HEY-BERT GROUP REPORT #1

REPORT ON GEOLOGY AND GEOCHEMISTRY

FOR ASSESSMENT PRUPOSES

HEY-BERT MINERAL CLAIM GROUP

NANAIMO MINING DIVISION

RECORD NUMBERS 1219, 1220, 1221, 1222

N.T.S. MAPSHEET 92F/1W, 92F/2E

LCP CO-ORDINATES 5448850 NORTH LATITUDE

393000 EAST LONGITUDE

AUTHOR: Craig Stewart

Owner: Mattagami Lake Exploration Ltd.

Operator: Noranda Exploration Company, Limited
(No Personal Liability)

DATE: July, 1983

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1. ABSTRACT

During 1982 and 1983, a total of $8,050.87 was spent to maintain the Hey-Bert claims in good standing, ($7,500.00 applied to claim, $550.87 to portable assessment credit). Geologically, the claims consist of Volcanic-Volcaniclastic sequence intruded by a granodiorite/ quartz monzonite body, all of which are overlain by sediments. Mineralization is dominated by intense pyritization with economic mineralization restricted to trace chalcopyrite. Soil and silt geochemistry indicates Cu-Au potential. After considering the geology, alteration, mineralization and geochemistry an auriferous copper porphyry target has been suggested.

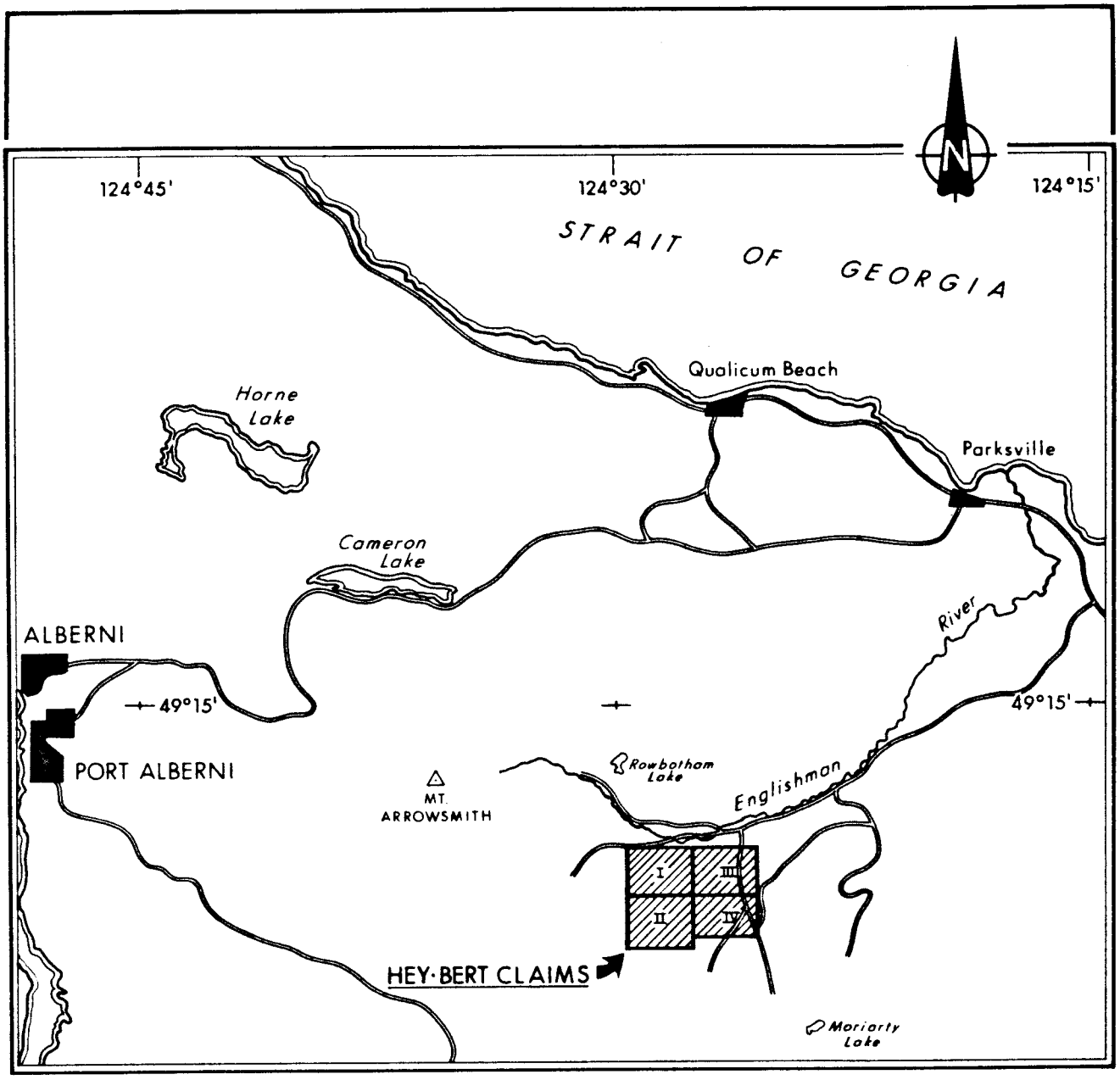
CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION

The Hey-Bert mineral claim group is comprised of the Hey-Bert 1 to 1V mineral claims totalling 75 units (1,875 hectares). Staked during the 1982 field season, they cover the source region for several low Au-Cu anomalies obtained during a regional stream sediment sampling program. Work to date has consisted of preliminary geological mapping and geochemical sampling of outcrop, soil horizons and stream sediments.

