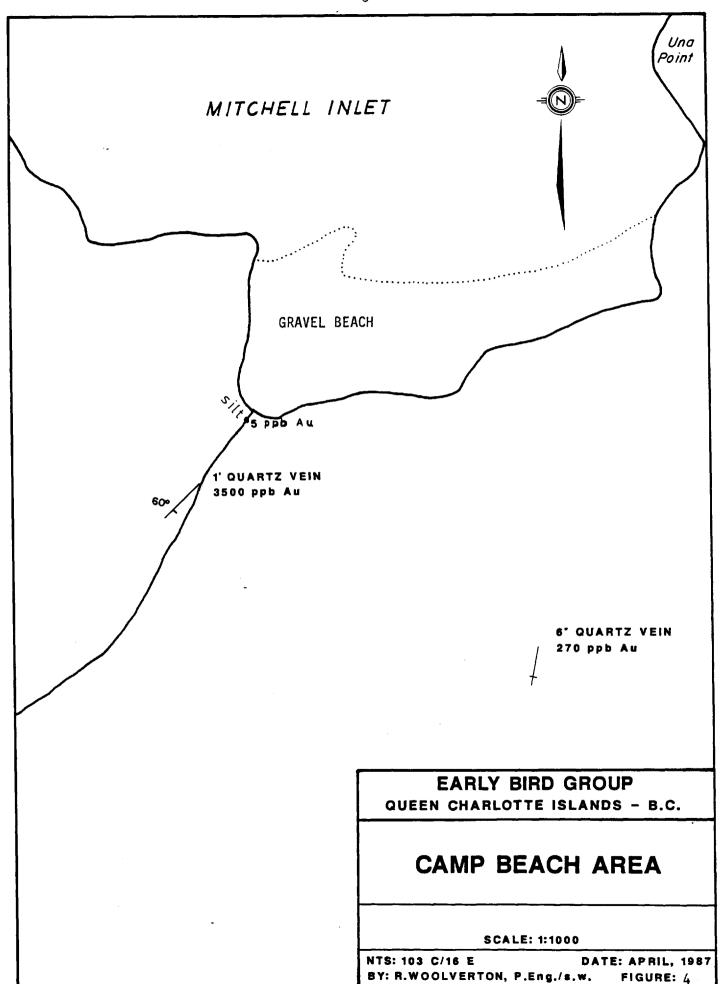


were the sum total of all the prospecting efforts over the years in the Mitchell Inlet area. Consequently, it was assumed that depth and strike extensions of McLellan's Mine were the best place to look for new ore.

The Charlotte Joint Venture (Canadian Mineral Corporation and Charlotte Resources Ltd., both of Vancouver, B. C.) decided to explore beneath McLellan's old mine. In March, 1981, a fan of six -450 and one -60° holes were drilled from the only readily-available surface drill site at the mine. The -450 holes passed about 10 metres below Kidd's flooded workings. During the drilling, some shoreline scouting inspired by a recently-acquired 1909 Minister of Mines reference, located the old Haida-HBC Cut on the shore of Mitchell Inlet, about 275 metres southeast of McLellan's Mine. In addition, visible gold was noted in quartz from an open cut near the beach, about 900 metres southeast of McLellan's Mine. The latter is probably the vein that was worked by several Americans in 1852. These two "new" showings are on steep, north-trending structures, in contrast to the north-easterly strike of McLellan's structure. Obviously, the search for new ore at Mitchell Inlet was no longer restricted to depth or strike extensions of McLellan's Mine. An additional 36 claim units were staked, as well as two fractions.

Two angle holes were drilled behind the HBC Cut, one easterly under the cut, the other westerly into the hill behind the cut. The last 1981 hole was drilled westerly, across the projected extension of the vein exposed in the American's Cut. All the rejects and pulps from the 1981 drilling were saved as well as the core, which is stored at Port Clements, Oueen Charlotte Islands.

About 4.5 kilometres of grid was cut in July, 1981. The grid covers the area adjacent to the shoreline of Mitchell Inlet, from a little less than a kilometre south of the American's Cut, north to within 150 metres of the HBC Workings. The northern half of the grid was soil sampled in March, 1982, and the streams draining the area of interest were silt sampled.



Several days of follow up and prospecting in 1984 revealed unworked gold-bearing quartz veins at Camp Beach, 200 metres northwest of McLellan's Mine, and at Hudson Bay South, about 100 metres south of the old Haida-HBC open cut. In addition, an old adit was found on the opposite side of Mitchell Inlet, about 1 kilometre north of the Haida-HBC site. Since its' more or less on strike, it could be part of the HBC system, although a sample of the silicified shear zone was not anomalous in gold.

GEOLOGY

The geology of the Queen Charlotte Islands is described in detail in the B.C. Department of Mines Bulletin 54 by A. Sutherland Brown.

The writer's work suggests that the Mitchell Inlet quartz veins cut Triassic Karmutsen volcanics, near a gently-northerly-dipping contact between an overlying pillow-lava sequence and an underlying volcanic fragmental. There may be occasional limestone lenses along the contact. The northern-most veins at Camp Beach and at McLellan's Mine are in the upper lava, whereas the vein in the American's Cut is in the underlying fragmental. Many well-developed pillows are evident around McLellan's Mine.

MINERALIZED AREAS

Camp Beach

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Camp Beach (Figure 4) is the easiest off-loading area for aircraft and the best campsite. South of the beach there's a gently-sloping heavily-treed area, about 75 metres wide and 100 metres long, that is bordered by steep but still overgrown slopes, with scattered rock-cliff exposures. Two anomalous quartz veins were located here in 1984.

