Report on the

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SURFACE DIAMOND DRILLING PROGRAM

on the

PORCHER ISLAND GOLD PROPERTY

Skeena Mining Division Prince Rupert Area, B. C.

103J/2E

54⁰01½' North Latitude 13**6**⁰35½' West Longitude

principally on the Trixie Crown Grant - L 6515

between

September 1 and November 30, 1978

for

BANWAN GOLD MINES LIMITED 2560 A Simpson Road Richmond, B. C. V6X 2P9 273-0985

by

C. M. ARMSTRONG, P.ENG. CONSULTING ENGINEER 4085 West 29th Avenue Vancouver, B. C. V6S 1V4 224-7678

December 8, 1978



CONTENTS

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Page

INTRODUCTION	 1
LOCATION AND ACCESS	 1
GENERAL	 3
WORK DONE	 3
RESULTS	 4
COST STATEMENT	 6
CERTIFICATION	 7

APPENDIX

1.	Diamond	Drilling	Logs
		•	

- 2. Costs
- 3. Diamond Drilling Contract

ILLUSTRATIONS

Figure	1	Location, Claims	2
Figure	2	Surf Point Mine Area	I
Figure	3	Cross Section 50+00 E	n
Figure	4	Cross Section 51+00 E	Р 0
Figure	5	Cross Section 52+00 E	c k e
			t

INTRODUCTION

Banwan Gold Mines Limited has an agreement with Porcher Island Gold Mines Limited for the exploration and development of the former Surf Point Mine and Edye Pass Mine areas on Porcher Island.

Between September 7 and 9, 1978, at the request of Banwan, the writer and T. M. Waterland, P.Eng., president of Porcher, examined the surface and underground workings of both properties to familiarize the writer with the area.

Utilizing old mine plan data at a scale of 1"=50' (1:600) supplied by Mr. Waterland, the writer prepared north-south cross sections at the same scale at 100-foot intervals in the Surf Point Mine area, and proposed the drilling of a number of surface diamond drill holes to test the continuity of the auriferous pyrite-bearing quartz veins below the old mining level. Superior flexibility with respect to drill targets, and superior angles of intersections with the vein projections, dictated that the surface drilling be carried out in preference to underground drilling from the Edye Pass adit level 85 metres below the Surf Point Mine workings.

The writer returned to the property on October 6 to conduct a tape and compass survey (plus related line cutting and clearing) in order to locate accurately the proposed drill hole collars, and to clear a helicopter landing site and first drill-hole site. Following a period of inclement weather which made it impossible to unload the barge by helicopter in Welcome Harbour, 1 kilometre west of the Surf Point Mine area, on October 17 the first drill hole was collared.

Considerable rain, and gale force southeast winds, with gusts in excess of 100 kilometres per hour, coincided with disasterous flooding in the Hazelton-Terrace-Prince Rupert areas. The fourth and last drill hole was completed on November 3, yielding a total of 624 metres of BQ wireline diamond drilling. The 3-tent camp was secured, and all equipment stored in anticipation of continued exploration activity early in 1979. Inclement weather prevented helicopter demobilization of the drillers and their gear, and, after waiting for 2 days, the drillers were removed by float plane. The writer completed survey work and test geophysical work, and, together with the drillers' gear, was demobilized by helicopter on November 12, arriving in Vancouver by truck on November 14.

LOCATION AND ACCESS

Figure 1, a portion of NTS map 103J/2 East, Stephens Island, at a scale of 1:50,000, shows the location of the old Surf Point Mine and Edye Pass Mine, and the expanded Porcher claim group. The Trixie Crown Grant, L 6515, on which all diamond drilling was conducted, is shown in red.

Access to the property is by boat, float plane, or helicopter 40 kilometres southwest of the Seal Cove terminal in Prince Rupert. the property is approximately 740 kilometres northwest of Vancouver.

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GENERAL

Data pertaining to the former Surf Point Mine consists of monthly reports by R. E. Legg, manager, for ther period July 1933 to January 1937, surface and underground diamond drilling logs from March 1934 to April 1936, B.C. Minister of Mines Reports from 1916 to 1939, and miscellaneous reports and investigations. The only plan available of the underground workings is one traced by Mr. Waterland in 1938 when he managed the joint operation. The map is at a scale of 1"=50' (1:600) and covers the workings of both mine areas.

All production data from the Edye Pass Mine reportedly was destroyed by fire. One blueprint assay plan covering about 40 per cent of the 400 level (Edye Pass) workings at a scale of 1"=20' is available.

Tombill Mines Limited, in 1975, and Carolin Mines Limited, in 1976, conducted surveys to check the location of the face of the long Edye Pass tunnel with respect to the Surf Point Mine workings: the face location in the two surveys differed by approximately 40 metres, and the original survey is somewhere between the two.

When surveying to tie the surface drill hole sites to the Surf Point underground workings, a 10-metre discrepancy was found at the junction of the No. 1 and No. 2 tunnels. To be certain of the exact location of the surface diamond drill hole intersections, with respect to the underground workings, it will be necessary to re-survey accurately all mine workings, and to prepare new base plans and sections at a scale of 1:250. This survey work will be undertaken as soon as possible.

Because of the substantial survey discrepancies, it was not warranted to re-draught the existing plans in the metric system. All recent work by the writer, however, has utilized SI units, and, following completion of the re-survey, revised plans and sections will be submitted.

, WORK DONE

In the interval September 1 to 30, 1978, the writer assembled and evaluated all historical data pertaining to the former Surf Point and Edye Pass operations. An examination of the surface and underground workings at both mine sites and of adjacent showings was made with T. M. Waterland, P.Eng., between September 7 and 9. Seven cross sections at a scale of 1:600 were prepared in the Surf Point Mine area, and surface diamond drilling sites were defined. A total of 15 days were required for this work.

In the interval October 6 to 13, the writer established a small camp and completed the necessary line cutting and surveying to locate the drill sites, and cleared a helicopter landing site and first drill site. Inclement weather delayed off-loading the barge in Welcome Harbour by helicopter until October 13.

In the interval October 13 to November 3, four inclined BQ wireline diamond drill holes, S-1 to S-4, at three sites totalling 624 metres were completed. All holes were drilled on the Trixie Crown Grant, L 6515. Copies of the drill logs and assays for gold and silver are contained in Appendix 1. Until such time as a re-survey is completed, the collar coordinates have been given in feet, compatible with the old plan of the Surf Point Mine area (1:600 or 1"-50'), Figure 2, and cross sections, Figures 3 to 5, in the pocket of the report.

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Sperry-Sun tests were taken at selected intervals in all drill holes to establish the deviation in dip and azimuth. The hole flattening was substantial, in the order of 2° to 3° per 30 metres, while the deviation in azimuth was about half as much. In plotting the holes on section and plan, no allowance was made for deviations in azimuth, because of the relatively small scale, and because of the survey discrepancies in the underground workings: deviations in dip were plotted.

Shallow overburden permitted the casings to be left in for all drill holes: the casings were plugged, tagged, and surveyed. All drill core has been tagged and stored carefully at the camp site adjacent to the original Surf Point mill that was destroyed by fire in June of 1938.

In anticipation of continued exploration and development in the area in 1979, the 3-tent camp and diamond drill and ancillary equipment were secured and/or stored on site in the period November 3 to 6. Arrangements have been made for periodic inspections of the site. Owing to inclement weather that prevented helicopter flights, the 5-man drill crew was demobilized by float plane on November 6.

In the interval November 6 to 12, the writer completed surveying duties and securing the camp, and conducted a test VLF-EM survey over the Surf Point Mine employing a Geonics EM-16 receiver and the Hawaii transmitter. The previously unrecognized, and potentially significant, northeast striking contact between two phases of the pluton, quartz diorite (host rock for the productive veins) and hornblende quartz diorite ("barren"), coincided with a narrow and very weak VLF-EM anomaly; and the O, A, and B vein zones coincided with a 65-metre wide anomaly of moderate intensity. Dense undergrowth and steep terrain contribute to high exploration costs for the area.

Helicopter demobilization of the drillers' gear and the writer from Porcher Island to Prince Rupert was completed on November 12: the gear was delivered by truck to Kamloops and, finally, to Vancouver on November 14. Several additional days, to November 30, were spent by the writer on data processing, draughting, evaluation, and report writing.

A limited petrographic study, and a preliminary economic evaluation are in progress at the present time. It appears that a substantial underground exploration and development program to investigate intersections obtained in the surface drilling program, and to define proven ore reserves may be undertaken in 1979, subject to a favourable economic evaluation and to financing constraints. Surveying to resolve the significant discrepancies in location of the underground workings, and to locate accurately the surface diamond drill hole intersections will be carried out as soon as possible.

RESULTS

The objective of the surface diamond drilling program was to demonstrate the continuity of gold-bearing quartz veins below the 100 level (the only active mining level) of the old Surf Point Mine. The lensey nature of the veins does not permit diamond drilling to establish ore reserves at acceptable cost, since very close interval drilling (7½-metre spacings, or closer) would have to be employed. Experience at the Surf Point Mine also demonstrated that successful stoping operations sometimes could be carried out in areas shown to be "blank", very narrow, or "barren" in diamond drill holes. Drifting on the veins is the only practical way to define ore shoots, followed by raising and stoping.

objective

The grade x width combination, was 20 gram-metres, equivalent to 20 grams gold per tonne over a width of 1 metre (0.5 Troy ounces gold per ton over a width of 3.8 feet, or approximately 4 feet). The core intersections are considered to be highly significant if either the grade objective of 17 grams per tonne (about 0.5 Troy ounces gold per ton) or the minimum mining width objective of 1 metre (3.3 feet) is attained. In fact, all strong vein intersections are considered to be significant, regardless of the grade and width.

All assayed intersections have been plotted on the cross sections, Figures 3, 4, and 5, in the pocket of the report. In keeping with the system formerly employed, the intersections are given in feet and Troy ounces gold per ton. Following re-surveying, new base plans and sections will be prepared at a scale of 1:250, employing SI units.

The 14 diamond drill intersections tabulated below are significant because they indicate either ore grade combined with ore width intersections, or ore grade combined with below ore width intersections, or below ore grade combined with ore width intersections. Substantial changes in grade and/or width are possible in very short distances. Of the 73 assays obtained, 8 or 11% were greater than 20 grams per tonne (0.6 ounces per ton), 8 or 11% were in the 10 to 20 grams per tonne range (0.3 to 0.6 ounces per ton), 9 or 12% were in the 5 to 10 grams per tonne range (0.15 to 0.3 ounces per ton), 9 or 12% were in the 2.5 to 5 grams per tonne range (0.07 to 0.15 ounces per ton), and 39 or 54% were less than 2.5 grams per tonne (0.07 ounces per ton).

	Drill			Length		Assa	ays	
Classification	Hole	From	То	metres	grams/1	tonne	ounces	/ton
				feet	Au	Ag	Au	Ag
Ore grade and Ore width	S-3	149.27	151.14	<u>1.87</u> 6.1	18.90	9.0	0.55	0.26
Ore grade and	S-1	31.79	32.00	$\frac{0.21}{0.7}$	27.43	13.4	0.80	0.39
Below ore width		83.03	(83,23)	$\frac{0.08}{0.3}$	76.80	63.1	2.24	1.84
	S-3	169.19	169.29	$\frac{0.10}{0.3}$	17.83	18,9	0.52	0.55
	S-4	16.71	16.80	$\frac{0.09}{0.3}$	16.80	8.6	0.49	0.25
		68.50	68.66	$\frac{0.16}{0.5}$	22.97	15.4	0.67	0.45
		69.11	69.22	$\frac{0.11}{0.4}$	38.40	34.3	1.12	1.00
		92.37	92.45	$\frac{0.08}{0.3}$	27.09	11.0	0.79	0.32
		92.66	92.77	$\frac{0.11}{0.4}$	27.09	11.0	0.79	0.32
		129.08	129.11	$\frac{0.03}{0.1}$	19.20	13.7	0.56	0.40
		130.20	130.25	$\frac{0.05}{0.2}$	21.60	5.1	0.63	0.15
		130.73	130.92	$\frac{0.19}{0.6}$	17.14	5.1	0.50	0.15
Below ore grade and	S-1	70.75	72.59	$\frac{1.84}{6.0}$	1.57	2.3	0.046	0.07
Ore width	S-4	77.10	79.39	$\frac{2.29}{7.5}$	2.19	7.7	0.064	0.23

COST STATEMENT

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Invoice details for all Appendix 2, and a copy Banwan Gold Mines Limit is contained in Append:	l cost items lis of the diamond ted and Northwar ix 3:	ted below are drilling cont d Mining Cont	contained in ract between ractors Limited
Consulting, supervision	n, and expenditu	ires	
C. M. Armstrong, 1	P.Eng.		
September 1-30 October 1-31 November 1-30	15 days 26 days 20 days	\$3,832.70 6,684.02 4.279.70	
			\$14,796.42
Barging - mobilization			
Wainwright Marine S	Services Ltd.		
October 10-14			3,000.00
Float planes - personne	el and supplying	,	
North Coast Air Ser	vices Ltd.		
October 10, 20, 23,	, November 2, 6		408.00
Helicopters - mobilizat	tion, drill move	s, supplying	
Vancouver Island He	elicopters Ltd.		
October 6, 11, 14, October 28, 31 November 12	17, 23	2,340.25 1,075.25 489.38	
			3,904.88
Diamond drilling - 624	metres BQ		
Northward Mining Co	ontractors Ltd.		
October 1 - Novembe	er 6		44,971.42
Assaying - gold and sil	lver fire assays	i -	
Bondar-Clegg and Co	ompany Ltd.		
October 27		212.50	
November 7 November 16		212.50 195.50	
			620.50

Total \$<u>67,701.22</u>



CERTIFICATION

I, CHRISTOPHER MACKENDRICK ARMSTRONG of the City of Vancouver, Province of British Columbia, do hereby certify:

THAT I am a practicing Geological Engineer residing at 4085 West 29th Avenue, Vancouver, British Columbia, V6S 1V4, Canada.

THAT I am a registered Professional Engineer in good standing in the Provinces of British Columbia and Ontario.

THAT I received the degree of B.Sc. in Geological Engineering from Queen's University, Kingston, Ontario in 1960, and practiced my profession continuously in the period between leaving university in 1959 and returning to university in 1966.

THAT I enrolled in the Department of Mineral Engineering at the University of British Columbia in 1966, and in the period to 1969 completed course work and research work requirements in an M.A.Sc. program, specializing in bacterial-acid leaching systems; thesis writing was not completed; post graduate courses in economic geology and North American geology also were taken and completed.

THAT since leaving university in 1969, I have practiced my profession both as a Geological Engineer and as a Specialist-Advisor in ambient temperature-pressure leaching systems.