1.2 LOCATION AND ACCESS

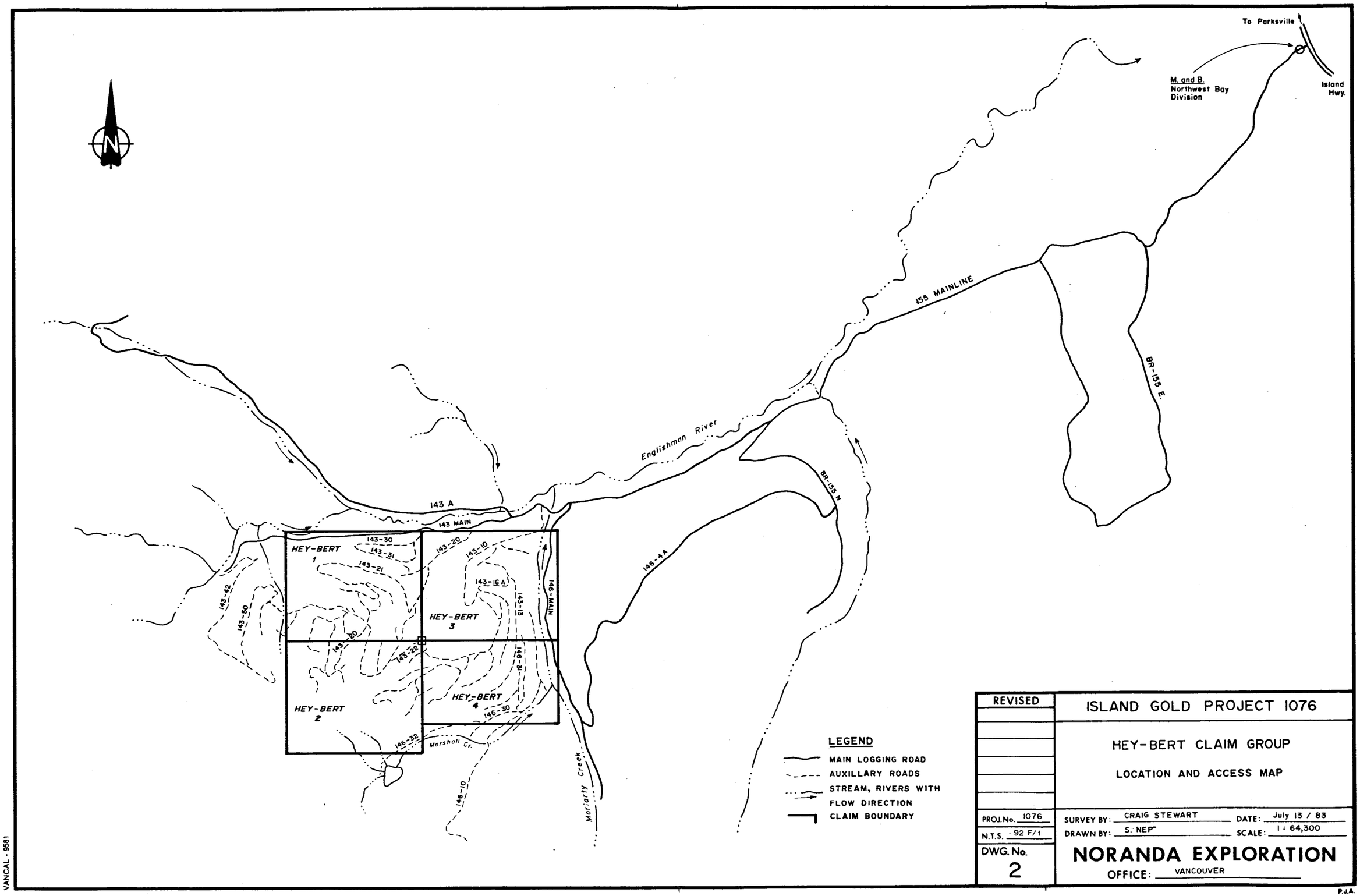
Situated approximately 15 km from Parksville on a bearing of 210 degrees the claims have superb access via the MacMillan Bloedel Northwest Bay Logging Division located 10 km southwest along the Island Highway, (figures 1,2). To reach the claims road 155 Main is taken to its junction with 143 Main. Off the 143 Main Road auxillary systems 143-10 and 143-20 provide ready access to 90% of the claims while 143-30 and 146-30 cover the remainder. Road condition varies from terrible to excellent and further detailed work would require upgrading of the road systems. Four wheel drive vehicles are a necessity.



SCALE

Kilometres 5 0 5 Kilometres

REVISED	'HEY-BERT' CLAIM GROUP
	LOCATION MAP
PROJ. Nº 1076	SURVEY BY: C.S. DATE: July/83
N.T.S. 92F/1&2	DRAWN BY: [illegible] SCALE: 1:250,000
DWG. No. 1	NORANDA EXPLORATION OFFICE: Vancouver



REVISED

ISLAND GOLD PROJECT 1076

HEY-BERT CLAIM GROUP

LOCATION AND ACCESS MAP

PROJ.No. 1076
N.T.S. 92 F/1
DWG. No. 2

SURVEY BY: CRAIG STEWART
DRAWN BY: S. NEP
DATE: July 13 / 83
SCALE: 1 : 64,300

NORANDA EXPLORATION
OFFICE: VANCOUVER

VANCAL - 9581

P.J.A.

1.3 CLAIM DESCRIPTION

The following claims comprise the Hey-Bert claim group:

1) Hey-Bert 1.

Record Number:	1219
Units:	4N x 5W (Total 20)
LCP Co-ord.	5448850N. Latitude
	393000E Longitude
Expiry Date:	June 22, 1983

2) Hey-Bert 2.