About 300 metres from the beach, a northeasterly-trending steeply-dipping 1-foot-wide vein, is exposed in a rather steep creek that drains

a gorge from the southwest. A geochemical assay of this vein revealed 3500ppb gold, or about 0.1 ozs per ton. A six-inch northerly-trending and steeply-dipping quartz vein, containing 270ppb gold, was found just below the bluffs, about 70 metres south of the beach. Both veins probably continue under the overburden-covered slope behind the beach.

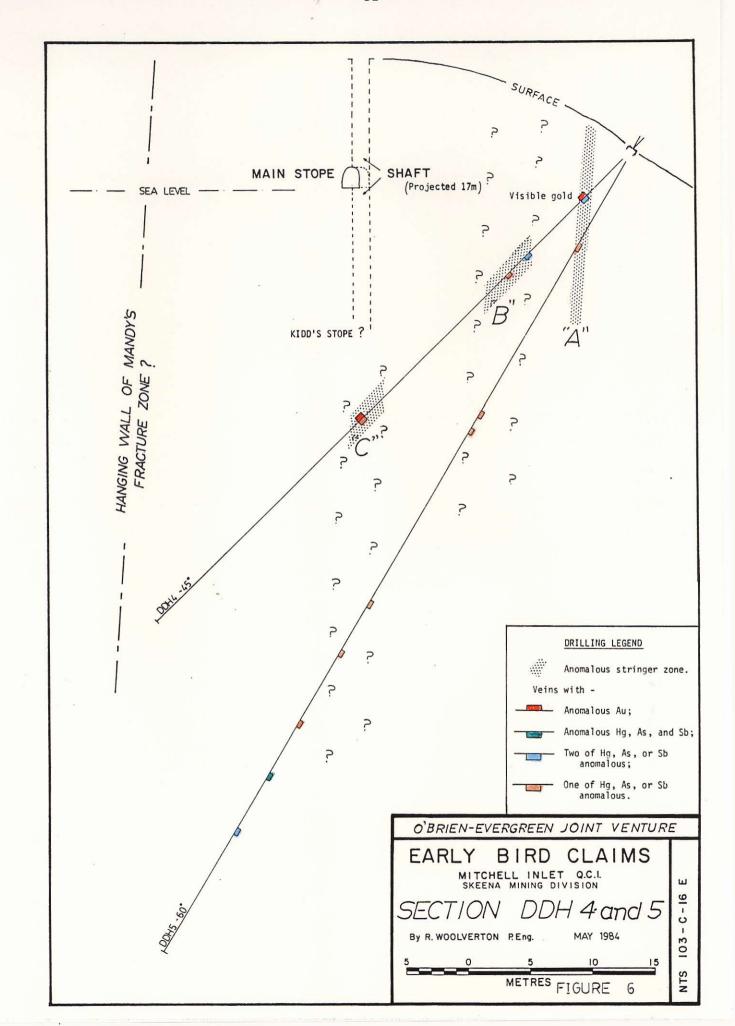
McLellan's Mine

Three small, steeply-dipping, high-grade ore shoots containing free gold, were mined (Mandy, B.C.M.M., 1932, P. A43) from two or three of the seventeen compound quartz-calcite stringer-vein systems, exposed within a "200-foot-wide" northeast-trending fracture zone on the shoreline of Mitchell Inlet. The main ore shoot is in a more compounded section of the stringer-vein system, where the "vein widens to 2 or 3 feet". Most of the individual stringers are only a few centimetres wide, often with slivers of wall rock between them.

The mineralized fracture system cuts regionally chloritized Karmutsen pillow lavas, with inter-pillow fillings of quartz and epidote. Except for a little bleaching, silicification, and pyritization immediately adjacent to quartz-carbonate stringer veins, the lavas were relatively unaltered by the mineralizing system.

The compound, grey (vapour inclusions?) stringer veins accompanied by specular hematite, the bleached zones, and the pyritized sections cut by the 1981 drilling, were assayed for gold and geochemically assayed for mercury, arsenic and antimony. A few were anomalous in gold with values up to 0.008 ounces per ton. Visible gold was noted in an 18 centimetre section of grey stringers, accompanied by pyrite and specular hematite, near the top of Hole #4. Surprisingly, the cut sample ran only 0.006 ounces per ton. Obviously, gold occurs only in the free state, and the nugget effect is enormous.

The 1981 drilling established that the main ore shoot pinches out below Kidd's workings. However, the fan of seven holes (Figure 5) revealed



at least three, sub-parallel, steeply-dipping, stringer-vein systems (A, B, and C on Figures 5 & 6), with sections that are anomalous in arsenic, antimony, mercury, and gold. Until the lower level is pumped out and Kidd's stope tied-in, its not clear if the ore shoots mined on the main and upper-adit levels are part of the "C" zone.

Significantly, gold was never reported, nor are there any old workings suggesting that gold was ever found, along strike on the 300-foot-high sloping bench immediately inland from McLellan's Mine. This topping-out feature of the EARLY BIRD environment was indirectly referred to by Mandy in 1932, when he noted that the "200-foot-wide fracture zone" containing the mine occurs in the "low-lying area". He apparently thought the lack of vertical continuity was due to the presence of "denser volcanics" on the hills. Abrupt topping-out is now recognized as a characteristic of epithermal deposits.

Because they are deposited from hot-spring eminations as they approach the earth's surface, epithermal deposits are surface controlled. Consequently, the upper ore shoots tend to top-out at about the same elevation. For example, many of the silver-gold veins at Pachuca, Mexico, top-out only a few hundred feet below the present surface, leaving only a few barren or poorly mineralized quartz stringers on surface. Sometimes, a fault or shear zone is the only surface expression of underlying ore shoots. At Guanajuato, Mexico, M.H. Gross classified the epithermal silver-gold-vein deposits according to their elevation above sea level. His "upper" ore bodies are the smallest. Up to 50 metres below them (Figure 7), but normally not joined to them, are the larger "lower" ore bodies. There is also a "deep" ore zone, in which there is considerably more chalcopyrite, sphalerite, and galena. Gross discovered several new "lower" ore deposits by drilling beneath mined-out upper ore shoots.

