

ARIS SUMMARY SHEET

District Geologist, Victoria

Off Confidential: 89.06.20

ASSESSMENT REPORT 17521

MINING DIVISION: Alberni

PROPERTY: Head Bay  
 LOCATION: LAT 49 48 00 LONG 126 31 00  
 UTM 09 5519134 678707  
 NTS 092E15E

CLAIM(S): Vig 3, Vig 5, Vig 7-8

OPERATOR(S): Centaur Res.

AUTHOR(S): Awmack, H.J.

REPORT YEAR: 1988, 117 Pages

COMMODITIES

SEARCHED FOR: Gold, Copper, Lead, Zinc

GEOLOGICAL

SUMMARY: Triassic Karmutsen Formation basalts are overlain by Quatsino Formation limestones which in turn have been intruded by Eocene age Catface diorite. Magnetite (sphalerite-galena-chalcopyrite) skarns have formed at the Karmutsen/Quatsino contacts and Catface/Quatsino contacts. A 5-50 centimetres wide quartz-pyrite-chalcopyrite vein, dipping 12 degrees to the south has been traced for 50 metres by 20 metres within diorite, with values up to 200 grams gold per tonne.

WORK

DONE: Geological, Geochemical, Drilling  
 DIAD 437.1 m 9 hole(s); BQ  
 Map(s) - 1; Scale(s) - 1:200  
 GEOL 250.0 ha  
 Map(s) - 2; Scale(s) - 1:5000  
 ROCK 88 sample(s); AU, AG  
 SILT 6 sample(s); AU, AG, CU, PB, ZN, AS  
 SOIL 130 sample(s); AU, AG, CU, PB, ZN, AS

RELATED

REPORTS: 16355

MINFILE: 092E 063

LOG NO: 0627 RD  
ACTION:  
FILE NO:

SUB-RECORDER  
RECEIVED  
JUN 20 1988  
M.R. # ..... \$ .....  
VANCOUVER, B.C.

1988 SUMMARY REPORT  
ON THE  
HEAD BAY PROJECT

FILMED

Located in the Tahsis area of Vancouver Island  
Alberni Mining Division  
NTS 92E/15E  
49° 48' North Latitude  
126° 31' West Longitude

-prepared for-  
CENTAUR RESOURCES LTD.

-prepared by-  
Henry J. Awmack, P.Eng.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**  
June 1988

17,521

# 1988 SUMMARY REPORT ON THE HEAD BAY PROJECT

## TABLE OF CONTENTS

		<u>Page</u>
1.0	INTRODUCTION	.1.
2.0	LIST OF CLAIMS	.1.
3.0	LOCATION, ACCESS AND GEOGRAPHY	.2.
4.0	PROPERTY MINING HISTORY	
4.1	Previous Work	.3.
4.2	1988 Work Program	.5.
5.0	REGIONAL GEOLOGY	.5.
6.0	PROPERTY GEOLOGY AND GEOCHEMISTRY	
6.1	Geology	.7.
6.2	Geochemistry	.10.
7.0	MINERALIZATION	.10.
8.0	DISCUSSION AND CONCLUSIONS	.12.

## APPENDICES

Appendix A	Bibliography
Appendix B	Statement of Expenditures
Appendix C	Drill logs
Appendix D	Rock Descriptions
Appendix E	Certificates of Analysis
Appendix F	Analytical Procedures
Appendix G	Engineer's Certificate

## LIST OF FIGURES

		<u>Following Page</u>
Figure 1	Location Map	.1.
Figure 2	Claim Map	.2.
Figure 3	Regional Geology	.3.
Figure 4	North Half: Geology and Geochemistry	Pocket
Figure 5	South Half: Geology and Geochemistry	Pocket
Figure 6	Road Zone: Drill Plan	Pocket