THAT the following is a true record of my employment and experience:

- 1957 4 mos. Junior Geologist. Noranda Mines Ltd. Noranda, Quebec.
 1958 4 mos. Party Chief. Hollinger North Shore Exploration Co. Ltd. New Quebec and Labrador.
- 1959-1961 2 yrs. Assistant Geologist. Pickle Crow Gold Mines Ltd. Pickle Crow, Ontario. Teck Corporation Ltd.
- 1961-1962 l yr. 'Assistant Geologist. Willroy Mines Ltd. Manitouwadge, Ontario.
- 1962-1964 2 yrs. Chief Geologist. Metal Mines Ltd. Werner Lake, Ontario. Consolidated Canadian Faraday.
- 1964-1966 2 yrs. Chief Geologist. Tegren Goldfields Ltd. Kirkland Lake, Ontario. Teck Corporation Ltd.
- 1967 ½ yr. Project Geologist. Mcleese Lake property, B. C. Geophysical Engineering & Surveys Ltd. Teck Corporation Ltd.
- 1969-1970 1 yr. Laboratory Manager, Chief Geologist, and Consulting Engineer. S. M. Industries Ltd. Vancouver, B. C.
- 1970-1978 8 yrs. Independent Consulting Engineer. Canada, U.S.A., and Mexico.
 - Senior Clients: Long Lac Mineral Exploration Ltd., H.A. Simons (International) Ltd., Granby Mining Corporation, Du Pont of Canada Exploration Ltd., Bethlehem Copper Corporation, Mining Corporation of Canada (1964) Ltd.

Junior Clients: Over 20 Junior Canadian exploration companies.

THAT I personally conducted or supervised all work described in this report for BANWAN GOLD MINES LIMITED between September 1 and November 30, 1978.



C. M. Armstrong, P.Eng. Consulting Engineer

Dated at Vancouver this 8th Day of December, 1978

APPENDIX

1

Diamond Drilling Logs

s-	1
s-	2
s-	3
s-	4

SC = split core WC = whole core 1 metre = 3.281 feet 1 Troy ounce per ton = 34.286 grams per tonne

C. M. ARNS CONSULTING	TRONG, P.Eng. ENGINEER	PROPERIY Banwan - Porcher Island	DIAMOND DRILLING LOG	Hole No. <u>S-1</u>
Northing	5333	Depth 183.0m	Elevation 366 1/2	Level <u>Surface</u>
Easting	5082	Dip $-44\frac{1}{2}^{\circ}$	Date <u>Oct. 1978</u>	Purpose
Azimuth	180 [°]	Core Size BQ	Logged by CMA	Zone

Location

Remarks Bedrock 1.1m. Casing stickup: 0.4m vertical & 0.6m inclined. Sperry-Sun tests: 76m -41° @ 183°, 168m -33° @ 186½°. Casing bit removed and 10' casing left in hole. Hole plugged and collar marked.

From	PACE:				SAM	PLE			ANA	LYSIS	
			DESCRIPTION		Footage	3	Number	Au	Ag	An	AR
From	То			From	To	Length					
0.00	2.74	Casing.									
2.74	182.97	Quartz Dior:	ite.								
		Massive, ha amphibole - (10%). Equi fine graine very weakly	rd, quite siliceous. Rare specks pyrite with chloritized also trace magnetite. Light epidote alteration in most granular - fine to medium grained. Scattered inclusions d, green diorite with sparse very fine grained pyrite - magnetic.			and a feature	OFESS OFESS PROVIN	CALL CE	Lacere		
		2.74-3.86	Surface-weathered fractures at 50° to 60° - core broken. 3.1 Chloritic slip at 15° - slickensides approx. para- llel to core (20°). 3.75 Chloritic breccia & slip at 20°(5mm) - slickenside at 50° to core.	s ·		A CONTRACTOR	BRITIS	H I I			
		4.2	Diffuse silicification at 70 [°] (10mm) with sparse pyrite dissemination.				DEC 8	97 8			
		4.62	4mm quartz-chlorite-calcite fracture-filling at 40° - associated weak, diffuse silicification +50mm.								
		8.32-8.52	Weak, diffuse silicification with fractures at 40° and 70° - 7mm patch pyrite on chlorite fracture at 8.48(70^{\circ})	,.		0.3'	.WC	L 00	ΓO	0.17	0.17
		8.74	8mm quartz-filled fracture at 45 ⁰ with semi-massive pyrite - 10mm and 30mm weak, diffuse silicification.	8.70	8.80	0.10 0.3'	14/51 WC	5.83	5.8		0.17
		11.56	10mm strong, diffuse silicification at 75° with heavy pyrite dissemination ±20mm weak, diffuse silicification About 2mm ground.	11.50 n.	11.60	0.10	14752	4.11	3.4	0.12	0.10
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PROPERTY Banwan - Porcher Island

Page No. 2

Hole No. <u>S-1</u>

FOOT	ACE		1	SAM	PLE		ANALYSIS					
From	To	DESCRIPTION	Ebaous	Footage	3 It on of h	Number	Au	Ag	An	Az		
		 12.85-12.92 Moderate, diffuse silicification at 70° - 15% epidote. 13.28 & 13.51 Moderate, diffuse silicification (approx. 10mm) at 70° - chlorite & calcite-filled fractures. 14.58-14.63 Fairly sharp, barren quartz silicification at 45°. Poss-ible 2mm patch scheelite. 16.33 lmm calcite-filled fracture at 70° +7mm weak, diffuse silicification - very light pyrite dissemination. 	14.52	14.65	0.4' 0.13	WC 14753	0.07	1.4	0.002	0.04		
		 16.90 Same at 45° and ±4mm. 18.37 Hairline epidote-carbonate-filled fracture at 10° - diorite inclusion cut and displaced. 20.28-20.42 Chloritic shear zone at 35°. Light pyrite dissemination in more siliceous sections. Three hairline calcite-pyrite stringers at 85° - coarse patches disseminated pyrite (moderate). 20.37 Smm grey quartz stringer at 35°. 22.88 8mm moderate, diffuse silicification at 45° - lmm calcite-filled fracture with light pyrite dissemination. 23.53-24.14 Weak to moderate, diffuse zone of silicification with miner discominated purite. 	20.14 23.49	20.44 24.14	1.0' 0.30 2.1' 0.65	WC 14754 SC 14755	0.89	1.7	0.026	0.05		
		 minor disseminated pyrite. 23.59 Chlorite calcite-pyrite seam(lmm) at 35°. 23.73-23.79 Fairly sharp (but gradational) white quartz at 70° and 55° (chlorite seam) - light,. very coarse dissemination. 23.79-23.83 Whitish, bleached section at 45° - very light pyrite dissemination. 24.02 7mm quartz-chlorite stringer at 65° - minor pyrite. 24.09 15mm quartz veinlet at 65°. 24.79-25.19 Weak to moderate, diffuse silicification. 24.80 10mm strong, grey silicification at 70° with light pyrite dissemination. 24.89 As above - at 65°, plus chloritic fracture. 24.99-25.10 Fresh quartz diorite and diorite inclusion - misplaced? 	24.78	25.20	1.4' 0.42	SC 14756	0.41	2.4	0.012	0.07		

PROPERTY Banwan - Porcher Island

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Hole No. S-1

FO	OTAGE			T.	SAM	PLE			F	WALYSI	S
Freen	1 175		DESCRIPTION		Footag	G	Number	Au	Ag	Au	Ar
		25.39-25.51	. Weak diffuse epidote-quartz silicification - chlorite	From	10	ILengin					
		26.70-26.76	fracture plus pyrite at 45 . 5 As above at 35° and 70° - calcite-sericite fracture at 80°.			0.7'	WC				
		31.79-32.00) Sharp, 6mm to 12mm pyrite-quartz-filled fracture at 10 - semi-massive to massive pyrite - chloritic contacts some red-brown hematite alteration. Slickensides at 80 to core axis. About 80% very lightly altered wall rock Minor calcite.	^o 31.79 ō	32.00	0.21	14757	27.43	13.4	0,80	0.39
		32.16	1mm quartz-calcite at 40°.								
		32.53	3mm quartz-calcite-chlorite at 45 ⁰ - light pyrite in lightly silicified wall rock (8mm and 18mm).			0.3'	ЫC				
		32.89	Sharp 12mm grey quartz at 55° - moderate pyrite dissemination and streaks ± 10 mm strongly silicified wall rowith very light pyrite - chloritic contacts.	- 32.85 ck	32.95	0.10	14758	5.83	18.2	0.17	0.53
		33.60	lmm quartz at 50° - minor calcite.								
		34.14	2mm quartz-calcite-chlorite with coarse pyrite patches at 45°.								
		34.60	5mm quartz-calcite-chlorite with moderate pyrite diss- emination at 50° - 10mm and 5mm highly silicified walk rock.								
		34.86-34.9	5 Moderate quartz-epidote at about 40°.								
		35.56-35.6	4 Same at about 70°.								
		35.85	20mm strong grey quartz silicification with very light pyrite at 45 \cdot								
		36.10-36.4	0 Moderate quartz-epidote silicification at about 40° an 60° .	d							
		37.00-37.0	6 Quartz-chlorite-calcite breccia at 35° and 65°.								
		37.19	2mm sharp quartz-calcite-pyrite-filled fracture at 60°								
		38.82-39.9	6 Diffuse, weak to moderate, grey silicification zone at about 50°. Local very light pyrite disseminations and 1mm to 5mm quartz-calcite-filled fractures:								

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PROPERTY Banwan - Porcher Island

Page No. 4

FOOTAGE From To 39.				1	SAM	PLE		ANALYSIS				
From	То	1	DESCRIPTION	Exom	Footag	3 It oned b	Number	Au	Ag	Au	Ag	
			 39.34 4mm quartz-calcite-chlorite at 45°. 39.41 10mm glassy grey quartz-chlorite at 60° +20mm moderately silicified wall rock with very light pyrite dissemination. 				<u></u>					
		39.96-41.49	Weaker alteration zone with much more epidote (25%) and less altered white feldspar (50%). 40.78-40.85 Moderate, diffuse, grey silicification with light pyrite dissemination at 40°. Central 2mm quartz-chlorite-calcite frac- ture - slickensides at 75° to core. 41.29-41.31 Same at 60° - central 1mm quartz-calcite. 41.43-41.49 Same at 65°.									
		47.74	10mm moderate, grey silicification at 35° with central chlorite-calcite fracture.									
· .		48.25	4mm grey quartz silicification at 60° with light pyrite and chalcopyrite dissemination.									
		48.96	10mm moderate, grey silicification at 75 [°] with very light pyrite dissemination and central chlorite-calcite fracture.									
		49.67	Same at 60 ⁰ - 7mm. Minor pyrite and chalcopyrite.									
		50.28	Same at 60 [°] - 7mm - minor pyrite.				·					ł
		50.42	5 mm barren white and grey quartz at 40° (opposite).									
		51.40-51.63	Two converging zones with heavy pyrite mineralization - wall rock moderate, diffuse silicification. 51.42 3mm at 40° - some heavy pyrite ground - considerable red hematite alteration. 51.58-51.61 Strong grey silicification at 60° with heavy pyrite mineralization (some ground).	51.40 51.57	51.47 51.64	0.07 <u>0.07</u> 0.14 <i>0.5</i> '	WC 14759	8.57	11.3	0.25	0.33	
		52.77	15mm grey silicification at 70 [°] - minor pyrite - central chlorite fracture.									
·		53.14	Same at 80 ⁰ - 10mm - chlorite-calcite fracture.									
		53.72	Same at 70 [°] - 4mm.									
		53.92	Same at - 15mm - very light pyrite - chlorite slip.									

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PROPERTY Banwan - Porcher Island

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Page No. 5

Hole No. S-1

FOOI	AGE		1	SAM	PLE		ANALYSIS				
Fran	To	DESCRIPTION	From	Footage To	€ Ilenath	Number	Au	Ag	Au	AB	
		 54.05-54.90 Diffuse, grey, highly silicified zone at 70° and 30°. Light pyrite dissemination - mostly fine gr'd but few coarse patches (some ground) - coarsest pyrite appears to be in later irregular stringers within zone of silicification. 54.09 0 to 7mm semi-massive pyrite at 65°. 54.24-54.41 Zone of much weaker silicification along core - irregular contacts at about 20° and 35° (converging). 54.46 Coarse patches pyrite - some ground. 55.07 10mm grey quartz silicification at 80° - minor pyrite 55.23-55.31 Highly silicified section at 35° with quartz -chlorite- 	54.05	54.50	1.5' 0.45 1.3' 0.40	WC 14760 SC 14761	1.58	0.7	0.046	0.0Z a.16	
		 calcite stringer and light pyrite dissemination. 56.36-56.43 Moderate, diffuse silicified section at 80° - very light pyrite dissemination. Central quartz-chlorite-pyrite stringer. 56.50 7mm grey quartz at 60° - very light pyrite in wall rock 57.11&57.15 2mm quartz-calcite-pyrite stringers at 80° and 50°. Coarse pyrite in first stringer. 57.43-57.49 Moderate grey silicification at 70° with 9mm chlorite-calcite stringer - very light pyrite. 	t								
		 50.30-30.33 Same - at 05. No chlorite. 58.60 2mm grey quartz-chlorite-calcite stringer +7mm moderate silicification at 70° - very light pyrite. 58.73 1mm chlorite-calcite seam at 55°. 58.83-58.92 Highly silicified section with light pyrite dissemination at about 70° and 60° - streaks coarse pyrite and 5mm quartz-chlorite-calcite stringer at 80°. 59.00-59.02 Moderate grey silicification and 7mm quartz-chlorite-calcite stringer at 80°. 59.29 3mm grey quartz stringer at 20°. 59.66 20mm moderate grey silicification including 7mm quartz-chlorite-pyrite stringer at 80°. 	58.83	58.95	0.12	WC 14762	4.11	1.0			

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PROPERTY Banwan - Porcher Island

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Hole No. S-1

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FOOI	PAGE		1	SAM	PLE			٩	NALYS1	3
Frien	To	DESCRIPTION		Footag	3	Number	Au	Ag	Au	Ar
A L Cell		50.80 $2mm$ quarter collected quarter to 10^{0}	From	To	Length					
		$\frac{1}{2}$								
		$50.63 \qquad \text{Same} = 2 \text{mm} \text{ at } 50$							1 · 1	
		61.05 12mm quartz-chlorite-pyrite stringer at 75 +7mm moder- ate grey silicification.								
	·	61.20 15mm grey quartz stringer at 85 ⁰ - chlorite and minor pyrite.								
		61.73 4mm grey quartz-calcite stringer at 50° - light pyrite dissemination.								
		61.81 Same - 7mm at 80°.			f i					
		$62.32 \qquad 5 mm \text{ grey quartz at } 80^{\circ}.$								
		62.65 5mm grey quartz at 60° - very light pyrite.		1	1.8'	sc				
		 62.70-63.23 Grey, highly silicified zone at 40°. Very light to ligh pyrite dissemination. 62.74 5mm quartz-chlorite-pyrite stringer at 40° - coarse pyrite. 	62 . 70	63.25	0.55	14763	3.43	5.5	0.10	0.16
		 62.84 Chlorite-pyrite slip - both slickensided at 70° to core. Coarse pyrite. 62.99 Same at 50°. 63.19 Ragged 3mm chlorite-calcite stringer at 40° - one coarse blob pyrite (5mm x 17mm). 								
		63.56 7mm quartz-calcite-chlorite stringer at 40°.								
		63.75 Same - $5mm - 12mm$ at 40° - vuggy.			0.8	80				
		64.27-64.50 Grey, highly silicified section at 40° and 60° (converg ing) - very light pyrite dissemination. 64.33-64.39 White quartz at 40° - trace pyrite.	- 64.29	64.53	0.24	14764	0.41	3.4	0.012	0.10
		64.75-64.97 As above - at 40° and 70°. 64.80 18mm grey quartz at 55° with heavy, coarse pyrite mineralization. 64.84 2mm chlorite-quartz-pyrite stringer at 50°.	64.74	64.99	0.25	14765	10.63	5.1	0.31	0.15
		65.05-67.80 Variable ragged epidote alteration - diffuse or some- what banded - to 25%. 65.89 8mm grey quartz at 70°.								