The EARLY BIRD stringer veins most resemble "upper" ore bodies. If McLellan's ore shoot was at the upper limit of deposition in the EARLY BIRD fracture system, then similar ore shoots along strike probably top-out before reaching the surface of the 300-400 foot-high bench behind

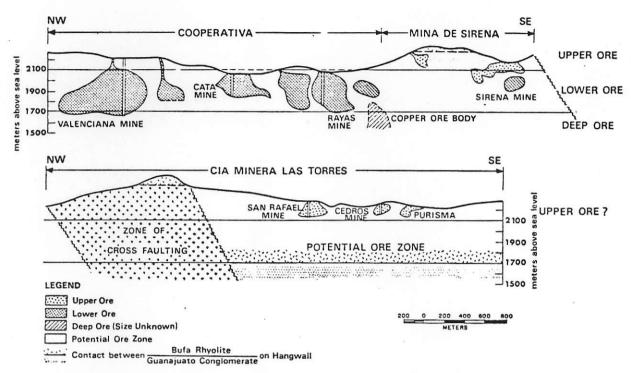


Fig. 4. Longitudinal section showing the approximate outline of the principal orebodies known in the Veta Madre fault-vein system prior to 1968, Guanajuato, Mexico.

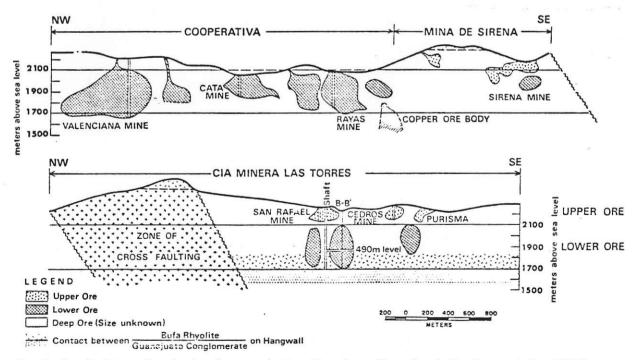


Fig. 6. Longitudinal section showing the approximate outline of new "Lower" orebodies discovered since 1968 by surface diamond drilling in the Cia. Minera Las Torres area of the Veta Madre fault structure.

After W.H. Gross LONGITUDINAL SECTIONS from Guanajuato, Mexico (Economic Geology, Vol. 70, 1975, p. 1175-1189)

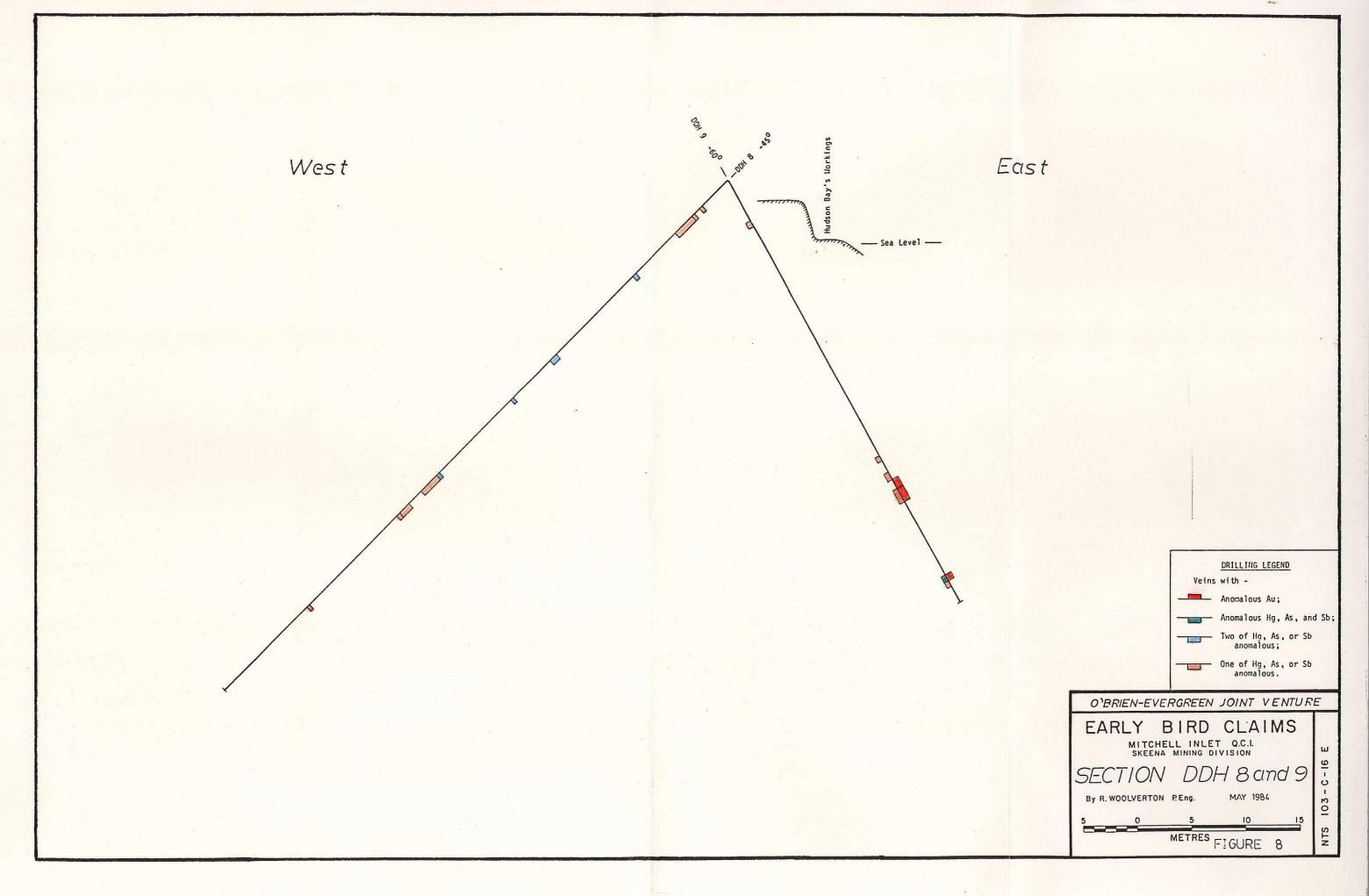
the mine. The only hint of their presence would be some of the more mobile trace elements, such as mercury or thallium, in chimneys developed upwards along the fracture system containing the blind ore shoots.