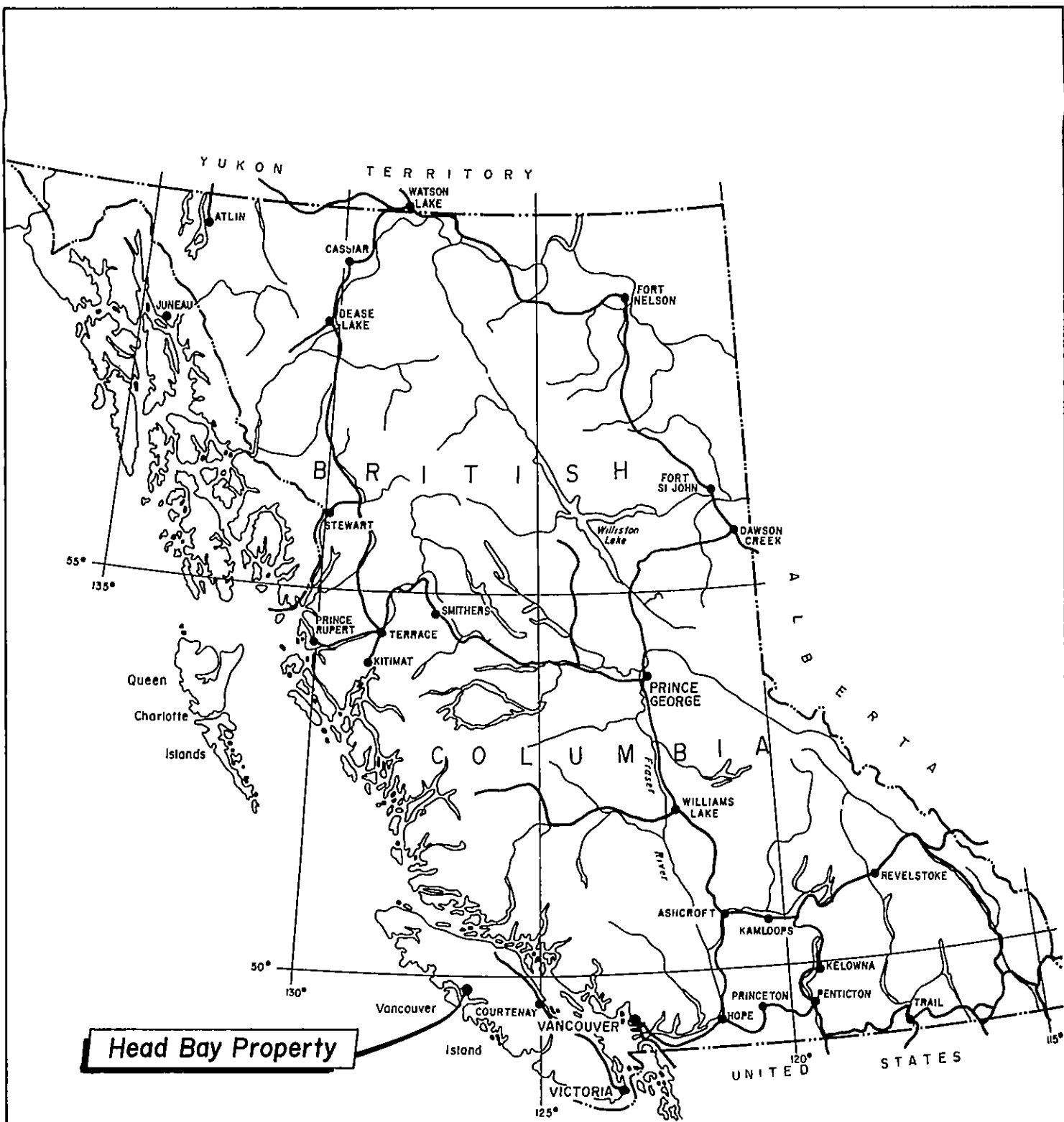
## 1.0 INTRODUCTION

The Head Bay property, comprising the VIG 3, 5, 7 and 8 Mineral Claims, was staked in 1987 and 1988 to cover a rich gold-bearing pyrite-quartz vein exposed in a logging road approximately sixteen kilometers south-east of Tahsis on the west coast of Vancouver Island (Figure 1). Great Keppel Resources Ltd. (now Centaur Resources Ltd.) conducted an exploration program over the Head Bay property in June 1987, delineating the Road Zone on surface and yielding several good geochemical anomalies which were not followed up at that time.

Further exploration, consisting of diamond drilling, geological mapping, prospecting and geochemical sampling, was done over the Head Bay property in May 1988. This program was designed to test the Road Zone at depth and investigate the 1987 geochemical anomalies. Equity Engineering Ltd. conducted this program for Centaur Resources Ltd. and has been retained to report on the results of the field work.

## 2.0 LIST OF CLAIMS

Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources indicate that the following claims, which comprise the Head Bay property (Figure 2), are owned by David A. Caulfield. Separate documents indicate that the claims are under option to Centaur Resources Ltd. The Head Bay property surrounds three Crown-Granted mineral claims.