PROPERTY Banwan - Porcher Island

Page No. 7

Hole No. 5-1

FOOT	AGE				SAMI	LE			A	NALYSI	3	
From	The second		DESCRIPTION		Footage	2	Number	Au	Ag	An	Ae	
	10			From	01'	Lengin						۵۰۰۰۰ ۲۰۰۵ <u>محمد میروند. منطقین</u> ۱۰۰۰ ۲۰۰۵ کارمانید ماریخ و ۲ <u>۰</u> ۵۵ مید.
		67.90	lmm quartz-calcite-pyrite stringer at 60 .			,						
		68.46	6 mm grey quartz stringer at 50° with light pyrite and ± 20 mm moderate silicification with very light pyrite.			• .						
		61.50	2mm grey quartz-calcite at 70 [°] - minor pyrite.									
		69.46-69.50	$2mm$ quartz-calcite stringers at 60° and 70° (converging) - light pyrite.									
		70.23	7mm grey quartz at 65 [°] - chloritic contacts - minor pyrite.									
		70.40	2mm grey quartz-calcite at 75° ± 6 mm silicified wall rock with minor pyrite.			3.11	sc					
	•	70.77-71.67	Highly silicified zone at 35° and 65° - negligible pyrite, except with chloritic streaks and fracture-fillings, and on siliceous fractures. 70.94-71.01 Wall rock at 40° and 60° (converging). 71.21 8mm quartz-albite-chlorite at 45° with light pyrite mineralization.	70.75	71.69	0.94	14766	1.68	2.1	0.049	0.06	
		71.93-72.56	As above at 30° and 45° - few light pyrite dissemin-	71.90	72.59	0.69	14767	1.92	3.4	0.056	0.10	
			ations. 72.04 15mm quartz-chlorite-calcite at 55°. 72.11-72.23 Wall rock at 35° and 50°. 72.39-72.44 Crossing seams coarse pyrite (to 5mm) at 60° and 40° (plus patchy chlorite).	70.75	Average 72.59	6.0' 1.84		1.57	2.3	0.046	0.07	
		73.98-74.06	As above at 70 [°] - minor pyrite.									
		76.00	$4mm$ quartz-calcite-chlorite at 60° $\pm 20mm$ moderately altered (silicified) wall rock.									
		76.09-76.17	Moderately to strongly silicified section at 60 ⁰ with central 2mm chlorite-quartz-calcite.									
		76.30	3mm calcite-quartz-chlorite at 55°.			0.9'	sc					
		, 76.41-76.63	Highly silicified zone at 80°. 76.57 20mm white quartz with heavy, coarse pyrite (5mm to 14mm) at 80°.	76.38	76.65	0.27	14768	0.41	12.3	0.012	0.36	
	_	76.90-76.97	Highly silicified zone at 90° with central 20mm quartz at 90° - sparse pyrite.				t					

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PROPERTY Banwan - Porcher Island

Page No. 8

FOOT	AGE	· · · · · · · · · · · · · · · · · · ·		SAM	٧LE			A	NALYSI	3
Fran	То	DESCRIPTION	From	Footage	e Iength	Number	Au	Ag	Au	Ag
	· · · ·	76.97-79.10 Scattered quartz-epidote silicification bands at 70° to 80° - to 80mm.						·		
		79.30 lmm quartz-calcite-pyrite at 55° +6mm silicified wall rock.								
		79.47 2mm chlorite-quartz-calcite at 65° plus 6mm and 10mm silicified wall rock - very light pyrite.						, ,		
	L. L	79.54 Same at 50° - total 15mm.	1							
		81.35-81.63 Highly silicified section at 50° and 55° - wall rock along core from 81.39 to 81.50. Sparse pyrite. 81.55 6mm quartz-chlorite-calcite at 30°. 81.61 10mm to 20mm quartz-chlorite-calcite at 60°.			0.4'	LIC .				
		82.16-82.21 Highly silicified section with 8mm quartz at 35° with coarse pyrite mineralization.	82.13	82.24	0.11	14769	3.15	3.1	0.092	0.09
		82.77-82.85 As above at 25° and 60° (converging) - 7mm quartz at 25	•		0.91					
		 82.95-83.25 Highly silicified section at 35° and 60°. Ragged chlorite seams with light pyrite. 83.09 3mm massive pyrite at 40° - slickensided a 85° to core. 83.19-83.22 Grey quartz at 55° with 10mm coarse, massive pyrite. Chloritic contacts. 	82.93 83.08 83.23 83.03 83.20	83.03 83.20 83.28 83.08 83.23	$\begin{array}{c} 0.10 \\ 0.12 \\ \underline{0.05} \\ 0.27 \\ 0.05 \\ \underline{0.03} \\ \overline{0.08} \end{array}$	SC 14770 SC 14771	0.34	3.4 63.1	0.010	0.10 1.84
	-	84.87-84.99 Moderately to strongly silicified at 60° - central 1mm chloritic fracture - sparse pyrite.			0.3'					
		85.71 lmm chlorite-calcite fracture at 70 [°] ±7mm silicified wall rock.				•				
		87.82-88.19 Strongly silicified section at 40° and 45°. Sparse to very light pyrite. 87.91 lmm chlorite-calcite-pyrite at 65°. 88.05 lmm pyrite-chlorite-calcite at 75°. 88.18 7mm quartz-calcite at 45°.								
	i	88.71-88.85 Highly silicified section at 30° and 15° - latter with strong, 6mm chlorite-pyrite-calcite slip.								

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PROPERTY Banwan - Porcher Island

Hole No. S-1

FOOT	ACE			T	SAM	PLE		T		ANALYSI		udan 40.000 a
From	To]	DESCRIPTION		Footag	e	Number	Δ.1		1		
Contraction of the Contraction o	*1			From	<u> To</u>	Length	INCHILOCEL	Au	Ag	<u>4</u>	78	
		92.13-92.70 I f 3 a	rregular, highly silicified zone with chlorite-calcite ractures along core (15°, 20° opposite, 55°, 10°, 40°, 10°). Numerous only very weakly silicified sections long core. Only minor pyrite.									
		93.00-93.12 H w	ighly silicified section at 60 ⁰ . Sparse pyrite and 20mm ide blob white quartz at end.									
		93.49 5 c	mm grey quartz at 20 [°] - minor calcite and chloritic ontacts.									
		94.70-94.96 н -	ighly silicified section at 50 ⁰ and 15 ⁰ with 15mm quart pyrite-chlorite filling at 20°.	: 94.70	94.96	0.26	WC 14772	5.14	19.5	0.15	0.57	
		97.35-97.41 н f	ighly silicified section at 45 [°] - central chloritic racture.									
		98.22 6 s	mm grey quartz at 65 [°] - calcite on contacts - +5mm ilicified wall rock - very light pyrite.									
· .		98.81 s	ame at 80° - moderate pyrite.									
		99.56-99.72 T a a	hree intersecting fractures at 55 ⁰ , 20 ⁰ , and 75 ⁰ with ssociated wall rock silicification - quartz and moder- te pyrite with latter 2 fractures.									
	•	100.10 s	ame at 45°.			051			1			
		100,23-100.35	Very highly silicified wall rock and branching white quartz (10mm and 30mm) at 40° - light pyrite dissem- ination.	100.21	100.37	0.16	SC 14773	0.93	3.1	0.027	0.09	
		100.60	Highly silicified wall rock (+10mm) and central 3mm quartz stringer with light pyrite at 65°.									
		100.87	10mm quartz-calcite-chlorite at 75° ±20mm wall rock silicification.						-			
		101.07	Chloritic fracture at 50° +10mm silicified wall rock.				-					
		101.31	5 mm quartz-calcite-chlorite at 60° +10 and 5 mm wall rock silicification.									
		101.56	2 mm quartz-calcite at 40° ± 5 mm silicified wall rock.									
		102.54-102.66	Highly silicified wall rock at 40 [°] and 60 [°] with 5mm and 15mm blobby white quartz and light pyrite mineralization.									

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PROPERTY Banwan - Porcher Island -

Hole No. ______

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FOOT	AGE		DECONTRATA:		SAM	PLE	an a	1		ANALYSI	[S	
From	To	<u></u>	DESCRIPTION	12 mars	Footac	je	Number	Au	Ag	A.,	Aa	
		103.19	lmm chlorite-calcite fracture at 45° +10mm silicified wall rock.	<u></u>		ILength				- // A		
		104.21	Same.									
		104.56	Same at 50°.									
		104.77	Same at 45°.									
		113.47-113.70	Dark grey, fine gr'd biotite diorite inclusion? Contacts at 50° and 40° (converging).	-								
		120.14	Chlorite-calcite fracture at 40° ±10 and 5mm silici-fied wall rock.									
		120.83&120.89	Two chloritic fractures at 55° and 30° ± 7 mm silici- fied wall rock. Sparse pyrite.									
		121.06	1mm chlorite-calcite at 75° +30mm silicified wall rock.									I
		123.21-123.29	Silicified wall rock with 80 ⁰ chloritic fracture - sparse pyrite.									
		123.81	2mm quartz-calcite with very light pyrite at 80° ± 5 mm silicified wall rock.									
••		124.02	$5mm$ quartz-chlorite at 80° +25 and 10mm silicified wall rock with sparse pyrite.									
		125.07	2mm chlorite-quartz with very light pyrite at 80° ± 10 mm silicified wall rock.	·								
		125.40	$4mm \& 2mm quartz-chlorite at 80^{\circ} \pm 10mm and 20mm silicified wall rock.$				•					
		126.41-126.49	5 mm quartz-chlorite-calcite at 40° - minor brecci- ation and very light pyrite - bounded by chloritic fractures at 70° and 45° - light pinkish alteration.									
		129.84-134.71	Variably sheared and silicified zone. 129.84-130.73 Weakly sheared and silicified at 50° to 25° - epidote streaking along shearing. 130.18 8mm quartz-calcite-pyrite at	130.16	130.23	0.07	WC 14776	9.60	4.1	0.28	0.12	
		and a state of the	zation (some ground).						•			

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PROPERTY ______ Banwan - Porcher Island

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Hole No. <u>S-1</u>

FOO	TAGE					SAM	PLE		1	;	ANALYSI	IS	n ta kanggar ang pang kata kata si kat
Fran	To		1	DESCRIPTION	From	Footag To	e Length	Number	Au	Ag	Au	Ag	
			130.73-131.68	Weak epidote shearing along core to 131.10, then moderate silicificatio and carbonatization along core.	n								
			131.68-131.98	Strong silicification along core at 20° and 15° (converging) – sparse pyrite.									
			. 131.98-133.11	Only weak alteration and epidote shearing at about 20°.									
			133.11-133.45	Moderate to strong silicification at low angle chloritic slips - local light pyrite.	nd 133.11	133.46	0.35	WC 14777	0.27	1.4	0.008	0.04	
			133.45-134.44	Only very weak epidote shearing and silicification. 133.81-133.86 Irregular quartz at about 55°.									
· · ·			134.44-134.53	Highly silicified wall rock at 40° for 60° - very light pyrite.	134.44	134.56	0.4' 0.12	SC 14774	0.93	5.8	0.027	0.17	
			134.53-134.71	White quartz at 60° and 45°. Approx 25mm silicified wall rock at beginn: Light pyrite in chloritic seams. Fer fairly coarse patches <u>chalcopyrite</u> and local disseminated pyrite - hear coarse pyrite at end.	134.56 ing. 7	134.71	<i>0.5'</i> 0.15	SC 14775	3.43	12.7	0.10	<i></i> .37	
		136.13-137.17	Chloritic frac calcite.	tures along core - vuggy, minor quart	:z-								
		137.18	5mm barren qua	rtz-calcite at 50°.			0.11			- 			
		137.99	5mm quartz-cal rite - offset 9 parallel to com	cite-pyrite at 80 ⁰ - heavy, coarse py 5mm by later chlorite-calcite fractur r e.	r- 137.97 e	138.01	0.04	wс 14778	12.34	9.6	0.36	0.28	
		138 .36	4mm quartz-cal	cite at 65 ⁰ .									
		140.45-142.20	Moderately sil: branching chlo: seams along com	icified section with numerous vuggy, rite quartz-calcite stringers and re. Sparse pyrite dissemination.									

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PROPERTY _____Banwan - Porcher Island

Page No. 12

FOOT	TAGE					1	SAM	PTE		1	7	NALVST	S	
From	То	1	Ē	DESCRIPTION			Footag	e		1	<u> </u>			manan salat sa si sa
an a				an a	an fairth an	From	То	Length	Number	Au	Ag	Hu	Hg	
			141.18-141.35	Very highly silic: atized (whitish) dissemination and Irregular.	ified and carbon- with light pyrite few specks scheelite	141.15	141.46	0.31	WC 14779	0.21	1.0	0.006	0.03	
		Two boxes, 20 Core restored 1.0m doubtfu1.	and 21, on tarp perfectly from	upset by high wind 146.37 to 155.63; 4	ds that lifted tarp - 4.0m of remaining 5.0	all cor n in pro	e recove per sequ	red - 1 ence, b	41.46-15 ut possi	5.63 = bly-mi	14.17 splace	m d, and	only	
		142.66	lmm quartz wit	h moderate pyrite :	at 70°.									
		142.83-142.89	Pinkish grey, with light pyr calcite-filled	highly silicified s ite dissemination. fracture at 55°.	section at about 55 ⁰ Associated 3mm	¢								
		143.57-143.87	Core very badly silicification	y broken - possibly and very light py	y misplaced - some cite.									
		143.87-144.51	Irregular white along core. Lo some fairly co	e quartz veining (t cal light pyrite mi arse. Broken up - p	co 20mm) rolling ineralization - possibly misplaced.	143.57	144.51	0.94	5C 14824					
		144.51-145.82	Grey, weakly to pyritic.	moderately silicif	ied section - not									
		146.16-146.81	Distinct reddie 146.16 15mm qu	sh hematite alterat uartz-chlorite-calo	cion - about 15%. Cite at 40°.									
		147.35-147.49	Brownish grey f tion at about a ation.	moderately to stror 80 with very light	ngly silicified sec- pyrite dissemin-									
-		147.68-147.75	Same - associat stringer at 35	ted with 3mm quartz	-calcite-chlorite				•					
		149.39-149.43	Moderate to str 2mm quartz str pyrite.	cong reddish hemati ingers at 60° and 4	te alteration. Two 5°. Very light									
		149.74-149.82	Two 3mm and 6mm fied wall rock	n quartz-chlorite s at 35° - tight con	tringers and silici- tacts.									
		150.27-150.55	Whitish, highly one pyritic fra	v bleached and sili acture at 70°.	cified section -									
		151.34-151.64	Moderately to h ate, pinkish re	nig <mark>hly silicified</mark> s ed hematite alterat	ection with moder- ion (pervasive).						•			