Hudson Bay's Workings

A northerly-trending, almost-vertical quartz-calcite stringer-vein system, was mined by a 30 metre-long open cut and two 3-metre-deep shafts, near the high-tide line along the steep, rock shoreline of Mitchell Inlet, about 275 metres southeast of McLellan's Mine. The shafts are about 30 metres apart, within a swelled section of the vein system where it reached a width of almost two metres. Slivers of country rock within the vein system are highly silicified and pyritized, whereas the wall rock on either side is chloritized. Epidote is also present in the wall rock, but is probably regional. The grey-coloured quartz-calcite stringers are accompanied by specular hematite. Yugs were noted with centimetre-long quartz crystals.

Two holes were drilled in 1981 from the same set-up (Figure 8), about 6 metres inland, behind and above the old workings. Hole #8 was drilled westerly into the hill at -45° , whereas Hole #9 was drilled easterly at -60° under the old HBC Workings. Quartz-carbonate stringer veins, with anomalous mercury, arsenic, and antimony, were present in both holes. In addition, anomalous gold values, as well as a little galena, were found in Hole #9, probably within the stringer-vein system that was mined on surface by the HBC.

There is noticeably less pyrite in Holes #8 and #9 than there is in either the adjacent HBC Cut, or in Holes #1 to #7 at McLellan's Mine. However, most of the pyrite zones that were cut in Holes #8 and #9 are related to anomalous stringer veins. The rock cut by Holes #8 and #9 is predominantly chloritized tuff, although some chloritized pillow lavas similar to those at McLellan's Mine, were noted near the bottom of DDH 8. The tuffs are apparently flat lying, as some good bedding was noted in the core.



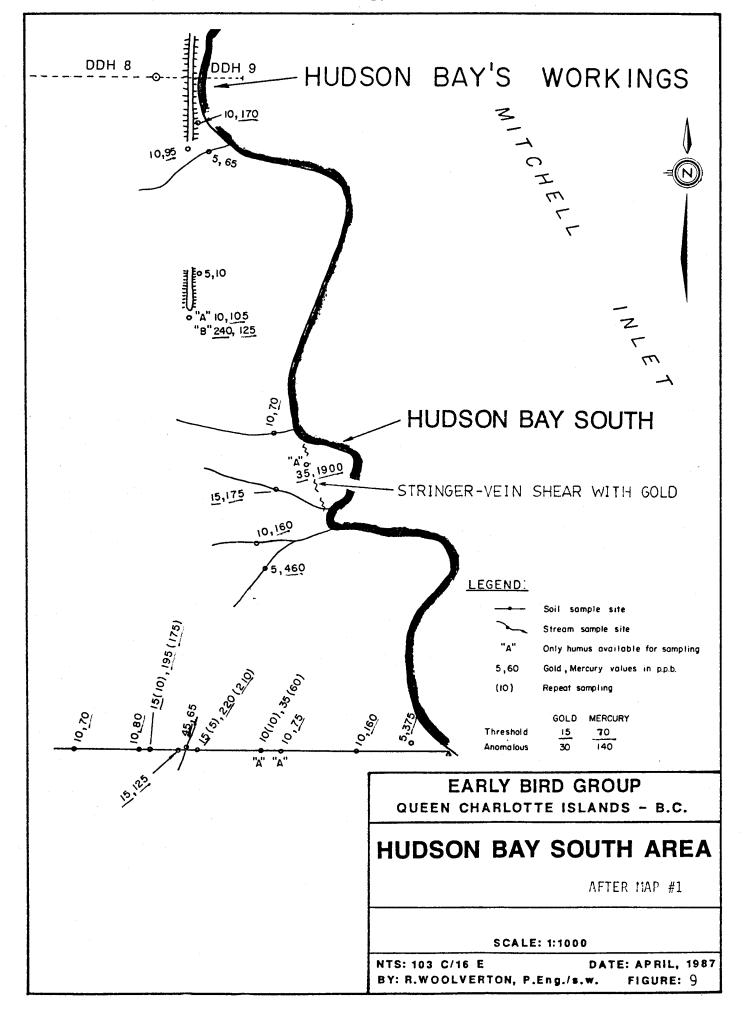
Hudson Bay South.

About 100 metres south of the old HBC Workings, an overburden-covered low-lying bench adjacent to the beach hides possible strike extensions of the HBC vein system (Map No. 1, and Figure 9). Consequently, the few seasonal drainages present were silt sampled. Three of the four samples were anomalous in mercury. In addition, a soil sample collected from a northerly-trending lineal depression near the beach, yielded 35ppb gold and 1900ppb mercury.

Later digging at the 1900ppb mercury site revealed narrow-quartz stringers in a shear zone under a foot of overburden. A 6-centimetre quartz vein was found in a near-by beach exposure. A later binoc examination of the quartz stringer revealed visible gold, including some that's apparently supergene. Several grains of visible gold were also found after slabbing the specimen from the beach vein. Significantly, there are several unprospected mercury and gold geochemical highs on Grid Line 4N, on the hillside about 50 metres south of the bench at Hudson Bay South.