**Head Bay Property**



<b>CENTAUR RESOURCES LTD.</b>			
<b>Head Bay Property</b>			
<b>PROPERTY LOCATION MAP</b>			
<b>ALBERNI MINING DIVISION</b>			
<b>N.T.S. 92E/15 E</b>			
<b>EQUITY ENGINEERING LTD.</b>			
DRAWN	PROJECT KNL 88-01	DATE June, 1988	FIG. 1

Claim Name	Record Number	No. of Units	Record Date	Expiry Year
VIG 3	3150	16	March 12, 1987	1997
VIG 5	3255	20	June 11, 1987	1997
VIG 7	3566	8	May 17, 1988	1989
VIG 8	3567	16	May 17, 1988	1989
		<u>60</u>		

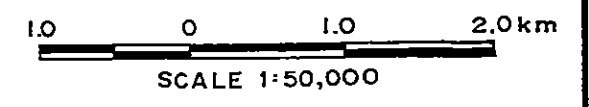
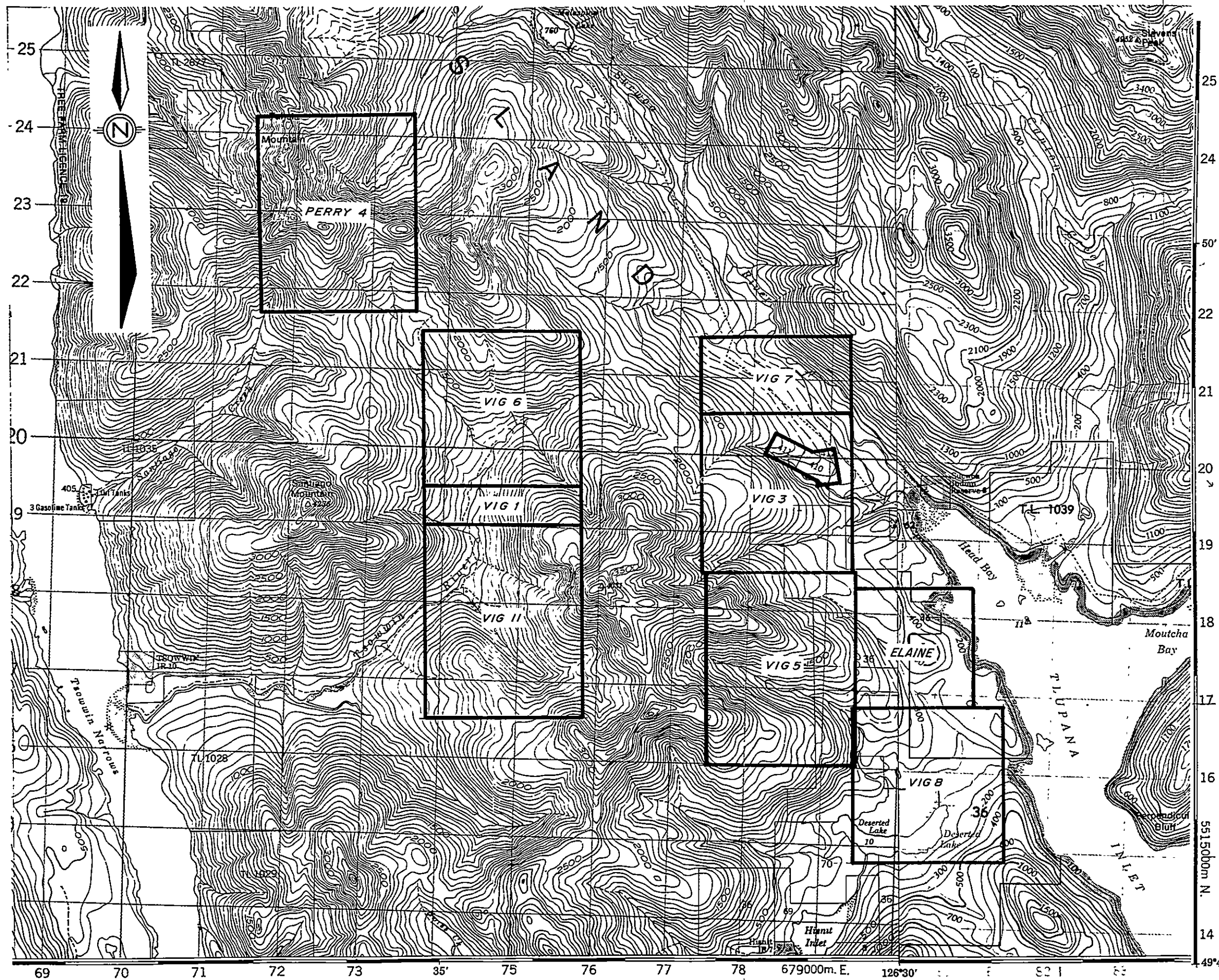
The location of all legal corner posts has been verified by the author.