PROPERTY _____Banwan - Porcher Island

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Page No. 13

Hole No. S-1

FOOTZ	ACE				SAM	PLE			7	NALYSI	S
From	<u>Т</u> О		DESCRIPTION	<u></u>	Footage	€	Number	Au	Ag	Au	Ag
			Very light pyrite dissemination. Few 2 to 3mm quartz- chlorite-calcite stringers (one with light pyrite) at 45°. 151.52 35mm quartz-chlorite-calcite at 70°.	FION							
1		152.03	7mm quartz-chlorite-calcite with light pyrite at 85°.						- - -		
		152.59	7mm quartz at 60° +3mm silicified wall rock.								
		153.63	lmm pyritic quartz ± 4 mm silicified wall rock at 50°.								
		155.59	Strong, 25nm white quartz at 70 [°] - chloritic slip contacts.	-		-					
		155.69-155.74	Barren white quartz at 55°.		· · · ·						
		156.11	25mm quartz-chlorite at 55°.			1.1 ⁴	sc				
		156.36-156.70	60% very highly silicified (buff) sections at 60° with 3mm, 7mm, 11mm, and 25mm quartz-chlorite-calcite veins at 60° - very light pyrite.	156.36	156.70	0.34 0.4'	14780	0.48	2.4	0.014	0.07
		156.93-157.06	Highly silicified wall rock with 30% irregular quartz -chlorite veining at 55° and 60°.	156.93	157.06	0.13	14781	2.06	2.4	0.060	0.07
		161.21&161.29	2mm quartz-calcite at 40° \pm 5mm weakly silicified wall rock with light pyrite.				、				
		161.61-161.65	Bleached, silicified and carbonatized wall rock and 10mm calcite-quartz-chlorite at 55° - light pyrite.	-							
		164.44	2mm quartz at 55 [°] with light pyrite (coarse).		· ·						
		164.61	Same at 50° - no pyrite.								
		164.80-164.92	Two chloritic fractures at 20° (light pyrite) and one at 60° (opposite) (light pyrite) with <u>+6mm sil-</u> icified wall rock.								
		165.81	$3mm$ quartz-calcite at 50° with chloritic and pyritic contacts.								
-		166.10-166.39	Fine grained biotite-quartz diorite inclusion(?) at 10° and 45° (opposite).								
		166.75-166.98	Same at 85° and 60° (opposite).								
		168 .56	2mm quartz at 45 [°] - light pyrite.						•		

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PROPERTY Banwan - Porcher Island

Page No. 14

Hole No. <u>S-1</u>

FOOI	'AGE] .		T	SAM	PLE				ANALYSI	S	
From	То		DESCRIPTION	From	Footage	e It ongth	Number	Au	Ag	Au	As	*********
		169.66-169.86	0.10m white quartz at 55 [°] - coarse calcite patches and chloritic contacts and seams with light pyrite. Remainder moderately to highly silicified wall rock.	169.66	169.86	0.20	SC 14782	1.03	1.4	0.030	0.09	
		172.57-172.72	Moderately to highly silicified section at 70° - 1mm chlorite-quartz at 70° , 10mm white quartz (broken), and numerous coarse chlorite patches - light pyrite dissemination.	172.55	172.72	0.6'	SC 14783	0.96	0.7	0.028	0.02	
		175.71	$3mm$ quartz-calcite with light pyrite at 50° $\pm 5mm$ silicified wall rock.									
		179.39-179.61	Few quartz-filled fractures (1-2mm) with silicified wall rock and light pyrite (70°, 75°, 60°, 60°, and 80°) - chlorite patches at end.									
	-	180.48	5mm quartz at 70° with light pyrite.									
		180.54	3mm quartz-chlorite at 55 ⁰ - light pyrite.									
		180,65&180.70	1mm quartz-chlorite-pyrite at 65° and 70°.									
		181.14	3mm quartz-calcite-pyrite at 65°.					:				
		181.32	lmm quartz-calcite-pyrite at 65 [°] <u>+</u> 3mm silicified wall rock.									
		181.38-181.47	Two 2mm quartz stringers at 20 [°] and one at 60 [°] , plus blobby 10mm quartz-chlorite - very light pyrite - wall rock silicified.									
		End of	hole 183.0 m									

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C. M. ARMSTRONG, P.Eng. CONSULTING ENGINEER	PROPERTY <u>Banwan - Porcher Isla</u>	DIAMOND DRILLING LOG	Hole No. <u>S-2</u>
Northing 5345	Depth 120.8m	Elevation <u>367'</u>	Level <u>Surface</u>
Easting <u>5078 1/2</u>	Dip0	Date <u>Oct. 1978</u>	Purpose
Azimith 0°	Core Size <u>BQ</u>	Logged by <u>CMA</u>	Zone

Location

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Remarks Bedrock 3.4m. Casing stick up: 0.8m vertical & l.1m inclined. Sperry-Sun test: 107m -31° @ 5½°. Casing bit removed and 10' casing left in hole. Hole plugged and collar marked.

F00.	TAGE		1	SAM	PLE			AN	ALYSIS	
From	To	DESCRIPTION	From	Footage To	e ILength	Number	Au	Ag		
0.00	3.93	Casing.								 installing and installing an or
3.93	20.90	Quartz Diorite. Massive. Scattered fine grained diorite inclusions.				courses	e.			
20.90	120.79	Hornblende Quartz Diorite. Distinct change over about ½m -possible contact at 20°. Medium dark bluish grey (wet). Distinctly finer grained and higher biotite content - say 20% versus 10%. Contains same inclusions of darker grey or grey-green diorite. Very much faster drilling (approx. 2x) - therefore much less brittle, and much less receptive host rock? Much less epi- dote. Detectable magnetite throughout. At 62 distinct foliation/ lineation at 55°. 21.97-22.63 Highly fractured section at about 25° to 35° to 40° - some limonite coating (surface weathering). 22.35-22.37 White quartz-calcite-chlorite at 85° - fault zone? 22.56-22.63 Severely crushed and ground - fault zone?			e for	PESST POVIN PRITISH BRITISH BRITISH GINEE	PLANG RONG			
		 22.63-23.21 Black, very fine grained basalt dyke - leading contact ground, trailing contact at 40°. Few white hairline calcite-filled fractures - small angles. Uniformly weakly magnetic. 23.85 Diffuse, barren 3mm quartz stringer at 45°. 24.05 Same - 5mm at 30°. 32.83-33.07 2mm calcite-chlorite fracture at about 10°. 			-		-			

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PROPERTY Banwan - Porcher Island

Page No. 2

Hole No. S-2

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Fran To	45.67 47.90-47.94 52.11-52.26 53.51 56.20-56.56 64.06 74.00-74.22	DESCRIPTION 7mm diffuse white quartz at 10°. Two 4mm quartz-chlorite fractures at 60°. No pyrite. Blobby, diffuse white quartz (to 15mm) at about 20° - some epidote. 2mm quartz-chlorite at 55° - light pyrite. 15mm quartz-chlorite-calcite at 10°. 10mm chlorite-quartz-calcite at 55° - no pyrite.	From	Footac	length	Number	Au	Ag		
	45.67 47.90-47.94 52.11-52.26 53.51 56.20-56.56 64.06 74.00-74.22	7mm diffuse white quartz at 10° . Two 4mm quartz-chlorite fractures at 60° . No pyrite. Blobby, diffuse white quartz (to 15mm) at about 20° - some epidote. 2mm quartz-chlorite at 55° - light pyrite. 15mm quartz-chlorite-calcite at 10° . 10mm chlorite-quartz-calcite at 55° - no pyrite.	From		Length			, ,		
	45.67 47.90-47.94 52.11-52.26 53.51 56.20-56.56 64.06 74.00-74.22	<pre>/mm diffuse white quartz at 10°. Two 4mm quartz-chlorite fractures at 60°. No pyrite. Blobby, diffuse white quartz (to 15mm) at about 20° - some epidote. 2mm quartz-chlorite at 55° - light pyrite. 15mm quartz-chlorite-calcite at 10°. 10mm chlorite-quartz-calcite at 55° - no pyrite.</pre>								
	47.90-47.94 52.11-52.26 53.51 56.20-56.56 64.06 74.00-74.22	Two 4mm quartz-chlorite fractures at 60°. No pyrite. Blobby, diffuse white quartz (to 15mm) at about 20° - some epidote. 2mm quartz-chlorite at 55° - light pyrite. 15mm quartz-chlorite-calcite at 10°. 10mm chlorite-quartz-calcite at 55° - no pyrite.								
	52.11-52.26 53.51 56.20-56.56 64.06 74.00-74.22	Blobby, diffuse white quartz (to 15mm) at about 20 [°] - some epidote. 2mm quartz-chlorite at 55 [°] - light pyrite. 15mm quartz-chlorite-calcite at 10 [°] . 10mm chlorite-quartz-calcite at 55 [°] - no pyrite.								
	53.51 56.20-56.56 64.06 74.00-74.22	2mm quartz-chlorite at 55 [°] - light pyrite. 15mm quartz-chlorite-calcite at 10 [°] . 10mm chlorite-quartz-calcite at 55 [°] - no pyrite.		- 						
	56.20-56.56 64.06 74.00-74.22	15mm quartz-chlorite-calcite at 10 [°] . 10mm chlorite-quartz-calcite at 55 [°] - no pyrite.		1	1	t I				
	64 .06 74.00-74.22	10mm chlorite-quartz-calcite at 55 [°] - no pyrite.								
	74.00-74.22									
		Bleached and weakly altered section with 1mm quartz- calcite-chlorite at 70° (74.03) and chloritic frac- ture at 70° (74.21). Central vuggy fracture at 20°.								
	76.03	1mm quartz-chlorite at 70°.								
	79.86	White 4mm quartz-calcite-epidote at 65 ⁰ - branching (especially epidote).					•			
	79.90-80.31	Andesite porphyry at 65 [°] (tight, sharp contacts). Medium grey-green-whitish feldspar phenocrysts (2mm).								
	81.01	10mm chlorite-quartz-calcite at 80°.								
	89.62	llnm quartz-calcite-chlorite-epidote at 55°.								
	92.67	Two 1 and 2mm quartz-chlorite fillings at 55°.			ч. 					
1	93.78	1 to 5mm quartz-chlorite at 55°/75°.								
	94.33-98.07	Basalt dyke at 25° and 35° (sharp - 2mm and 5mm quartz-chlorite-calcite on contacts). Uniformly weakly to moderately magnetic throughout. Scattered white hairline calcite-filled fractures at various angles. Very fine grained. 97.85-97.94 Quartz-calcite-chlorite breccia and				MIN	n A1 9.3	soriaci	м н	N
		stringers at 45° and 40° (sharp). Fault?					Access	a an an an Arain. An an Arain an Arain		
	101.00	10mm quartz-epidote-chlorite at 30°.					7		t i i	
	104.05-104.15	Weakly to moderately silicified section at 60 ⁰ . About 25% epidote. Trace pyrite.						Ч	14	
	108.47	$2mm$ quartz-chlorite at 60° - very light pyrite.					1 0.			

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PROPERTY Banwan - Porcher Island

Page No. 3

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Hole No. 5-2

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FOOT	TAGE		•	SAM)LE		1	7	NALYSI	S
From	To	DESCRIPTION	From	Footage To	e Length	Number	Au	Ag	Au	Ag
		 109.57 Same - 1mm at 75° - very light pyrite. 112.43 12mm brecciated quartz-calcite-chlorite at 60° with heavy pyrite mineralization. Chloritic contacts. 	112.40	112.45	<i>0.21</i> 0.05	WC 14784	1.17	0.7	0.034	0.02
		Quartz-calcite-chlorite fracture fillings (no wall rock alteration): 113.08 (lmm at 70°), 113.93 (lmm at 65°), 114.40 (4mm at 60°), 115.85 (4mm at 55°), 119.14 (2mm at 20°).								
		End of hole 120.8m.		-						
		OF PROVINCE OF OF MARMETRONG BRITISH CUMBIT								
		DEC 8 1978								

C. M. ARMSTRONG, P.Eng. CONSULTING ENGINEER	PROPERIY Banwan - Porcher Islan	d DIAMOND DRILLING LOG	Hole No. <u>S-3</u>
Northing 5303	Depth183.1m	Elevation 3631/2	Level Surface
Easting 4987	$Dip -44\frac{1}{2}^{\circ}$	Date0ct. 1978	Purpose
Azimuth 180°	Core Size BQ	Logged by <u>CMA</u>	Zone

Location

Remarks Bedrock 2.7m. Casing stickup: 0.8m vertical & 1.1m inclined. Sperry-Sun tests: 85m -40½ @ 185°, 168m -34° @ 186½°. Casing stuck and left in hole. Hole plugged and collar marked.

FOOT	TAGE			SAM	PLE			AN	ALYSIS	· · · · · · · · · · · · · · · · · · ·
From	То	DESCRIPTION	From	Footage To	e Length	Number	Au	Ag	Au	Ag
0.00	2.68	Casing.				· ·				
2.68	15.90	Hornblende Quartz Diorite.								
		Iron coated fractures (surface weathering) to 3.2m. 3.92-4.07 Barren cream-colored quartz at 55° - some sericite on fractures. No pyrite.	3.92	4.07	0.15	SC 14786	0.27	1.0	0,008	0.03
		7.54-7.70 Moderately bleached and silicified section with very light to light pyrite dissemination at about 30°. 12mm	7.54	7.71	0.17	14785	0.34	0.7	0.010	0.02
		8.33-9.60 Quartz diorite. Contacts tight and irregular at about 30° and 5° (from 9.14 to 9.60).			666	OFESS	ION A	600		
		<pre>11.15-13.82 Bleached(pinkish) and altered section with calcite- epidote- quartz-chlorite-filled fractures (to 10mm) mostly at small core angles.</pre>	.			Q ØF	TRON	6		
		 11.83-12.21 Possible similarly bleached and altered. 12.31-12.42 Quartz diorite at 30° to 35° - tight, diffuse contacts. 13.10-13.48 Possible amygdaloidal andesite at about 20° Much calcitorenidate and set of the se			Accession of	BRITI	SH BI EER	1		
15.90	183.07	Quartz Diorite. Leading contact at about 10 [°] from 15.79 to 16.00 - tight, diffuse or gradational. Massive.				DEC 8	1978			
		Narrow quartz +calcite +chlorite +pyrite +silicified wall rock at: at 60°, 22.44 - same at 60° but no silicification, 23.78 - 2mm at 1 at 75°, 25.16 - +5mm at 80°, 26.13-26.20 - weak silicification and cation at 65°, 26.69-26.80 - +10mm from 2 chloritic fractures at 80	19.31 - 5 with 2 chlori and 10	1mm +3mm moderate tic frac	at 65 ⁰ pyrite tures a te) 35.	19.96 mineral 80, 2 53-35.59	- same izatio 5.56 - - 2mm	at 60 n, 24. <u>+</u> 10mm guart	9, 21. 42 - 1 weak	59 - same nm <u>+</u> 10mm silicifi- ite-chlorit;
		at 75° plus silicified wall rock, 36.16 - 3mm +10 and 5mm at 65° wi	ch light	pyrite,	36.24	- 1mm <u>+</u> 5	nm at	55 wi	ch min	or pyrite,