American's Cut

At the edge of the bush in a small bay, about ½ kilometres southeast of Hudson Bay South, an old cut about 2 metres wide and 5 metres long follows a northerly-trending 15-centimetre-wide quartz vein that dips about 60° to the east. It's a single vein of white sugary quartz, with only occasional pyrite and infrequent specular hematite. In hand specimen, the wall rock is an unaltered massive volcanic fragmental. However, slabbing revealed some fracture filling by quartz and calcite, accompanied by minor pyrite. Visible gold was noted in one specimen of angular quartz from the dump on the beach. Similarly, the Americans apparently found enough gold in the 1850's to warrant excavating the cut, although the present vein face is barren.



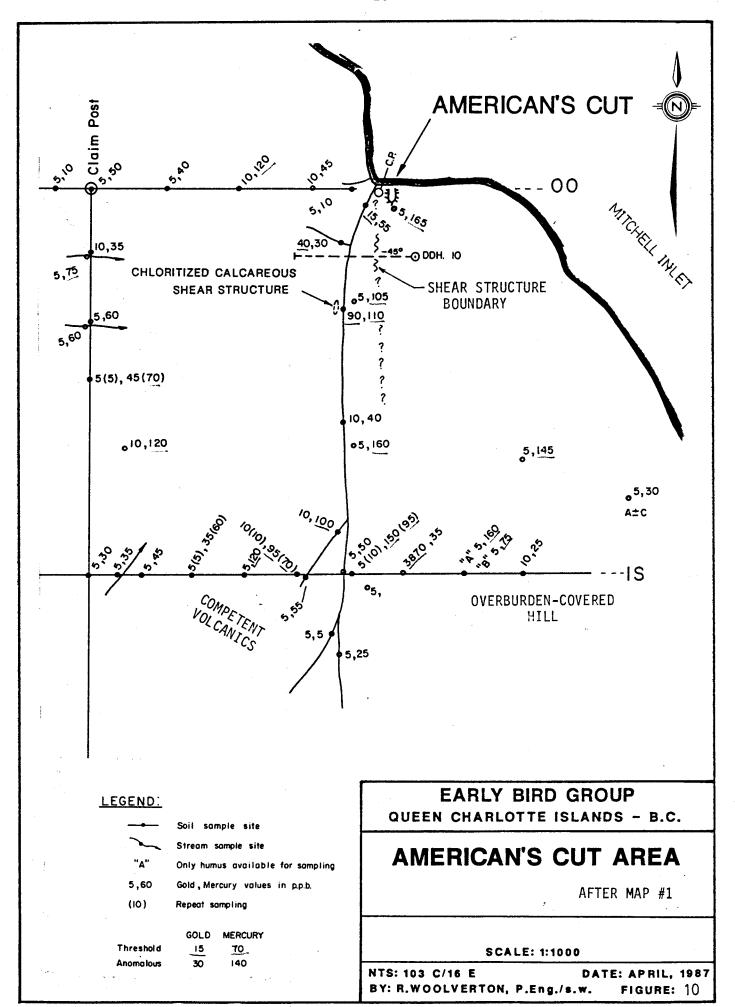
The southern extension of the American's vein was drill tested in 1981 by DDH 10, a -45° westerly-bearing hole from a set-up about 15 metres southeast of the American's Cut (Figure 10, and Map No. 1). The top third of the 46 metre hole cut competent, chloritized, but only slightly pyritized, volcanic fragmentals that may include some breccia-sized fragments as well as tuff. Although only the occasional quartz stringer was intersected where the American's vein should have been, two of the stringer zones were anomalous in trace elements.

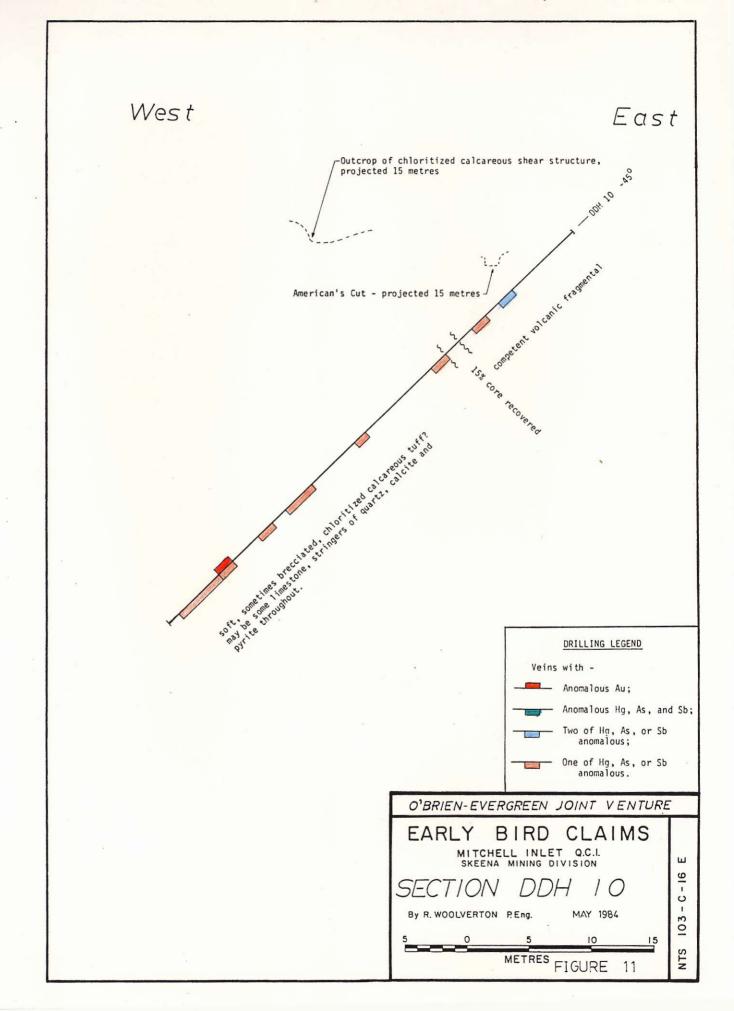
In contrast, the bottom two thirds of DDH 10 cut a much softer rock that did not core well, tending instead to crumble and block. The decrease in hardness is due to a marked increase in quartz-carbonate fracture filling, accompanied by the strongest pyritization located to date at EARLY BIRD. There may also be several thin lenses of limestone. The change in hardness coincides with a short section of significant core loss, probably due to shearing or faulting (Figure 11).