### 3.0 LOCATION, ACCESS AND GEOGRAPHY

The Head Bay property is located one kilometer west of the Head Bay logging camp on Tlupana Inlet, approximately sixteen kilometers southeast of the village of Tahsis on the west coast of Vancouver Island (Figure 1). It lies within the Alberni Mining Division, centered at 49° 48' north latitude and 126° 31' west longitude.

The Head Bay Forest Road, an improved gravel road which connects Tahsis to Gold River, passes through the VIG 7 claim. Branch roads from it and the Sucwoa Main Line extend throughout VIG 3, VIG 7 and VIG 8 and provide access to the eastern portions of VIG 5. Active logging by BCFP on the southern and eastern parts of the property and extension of the Tlupana Main Line will continue to improve access to VIG 5 and VIG 8. A high-voltage power line crosses VIG 7 and the northeastern corner of VIG 3.

The Head Bay property covers the eastern flank of an unnamed mountain of the Vancouver Island Ranges between the Sucwoa River and Desperate Lake. Topography is rugged, with deeply incised creeks and steep rock bluffs. Elevations range from near sea level on Desperate Lake to over 900 meters along the western boundary of the property. Outcrop exposure is excellent throughout.



<b>CENTAUR RESOURCES LTD.</b>			
<b>Head Bay Property CLAIM MAP</b>			
ALBERNI MINING DISTRICT NTS: 92 E/15 E			
Equity Engineering Ltd.			
Own. by:	Project:	Date:	Figure:
B.A.M.	KNL88-01	June, 1988	2

Mature forest covers the southern and western parts of the property with hemlock, red cedar, fir and a moderate undergrowth of salal, devil's club, huckleberry and salmonberry. Areas logged five to twenty years ago are choked with slash and shrubbery. A substantial area in the east-central part of the property has been logged within the past two years, leaving logging slash without much vegetation.

The Tahsis area receives approximately 500 centimeters of precipitation annually in an otherwise moderate climate, with cool temperatures year-round. Heavy snowfalls can occur at higher elevations.