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Page No. 2

FOOT	TAGE		SAMPLE		A	NALYSI	S	
From	То	DESCRIPTION	Footage From To Length Number	r Au	Ag	Ач	AB	
		36.52 - $2mm \pm 5mm$ at 65° with light pyrite, 37.11 - $1mm \pm 70^{\circ} \pm 5mm$, 3 75° with very light pyrite, 38.93 - $2nm \pm 10$ and $5mm \pm 40^{\circ}$, 39.42 - at 45° and 40° with minor pyrite and $\pm 10mm$, 42.47 - $5mm$ quartz-chlor 45.63 - $1mm \pm 25^{\circ}$ with minor pyrite, 48.50 - $4mm \pm 55^{\circ} \pm 12mm$ with 49.83 - $1mm \pm 55^{\circ}$, 50.69-50.73 - 2 - $1mm \pm 55^{\circ} \pm 5mm$ with very (some coarse), 52.23 - $5mm \pm 60^{\circ} \pm 10mm$ with very light pyrite, 52.3 at 45° with minor pyrite $\pm 5mm$, 56.88 - $\pm 10mm \pm 50^{\circ}$, 57.43 - $5mm \pm 31$ silicified, 58.07 - $5mm \pm 60^{\circ} \pm 15mm$ with very light pyrite, 58.74 - 1ight, coarse pyrite ± 2 and $5mm$, 60.10 - $5mm \pm 5mm \pm 75^{\circ}$, 60.32 - $3m$ 70.28 - $5mm$ with light pyrite at 70° ± 7 and $5mm$, 70.44 - $2mm$ with 1i pyrite $\pm 4mm$ 85 60 - $5mm$ at 65° with minor pyrite 2102°	7.39 - 1nm with pyrite at 70° 2mm +10 and 25mm with minor p ite at 35° +2mm, 44.78 - 5mm very light pyrite, 48.86 - +1 light pyrite, 51.66 - 2mm +7 8 - same - 1mm with light pyr 55° +5mm with trace pyrite, 5 2mm at 55° + 5mm, 58.94 - sa n with light pyrite at 70° +5 ght pyrite at 70° +7mm, 76.80	<u>+</u> 5mm, 3 yrite at at 50° w Omm at 6 mm at 55 ite at 6 7.80 - 9 me, 59.5 mm, 68.6 - 1mm a	7.71 - 45°, ith mi 0° with 0° +10 mm at 5 - 12 7 - 4m t 75°	+10 a 41.26- nor py h mino light mm 56 60 +1 mm at m at 7 with n	nd 25m 41.31 rite, r pyrit .44 - 5mm we 60 wi 0° +5m oderat	m at - 1m te, e 2mm akly th m, e
		pyrite ± 4 mm, 85.60 - 5mm at 65° with minor pyrite, 81.03 - 1mm at 65 at 30°, 108.21 - 5mm at 55°, 111.58 - ± 6 mm at 25°, 112.92-113.04 - 2 20mm at 20°, 115.40 - 3mm at 55°, 116.98 - 4mm at 60°, 117.10-117.40 119.21 - 2mm ± 5 mm at 70°, 120.56-120.62 - 2 chloritic fractures at 6 121.06 - ± 5 mm at 70°, 122.99 - 1mm with light pyrite ± 5 mm at 50°, 12 pyrite, 124.50-124.52 - same, 128.76-128.82 - silicified at 30° and 5 132.27 - 2mm ± 3 mm at 45°, 133.60 - 1mm at 45°, 134.40 - 2mm with 1ig ± 3 mm, 135.34 - 1mm at 55° with very light pyrite, 135.44 - 3mm at 60 136.66 - 1mm ± 6 mm at 45° with sparse pyrite, 138.87 - 1mm ± 5 mm and 1 moderate, coarse pyrite at 70° ± 5 mm, 140.37 - 2mm at 70° with light 143.17 - 3mm with moderate pyrite at 40° ± 10 mm and 15mm, 145.90-145. pyrite, 147.13 - 8mm at 35° (younger, barren quartz - opposite direct pyrite at 60° ± 6 mm, 142.48-147.50 - 3 chloritic and pyritic slips at 7mm with light pyrite at 35°, 148.69 - 2mm at 40°, 157.65 - 10mm at 20mm at 50° with sparse pyrite on chloritic contacts, 160.39 - 2mm at (tight), 168.42-168.49 - pinkish grey quartz at 45° (tight) with min pyritic stringer at 169.20), 169.49, 169.55, 169.63 - 3,2, and 1mm at 173.80-174.38 - 8 - 1mm to 4mm quartz stringers at 60°, 175.85 - 13m (opposite former) with 1 small patch chalcopyrite (tight contacts), 178.80 - 2mm at 30°, 179.37 - 20mm at 75°, 180.26 - 15mm at 65° ± 20 coarse muscovite. 32.31-32.65 Strongly silicified section at 20° with light pyrite	+10mm with moderate pyrite, mm + 30mm at 25 with light p - 5mm to 15mm across core, 0° and 40° plus silicified wa 4.12-124.23 - silicified sect 0°, 132.01 - 20mm silicified ht pyrite at 30°, 135.20 - 1m °, 137.07 - 1mm +3mm at 60°, 0 to 25mm at 40° with sparse pyrite, 141.80 & 141.85 - 10m 95 - 4mm +15mm and 20mm at 35 tion to mineral zed fractures 65°, 147.81 - 4mm with light 50°, 157.73 - 10mm at 65° wit t 35°, 167.78 - 20mm barren g or pyrite, 168.57 - same - 8m t 70°(2) and 75°, 172.80 - 3m m at 40° with very light pyri 177.20 - 5mm at 45° (opposite and 30mm with sparse pyrite, $\frac{//'}{32.31}$ 32.66° 0.35° 14787	107.04 yrite (s 118.42 - 11 rock ion at a with ver m with h 137.43 - pyrite, m and 15 and 55), 147.2 pyrite h very 1 rey quar m (both m pyriti te, 176. sheared 182.13 -	- 5 mm ome co $5 \text{ mm} \frac{1}{2}$ and mi bout 5 y ligh eavy p lmm $\frac{1}{140.08}$ mm at 0 - 2 m at 55 ight p tz (ap opposi c quar 00 - 5 quart 5 mm a 1.7	with 1 arse), 12mm a nor py 0 wit t pyri 5mm at - 2mm 50 an very m with +5mm, yrite, 1itic) te fol tz at mm qua z at 1 t 50 0.010	ight p 113.5 t 50°, rite, h spar te at at 60°, 55°, with d 60°, light 147.9 158.6 at 35 lowing 40°, rtz at 77.07, with p 0.05	yrit: 5 - 40°, 3 - 0 - 65° atch
		32.40 10mm quartz-calcite-epidote-chl _A filling at 17°. 36.61-36.85 2mm quartz-calcite-pyrite at 60° at beginning and 1mm at 30° at end. Central 13mm quartz-calcite-chlorite at 70° (partly ground). About 50% silicified wall rock.						

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PROPERTY BanWan - Porcher Island

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Hole No. 5-3

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FOOT	AGE			SAM	PLE	*****	ANALYSIS						
From	То	DESCRIPTION	From	Footag To	e Length	Number	Au	Ag	Au	Ag			
	•	46.05-46.12 Highly silicified section with very light pyrite and 9 quartz-chlorite at 65° with light pyrite mineralization	um 46.05	46.14	0.09	14788	5.14	16.8	0.15	0.49			
		52.85-54.09 Water course - fracturing at small angles and along co coated with quartz crystals. Wall rock vuggy and light bleached and altered.	e y										
		54.09-54.11 Strong white guartz with medium, coarse pyrite mineral- ization at 45 +5mm silicified wall rock (some ground)	54.08	54.13	0.05	wc 14789	1.37	7.5	0,0 1 0	0.22			
		60.38-60.40 Quartz-chlorite-calcite at 50° with light pyrite miner- alization.	63.02	65.62 s 1.7'	2.60	WC 14790	1.51	6.9	0.044	0.20			
	·	63.02-65.62 Weakly altered zone with scattered quartz-chlorite-cal- cite-pyrite fillings and silicified wall rock: 63.06- 63.12 - 2 at 2mm at 65°, 63.61-63.65 - 15mm at 70°, 63.73-63.75 - 4mm at 60°, 63.85-63.88 - 5mm at 50°, 63.98-64.02 - 14mm at 60°, 64.18 -64.22 - 2 at 4mm at 65° and 40°, 64.57-64.60 - 5mm at 55°, 64.69-64.72 - 5m at 65°, 65.20-65.22 - 5mm at 65°, 65.54-65.56 - 10mm at 45°.	0.08,	0.05, 0.0	3, 0.08	,0.05, (.06, (.05, C	.05, 0	.04, C	.04		
		69.38-69.42 15mm white quartz at 45° - some calcite, and chloritic contacts - +20mm and 10mm silicified wall rock with very light pyrite.											
		69.69-69.73 Same at 60°.											
		71.70-72.42 Water course - vuggy fractures with light brecciation and bleaching and alteration mostly at small core angles (less than 20°) - quartz coatings.		· · · · · ·									
		70.62-70.72 Two 10mm quartz veinlets at 70 [°] , latter one with moder- ate pyrite mineralization. Minor to very light pyrite in silicified wall rock.											
		73.13-76.00 Black basalt dyke. Leading contact sharp at 20°. Uni- formly weakly magnetic. Branching calcite and quartz- filled fractures. Trailing contact brecciated (fault? - most brecciation in quartz diorite) and along core from about 75.90 to 76.10.						-	•				
		76.10-76.50 Water course - brecciation and vuggy fracturing along core.											

PROPERTY Banwan - Porcher Island

Page No. 4

Hole No. 5-3

FOOT	AGE		T T	SAM	PLE]	7	NALYSI	S
Fran	To	DESCRIPTION	17mm	Footag	e It on oth	Number	Au	Ag	Au	Ap
		75.20-79.45 Water course - as above. Barren quartz filling. Bleached and altered.	FIOM	10	Length			0		
	• •	81.00-82.10 Water course - as before. Very vuggy. Altered (kaolir 81.67-81.74 Vuggy white quartz silicification with light pyrite dissemination at about 60 ⁰ .	ized). 81.65	81.75	0.3' 0.10 54	WC 14791	1.92	8.9	0.056	0.26
		85.92-87.51 Moderately to highly silicified section with very lig to light pyrite dissemination. Contacts at about 20° and 50°. 86.66 5mm quartz at 40°.	ht 85.86	87.51	1.65	SC 14792	0.69	1.7	0.020	0.05
		89.56 l2mm calcite-chlorite-quartz-pyrite at 30°. Light pyrite mineralization.								
		92.26-92.31 Highly silicified section at 60° and 35° with very 15 pyrite.	ght							
		92.41-93.31 Weakly to moderately altered section at 40 ⁰ - about 2 patchy epidote.	0%							
		94.35-94.92 5mm chlorite becoming chlorite-calcite stringer at 94 along core.	.72							
		94.92-103.79 Basalt dyke. Leading contact crosses core from 94. to 95.53 - parallel lmm calcite stringer. Trailing contact knife-sharp and tight at 50°. 96.22-96.47 Quartz diorite and calcite stringers along part of core (drilling parallel to dyke).	92							¥
		104.15-104.35 Basalt dyke at 50° (blob into quartz diorite wall) and $15^{\circ}/25^{\circ}$ (both contacts sharp and tight).			1.2'	SC				
•		105.17-106.41 Moderately to highly altered and silicified section at large core angle. Pinkish to 105.54 with very light pyrite dissemination, and whiter to 106.41 with sparse pyrite. Steep chloritic fractures also talcose. 105.48-105.54 Stronger altered section with light to moderate, coarse streaky pyrite mineralization.	n 105.17	105.55	0.38	14793	0.55	1.0	0.01 G	0.03

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PROPERIY Banwan - Porcher Island

Page No. 5

Hole No. S-3

FOOT	AGE		1	SAM	PLE			<i>P</i>	NALYSI	S	
Fren	<i>т</i> ъ	DESCRIPTION		Footage	3	Number	Au	Ag	An	Ag	
<u> </u>	<u>OT</u>		From	To	Length		1				
		115.72-115.80 Grey, moderately to highly silicified section with very light pyrite and central strong 20mm quartz-cal cite-chlorite-pyrite stringer at 60° (light, coarse pyrite).	115.70	115.80	0.10	WC 14794	2.54	2.4	0.074	0.07	
		118.49 15mm strong white quartz-calcite at 65 [°] - chloritic contacts.			-			4 1		4 . 11 . 1 . 1 . 1	J
		124.56-124.85 Highly silicified section at 60° and 50° - only trace pyrite.									
		124.63-124.71 White calcite-chlorite at 50° and 65° 124.77 10mm calcite-chlorite at 60° .	` .								
		127.32-127.41 20mm chloritic shear at 50° followed by moderately silicified wall rock.			0.31	WC					
		136.20-136.27 Strong 30mm white quartz with light pyrite at 60°. Chloritic slip contacts.	133.18	133.26	0.08	14795	4.11	8.6	0.12	0.25	
		143.43-143.58 Moderately to highly silicified section at 40° with light pyrite dissemination and few coarse pyrite patches.	143.42	143.60	0.18	14796	1.17	1.4	0.034	0.04	
		144.13-144.20 Moderately to highly silicified section at 85° (1mm crushed, sericitic material) and 30° with very ligh pyrite. Fault? Similar at 55° and 50° (irregular). 15mm blob white quartz at beginning. Very light py- rite dissemination.	E ·								
		149.12-149.27 Very strong, highly altered, chloritic and sericiti shear at 35° - somewhat contorted. Lensey, blobby white quartz to 5mm - not mineralized.	c		· ·	•					
	•	149.27-151.14 White vein quartz at 40° and 60° with heavy pyrite mineralization. 149.27-149.47 Very heavy to semi-massive, patchy pyrite mineralization at about 45°. Matrix white and grey quartz-calcite	149.27	149.47	<i>0.7</i> ' 0,20 <i>J.4</i> -'	SC 14797	120.34	52.5	3.51	1.53	
		149.47-149.89 White quartz with about 10% coarse patchy pyrite somewhat along core.	149.47	149.89	0.42	50 14798	24.69	10.3	0.72	0.30	

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PROPERTY Banwan - Porcher Island