In addition, almost a third of the sheared and pyritized bottom two thirds of DDH 10 is anomalous in trace elements, and one five foot sample ran 0.004 ounces per ton gold. Curiously, the mercury background level in DDH 10 is 50% higher than in the other drill holes.

During the 1982 geochemical survey, several anomalous silt and soil samples were collected near this pyritized shear structure. Two silts taken from the creek that flows along the structure were anomalous in gold (15 and 90ppb). The 90ppb gold silt-sample site is adjacent to the only natural exposure of the shear structure.

One hundred metres south of the American's Cut, the projected strike extension of the pyritized shear structure is crossed by Grid Line 1+COS. The rock exposures are unaltered immediately west of the creek that flows along the shear structure, although local soils and silts have threshold mercury values. Within the 30 metre-long overburden-covered section of the line immediately east of the creek, one soil sample contained 3870ppb gold. A two-foot pit at the anomalous-sample site exposed weathered-





bedrock rubble with numerous small angular quartz fragments. A geochemically analysed sample of the rubble was not anomalous in gold.

GEOCHEMISTRY

Both silt (Figure 3) and soil sampling (Map No. 1) have so far been moderately successful at Mitchell Inlet. The stream adjacent to the American's Cut is anomalous in gold. It also has the lowest gradient of any of the major streams sampled, and it flows along the mineralized shear structure for over 100 metres, including a short section of sheared bedrock where the highest gold silt (90ppb) from the EARLY BIRD Claims was obtained. Conversely, Camp Creek obliquely crosses a foot-wide gold-bearing quartz vein, but a silt sample collected from the moderately-steep stream, about 15 metres downstream from the vein outcrop, was not anomalous is gold.

Mercury was chosen as a pathfinder as well as a useful back-up when there is no "B" horizon to sample, a fairly common problem on the steeper slopes. As a check, two soils, an "A" and a "B", were taken from the same undisturbed site, immediately along strike from the most southerly HBC Cut (Map No. 1). As expected, the mercury values in the two samples were comparable but, although the "B" sample registered 240ppb gold, the "A" sample contained only 10ppb gold. At Hudson Bay South, described earlier, visible gold was found in quartz stringers near a 1900ppb mercury soil sample that was logged in the field as "A" horizon. Since it also contained 35ppb gold, the sample probably included a little "C" horizon material. Conversely, in comparison to the width and apparent strength of the mineralized structure near the American's Cut, as well as the elevated mercury background levels within the structure, the mercury results from the surface soils and silts were disappointing. However, because of the relative lack of relief along the structure, the overburden may be saturated with water, thus inhibiting the upward migration of the mercury gas from the underlying rock.

Four obvious geochemical anomalies remain to be investigated (Map No. 1):

- 1) around the intersection of 1N and the 068W Baseline,
- 2) near the east end of 2N, where north-trending quartz stringers were noted in the creek,
- 3) around the intersection of 4N and the OB.L., where a northeast-trending rock slump or caving may be an old adit, and
- 4) about 70 metres west on the 4N Line, more or less on strike from the Hudson Bay's Workings.

Increased levels of both gold and mercury are locally present at all four sites, although usually not within the same sample. In addition, there are increased levels of only gold or mercury at several other locations within the grid.

CONCLUSIONS AND RECOMMENDATIONS

In the past, conventional prospecting at Mitchell Inlet located three gold-bearing beach exposures. Subsequent mining removed all of the readily-available small tonnages of apparently-rich ore. Limited follow up of recent geochemical prospecting, as well as a day or two of conventional prospecting beyond the beach, located two new gold occurrences. Obviously, more work is warranted.

The four remaining geochemical anomalies should be examined and trenched with explosives, unless further detailed fill-in sampling is required. In addition, several areas require more sampling because of elevated levels of either gold or mercury. All vein exposures in the Mitchell Inlet area should be sampled.

Considerable surface drilling and blasting is required to open up the veins at Camp Beach and Hudson Bay South. Some overburden trenching with explosives might be useful along the pyritized shear structure near the American's Cut, especially in the vicinity of the 3870ppb gold soil-

sample site. Ultimately, though, backhoe trenching, probably preceded by some fill-in sampling, will be required to thoroughly test the structure.

There is a high probability of finding more stringer-vein-hosted gold at EARLY BIRD. Of greater economic interest is the possibility that EARLY BIRD is one of Gross' "stacked" epithermal systems. Ultimately, every gold-bearing stringer-vein system should be investigated at depth by several 100-metre vertical drill holes.

Respectfully submitted,

R. W. WOOLVERTON, P. ENG.

C. Woobat

Burnaby, B. C. April, 1987.

REFERENCES

British House of Commons Special Report	(1853):	Discovery of Gold at Queen Charlotte's Island Page 1, 3, and 11
Dalzell, K. E.	(1973):	The Queen Charlotte Islands, Book 2, Page 262
Gross, W. H.	(1975):	Economic Geology Volume 70, Pages 1175-1189
Mandy, J. T.	(1932):	Minister of Mines Pages A41 and A43
Minister of Mines	(1909) (1918) (1933): (1934):	Page A39 Page A16
Sutherland Brown, A.	(1969):	B. C. Department of Mines Bulletin 54, Page 217

BRITISH HOUSE OF COMMONS SPECIAL REPORT, JULY, 1853.