#### 4.0 PROPERTY MINING HISTORY

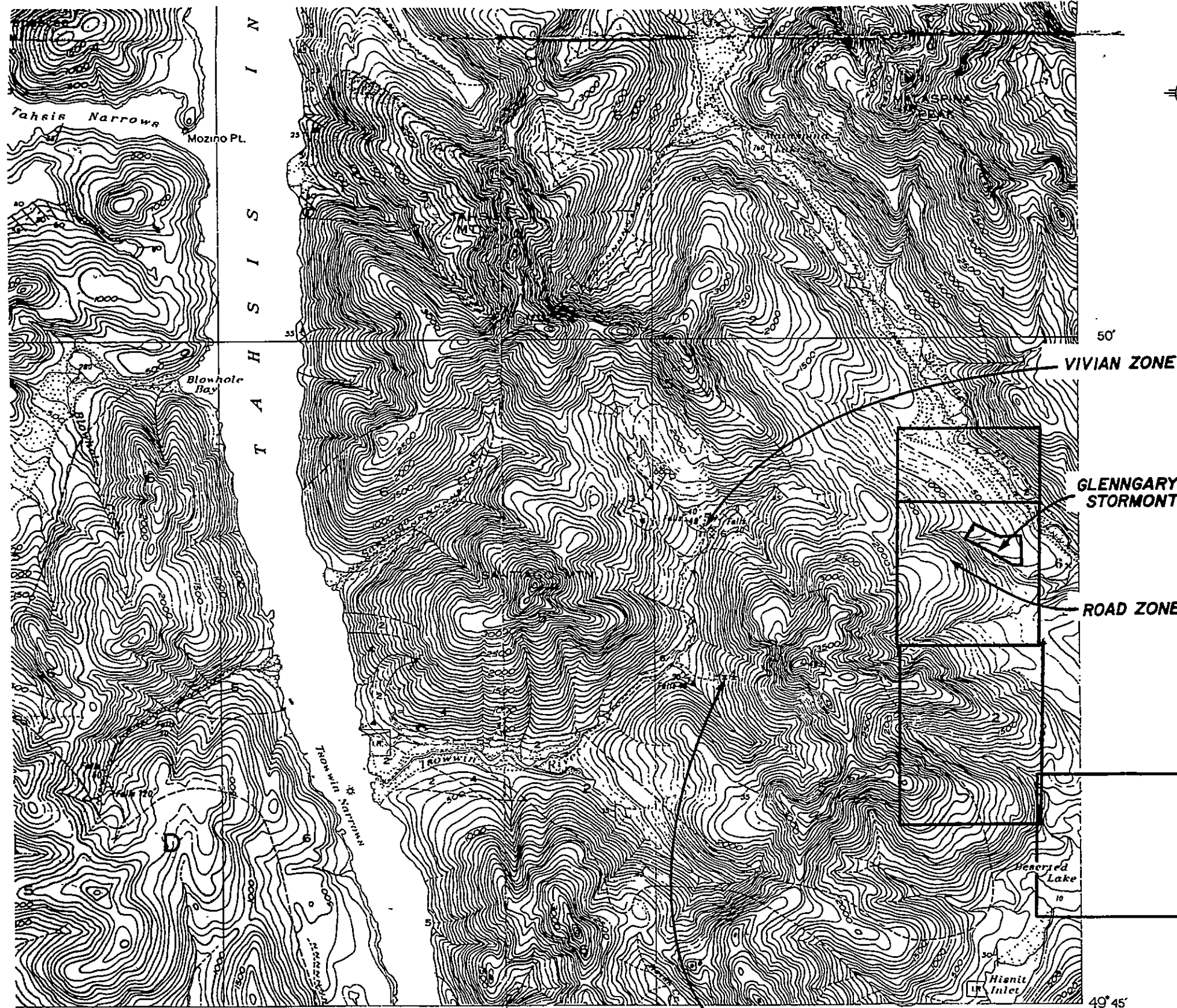
##### 4.1 Previous Work

The rich, narrow, quartz-sulphide veins of the Zeballos camp, approximately 35 kilometers northwest of the Head Bay property, were discovered in the 1920's and 1930's upstream from coarse placer gold pockets in the Zeballos River. These veins produced a total of 8,930 kilograms (287,811 ounces) of gold and 3,880 kilograms (124,700 ounces) of silver until 1948.

Development of the Zeballos gold camp resulted in increased exploration throughout the Tahsis area and led to the discovery in 1939 of the Mohawk and Vivian veins less than two kilometers west of the Head Bay property (Figure 3). Several adits were driven on these quartz-calcite-pyrite veins but were abandoned in 1940 as a result of the war.

The Glengarry-Stormont magnetite deposit, located on crown-granted mineral claims enclosed within the VIG 3 claim, was





**LEGEND**

- JURASSIC AND/OR CRETACEOUS**  
 UPPER JURASSIC AND/OR LOWER CRETACEOUS  
 COAST INTRUSIONS
- 6** Granite, granodiorite, diorite, quartz diorite; minor syenite, aplite, and micropegmatite
- TRIASSIC AND (?) JURASSIC**  
 UPPER TRIASSIC AND (?) LATER
- 4, 5** 4. Andesitic lavas, agglomerates, tuffs and breccias, basaltic, trachytic, and dacitic lavas, minor, intercalated limestone  
 5. Similar to 4, but may include some undifferentiated 3
- TRIASSIC**  
 UPPER TRIASSIC
- 3** Thin-bedded argillite, tuffaceous argillite, impure limestone, and tuffaceous limestone; agglomeratic limestone and quartzite: numerous, thin, intercalated andesitic lavas and associated pyroclastic rocks
- 2** QUATSINO FORMATION: crystalline limestone, with minor volcanic rocks
- UPPER TRIASSIC AND (?) EARLIER**  
 KARMUTSEN GROUP
- 1** Basaltic and andesitic lavas, agglomerates, breccias, and tuffs; minor intercalated limestone

MESOZOIC

BONANZA GROUP

- Heavily drift-covered area . . . . .
- Bedding (horizontal, inclined, vertical) . . . . .
- Schistosity (inclined) . . . . .
- Fault (arrow indicates direction of dip) . . . . .
- Shear zone . . . . .
- Glacial striae . . . . .
- Fossil locality . . . . .
- Mineral prospect . . . . .
- Adit . . . . .