Record Number	1220
Units	4S x 5W (Total 20)
LCP Co-ord.	As Above
Expiry Date	June 22, 1983

3) Hey-Bert 3

Record Number	1221
Units	4N x 5E (Total 20)
LCP Co-ord.	As Above
Expiry Date	June 22, 1983

4) Hey-Bert 4

Record Number	1222
Units	3S x 5E (Total 15)

1.4 PHYSIOGRAPHY

Area covered by the claim group is typically mountainous with elevations ranging from 380 m to 1219 m. Mountain tops are relatively gentle in slope and appear to have been glaceally rounded. The mountainsides are steep, 25 degrees to vertical, with a thin veneer of glacial debris. Till development is only enhanced in the areas of major creeks where up to 10 m may occur.

Draining on the claims is poor to moderate with the majority of streams seasonal in nature with correspondingly poor silt development. Approximately 60% of the area is drained by one major stream and its tributaries flowing to the north. The south and east flanks untilize Marshall and/or Moriarty Creeks while an unnamed creek catches westward streams. Ultimately all water draining from the Hey-Bert claims flows north into the Englishman River.

Logging operations have removed approximately 70% of the original climax rain forest. Lower slopes were logged approximately 30 years ago with subsequent growth extremely thick. Upper regions were removed in the past 15 years such that regrowth is of a sporadic, low density nature, allowing excellent access. At the time of writing new logging was under way.

CHAPTER 2: GEOLOGY

2.1 REGIONAL GEOLOGY

Geologically, the Hey-Bert claim group has been regionally mapped as Triassic Karmutsen volcanics and volcaniclastics overlying Jurassic Island Intrusives. In situ observations indicate that part of the

claims have sedimentary units overlying the volcanics. Composed of bedded boulder and gravel conglomerates, greywackes, and sandstones, these clastic units are undoubtably representatives of the Cretaceous Nanaimo Group.

The Karmutsen volcanics are mapped overall to include massive tholeiitec basalt, flow breccia, minor andesite, bedded tuff, volcanic breccia, and minor intravolcanic limestone. Island intrusives range from granite to quartz diorite while the Cretaceous Nanaimo Group is probably represented by the lowermost Benson Formation of boulder conglomerate, and gritty, pebbly sandstone. Structure is not significant on a regional scale.

2.2 GEOLOGY OF THE HEY-BERT CLAIM GROUP

To date only a small portion of the Hey-Bert claims have been mapped as indicated on Figure 3. The predominant lithologies encountered thus far include intrusives of granodiorite to quartz monzonite composition and basaltic volcanics. Various other units have been found in situ to a far lesser extent. The major rock types are described below.

Granodiorite Medium grained, mottled white, grey, black, pink weathers tawny to rusty brown, often crumbly, highly fractured. Hornblende (20-30%) fine to medium grades, euhedral prismatic crystals. Biotite (5-10%) fine to medium grained, euhedral crystals. Percentage of quartz: feldspar difficult to ascertain but potassicfeldspar primarily as subhedral, medium grained crystals. Pyrite 0-3% as disseminations and crystal aggregates.

Quartz Monzonite Medium grained, mottled white, grey, pinnk, black weathers dull same plus tan. Composed of milky to clear quartz (25-35%), plagioclase feldspar (20-30%), potassic feldspar (10-15%), biotite (10%), and hornblende (5-10%).

Quartz: Subhedral to anhedral, smokey grey to clear white crystals to 1.0 cm

Plagioclase Feldspar: Subhedral to anhedral, smokey grey.

Potassic Feldspar: Subhedral, rarely euhedral, light pink to grey pink.

Biotite: Subhedral to euhedral, black, isolated crystals to small booklets. Fine to medium grained.

Hornblende: Euhedral, dark green-black, prismatic crystals, fine to medium grained.

The change from granodiorite to quartz monzonite is gradational and subtle hence a definitive contact between the two lithologies cannot be drawn. It is apparent however the quartz monzonite is more altered than the granodiorite with sporadic zones of intense shearing and/or fracturing with attendent potassic or carbonate alteration. Potassic alteration is characterized by intense fracturing of the host rock with fracture surfaces coated by the potash feldspar. Alteration is usually weak within the host rock itself. Conversly, carbonization is pervasive within zones up to 20 m wide resulting in a lightly

mottled mafic reduced, very hard rock that weathers a characteristically deep tan colour. The carbonate forms a very fine interstitial matrix and may comprise up to 15% of the rock. Where the potassic alteration has been found in both the granodiorite and quartz monzonite, carbonate alteration is thus far restricted to the quartz monzonite.

Feldspar Porphyry Dark grey, fine grained matrix (andesitic) weathering same with milky white plagioclase phenocrysts to 7.0 mm producing a distinctly speckled appearance. Resistant, well-developed unit with phenocrysts comprising 10-15% of rock. Alteration dominated by epidotization ± silicification as tiny fracture fillings and veinlets. Carbonate occurs within the matrix to 5% and may or may not be an alteration product. Outcrops usually possess a blocky fracture pattern. Mineralization consists of pyrite (to 3%) and trace chalcopyrite associated with epidote.

Basalt Typically dark greenish-black, fine grained, massive, resistant, weathers medium to dark greenish-black and rusty, greenish-black Variably sheared and altered, the latter dominated by quartz-epidote fracture fillings, veinlets and veins. Pyrite to 2% + or - trace cpy. often associated with the epidote. Unit has not been studied in great detail.