QUEEN CHARLOTTE'S ISLAND.

RETURN to an Address of the Honourable The House of Commons, dated 16 June 1853;—for.

"COPIES or EXTRACTS of Correspondence relative to the Discovery of Gold at Queen Charlotte's Island."

Colonial Office, Downing street, July 1853.

FREDERICK PEEL.

(Mr. Peel.)

Ordered, by The House of Commons, to be Printed, 19 July 1853.

CORRESPONDECE relative to the Discovery of Gold in Queen Charlotte's Island.

- No. 1. --

EXTRACT of a DESPATCH from Governor Blanchard to Earl Grey; dated Victoria, Vancouver's Island, 18 August 1850.

No. 1. Gov. Blanchard to Earl Grey. 18 August 1859.

(Received 25 November 1850.)

"I HAVE seen a very rich specimen of gold ore, said to have been brought by the Indians of Queen Charlotte's Island, but I have at present no further

account of it."

- No. 2. -

Extract of a DESPATCH from Governor Blanchard to Earl Grey; dated Victoria, Vancouver's Island, 29 March 1851.

No. 2. Gov. Blanchard to Earl Grev. 29 March 1851.

(Received 8 July 1851.)

"I HAVE heard that fresh specimens of gold have been obtained from the Queen Charlotte islanders; I have not seen them myself, but they are reported to be very rich. The Hudson's Bay Company's servants intend to send an expedition in the course of the summer to make proper investigations."

— No. 3. —

EXTRACT of a DESPATCH from Governor Douglas to Earl Grey; dated Victoria, Vancouver's Island, 31 October 1851.

No. 3. Governor Dougias to Earl Grey. 31 October 1851.

(Received, 19 January 1852.)

"I have further to inform your Lordship that the natives have discovered gold in Englefield Bay, on the west coast of Queen Charlotte's Island. One of the Hudson's Bay Company's vessels visited the spot in the month of July last, and succeeded in procuring about 60 ounces of gold, principally by barter from the Indians. One lump of nearly pure gold, weighing 1lb. 11oz., was seen in the possession of one native, who demanded a price beyond its value, so that it was not purchased. The gold is associated with white quartz rock, similar to that of the auriferous deposits in California; it is yet found in small quantities; but I am of opinion that it exists abundantly in that and other parts of the island.

The report of that discovery having become known in this country, I am informed that several American vessels are fitting out in the Columbia for Queen Charlotte's Island, for the purpose of digging gold—a circumstance to which I would request your Lordship's attention, as it may be the desire of Government to exclude foreign vessels from that part of the coast."

to Earl Grey. 29 January 1852.

Governor Douglas Extract of a DESPATCH from Governor Douglas to Earl Grey: dated Victoria, Vancouver's Island, 29 January 1852.

(Received, 3 May 1852.)

"In my communication of the 16th December, of which I herewith transmit a duplicate, I informed your Lordship that several vessels had sailed, and that others were reported to be fitting out, in the American Ports of Oregon and California, for the coast of Queen Charlotte's Island.

These vessels are chartered by large bodies of American adventurers, who are proceeding thither for the purpose of digging gold: and if they succeed in that object, it is said to be their intention to colonise the island, and establish an independent government, until, by force or fraud, they become annexed to the United States. They look forward and are prepared to encounter much opposition from Her Majesty's Government, but they speak very confidently as to their numbers, which can be recruited to almost any desirable extent, from the floating population in California; and the ultimate success of their enterprise is considered by them as a matter admitting scarcely of a doubt. This report is believed, and the chances of success are openly discussed in the best-informed circles in Oregon.

One of the Hudson's Bay Company's vessels (the "Una"), which made a voyage to Mitchell's Harbour, on the west side of Queen Charlotte's Island, in November last, discovered a rich vein of gold, averaging 61 inches in width, bedded in quartz rock, running 80 feet parallel with the coast, and from thence apparently taking a direction towards the interior of the island; but it could not be traced beyond the point where it diverges from the line of coast, on account of the surface earth, which conceals it from view. The vein was worked for several days, by blasting, and rich specimens were procured, some of which vielded 25 per cent. of pure gold, and there was every prospect of making a profitable voyage, when the natives, attracted to the spot in great numbers, by the presence of the vessel, became so exceedingly troublesome to the parties on shore, by pilfering their tools, and by rushing tumultuously upon the mine from time to time as the explosions took place, to seize the gold which had been so hardly earned, that they could no longer carry on their operations without being in danger of their lives. The officer in command, influenced by the entreaties of the Indian chiefs, who, with much apparent good feeling, begged him to keep his men on board, and not permit them to land, as they found it impossible, amidst so many temptations, to restrain their people from committing those violent acts, his men at the same time having refused to work on shore, unless they were allowed to tire upon the Indians if they again attempted to maltreat or plunder them, left the coast, a decision made from the best of motives, but which has unfortunately left the field open to the American adventurers, who arrived there shortly after his departure; and, as the "Una" was wrecked at Cape Flattery, on her return to this place, and the Hudson's Bay Company had no other disposable vessel at hand to send there, the Americans still remain in possession of the gold region.

I have since learned, that the first American ship which arrived in Mitchell's Harbour remained only a few days, as the adventurers on board were intimidated by the hostile appearance of the natives, and would not venture on shore. Another smaller vessel was wrecked on the east coast of the island, and I have ascertained, through a letter from the master, received by Indian conveyance, that the whole party he had on board, consisting of 30 persons, had reached the shore in safety, and were living in a most wretched condition among the

Indians.

A vessel was lately despatched to their relief by the United States' authorities at Nesqually, with what success I have not yet heard. I have not been able to ascertain how many other American vessels have gone there, but I will inform

your Lordship as soon as I receive information regarding that matter.