**CENTAUR RESOURCES LTD.**

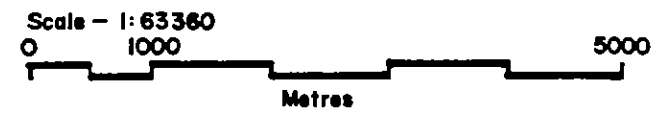
Head Bay Property

**REGIONAL GEOLOGY**

ALBERNI MINING DISTRICT  
NTS 92E/15E

**EQUITY ENGINEERING LTD.**

DWN BY	PROJECT KNL88-01	DATE June, 1988	FIGURE 3
--------	---------------------	--------------------	----------



Geology after Hoadley (1953)

MOHAWK ZONE (Au)

49° 45'

126° 30'

40'

35'

50'

discovered in 1902 but received little exploration until 1951. Surface exploration and diamond drilling in 1951 and 1952 indicated 330,000 tonnes of ore averaging 42.7% Fe (MMAR-1956, p. 133). Small-scale production in the early 1960's yielded 23,000 tonnes of magnetite concentrate from 60,000 tonnes of ore.

Aberford Resources Ltd. conducted an extensive reconnaissance exploration program for disseminated gold deposits throughout the Tahsis peninsula in 1979 and 1980 and staked several claims to cover anomalous drainages. In the course of follow-up work, they discovered several rich gold showings including a narrow pyrite-quartz vein traced by Aberford over 23 meters in a road cut on what is now the VIG 3 claim. Robinson (1983) reported that the 15 Aberford samples taken from this showing, later named the Road Zone, averaged 54.76 grams gold per tonne (1.598 oz/ton) with the highest sample assaying 282.0 grams gold per tonne (8.828 oz/ton).

Homestake Mineral Development Company optioned the TAH 22 claim, containing the Road Zone, but dropped the option after limited property reconnaissance (Flanagan, 1984).

The TAH 22 claim was allowed to lapse in February 1987, and was immediately re-staked as the VIG 3 for subsequent option to Great Keppel Resources Ltd (now Centaur Resources Ltd.). A program of geological mapping, prospecting, geochemical sampling, geophysical surveying and hand-trenching conducted in June 1987 verified the presence of several narrow sulphide-quartz veins in the Road Zone, with assays up to 201.3 grams gold per tonne (Awmack, 1987). Several other geochemically anomalous areas and drainages were also identified on the Head Bay property. The VIG 5 claim was staked in June 1987 to cover favorable lithology and the regional trend of stratigraphy and mineralization.

## 4.2 1988 Exploration Program

In May 1988, 437.1 meters of BQ core in nine diamond drillholes tested the Road Zone at depth below the 1987 trenching. The core was logged, sampled and stored on site. Drill logs are attached in Appendix C.

Prospecting during the 1988 program was directed at geochemical anomalies discovered during the 1987 exploration program and along logging roads which have recently been constructed on the VIG 5 and VIG 8 claims (Figures 4 and 5). Rock samples are described in Appendix D. Limited geological mapping at a scale of 1:5000 along new roads extended the 1987 mapping. Six silt samples from major drainages were screened in the field to minus 10 mesh. A total of 130 reconnaissance soil samples were taken along contour lines, with samples taken from the B Horizon wherever possible. Both silt and soil samples were analysed for gold, silver, copper, lead, zinc and arsenic. Certificates of analysis form Appendix E, and analytical procedures are included in Appendix F.

The VIG 7 claim was staked to cover a geochemically anomalous drainage discovered during the 1987 program on the northern boundary of the VIG 3 claim. The VIG 8 claim covers zinc, copper, gold and lead occurrences on new logging roads near the southeast corner of VIG 5.

## 5.0 REGIONAL GEOLOGY

The Tahsis area is underlain by thick northwesterly trending sequences of oceanic basalts and sediments of the Upper Triassic Vancouver Group and extrusive volcanics of the Lower Jurassic Bonanza Group. These have been intruded by Lower Jurassic batholithic Island Intrusions and by Eocene stocks of the Catface

Intrusions, with attendant regional and contact metamorphism (Figure 3).

The Vancouver Group, as defined by Muller et al (1981), consists of up to 6,000 meters of Karmutsen Formation (Unit 1) basaltic pillow lavas, pillow breccias, lava flows and intervolcanic limestone, overlain by up to 750 meters of massive Quatsino Formation limestone (Unit 2). This grades upwards into thinly-bedded silty limestones, limey sandstones and reef limestones of the Parson Bay Formation (Unit 3).

The Bonanza Group (Units 4 and 5) comprises a complex sequence of maroon to green interbedded volcanic flows and pyroclastics ranging from basalt to rhyolite in composition. These formed in an island arc environment, and contain both marine and terrestrial facies. The volcanics are locally overlain by clastic sediments ranging from pebble conglomerate to shale, siltstone and coaly beds.

Lower Jurassic Island Intrusion batholiths (Unit 6) are mapped on the southern end of Tahsis Inlet and to the east of Tlupana Inlet. They are generally moderately-grained quartz diorites to leucogranites and may be cogenetic with the Bonanza volcanics (Muller et al, 1981).