Altered Volcanic ? Mottled pale greenish-grey, creamy white weathering intense rusty brown. Crystals unrecognizable for most part. Silicic, sporadically chloritic, pyritic with up to 15% anhedral to subhedral, fine grained pyrite as disseminations, crystal aggregates and fracture fillings.Original rock appears to be a volcanic or volcaniclastic due to its stratigraphic position, however, fresh, relatively unaltered rock has not been observed.

Tuff ?, lapilli tuff, basalt breccia, feldspar porphyry breccia, metamorphosed limestone ?, boulder conglomerates, greywacke, argillittes ? have been observed on the property but have yet to be mapped in detail. The metamorphosed limestone was originally considered to be from the Buttle Lake Formation or of intravolcanic origin however it may actually represent volcanic zones which have been intensely carbonatized and silicified. Light tan to creamy white in colour weathering intense tan-rust brown generally with a deep, well-defined weathering surface. Highly siliceous, resistant, very fine to fine grained with 0 to 15% pyrite primarily as disseminations.

The most detailed mapping was carried out over several linear, mineralized shear zones, the location of which are indicated of Figure 3, and shown in detail on Figure 4. This interval along logging road 143-20 is dominated by feldspar porphyry which has been highly sheared and altered in several places over a 140 m distance. Widths of the shear zones vary from 1 cm to 2.05 m with a relatively linear trend of 180 degrees and a vertical dip. The zone contacts are sharply defined pyrite + or - epidote + or - quartz + or - chlorite. All of these alteration minerals are in evidence within the anastromosing stockwork which characterizes each shear zone. Pyrite content in hand specimen varies from 2-30% and may occur as massive bands, medium grained euhedral pods, disseminations, or fracture fillings. The vast majority of the pyrite (~80%) was found within 3 cm of the contact.

Potassic, carbonate, chloritic, silicic, epidotitic and pyritic

alteration have all been noted to a greater or lesser degree. Resultts of the multi-element, whole rock analysis currently being carried out will greatly aid in determining the extent of alteration although several trends have become superficially apparent.

i) Potassic: within both granodiorite and quartz monzonite, usually along fractures and rarely pervasevely alters host,

ii) Carbonate: within quartz monzonite as intense, pervasive alteration zones. Carbonated rocks are very hard, almost devoid of mafics and weather intense brown,

iii) Quaratz-epidote + or - chlorite: primarily within volcanics, metavolcanics and volcaniclastics. Usually as fracture fillings, veinlets or veins. Pyrite + or - trace cpy usually associated. Bleached reaction rim often distinct along fractures and veinlets.

iv) Pyrite: along shear, fractur zones within granodiorite, quartz monzonite and within altered meta-volcanics. May occur as pervasive disseminations, fine grained crystal aggregates, fracture fillings or massive "beds" along shear-host contacts. Where pyrite is pervasively disseminated (>5%), the host rock is generally altered and bleached white to greenish-grey colour weathering rusty brown with the original composition well masked.

2.3 MINERALIZATION

As previously indicated, mineralization is dominated by pyrite within sheared or alteration zones in the intrusives, strong linear shears in the feldspar porphyry, and as pervasive disseminations within units construed as meta-volcanics. The pyrite in hand specimen varies from 2-30% with an average 10-15% normal in the meta-volcanics. Generally existing as very fine to fine grained disseminations, the pyrite also occurs as vveinlets, fracture fillings, fine grained crystal aggregates and massive bands or lenses to 3 cm in width. Only trace amounts of chalcopyrite has been observed with the pyrite, (or elsewhere), however the extensive pyritization and other forms of alteration indicates a strong hydrothermal system and therefore good mineral potential.

2.4 GEOLOGICAL SUMMARY

Based upon the limited data available, it is suggested that a sequence of feldspar-porphyry-basalt (with intravolcanic limestone ?) - volcaniclastics has been introduced by a granodiorite/quartz monzonite body resulting in their metamorphism and alteration. The whole package was susequently overlaid by sediments.

Although mineralization is restricted primarily to intense pyritization, the presence of trace chalcopyrite, zones of carbonate and potassic alteration, soil and silt geochemical anomalies (260 ppm Cu, 2300 ppb Au maximum), and epi.-qtz.-chl. alteration plus shearing and fracturing indicates the potential existance of an auriferous copper porphyry system.

To prove this theory exstensive soil geochemistry, lithogeochemistry and outcrop mapping followed by a geophysical

program will be required. It would appear that the primary target area would be Hey-Bert 111 and 1V claims.

CHAPTER 3 GEOCHEMISTRY B/C horizon, ~15cm deep

3.1 ANALYSIS

To date a toal of 60 rock, 20 silt, 5 pan and 7 soil samples have beeen collected on the Hey-Bert claims, the locations for which are plotted on Figures 3 & 4. In 1982, samples were variably analyzed for Ag, Au, Cu, Mo, Pb, Zn with all except gold digested in HC103 solution and anlyzed on a Varian Techtron AA475 atomic absorption machine. Gold was also read on the AA utilizing a digestion-extraction medium of aqua regia - MIBK. For the 1983 samples, all were analyzed for Ag, As, Au, Mo, Mn, Pb, Fe, Co, Cu, Ni and Zn. Except for gold, (aqua regia - MIBK) all samples were analyzed by AA after HC104 - HN03 digestion - extraction technique.

All samples were originally analyzed by Noranda Exploration Laboratories in Vancouver with checks sent to Bondar-Clegg. Results are tabulated in Appendix 1.

3.2 RESULTS

From the data tabulated in Appendix 1, it is apparent that Cu and Au represent the major economic targets. Lithogeochemistry has produced poor results with values peaking at 720 ppm Cu (rhyolite ?), 700 ppm Cu (sheared granodiorite) and 1650 ppb Au (calc-silicate float). The majority of rocks had values of 10 ppb Au less than 100 ppm Cu. No other elements showed any anomalous tendancy.