Page No. 6

Hole No. 5-3

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FOOI	AGE		1	SAM	PLE		T	;	ANALYSI	S
From	To	DESCRIPTION	From	Footag To	e Length	Number	Au	Ag	Au	Ag
		149.89-150.09 Massive white quartz with only few prite crystale	- 149.89	150.29	0.40	SC 14799	1.23	2.1	0.036	0.06
		150.09-150.29 Grey moderately to highly silicified wall rock at 50° - only very light			1.5					
		pyrite. 150.29-151.14 White vein quartz. Irregular leading	150.29	151.14	2.8' 0.85	SC 14800	0.48	1.4	0.014	0.04
		contact at about 70 . Chloritic and sericitic seams (fuschite?) at 20 to 30 with light pyrite. Minor grey mineralization (telluride?). Quartz mostly barren. Trailing contact sharp at 60°.	149.27	151.14 Average	1.87 6.1'		18.90	9.0	0.55	0.26
		153.86-156.61 Very weak alteration with scattered quartz-calcite stringers - only sparse pyrite: 153.86 - 3mm at 60°, 154.02 - 2mm at 50°, 154.12 - 4mm at 60°, 154.17 - 5 at 65°, 154.34 - 8mm at 55°, 154.43 - 3mm at 65°, 154.56 - 5mm at 55°, 155.11 - 5mm at 60°, 155.21 - 2 mm at 55°, 155.64 - 10mm at 70°, 156.35 - 2mm at 60°	mm							
		156.4 - 3mm at 65°, 156.60 - 4mm at 50°. 154.83-154.95 Two 15mm and 22mm quartz veinlets at 55° and 65° with very light to light, fairly coarse <u>chalcopyrite</u> and pyrite Tight contacts. Some calcite.	(154.83	154.97	0.2' 0.06 0.14 0.5'	WC 14801	3.29	5.8	0.096	0.17.
		157.34-157.58 Core ground - tube did not lock. 30mm black basalt probably misplaced from 102m.				1				general de
		159.48-159.57 White quartz vein at 30° with one coarse patch pyrit about 15mm by 25mm.	e 159.45	159.58	0.4' 0.13	WC 14802	6.17	4.5	0.18	0.13
		<pre>160.69-161.29 Moderately silicified section with scattered quartz stringers and highly silicified wall rock with very light pyrite disseminations: 160.73 - 12mmat 50°, 160.79 - 4mm at 50°, 161.06 - 17mm at 55° (with chlor ite seams), 161.14 - 10mm at 70° (very light pyrite), 161.20 - 1mm at 55° (light pyrite), 161.27 - 1mm at 60° (light, coarse pyrite).</pre>	160.69	161.29	2. <i>0'</i> 0.60	SC 14803	0.21	1.4	0.006	0.04
try		169.20-169.25 13mm white quartz at 35 [°] with moderate pyrite miner- alization and silicified wall rock (only sparse py- rite).	169.19	169.29	0.3' 0.10	WC 14804	17.83	18.9	0.52	0.55

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PROPERTY _____ Banwan - Porcher Island

Hole No. 5-3

FOO	TAGE		1	SAN	PLE		1		NINTVOI	C	
Fran	То	DESCRIPTION		Footac	16 TTTT	Number	λ			5	I
		177.07-177.13 Sheared and silicified section at 50° with 20mm barren, white quartz.	From	<u> </u>	Length	- Nulliser	Au	Ag	,		-
		180.54-180.60 Sheared and silicified section at 65° and 35° with moderate, coarse patches pyrite - severely ground and broken.									
		181.70-181.79 Barren white quartz at 60 [°] and 50 [°] - muscovite on contacts.									
		181.97 15mm quartz-chlorite-calcite at 55° with light pyrin mineralization. Muscovite on contacts and in silicified wall rock.	te								
		182.41-182.51 Barren white quartz at 40° and 35° - few fairly coarse muscovite patches.									
	-4										
		DEC R 1978					· · · · · · · · · · · · · · · · · · ·			-	

C. M. ARMSTRONG, P.Eng. CONSULTING ENGINEER	PROPERIY <u>Banwan - Porcher Island</u>	DIAMOND DRILLING LOG	Hole No. <u>5-4</u>
Northing 5437 1/2	Depth 136.7m	Elevation 371'	Level <u>Surface</u>
Easting 5188 ½	$Dip -44\frac{12^{\circ}}{2}$	Date Nov. 1978	Purpose
Azimuth 180°	Core Size BQ	Logged by <u>CMA</u>	Zone
Location			

Remarks Bedrock 2.7m. Casing stickup: 0.5m vertical & 0.7m inclined. Sperry-Sun tests: 7m -44° @ 179°, 128m -34° @ 1712°.

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- N	FOOT	TAGE			SAM	PLE		· ·	AN	ALYSIS		
)	From	То	DESCRIPTION	From	Footag To	e Length	Number	Au	Ag			
	0.00	2.56	Casing.									and approximation of the second
	2.56	136.67	Quartz Diorite.					2				
DEC	FESSIC ROVING OF BRITISH CUMP GINEE 8 1979	What have a second seco	Iron-stained fractures (surface weathering) to about 3.6m. Narrow qu at 80° with very light pyrite, $3.99 - 4mm$ at 60° with a patch coarse 3mm to 7mm stringers at 65° (3) and 80°, $5.20 - 1mm$ with muscovite a irregular 10mm at 40°, $6.68 - 3mm$ at 30°, $8.47 - 1mm \pm 2mm$ at 40° with with sparse pyrite, $17.84 - 5mm$ at 40°, $18.17 - 3mm$ with light chalc very light pyrite, $21.29 - 5mm$ with moderate, coarse pyrite at 65° , $3t, 85^\circ \pm 3mm$, $33.40 - 8mm$ at 50° with sparse pyrite, $35.95 - 5mm \pm 100$ $- 10mm$ at 80°, $37.74 - 7mm$ at 85°, $38.23 - 10mm \pm 15mm$ with sparse pyrite 5mm quartz with medium pyrite at 90°, $40.92 - 3mm$ quartz with medium at 90°, $43.08 - 17mm$ quartz at 80° - sparse pyrite, $43.46 - 5mm$ at 60° $53.07 - 2mm \pm 10mm$ at 65° , $53.30 - 1mm \pm 5mm$ with trace pyrite rock, $53.85 - 2mm \pm 10mm$ at 65° , $53.30 - 1mm \pm 5mm$ with trace pyrite rock, $53.85 - 2mm \pm 10mm$ at 65° , $53.30 - 1mm \pm 5mm$, $54.75 - 10mm$ chlorite with coarse pyrite at 40° and 80° (opposite), $55.42 - 15mm$ $\pm 5mm$ at 85° , $55.73 - 55.77 - 2 - 1mm$ at 60° plus silicified wall rock, $56.11 - 3mm \pm 5mm$ at 60° , $57.26 - 3mm \pm 10mm$ at 55° , $57.41 - 57.46 - 1mm$ 55° , $59.65 - 2mm$ at 60° , $59.74 - 59.78 - 7mm$ with light pyrite at 70° at 60° , $60.05 - 4mm \pm 30mm$ at 50° , $60.62 - 2mm \pm 3mm$ at 80° , $60.67 - 1111ngs$ at 70° , 20° , and 65° , $63.13 - 5mm$ at 65° , $63.77 - 63.84 - hig$ quartz-chlorite at 63.80 , $64.08 - 5$ to $15mm$ white quartz with chlori section at 80° bounded by chloritic fractures, $80.95 - 81.02 - centralfied wall rock, 81.39 - 2mm at 55^\circ with light, coarse pyrite, 84.39$	artz <u>+</u> ca pyrite t 70°, th modera 23.02 - m at 65 vrite at neraliza pyrite 55 with moderat ight py at 65 th mode quartz- quartz- 55.93 n and 2mm and 1mm 5mm <u>+</u> 10 shly sil tic sli 3mm qu	alcite <u>+</u> on chlc 5.37 - 5 ate pyri at 30°, 5mm at , 36.06 80°, 38 ation at at 75°, very li e pyrite cite at , 53.44- cate pyr chlorite hlorite at 45°, at 45°, at 45°, at 45°, at 45°, at at 55 icified o contac artz-chl	chlorito ritic co nm at 40 te, 10.8 18.31 55°, 27 - 2mm .74 - 5 90°, 40 42.36 ght pyr at 35° 75° +5mm 53.48 - ite +5mm at 55° mi-mass , 58.64 plus s at abou ts at 1 orite-p rate py	\pm +silic ontact, 3 with 5 - 2mm 4mm at 74 - 2m 5mm with 0.26 - 1 2.5mm with 0.26 - 1 2.5mm 1te, 43. \pm 4mm, 5 1.2, 5 1.2	ified 4.32, very 1 at 20 30° , $at 30^{\circ}$, $at 30^{\circ}$, $at 30^{\circ}$, $at 40^{\circ}$, $at 60^{\circ}$	vallro 4.41, ght p , 14. 21.09 moder se pyr pyrito artz a quartz- 0mm at 1mm (0 and s site an - 20mm e pyri 60 (or 30, rock, 61.44- cse py 0 - hi at 50 0	k at: .55, a rite, 5 - 3m 2mm a ate coa ite at patch rol .calcit 45°, 5 chlorit silicit d youm V-blob ce, 55 posite 58.76 -59.96 -61.51 rite am chly si , plus	3.81 nd 4.6 5.53 m at 1 t 65° rse p 70°, 3 at 80 40.86 e-chlo 0.69 ic) a silic silic silic same - 3mm - 1mm 1 7mm licifi	- 3m: 50 - L50 wit1 7rit: 37.6! 37.6! - orit: - 111 - - - - - - - - - - - - -

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PROPERTY Banwan - Porcher Island

Page No. 2

Hole No. 5-4

FOOT	AGE				Q AM	DIF		T	1974 - 1984 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 -	NTNT 100	Г С Р	naad naad oo oo boo dha
From	To	DESCRIPTION	F	rom	Footag	e Ilenath	Number	Au	Ag	ANALYS. Au	Ae	
		84.61 - 2mm with very light pyrite ± 5 nm at 80°, 85.79 - 4mm at 7 at 50°, 89.21 - 3mm at 80°, 89.54 - 1mm ± 5 nm at 50°, 93.33 - 15m 2mm with light pyrite ± 5 nm at 50°, 96.31 - 2mm ± 3 mm at 60°, 97.6 4mm at 70°, 98.83 - 3mm with light pyrite ± 7 nm at 65°, 99.65 - 2 light pyrite ± 5 nm at 85°, 111.17-111.20 - 2-5mm quartz stringers ± 6 nm at 70°, 116.19 - 2mm ± 3 mm at 75°, 117.44 - 1nm with coarse silicified, plus 1mm with moderate pyrite at 75°, 122.21 - 3mm w 124.75 - 7mm at 75°, 127.70 - 3mm with light pyrite at 30°, 133. 134.57 - same, with light pyrite, 135.50 - 2mm with very light p	0°, 87. m +15mm 1 - 5mm mm +5mm at 70° pyrite jth spa: 70 - 1mm yrite +	10 - at 4 quar at 6 , 111 +4mm, rse p m +5m 5mm a	2mm at 5, 93. tz-chlo 0, 100 .27 - 2 118.58 yrite a m at 70 t 65	50°, 87. 62 - 7mm rite wit 53 - 2m nm at 85 - 6mm (55°, 1 , 134.4 135.64 -	60 - 1mm at 55°, h coarse n +5mm a °, 112.7 barren) 22.31 - 4 - 4mm 5mm at	+7mm 93.84 pyrit t 50°, 1 - 1n at 25° 2mm wi with s 65°.	with - 8mm e +7mm 111.0 m with , 119 th coa	very 1: n at 4 n at 7: 26 - 2n n spars .80-119 arse py pyrite	ight py , 95 , 98 m with e pyr: .84 - rite a at 75	rit .16 .43 ite at 7
		 2.98-3.11 Hornblende quartz diorite at about 80° - contacts ground, but apparently quite sharp. 4.88 Lightly pyritic, Fe-stained fracture at 35°. 16.74-16.77 Strong, white quartz-chlorite with heavy pyrite mine ization. 18.62-18.70 20mm white quartz-chlorite-calcite at 30°, plus shea and silicified wall rock with very light pyrite 	ral- 10	6.71	16.80	<i>0.31</i> 0.09	WC 14805	16.80	8.6	<i>0.</i> 4 9	0.25	
		 23.32-23.36 Caved pebbles 25.47 3mm at 35° with moderate pyrite mineralization +5mm silicified wall rock. 26.40-26.80 Strong white quartz vein at 35° and 30° with local her pyrite mineralization particularly from 26.65 to 26. silicified wall rock with very light pyrite from 26.0 to 26.48 (25°) and from 26.77 to 26.80 (30°) 	eavy 26 75. 10	5.34	26.82	1.6' 0.48	SC 14806	11.66	8.9	0.34	0.26	
		 37.94-38.07 Lightly silicified section with very light pyrite disemination and few quartz stringers: 37.97 - 20mm at 2 medium grained pyrite crystals, 38.04 - 30mm with light pyrite mineralization. 39.22-39.31 75% quarta with energy in a 2-9 	s- 37 70° with	7.94 n	38.07	<i>0.4</i> ' 0.13	W C 14807	3,36	3.1	0.098	0.09	
		 39.87-39.96 80% quartz at 80° with coarse pyrite at 85°. 39.87-39.96 80% quartz at 80° with coarse pyrite mineralization of leading contact. 41.46-41.62 8mm quartz with heavy, coarse pyrite at 10°. Contacts Fe-stained (surface), plus other vuggy fractures (low angle) with quartz crystal coating - water course. 	n 39	9.86	39.98	0.4' 0.12	WC 14808	2.19	1.0	0.064	0.03	
C. M. ARMSTRONG, P.Eng. CONSULTING ENGINEER

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PROPERIY Banwan - Porcher Island

Page No. 3

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Hole No. S-4

I				{	SAM	PLE		1		ANALYSI	S
From	To		DESCRIPTION		Footag	e	Number		T		
1				From	<u> </u>	Length		Au	Ag	Hu	Hg
		50.24	$3mm$ vuggy quartz-calcite at 10° cuts earlier $1mm$ quartz-calcite stringer $\pm 5mm$ silicified wall rock at 80° at 50.34.								
		56.25-56.43	Irregular, moderately to highly silicified section. 56.26 5mm at 60 ⁰ . 56.41 15mm at 60 ⁰ .								÷
		56.53-56.81	Same. Quartz at: $56.55 - 15$ and 25 mm branching at 55° and 55° (opposite), $56.66 - 10$ mm at 40° , $56.72 - 2$ mm at 35° , $56.80 - 2$ mm with medium, coarse pyrite at 70° .								
		57.70-58.01	Cream and buff, very highly silicified section at 65° and about 25° with few patches and seams coarse pyrite. Predominantly only very light to sparse pyrite.	57.70	58.08	0.38	SC 14809	0.75	1.0	0.064	0.03
		58.15-58.44	<pre>Same at 55[°] and 70[°]. 58.28 5mm quartz-calcite-chlorite with medium, coarse</pre>	58.08	58.45	0.37	SC 14810	8.23	6.9	0. 24	0.20
· [58.97-59.17	Same at 60° and 75°. Few patches coarse pyrite.	58.96	59.18	0.22	SC 14811	9.26	5.5	0.27	0.16
		64.23-64.47	Vuggy fracturing (water course), white bleaching, and blobby quartz-chlorite veining along core and at 25° at end.						-		
		64.75-65.09	Converging vuggy fracturing and 4mm quartz-chlorite at 15°.								
		65.40-66.70	<pre>Grey-buff, highly silicified section at about 35° and 30°. Only sparse pyrite. 65.52-65.67 Relatively unalterated section at 50° and 35° (converging). 65.98 10 to 15mm quartz-chlorite at about 40°. 66.10-66.52 5 to 10mmcalcite and quartz-calcite stringers at 50° and branching along core.</pre>						<i>'</i>		
		67.46-67.92	4 quartz-chlorite-pyrite stringers(1mm to 5mm) at 65, 50, 70, and 75°. Last is 5mm semi-massive pyrite.			0.5'					
		68.22-70.20	Highly silicified section with local coarse pyrite mineralization. Fractured (with crushing) and altered - water course? (no vugs) - kaolin.	68.50 68.66	68.66 69.11	0.16 1.5' 0.45	50 14812 50 14813	22.97 0.41	15.4	0.67 0.012	0.45

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PROPERTY Banwan - Porcher Island