While on the subject of Queen Charlotte's Island, I will further take the liberty of remarking to your Lordship that, apart from political considerations, and as a mere question affecting the prosperity of this colony, it would be highly important to exclude the vessels of foreign powers from that field of enterprise, leaving it open to national vessels alone; as in that case a flourishing trade would soon flow into this colony, which would then necessarily become a general place of refuge for the shipping employed on Queen Charlotte's Island, and find a market for all its farm and agricultural produce, in supplying the miners with food; on the other hand, if American vessels be admitted, they will draw their supplies, and carry the produce of the mines into their own ports in Oregon and California, to the manifest injury of Her Majesty's possessions in those quarters.

I have addressed a communication to Rear-Admiral Moresby,* informing him of the important discoveries made in Queen Charlotte's Island, and requesting him to take such measures as he may deem proper and advisable in the circum-

stances for the protection of British interests and national rights."

* Page 6.

Enclosure in No. 8.

Sir, Fort Simpson, 20 November 1851.

AFTER leaving Victoria, I proceeded with the "Una" to fulfil your instructions of 4th October 1851. We had a fine run to Queen Charlotte's Island of four days, after which, a gale of wind came on, which detained us off the place Cape Henry eight days, consequently we did not anchor in Mitchell's Harbour until the 20th October.

On the second day after our arrival, we commenced blasting the rock at the old place. We commenced in a vein of quartz, and were very successful; the rock proved to be rich with gold, as you will see by the specimens now forwarded per Doctor Kennedy. We followed the vein, and found it deeply impregnated with gold. The vein seems to take the direction up the mountain. In fact, our men went half way to the top, say 300 feet above the water, and found quartz rock, a specimen of which I now send you. In my opinion gold will be found in many places hereafter on the west side of the island, as quartz rock is to be found in every direction. We found it in four different places in Mitchell's Hurbour. but had no time to examine it. I am sorry to inform you that we were obliged to leave off blasting, and quit the place for Fort Simpson, on account of the annovance we experienced from the natives. They arrived in large numbers, say 30 canoes, and were much pleased to see us on our first arrival. When they saw us blasting and turning out the gold in such large quantities, they became excited, and commenced depredations on us, stealing the tools, and taking, at least, one-half of the gold that was thrown out by a blast; they would be concealed until the report was heard, and then make a rush for the gold; a regular scramble between them and our men would take place; they would take our men by the legs, and hold them away from the gold: some blows were struck on those occasions; the Indians drew their knives on our men often. The men who were at work at the vein became completely tired, and disgusted at their proceedings, and came to me on three different occasions, and told me that they would not remain any longer to work the gold; that their time was lost to them, as the natives took one-half of the gold thrown out by the blast, and blood would be shed if they continued to work at the diggings; that our force was not strong or large enough to work and fight also. They were aware they could not work on shore after hostility had commenced; therefore I made up my mind to leave the place, and proceed to this place.

The natives were very jealous of us when they saw that we could obtain gold by blasting; they had no idea that so much could be found below the surface; they said that it was not good that we should take all the gold away: if we did so, that they would not have anything to trade with other vessels, should any arrive: in fact, they told us to be off. The chiefs have no power over the lower order, and, of course, cannot prevent them from plundering or committing any act of violence on strangers. I will refer you to M'Gregor for information regarding the vein, &c., at the diggings, as he seems to have a good idea of the rock, and how the work should be carried on; he has behaved well, and was very zealous at his work.

The men said they should go again in the spring, if an expedition, properly fitted, should

start for working the gold on Queen Charlotte's Island.

In my opinion, should another expedition go to Queen Charlotte's Island, a force of, at least, 80 men would be required, with two officers to attend the land party; the ship also should have three officers, besides the captain, which I can prove by experience during our late visit to the gold district. The ship's crew, as well as the land party, should go on shares of the gold that may be collected, as it would prevent any one from trading gold. We had considerable trouble, during our stay at the island, to prevent the people from trading the ore. The natives brought a quantity of gold to me, which I traded, and now forward it, together with that which we obtained by blasting ourselves.

Very little, if any, gold will be obtained on Queen Charlotte's Island, except by blasting. It appears to me that some of the gold I traded was obtained on some other place than

that which we were at.

They, however, said that they had discovered gold in no other place than in Mitchell's Harbour: this report I much doubt, as the lumps are solid, and different from any other

that we found at the place we were at work on.

We have discovered and proved by this voyage, that gold is to be found in quantities at Mitchell's Harbour alone to pay an expedition to go there, and work it. I had no opportunity of examining the country much, as we remained but 15 days, during which time I was occupied with the Indians, as no one on board, except myself, could speak to them; we had some bad, hoisterous weather during the time also. I saw no place where we could build a fort anywhere near the diggings. The shores near the sea and harbours are bold, steep rocks, down to the water's edge.

Provisions will be found scarce at Mitchell's Harbour; no deer on the island, and fish appears to be very scarce, as they cannot catch them on the outside of the island, except during a calm, or a north-east wind. Potatoes can be had in large quantities, from the Skidigates tribe, who reside on the east side of the island, but can reach the diggings in two

days' travel in the summer season.

Should a fort be built, or a ship remain, at the diggings for a length of time, a large number of Indians would collect, and reside near at hand, and give annoyance; therefore a large force of men would be required for protection, and to work the gold; a person acquainted with Indians should lead the expedition, and have an interpreter.

The natives on the west, or outside of the island, are great marauders, and prey on distant

tribes, take many prisoners, and make slaves of them.

I hope you will be satisfied with the reasons I have given for leaving the diggings, and not remaining there so long as you wished.

The voyage has, however, done some good; we have ascertained that gold is to be found

by blasting to pay well for working it.

The best or purest gold is to be found deep down in the rock; we, however, had no time or chance to get at it, as we were obliged to leave, as stated before.

James Douglas, Esq.

I remain, &c.
(signed) W. H. M'Neill.