Unlike the rock samples, soils and silts were anomalous in copper and gold. In silts, Cu varied from 100-260 ppm; all values being anomalous but as only 7 of the 20 silts were analyzed for Cu a good comparison cannot be made. For Au, 6 of 20 silts were anomalous but all values were less than 38 ppb. Of the seven soils collected, 3 were anomalous in copper (120, 130, 200 ppm) and 1 in Au (2300 ppb). Outcrop sampled beneath the Au enriched soil did not conttain Au or Cu values although it was intensely pyritic.

The most significant trend is the correlation of pyrite with chalcopyrite whereby an increase in pyrite (Fe) reflected an increase in chalcopyrite (Cu). The gold was not affected. Values of 40% Fe in soils illustrates the extensive pyritization which has occurred in the area.

Although a fairly exstensive hydrohermal system is indicated, geochemical values of economic interest are not well represented. To prove the validity of the results an extensive soil program will be required which, (should the model of an auriferous Cu-porphyry be accepted), may define a leached cp rock or other zones of intense alteration.

CHAPTER 4 CONCLUSION

Preliminary field evaluation of the Hey-Bert mineral claim group indicates an exstensive hydrothermal system asociated with Island Intrusives in contact with volcanic and volcaniclastic units.

Geochemical data indicates the potential for Cu-Au mineralization, (auriferous copper porphyry ?) but at this stage it is difficult to ascertain the significance of the results.

To properly evaluate the claim group, the following field program should be carried out:

i) Detailed soil sampling over areas of intense alteration; 50 m line spacing, 50 m sample interval

ii) Lithogeochemistry to determine background values in the various lithologies

iii) Detailed geological mapping at 1:1,000 scale

iv) Follow-up geophysics to define potential drill targets.

The lack of geochemical anomalies for the other elements would dictate samples should only be analysed for gold and copper.

CERTIFICATE OF QUALIFICATION

I, Craig Stewart, of the City of North Vancouver, Province of British Columbia do hereby certify that:

1. I am a geologist residing at #6, 1923 Purcell Way, North Vancouver.

2. I am a graduate of the University of Alberta, Edmonton, with a B.Sc. (1980) in geology.

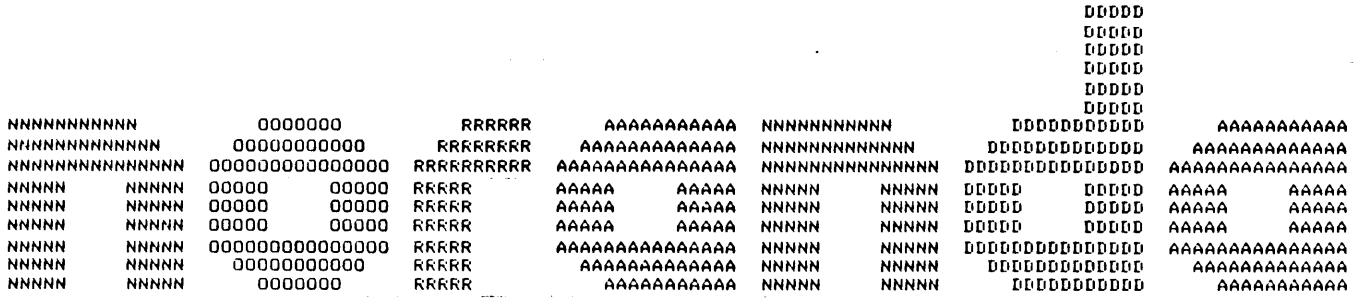
3. I have been practicing my profession since May, 1980 and am at present Project Geologist with Noranda Exploration Company, Limited.

4. I am a member of the Geological Association of Canada.

5. I am a member of the Canadian Institute of Mining and Metallurgy.

DATED: July 18, 1983

C. Stewart, B.Sc.



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HEY-BERT CLAIM GROUP

SUMMARY STATISTICS

	CU1A	ZN1A	PB1A	AG1A	MO1A	MN1A	FE1A	NI1A
NUMBER OF ANALYSES	69	69	69	69	69	52	52	45
LOWEST VALUE	2	10	2	.2	1	140	.5	2
HIGHEST VALUE	720	270	34	2.2	2	2700	86.0	110
MEAN (LOG)	51.8	53.0	2.5	.27	1.1	459.2	6.24	15.4
STAND. DEV. (LOG)	.579	.268	.263	.203	.085	.266	.485	.495
MEAN (ARITH)	105.8	65.0	3.4	.31	1.1	563.8	11.61	27.4
STAND. DEV. (ARITH)	136.00	49.96	4.97	.265	.28	446.61	15.414	28.21

	CO1A	AS1A	AU1E	AU9I	AU1I
NUMBER OF ANALYSES	45	45	62	2	0
LOWEST VALUE	2	1	10	6	------
HIGHEST VALUE	190	440	2300	14	------
MEAN (LOG)	23.4	1.6	11.8	9.2	------
STAND. DEV. (LOG)	.384	.528	.317	.260	------
MEAN (ARITH)	33.2	12.4	48.2	10.0	------
STAND. DEV. (ARITH)	31.95	65.41	290.71	5.66	------