			SAMPLE					ANALYSIS			
ran To	DESCRIPTION		Footage	9	Number	Au	Ag	A.,	An		
		From	10	Length				11/4	115		
	68.22-68.49 Grey. Only sparse pyrite. Fractured-chlor-	69.11	69.22	0.11	SC 14814	38.40	34.3	1.12	1.00		
	68.49-70.02 Buff and creamy. Fractured - loose. Only	69.22	69.45	0.23	(14813) SC	0.41	0.7	0.012	0.02		
	very light pyrite in most. Heavy, coarse	69.45	69.62	0.17	14815	9.94	6.9	0.29	0.20		
	pyrite: 68.52-68.62, (about 10%), 69.11- 69.21 (about 20%), 69.45-69.60 (about 10%)	. 69.62	70.02	0.40	(14813)	0.41	0.7	0.012	0.02		
	68.77-68.81 Intensely crushed section at about 35°. Kaolin. 69.04-69.11 2 - 45° slips with 5mm intens	e				5 - -					
	70.02-70.20 Grey.Only moderate silicification. About 35°.										
	71.32-71.62 Vuggy fracturing with quartz coating at 15° and along core - water course.										
	71.80-72.65 Grey, moderately silicified section at very small core angle (less than 10°).				•						
	77.13-79.39 Highly silicified section at 45° and 55° with overall light pyrite mineralization (dissemination and fracture fillings).			2.71	SC						
	77.13-77.85 Strong, pinkish buff silicification. Light medium grained pyrite dissemination. Py- ritic seam (lmm) at 77.19(45°), and 77.32 (10°). Trailing contact curving at about	, 77.10	77.91	0.81	14816	2.40	6.5	0.070	0.19		
	$77.85-78.20$ Relatively unaltered section at 15° and 10°	d							l i		
	(contacts undulating).	ľ		4.1'	sc						
	78.20-79.39 Moderate, greyish and greyish buff silici-	78.13	79.39	1.26	14817	2.43	9.9	0.071	0.2.9		
1	tication with light pyrite dissemination		Average	7.5'							
	with fairly beau purite Pare coarse pu-	77.10	79.39	2.29		2.19	7.7	0.064	0.23		
	rite patch. Trailing contact at 55°.										
	pyrite.										
	82.75-83.06 Moderately to highly silicified section at 40°. 25 and 15mm white quartz with very light pyrite at 82.88 and 82.97.										

C. M. ARMSTRONG, P.Eng. CONSULTING ENGINEER

PROPERIY _____Banwan - Porcher Island

Hole No. 5-4

Erron (T)		DESCRIPTI	N L		SAMPLE					ANALYSIS			
$\frac{2\pi}{2}$	<u> </u>			Even	Footac	je	Number	A11	Aa	1	Ĩ,		
		87.33-87.44 Cave pebbles and drill cut	tings - rods dropped	FLOM	10	ILength			1	74			
		89.79 2mm quartz with heavy pyri +6mm silicified wall rock.	te and <u>chalcopyrite</u> at 55°										
		92.20-92.76 Strongly sheared and highl and 45° with 0.15m white v	y silicified section at 75 ⁰ Wein quartz in 2 veins with	92.20	92.37	0.6' 0.17 0.3'	SC 14818	0.51	0.7	0.015	6		
		heavy pyrite mineralizatio	n (92.36-92.44 at 45° and 50°,	92.37	92.45	0.08	14819	27.09	11.0	0.79	0		
		and 92.09-92.76 at 50 and	45). Shearing at 40° to 45°.	92.45	92.66	0.21	(14818)	0.51	0.7	0.015	4		
		113 13 114 02 11 11 11 11 11		92.66	92.77	0.11	(14819)	27.09	11.0	0.79			
		pyritic quartz stringers - 5mm at 30°, 113.25 - 2 45°, 113.51 - 7mm at 60° at 20° to 60°, 113.66-11 cite with light pyrite a at 70°, 113.94 - 8mm at	n with scattered very lightly : 113.17 - 3mm at 60°, 113.20 mm at 45°, 113.30 - 2mm at (barren), 113.59 - 3mm to 8mm 3.78 - quartz-chlorite-cal- t 50° and 70°, 113.90 - 1mm 70°, 114.00 - 1mm at 55°.	113.12	114.02	0.90	14820	0.58	1.4	0.017	e		
		118.72 Bleached and kaolinized course.	fracture (5mm) at 30° - water										
		119.70-120.02 Low angle, 1mm to 5mm vu across core - water court	ggy, quartz-coated fracture se.										
		121.2-121.8 Vuggy fracture along core course.	e (mostly tight) - water							-			
		123.70-124.23 Bleached and strongly to at about 25°. Pinkish wh (less alteration) thereas	moderately silicified section ite to about 124.02 and grey fter. Only trace pyrite.										
		129.10 Strong 15mm quartz at 55 (fine grained).	with 30% semi-massive pyrite 1	129.08	129.11	<i></i>	WC 14821	19.20	13.7	0.56	6		
		130.21 20mm quartz at 30 [°] and 35 ization on trailing conta	o with heavy pyrite mineral- 1	130.20	130.25	0.05	WC 14822	21.60	5.1	0.63	6		
		130.21-131.98 Weakly altered and silici lock and 0.94m ground or ended in fresh quartz dic 130.45 15mm barren quart contacts.	fied section. Tube did not lost from 130.64 to 132.75 - orite. z-chlorite at 50 ⁰ - tight			-							

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PROPERTY _____Banwan - Porcher Island

Hole No. 5-4

1001	<i>1</i> C E .		<u> </u>	Cam	DIE		1			
From To		DESCRIPTION		Footag	<u>е</u>	γ	<u> </u>	1	ANALYS.	<u>IS</u>
			From	То	Length	Number	Au	Ag	Au	AB
		 130.64 Probably 3 to 5mm quartz with local coarse pyrite at 25 (ground). 130.73-130.92 15mm quartz with heavy, coarse pyrite along core. Considerable missing and ground. 131.04-131.98 Core ground or lost. 	130.73	130.92	<i>0.61</i> 0.19	WC 14823	17.14	5.1	0.50	0,15
		136.30-136.67 Weakly altered and silicified section at 15° to 20°. 136.33 2mm quartz with very light pyrite at 80°. 136.52 1 to 11mm quartz at 80° - tight contacts.						у с с		
						-				
		End of hole 136.7m								
•		FESSIOS								
		BRITISH CLUMBIN GINEEP		•				· · · · ·		
		DEC 8 1978						-		

APPENDIX

2

Costs

C. M. Armstrong, P.Eng. Wainwright Marine Services Ltd. North Coast Air Services Ltd. Vancouver Island Helicopters Ltd. Northward Mining Contractors Ltd. Bondar-Clegg and Company Ltd. C. M. ARMSTRONG, P.ENG. CONSULTING ENGINEER 4085 West 29th Avenue V6S 1V4, Canada (604) 224-7678

September 30, 1978

TO

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BANWAN GOLD MINES LIMITED

2560 A Simpson Road Richmond, B. C. V6X 2P9

ATTN

Mr. D. W. Coates President

> PORCHER ISLAND PROJECT September 1 - 30, 1978

Consulting fee 3 days @ \$200= \$ 600.00 12 days @ \$175= 2100.00	\$2700.00
Transportation Flights Ferries Personal vehicle 420 km @ 15¢= 63.00 Taxis Parking 11.25	654.20
Accomodation	27.30
Food	82.10
Field supplies	179.15
Maps and air photos	67.03
Copying	50.92
Telephone 100 min @ 65¢=	65.00
Miscellaneous	7.00
	3832.70
Less Advance Sep.15/78	1500.00
Amount Owing	\$2332.70

C. M. ARMSTRONG, P.ENG CONSULTING ENGINEER 4085 West 29th Avenue Vancouver, B. C. V6S 1V4, Canada (604) 224-7678

November 20, 1978

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BANWAN GOLD MINES LIMITED 2560 A Simpson Road Richmond, B. C. V6X 2P9

ATTN

Mr. D. W. Coates President

> PORCHER ISLAND PROJECT October 1-31, 1978

Consulting fee Oct.	6-31	26 days	@ \$225=	\$5850.00
Transportation Flights Fuel Rental vehicle Taxis Ferry, parking			\$217,00 5.73 28.90 20.50 5.00	077.10
				277.13
Accomodation & meals				32.75
Food				42.72
Field supplies				398.57
Telephone 68'@\$0.	75 =			51.00
Copying, office suppl:	les, frei	ght	-	31.85
				\$6,684.02

C. M. ARMSTRONG, P.ENG. CONSULTING ENGINEER

4085 West 29th Avenue Vancouver, B. C. V6S 1V4, Canada (604) 224-7678

December 3, 1978

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BANWAN GOLD MINES LIMITED

2560 A Simpson Road Richmond, B. C. V6X 2P9

ATTN

Mr. D. W. Coates President

> PORCHER ISLAND PROJECT November 1-30, 1978

Consulting fee	Nov. 1-14 Nov. 15-30	14 days @ \$22 6 days @ \$17	25= \$3150 75= 1050	
		-		\$4200.00
Transportation Fuel Prince Personal veh Taxis, bus,	Rupert/Kamloo licle 345 km parking	1630 km ps/Vancouver @ 15¢=	99.95 51.75 47.60	
,,	1 5		17:00	199.30
Accomodation & m	eals			156.53
Field supplies				185.97
Diamond drilling	supplies			49.97
-EM-16-rental	l day @ \$30=			30.00
Telephone 126	'@ 70¢=	•		88.20
-Claim recordings -grouping-not	- (BR-1/12-unit i ce (total-29-	s & BR 2/3 uni units)	ts) and	80.00
Office supplies	& copying			54.55
	Less P	ersonal effect	S	-5 044.52 4934.52 11.96
- Less Claim sta	king Oct. 15	-19 5× B x	225 =	\$ <u>5032.56</u> 4922.56 (42.86
	-	• ,		4279.70

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As quoted	rince Ruper	Eddy Pass; till noon,	Pass, unab	o ramp, loa	o ramp, loa Orane I	, pickup an Crane 4 Tug and		pson Road 50 Vók2n2	e Services ircle C. S. Enterpris	REFERENCE
for comple	cŤ	too windy offload ba	le to load	d 4 barrel	d lumber, hr	d drill. hrs @ 40 Barge	V:A		es Itd	HELICOPTER TYPE PULL 2058 REG. No. C.F HUR BASE OF OPERATION PRUNCE RUPENT, B.C.
te job		for hell	due to we	t S	propane.					-7.4_HOURS @ S290.00PER HR. \$
		copuer	ather	000	640	-0000	F.O.D.	TERNO	oun Norten DATE 9 CUSTOMIEND	HOURS 0 S PER HR.
\$ <u>3000</u>	1050	000	1200			200- 			1006 Nov 76	CREW EXPENSES
	/ 3		00))) , , , , , , , , , , , , , , , , ,					TOTAL CLUMPERSON TERMES SO DAYS NET Interest at 1964 per month (18 per contract on a full option or regue accounts. This company complias with the CLUE DE ELE DE Contract on a full Association of America.

F.O. Pox 610 - - Prince Royal, 200, 101 5 13 $P_{0}O_{0}$ by g (10) and 10 h stars of g (10) $e^{-2\pi i t}$ CHARTER AND CONTRACT THESE CHARTER AND COMPRACE TRANSFOR 627 - 1351 OCT 3 1 1978 . NOV 15 1978 19 40 D.W. Coales Inderstanding, 40 D.W. Coales Inderstanding, 2560 A Sempson Road, Richmond, BC V64 219 Yo D W Conter Engentreses 1256 A Asmpson Road ACCOUNT ACCOUNT kmond, BC W. T. H E.& O.E. 6x_2R2 ē. 5 TERMS: NET CASH BODAYS. OVERDUE ACCOUNTS SUBJECT TO 13% INTEREST PER MO. TERMS: NET CASH BODAYS, PDUE ACCOUNTS SUBJECT TO 1 1 1 NO LABOR PD CHARGES CREDITS DATE DESCRIPTION BALAMOE DATE DESCRIPTION CHARGES CREDITS man comproverse ----------AMOUNT AMOUNT FORWARDED Od. 10 FORWARDED Cassna 237 -66 102 2 13616 60 -203 -Q220 13179 Husky 105 -Cessna 171 6 13784 Husky 408 -105 -23 13279 (.... 66 237

NORTH COAST AIR SERVICES LTD. F.O. BANKED POINCE REFERENCES AND ADS NORTH COAST AIR SERVICES LTD. P.O. B. Status j...



DATE NOVENBER 20, 1978	DATE NOVESDER 20, 197
NORTHWARD HILLING CONTRACTORS	NORPHWARD MINING CONFRACTORS
2560 A SIMPSON ROAD	2560 A SIMPSON ROAD
RICHTOND, B.C. V6X 2P9	RICHMOND, B.C. V6Y 2P9
REFERENCE INVOICE # 13045	REFERENCE INVOICE # 12225, 12224, 13028
FLYING SERVICE FOR MONTH OF NOVEMBER 12, 1978 19	FLYING SERVICE FOR MONTH OF OCTOBER 28, 31, 1978 19 as per attached flight invoices.
HELICOPTER TYPE BINL 2068 REG. No. C.F. HSO	HELICOPTER TYPE BELL 206B REG. No. C.F. H.P.
DASE OF OPERATIONPRINCE RUPERT, B.C.	BASE OF OPERATION PRUNCE RUPERE, B.C.
BALANCE FORWARD	BALANCE FORWARD
1.5_ HOURS @ \$_300.00_ PER HR. \$	_3.4_ HOURS @ 5_290.00_ PER HR. \$
1.5 HOURS V.I.H. FUEL @ \$26.25_ PER HR.	3.4 HOURS V.I.H. FUEL @ \$26.25_ PER HR.
Hours @ \$ Per Hr.	
HOURS V.I.H. FUEL @ \$ PER HR.	Hours V.I.H. Fuel @ S Per Hr.
MINIMUM CHARGES (IF APPLICABLE)	MINIMUM CHARGES (IF APPLICABLE)
CREW EXPENSES	CREW EXPENSES
ADDITIONAL CHARGES	ADDITIONAL CHARGES
TOTAL CHARGES (199.38)	TOTAL CHARCES (\$ 1.075.
TERMINE 20 DAYS NET	TERMS: 30 DAYS NET



NORTHWARD mining contractors ltd.