Stocks of the Eocene Catface Intrusions (Unit 6) are mapped on the northeast shore of Hisnit Inlet and the northern slopes of Santiago and Tahsis Mountains (Muller et al, 1981). The unmapped stock which extends southeasterly from the Head Bay property may also belong to the Catface Intrusions and may form part of the Hisnit Inlet stock. These intrusives are generally massive, light-colored fine- to medium-grained quartz diorites and granodiorites.

The Vancouver and Bonanza Group rocks form a southwest dipping monocline which is disrupted and offset by numerous northwesterly, northerly and easterly faults of unmeasured displacement. Amphibolite-grade regional metamorphism and migmatization are associated with the Island Intrusions. Contact metamorphism and skarn formation are common near Catface stocks. The Glengarry-Stormont magnetite deposit is hosted by a banded garnet-magnetite-epidote-diopside skarn in Quatsino limestone near its contact with the underlying Karmutsen volcanics close to the Head Bay stock.

The Mohawk and Vivian showings, approximately two kilometers west of the Head Bay property, are associated with a Catface stock which intrudes Quatsino limestone and Bonanza volcanics (Figure 3). The Mohawk vein, which is 35 centimeters wide and strikes northeasterly, is a vertical quartz-filled fissure vein with fine pyrite. The Vivian vein is a five to ten centimeter wide, steeply-dipping quartz-calcite vein which strikes northwesterly (Hoadley, 1953). Sampling of the Vivian ore dump by Aberford in 1983 yielded two assays averaging 121.2 grams gold per tonne (3.537 oz/ton) and 361 grams silver per tonne (10.53 oz/ton) (Robinson, 1983).

## 6.0 PROPERTY GEOLOGY, GEOCHEMISTRY AND GEOPHYSICS

### 6.1 Geology

Two Karmutsen/Quatsino sequences on the Head Bay property (Figures 4 and 5) are separated by an inferred easterly fault. Subsequent northwesterly faulting has downdropped Bonanza volcanics to the west of the Karmutsen/Quatsino sequences. Intrusion of the multiphase Head Bay Stock along the easterly trending fault produced skarn near the contact between Karmutsen basalts and Quatsino limestone.

Dark green, generally fine-grained, massive, basaltic to andesitic flows of the Karmutsen Formation (Unit 1) are exposed on the northeastern and east-central parts of the Head Bay property. They are soft, pervasively chloritized and locally diopside- or epidote-altered. Fine-grained disseminated pyrite or magnetite is rare. North of the Sucwoa River, the Karmutsen Formation is composed of andesitic to basaltic pyroclastics.

Massive grey limestone of the Quatsino Formation (Unit 2) overlies the Karmutsen volcanics throughout the northwestern parts of VIG 3 and 7, the southern part of VIG 5 and throughout VIG 8, dipping moderately to the west or southwest. Basaltic flows are intercalated with massive limestone near the bottom of the section and thinly-bedded limestone bands become more pronounced upwards. One outcrop of black limey argillite on VIG 3 may represent the bottom of the overlying Parson Bay Formation (Unit 3).

The two Karmutsen/Quatsino sequences on the Head Bay property were probably displaced vertically by an easterly trending fault prior to intrusion of the Head Bay stock.

A later inferred northwesterly trending fault has downdropped Bonanza Group (Unit 5) felsic volcanoclastics and flows relative to the Karmutsen/Quatsino sequences in the western part of the Head Bay property. Where exposed, the Bonanza Group consists mainly of tuffs, tuff breccias, agglomerates and feldspar porphyry flows with little lateral or vertical continuity. They are generally dacitic to rhyolitic in composition, green to purple in color and contain 1% finely disseminated pyrite.

All rock types have been intruded by the multiphase Head Bay stock (Unit 6) which appears to be one of the Catface Intrusions.

This stock extends southeasterly from the center of the property towards Head Bay along the inferred fault which separates the two Karmutsen/Quatsino sequences. A portion of this stock is elongated about a southeasterly trending axis on the northwestern part of the VIG 8 claim. In its central outcrops on the southern portion of VIG 3, the stock is a medium-grained, equigranular diorite composed of 70% plagioclase, 20% hornblende, 5% biotite and 5% magnetite. Outcrops of a monzonitic phase, composed mainly of plagioclase and orthoclase with 5% biotite, occur sporadically along the southern contacts of the Head Bay stock. In its northeastern exposures and near its intrusive contacts, the stock is highly variable in composition and texture, ranging from diorite to coarse gabbro to anorthosite to pyroxenite. This mafic phase, which contains up to 25% magnetite, is related to the Glengarry/Stormont magnetite skarns and hosts the gold-bearing sulphide-quartz veins of the Road Zone.