TOTAL SAMPLES PRINTED - 92

NUMBER	TYPE	CU1A	ZN1A	PB1A	AG1A	MO1A	MN1A	FE1A	NI1A	CO1A	AS1A	AU1E	AU9I	AU1I
8346665	????	12	22	2	.4	1	360	7.0	48	92	1	10		
8346666	????	6	32	2	.2	1	200	2.1	16	20	1	10		
8346667	????	24	78	2	.2	1	620	4.4	48	20	1	10		
8346668	????	6	38	2	.2	1	500	12.0	44	54	1	30		
8346669	????	8	52	2	.2	1	340	4.1	30	24	1	10		
8346670	????	200	82	2	.2	2	280	40.0	6	30	1	10		
8346671	????	28	76	2	.4	1	420	3.4	110	90	28	10		
8346672	????	50	30	2	.2	1	470	2.6	28	18	1	10		
8346673	????	200	36	10	.4	1	350	9.2	21	30	8	10		
8346674	????	120	76	2	.2	1	700	38.0	5	44	1	10		
8346675	????	38	80	2	.2	1	860	7.3	60	32	1	10		
8346676	????	10	34	6	.2	1	220	1.8	14	12	1	10		
8346677	????	120	68	2	.2	1	600	36.0	5	42	1	10		
8346678	????	80	32	2	.4	1	300	3.7	10	14	1	10		
8346679	????	220	42	2	.4	1	640	4.5	52	34	1	10		
8346680	????	700	38	2	.6	1	180	3.2	42	26	1	20		
8346681	????	10	24	2	.2	1	360	1.4	8	6	1	10		
8346682	????	10	28	2	.2	1	420	1.5	8	4	1	10		
8346683	????	62	56	2	.2	1	450	24.0	4	28	1	10		
8346684	????	120	52	2	.2	1	340	24.0	5	30	1	10		
8346685	????	4	24	2	.2	1	430	1.5	8	6	1	10		
8346686	????	120	54	2	.2	1	550	28.0	4	40	1	10		
8346687	????	4	48	2	.2	1	450	2.3	12	12	1	10		
8346688	????	38	48	2	.2	1	340	1.6	10	10	1	10		
8346689	????	48	30	2	.2	1	190	12.0	2	14	1	10		
8346690	????	46	30	2	.2	1	140	10.0	2	12	1	10		
8346691	????	96	40	2	.2	1	330	18.0	3	26	1	10		
8346692	????	4	30	2	.2	1	380	1.6	8	8	1	10		
8346693	????	2	10	2	.2	1	150	.5	8	2	1	10		
8346694	????	4	20	2	.2	1	240	.8	14	8	1	10		
8346695	????	460	38	2	.4	1	400	9.8	58	32	1	10		
8346696	????	54	84	2	.2	1	760	6.3	82	38	1	10		
8346697	????	18	30	2	.2	1	260	2.5	14	18	1	20		
8346698	????	88	50	2	.2	1	640	4.1	54	38	1	10		
8346699	????	40	30	2	.2	1	520	3.2	98	190	1	20		
8346700	????	130	60	2	.6	1	250	20.0	6	32	20	2300		
8346701	????	28	34	2	.2	1	310	3.2	12	8	16	10		
8346702	????	240	42	2	.2	1	360	8.1	72	42	1	40		

HEY-BERT CLAIM GROUP

JULY 13, 1983

NUMBER	TYPE	CU1A	ZN1A	PB1A	AG1A	MO1A	MN1A	FE1A	NI1A	CO1A	AS1A	AU1E	AU91	AU11
8221896	ROCK	130	60	2	.2	2						10		
8221897	ROCK	210	82	2	.2	1						10		
8221898	ROCK	94	90	2	.2	2						10		
8221899	ROCK	190	80	2	.2	1						10		
8221900	ROCK	72	86	2	.2	2						10		
8222325	ROCK	110	160	2	.4	1						10		
8222326	ROCK	100	270	34	.4	1						10		
8222327	ROCK	40	40	6	.2	1						10		
8222328	ROCK	120	100	2	.2	1						10		
8222329	ROCK	52	64	24	.2	1						10		
8222330	ROCK	20	90	2	.4	1						10		
8222331	ROCK	20	86	2	.4	1						10		
8222332	ROCK	84	150	8	.6	1						10		
8222333	ROCK	80	230	2	.4	1						10		
8222334	ROCK	46	62	2	.4	2						10		
8222335	ROCK	30	36	2	.2	1						10		
8222336	ROCK	110	28	2	.4	1						10		
8222383	SILT												22	
8222384	SILT												4	
8222456	SILT												16	
8222457	SILT												12	
8222458	SILT												10	
8222459	SILT												26	
8222460	SILT												7	
8222461	SILT												27	
8222462	SILT												12	
8222463	SILT												38	
8222464	SILT												35	
8222465	SILT												6	
8222466	SILT												33	
8222480	ROCK											10		
8222481	ROCK											10		5
8222482	ROCK											60		95
8222483	ROCK													
8222484	ROCK											10		5
8222485	ROCK											1150		1660
8222493	FAN											10		
8222494	FAN											10		
8222495	FAN											10		
8222496	FAN													
8223408	ROCK	54	84	2	.2	1	1400	6.2						
8223409	ROCK	30	60	2	.4	1	650	8.7						
8223410	SILT	260	200	12	.4	1	2700	7.2					14	
8223411	FAN	230	220	6	.4	1	1000	8.5						
8223412	ROCK	30	60	2	.2	1	1100	10.0						
8223413	ROCK	34	72	2	.6	1	1800	9.2						
8223414	ROCK	24	60	2	.6	1	1300	4.7						
8346658	????	720	30	2	.6	2	280	7.9	72	82	1	10		
8346659	????	100	78	2	.2	1	750	36.0	5	52	1	10		
8346660	????	260	34	10	2.2	1	840	4.2	48	34	440	10		
8346661	????	160	64	2	.2	1	700	44.0	5	44	4	10		
8346662	????	10	24	2	.2	1	410	2.8	16	12	1	10		
8346663	????	230	60	2	.2	1	650	86.0	5	58	6	10		
8346664	????	200	50	2	.4	1	430	4.6	49	28	1	10		