256 A Simpson Road, Richmond, B.C. V6X 2P9 - Phone: (604) 273-0985

Inv.# 134 Job # N-5 Date Nov 27/78

Banwan Gold Mines Ltd. 2560A Simpson Road Richmond, B. C. V6X 2P9

Re: Porcher Island Project

Period: October 1 - November 6, 1978

Drilling Detail Moving between Holes Mobilization Demobilization Testing Core Boxes Materials Consumed \$32,752.00 3,409.50 4,182.00 2,815.25 288.00 481.80 1,042.87 \$44,971.42

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Drilling Detail

<u>Hole#</u>	Size	From	To	Footage	Rate	Amount
1-78	BQ	0	3	3	\$16.00	\$ 48.00
1-78	BQ	3	600	597	16.00	9552.00
2-78	BQ	0	11	11	16.00	176.00
2-78	BQ	11	397	386	16.00	6176.00
3-78	BQ	0	9	9	16.00	144.00
3-78	BQ	c 9	601	592	16.00	9472.00
4-78	BQ	0	12	12	16.00	192.00
4-78	BQ	12	449	437	16.00	6992.00
				2047		\$32,752.00

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Moving Between Holes

Labour

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Date	Memo	ManHrs.	DrillHrs.
Oct 19	Setting up drill shack	2	-
Oct 22	Teardown drill	4	_
Oct 23D	Moving & setup hole #2	24	_
Oct 23N	Setup Drill & Shack	10	-
Oct 25D	Moving - teardown	2	-
Oct 25N	Moving - teardown	14	-
Oct 26D	Move - setup (winch)	20	3
Oct 26N	Finish setup	14	-
Oct 29D	Digging #4 - setup	8	-
Oct 30D	Preparing setup #4	15	-
Oct 30N	Waiting for helicopter	16	-
Oct 31D	Moving to #4 & setup	40	-
Nov 1D	Finish setup #4	18	-
		187	3
	Labour: 187 hrs. @ 18.00/hr.	3366.0	00
	Drill : 3 x 14.50	43.5	50 \$3409 .50

Mobilization

(a) Mobilization to Prince Rupert 50%

\$1500.00

(b) Mobilization - Prince Rupert to 1st hole site

Date	Memo	<u>ManHrs</u> .
Oct 10	Loading barge	6
Oct 11	TT TT	16
Oct 12	Loading barge and waiting	16
Oct 13	T1 T1 T1 T1	16
Oct 14	Unload barge & fly to 1st hole	24
Oct 15	Setting Up drill	20
Oct 16	Setting up camp & drill	20
Oct 17	Relocate supply pump	8
Qct 21	Packing supplies from beach	2
Oct 22	Repair camp	4
Oct 24	Setting up wash camp	8
Oct 27	TI TI TI TI	3
Oct 28	11 11 11 11 II	4
Nov 2	Packing supplies from beach	2
		149

Labour: 149	hrs. @ 18.00/hr.	\$2682.00
Total	Mobilization	\$4182.00

- 4 -

Demobilization

(a) Labour

Date	Memo	ManHrs.
Nov 3	Store equipment	8
Nov 3	11 11	8
Nov 4	Store equipment and standby	40
Nov 5	Waiting for aircraft	40
Nov 6	Travel to Vancouver	40
		136

- 5-

Labour: 136 hrs. @ 18.00/hr. \$2448.00

(b) Other

5	Airfares	Prince	Rupert	to	Vancouver	0	\$73.45	\$	367.25
								\$ <u>;</u>	2815.25
								=	

- Testing
- Labour

Date	Item	ManHrs
Oct 22	Testing	6
Oct 25	**	2
Oct 25	11	2
Oct 30	**	4
Nov 3	11	2
		16

Testing: 16 manhrs. @ 18.00/hr.

\$288.00

Core Boxes

100 BQ core Boxes @ 3.78/box	378.00	
Freight: 800# @ 7.50/1b.	60.00	
	438.00	
Plus 10%	43.80	\$481.80

Materials Consumed

Date	Hole#		Item	Amount	
Oct 22D	1	3	10' length BQ drill rods@59.12	\$177.36	
Oct 22D	1	1	10' length BW casing	72.77	
Oct 23D	2	2	10' lengths BQ drill rods @59.12	118.24	
Oct 25D	2	1	10' length BW casing	72.77	
Oct 26D	3	5	10' length BQ drill rods @59.12	295.60	
Oct 30D	3	1	10' length BW casing	72.77	
Oct 30D	3	1	BW casing shoe	93.55	
				903.06	
	Freigh	t:	600#@7.50/100	45.00	
				948.06	-
		P1	us 10%	94.81	\$1042.8

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LUNDAH-LLEGIG & CUMPANY LID.

754 BELFAST ROAD, OTTAWA, ONTARIO, KIG OZ5 PHONE: 237-3110 TELEX: 053-2548

Banwan Gold Mines Ltd. 2560A Simpson Road Richmond, B.C. V6X 2P9



B 3816 INVOICE: B 3815 DATE: October 27, 1978 REPORT NO: A28 - 996 PROJECT:

W.). No. C 1301

25 Gold,Silver

Assays

@\$8.50



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BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, KIG OZ5 PHONE: 237-3110 TELEX: 053-3548

Banwan Gold Mines Ltd. 2560A Simpson Road Richmond, B.C. B 3923 INVOICE: **B** 3923 DATE: November 7, 1978 REPORT NO: A28 - 1026 PROJECT:

W. O. No C 1330

25 Gold,Silver

Assays

@\$8.50

212.50

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BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, KIG OZ5 PHONE: 237-3110 TELEX: 053-3548

Banwan Gold Mines Ltd. 256 A Simpson Road Richmond, B.C. B 3991 INVOICE: **B** 3991 DATE: November 16, 1978 REPORT NO_{A 28} - 1040 PROJECT:

W. O. No. C 1344

23 Gold, Silver

Assays

@ \$ 8.50



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APPENDIX

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Diamond Drilling Contract

BANWAN GOLD MINES LIMITED AND NORTHWARD MINING CONTRACTORS LTD.

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THIS AGREEMENT made this 13th day of October 1978.

BETWEEN:

BANWAN GOLD MINES LIMITED 2560 A Simpson Road Richmond, B. C. V6X 2P9

Hereinafter referred to as "The Company"

OF THE FIRST PART

AND:

NORTHWARD MINING CONTRACTORS LTD. 2560 A Simpson Road Richmond, B. C. V6X 2P9

Hereinafter referred to as "The Contractor"

OF THE SECOND PART

WHEREAS the Company has requested the Contractor to complete a minimum of 1500 feet of drilling and other services as set forth, on the property of the Company in the Prince Rupert area in the Province of British Columbia.

AND WHEREAS the Contractor has agreed to do the said diamond drilling and to perform the other services requested upon the terms, conditions and provisos herein contained.

NOW THEREFORE this Agreement Witnesseth that in consideration of the payment of the amounts herein stipulated and of the mutual covenants hereinafter contained, the parties hereto agree as follows:

SCHEDULE OF RATES - CORING

THAT the Company hereby employs the Contractor to drill on the said property a series of bore holes using a BQ core barrel producing a core of approximately 1 7/16 inches. The Company agrees to pay the Contractor on a footage basis for all drilling according to the following schedule of rates:

From		To	Price/Foot
0'	-	500' in depth	\$16.00

It is understood that measurement of all bore holes shall be from the top of the casing or stand pipe as the case may be.

OVERBURDEN

THAT the Company agrees to pay for casing or stand pipe for the first 50 feet in any hole according to the following schedule of rates:

From		To	Price/Foot
0'	-	25' in depth	\$16.00
25'	-	50' in depth	\$17.50
50' plus			Field Cost

The Company further agrees that in the event that casing or stand pipe on any hole exceeds 50 feet, then charges for casing or stand piping on that hole shall be charged on a field cost basis from 50 foot depth to bedrock.

- 2 -

Whenever pipe or <u>casing</u> is lost, or left in a hole on the instructions of the Company's engineer, the Company agrees to pay for said casing or pipe at prices <u>F.O.B.</u> drill site <u>plus</u> <u>fifteen</u> percent.

The Company further agrees to compensate the Contractor at the rate of \$0.80 per foot of casing employed for that portion of the hole completed on a field cost basis. Said amount per foot to compensate for the wear and tear on the casing.

MOVING BETWEEN HOLES - SETTING UP - TEARING DOWN

THAT the Company agrees that moving between holes, setting up and tearing down the drill would be performed on a field cost basis.

The Company further agrees to supply a helicopter if required to move between holes at no cost to the Contractor.

WATER SUPPLY

THAT the Company agrees that the supply of all necessary water to the drill would be performed on a field cost basis.

Fuel used to heat the water, if ever necessary, would be charged at cost on job site.

TRANSPORTATION

THAT the Contractor agrees to move his men, equipment and supplies from his base to Prince Rupert and return from Prince Rupert to his base for the lump sum of \$3000.00. M/DM

The movement of men, equipment and supplies from Prince Rupert to first drill site and from last hole to Prince Rupert will be charged on a field cost basis.

The <u>erection and teardown of a suitable camp</u> would be performed on a field cost basis.

The Company would supply helicopters and/or aircraft and/or barge for the mobilization, demobilization and for continuing supplies as the job progresses at no cost to the Contractor.

REAMING CASING

THAT the Company agrees that all <u>reaming and casing</u> that is necessary to stop cave-ins or maintain the return flow of water shall be completed at the Company's request and that the cost of performing such reaming and placing of such casing as may be required will be charged on a field cost basis.

Casing would be charged at the rate of \$0.80 per reamed foot.

CEMENTING

THAT the Company agrees to pay the Contractor for the <u>cementing</u> of bore holes to stop cave-ins on an <u>operating</u> field cost basis.

Waiting for cement to set would be charged on a non-operating field cost basis.

DRILLING WITH MUD

THAT it is mutually agreed that should <u>mud</u> be required to penetrate the overburden and/or aid in core recovery while core drilling, such mud will be charged on a cost at job site plus ten percent.

Time employed mixing mud and stabilizing the drill hole would be charged on a field cost basis.

DRILLING SITES

THAT the Contractor agrees to case and drill on the sites and at angles and azimuths selected by the Company representative and to follow the instructions of the said representative relating to place and time of drilling.

ACID TESTS

THAT the Contractor agrees to take acid tests at the depths as instructed by the Company's engineer. Such <u>tests</u> will be charged at the rate of <u>three feet of drilling</u> at the depth the tests were taken.

TRAVELLING TIME

THAT the Company agrees that should the time required to walk or ride from the camp to the drill site and return per man shift be greater than $\frac{1}{2}$ hour, then that "over" will be recovered on a field cost basis.

- 5 -

DIRECTIONAL AND CONTROLLED DRILLING

THAT it is mutually agreed that directional drilling to change the direction of a bore hole and controlled drilling to maintain the angle of a bore hole shall not be part of this agreement.

SECURITY

THAT the Contractor will not give out any information regarding drill results or access to core to any person other than to the Company's representative.

BOARD AND LODGING

THAT the Contractor agrees that the above schedule of rates include the board and lodging for his drill crew.

The Contractor would <u>supply board to Company personnel</u> at the rate of \$6.50 per meal.

CORE BOXES

THAT the Company agrees to supply the necessary core boxes and/or the Contractor would supply at cost on job site plus ten percent.

CORE SPLITTER

THAT the Contractor agrees to supply a core splitter if requested, at no cost to the Company.

- 6 -

RADIO COMMUNICATION

THAT the Contractor agrees to supply radio communications at no cost to the Company.

CAVED OR BROKEN GROUND

THAT in the event cavities or loose and caving materials are encountered of a nature as to prevent the successful completion of any hole, the Contractor does not, under such conditions, guarantee to drill to a predetermined depth and in the event that it becomes necessary to abandon the hole, the Company agrees to pay for such incompleted holes at the rates herein specified for all footage completed.

In the event it becomes necessary to resort to cementing, reaming or casing, the Company agrees to reimburse the Contractor to the extent of field cost.

ENVIRONMENT

THAT during the course of the work, the Contractor shall at all times keep the clients premises free from accumulation of waste material or rubbish and upon completion of the work shall remove all tools, scaffolding and surplus material and leave the premises in a clean condition. The Contractor shall observe and comply with all applicable Federal and Provincial laws, regulations and orders relating to prevention of forest fires, sanitation in the bush.

COMPENSATION

THAT the Contractor agrees that the men employed by him in the performance of this Contract shall be fully covered under the Workmen's Compensation laws according to the Province of British Columbia and will keep such men covered and will pay the assessment required and will protect the Company from any action arising therefrom, excluding however, claims arising out of any negligent act or omission of the Company, its servants or agents.

INSURANCE

THAT the Contractor, during the entire term of this agreement, will keep in full force and effect a policy of public liability and property damage insurance with respect to the work undertaken in this agreement, in the amount of \$2,000,000.00 for any one accident.

The insurance shall be with an insurance company duly licensed to do business in the Province of British Columbia.

FIELD COSTS

THAT the Company agrees that the following rates shall apply when certain work as defined in this contract is performed on a field cost basis. "Field Cost" is defined as all direct labour, including supervision, drill and support equipment per hour, and cost of pipe or casing lost, diamond loss, and materials and supplies consumed in this work.

- 8 -

Operating Field Costs:

Labour	\$18.00 per man hou	ır
Drill	\$14.50 per hour	
Pump	\$ 1.00 per hour	
Mud Mixer	(when applicable)\$ 1.00 per hour	
Materials	ConsumedCost at job site p	lus
	10 percent.	

Note: No charge is made for drill or pumps when mobbing or demobbing and moving between holes.

Non-Operating Field Costs or Standby Time: (Max 8 hrs/day)

Labour-		\$15.30	per	man	hour
Drill -	-	Equipment\$ 3.00	per	hour	•

PAYMENTS

THAT the Company agrees to make payments at the rates hereinbefore specified in accordance with the terms hereinafter set out, that is: For all work done hereunder between the first and 15th day and the 16th and last day of the month, payment shall be <u>due and payable in 15 days</u>. Interest at a rate of <u>twleve percent per annum shall be added to all accounts more</u> than thirty days overdue, from date of invoice. These payments shall be made as the work progresses in conformity with the Contractor's semi-monthly invoices.

RIGHTS OF WAY

THAT the Company agrees at its own expense to provide all rightsof-way, all rights of ingress and egress and all real property that may be required in connection with said work, including real property upon which all necessary temporary buildings may be erected, and other facilities required, and shall also warrant the quiet and peaceful possession of all such real property and shall save the Contractor harmless from any and all damages, claims, demands, costs or charges of whatever kind or character incident to the occupation of said real property.

RIGHT OF CANCELLATION

THAT the Contractor reserves the right to cancel this contract should its fulfillment be rendered impossible by:

(a) War, invasion, insurrection, riot, the order or regulations of any civil or military authority, or by strikes, lockouts, or labour disputes, whether in or in the neighbourhood of the Contractor's plant or of that of any supplier of materials necessary for the completion of the contract.

(b) The inability sto obtain essential materials and supplies due to priority restriction.

(c) The inability to secure labour due to restrictions or causes beyond the Contractor's control, and the Contractor shall not be liable for any loss or damage directly or indirectly suffered by the Company by reason of exercise of such right of cancellation.

THAT it is mutually agreed that this agreement shall be binding upon and enure to the beneift of the parties hereto, their respective successors and permitted assigns, but shall not be assingable by either party without the consent in writing of the other party first had and obtained.

- 10 -

THAT it is further agreed that this agreement and any dispute arising hereunder shall be interpreted and determined in accordance with the laws of the Province of British Columbia.

THAT any notice required to be given hereunder shall be properly given if mailed by registered letter addressed to the Company as follows:

> Banwan Gold Mines Ltd. 2560 A Simpson Road Richmond, B. C. V6X 2P9

or to the Contractor by registered letter addressed as follows:

Northward Minining Contractors Ltd. 2560 A Simpson Road Richmond, B. C. V6X 2P9

- 11 -

IN WITNESS WHEREOF these presents have been executed by the parties hereto the day and year first above written:

SIGNED, SEALED AND DELIVERED In the presence of

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BANWAN GOLD MINES LIMITED

NORTHWARD MINING CONTRACTORS LTD.

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