HEY-BERT GROUP ASSESSMENT COSTS

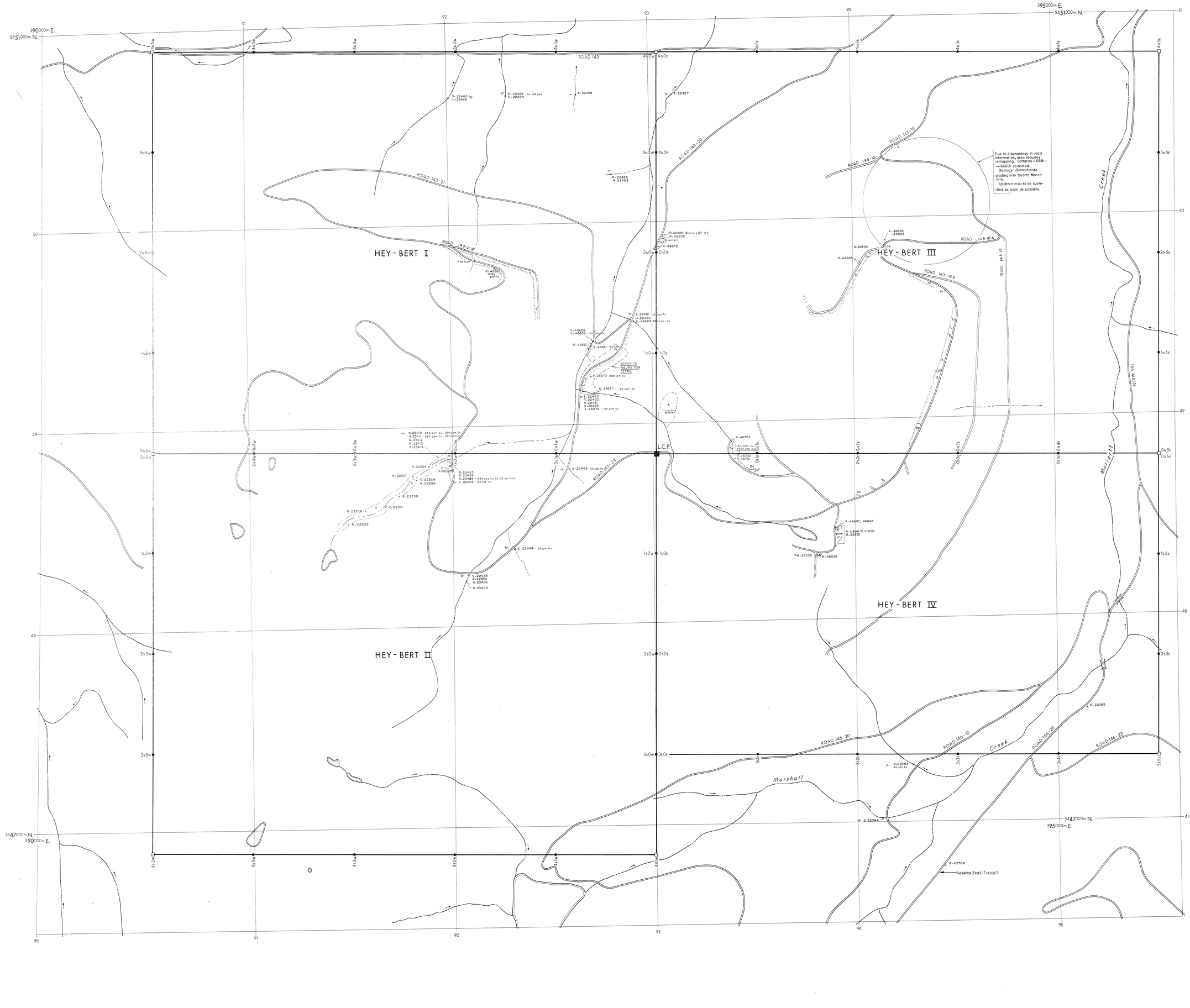
1) 1983 COSTS

1)	Wages.	
	13 Man-days @ $80.00/manday	1,040.00
	(Management) 3 man-days @ $130/man-day	390.00
2)	Meals, Accommodation June 12-14, 1983 inclusive	391.48
3)	Transportation.	
	Truck Rental 7 days @ $32.00/day	224.00
	Gas	42.00
	Maintenance/Repair	145.79
4)	Geochemical Analysis	
	a) 3 whole rock @ $26.00/sample	78.00
	b) 29 rock analysis for As,Ag,Au, Co,Cu,Fe,Mn,Mo,Ni,Pb,Zn,@ $12.40/ sample using atomic absorption	359.60
	c) 29 rock sample preparation @ $2.00/sample	58.00
	d) 6 silt/7 soil analysis for As,Ag, Au,Co,Cu,Fe,Mn,Mo,Ni,Pb,Zn @ $12.40/ sample using atomic absorption	161.20
e)	13 silt/soil preparation @ $0.50/sample 6.50	
5)	Drafting, Typing/etc.	950.00
	TOTAL COSTS TO DATE:	$3,846.57

II. 1982 COSTS

1)	Wages	
	14 Field days @ $70.00 manday	980.00
	4 Office days @ $80.00 manday	320.00
2)	Meals, Accommodation (various days June,July '82) @ $50/day/14 days	700.00
3)	Transportation	
	Truck rental 7 days @ $41.60/day	291.20
	Gas	75.00
4)	Geochemical Analysis	
	a) 28 rock samples for Ag,Au,Cu,Fe,Mn, Pb,Zn @ $9.20/sample	257.50
	b) 28 rock sample preparation @ $2.00	56.00
	c) 16 silt, 2 pan concentrates for Ag,Au, Cu,Fe,Mn,Mo,Pb,Zn @ $9.20/sample	165.60
	d) Silt/pan preparation $0.50/sample	9.00
5.	Drafting/Typing/etc.	1,350.00
	TOTAL COST 1982	$4,204.30

Total costs claimed for 1983 assessment purposes $8,050.87



LEGEND

1 GRANODIORITE
- a) Highly sheared, fractured usually with pyrite.

2 QUARTZ MONZONITE
- a) Potassically altered Quartz Monzonite.
- b) Carbonitized Quartz Monzonite.
- c) Sheared, fractured Quartz Monzonite

3 FELDSPAR PORPHYRY
- a) Biotite enriched.

4 BOULDER CONGLOMERATES, SANDSTONES

5 METAVOLCANICS
- a) Pyrite, highly altered Metavolcanic.

6 VOLCANIC CONGLOMERATE

7 VOLCANICLASTICS

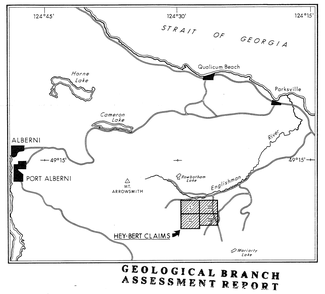
8 BASALT

SYMBOLS

- Cutcroo
- Overburden
- Approximate Contact
- Gradational Contact
- Float Sample
- Outcrop Sample or Silt, Soil Station
- Shear

INDEX MAP

SCALE - 1:250,000



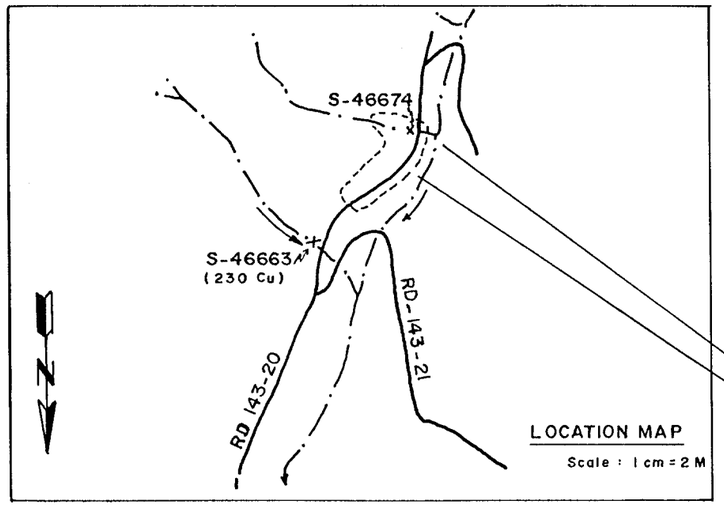
GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,356

SCALE 1:5000

Metres 100 50 0 100 200 300 400 500 Metres

REVISED	'HEY-BERT' CLAIMS
	GEOLOGY AND SAMPLE LOCATION MAP ANOMALOUS GEOCHEMISTRY SAMPLES ARE INDICATED
PROJ. No. 1076	SURVEY BY: C. Stewart DATE: Nov./82
N.T.S. 92F/1&2	DRAWN BY: [illegible] (traced) M.R. SCALE: 1:5000
DWG. No. 3	NORANDA EXPLORATION OFFICE: Vancouver



LEGEND

- Shear Contact
- Approx. Lithology Contact
- Sample Stn. (in place)
- Stream
- 80° Strike and Dip
- Vertical Dip
- (120) Geochemical Results

50 M.

S-46677 (120 Cu)

S-46674 (120 Cu)

Creek

R-46676

Fine grained GRANITE DYKE

R-46675

78°

20 M.

ROAD 143-20

⊛ There is no consistant scale on this diagram, therefore distances have been marked as actually exists between points.

SAMPLES COLLECTED

S - 46663, 46674, 46677

R - 46664 – 46669; 46671 – 46673; 46675, 46676

P - 46670

ROCK TYPES

R-46664	FELDSPAR PORPHYRY
R-46665	PYR-QTZ.-EPI. ENRICHED SHEAR ZONE
R-46666	ALTERED FELDSPAR PORPHYRY
R-46667	FELDSPAR PORPHYRY
R-46668	SHEAR ZONE QTZ-EPI-PYR.
R-46669	SHEAR ZONE CHIP
R-46671	SHEAR ZONE CHL-EPI-QTZ. PYR. ENRICHED.
R-46672	" " " " " " "
R-46673	" " " " " " "
R-46675	" " " " " " "
R-46676	F.G. GRANITE DYKE

P-46670 (200 Cu)
(Above road cut)

SHEAR ZONE 1 — 15 M — SHEAR ZONE 2 — 39 M — SHEAR ZONE 3

R-46665 R-46666 R-46667 R-46668 R-46669 — 2.05 M

R-46671 — 0.7 M

R-46673 R-46672 — 1.6 M

1 cm = 0.5 M

REVISED	HEY-BERT CLAIMS
	DETAILED SAMPLING
	RD. 143-20
PROJ. No. 1076	SURVEY BY: _____ DATE: July - 1983
N.T.S. _____	DRAWN BY: (traced) SCALE: _____
DWG. No.	NORANDA EXPLORATION
	OFFICE: Vancouver

VANCAL - 9581

P.J.A.