Skarn (Unit 7) has formed wherever the gabbroic phase of the Head Bay stock has intruded Quatsino limestone, especially near the Quatsino/Karmutsen contact. It varies considerably in thickness from a few centimeters in road cuts west of the Road Zone to several meters in the Glengarry-Stormont magnetite deposit. Contact skarns generally consist of fine-grained diopside and epidote with variable amounts of quartz and calcite. Up to 5% pyrite, 20% magnetite and traces of chalcopyrite are present locally. On the VIG 8 claim, andesitic dikes cutting Quatsino limestone have been converted to skarn near their contact with the Head Bay stock. This skarn type contains locally abundant sphalerite, galena, pyrite and auriferous chalcopyrite. The Glengarry-Stormont skarns, located on the Crown-granted mineral claims enclosed within VIG 3, are composed of alternating bands of andradite garnet and magnetite with lesser epidote, diopside, quartz and calcite. Beryl, pyrite, chalcopyrite and specularite are rare. These banded skarns are replacements of chemically favorable beds near the bottom of the

Quatsino limestones. A similar skarn zone is exposed over 60 meters with a thickness of two to five meters on VIG 3 southwest of the Crown-granted mineral claims.

## 6.2 Geochemistry

Six stream sediment samples, screened in the field to minus 10 mesh, were taken from streams draining the VIG 7 and VIG 8 claims (Figures 4 and 5). None contained anomalous values for gold, silver, copper, lead, zinc or arsenic.

Four lines of soil geochemical samples were taken along contour lines in areas that had not received previous geochemical coverage (Figures 4 and 5). All soil samples were analyzed for gold, silver, copper, lead, zinc and arsenic. Three consecutive soil samples contain greater than 900 ppm Zn, 80 ppm Pb and 100 ppm Cu, approximately 250 meters west of the newly-discovered sphalerite-galena-chalcopryrite skarn occurrence on VIG 8. Several gold values greater than 45 ppm were returned from elsewhere along this soil line.

## 7.0 MINERALIZATION

The most completely investigated gold mineralization on the Head Bay property occurs in the Road Zone. This shallowly-dipping system of rich pyrite-quartz-chlorite-chalcopryrite lenses is hosted by weakly sheared, coarse magnetite-rich gabbro of the Head Bay stock. These lenses are highly discontinuous in all directions, but contain up to 201.3 grams gold per tonne over a few centimeters. The best gold values are found in heavy sulphide lenses with black chloritic ribbons and shears. Trenching in 1987 exposed 38 meters of strike-length with an



average grade of 4.41 grams gold per tonne across 1.46 meters (Awmack, 1987).

Nine diamond drill holes totalling 437.1 meters were drilled in May 1988 from a single setup to test the Road Zone at depth below the 1987 trenches (Figure 6). This drilling confirmed the high gold values indicated by trenching with the best intersection grading 58.20 grams gold per tonne across 0.25 meters, but showed the Road Zone mineralization to be erratic and of limited extent. Only four holes intersected quartz-sulphide mineralization, although shearing was present in the other holes where veining would be expected. None of the holes encountered more than one quartz-sulphide lens, despite the presence of up to three in the 1987 trenches. In drill core, the Road Zone is shown to be a narrow shear or series of shears, sporadically mineralized with highly auriferous quartz-pyrite-chalcopyrite-chlorite veins and flanked by less than one meter of weak shearing and clay alteration with minor disseminated pyrite and chalcopyrite within unaltered diorite. Drilling shows the Road Zone's orientation to be approximately  $090^{\circ}/12^{\circ}\text{S}$ .

Prospecting directed at the geochemical anomalies produced by the 1987 program resulted in the discovery of banded pyrite-quartz float near station 13+00N 20+00E on the 1987 geochemical grid, in the center of a weak three-station soil gold anomaly. Sample #172135, taken from this float, assayed 17.00 grams gold per tonne.

Several interesting base metal skarn occurrences were discovered during 1988 in new roadcuts on the VIG 8 mineral claim (Figure 5). Sphalerite was noted over two to twenty centimeters in several skarns formed at the contact between sheared andesitic dikes and Quatsino limestone. Grab sample #172021 assayed 18.6% zinc with 55.5 grams silver per tonne across 0.20 meters. Approximately 360 meters west of sample #172021, a silica-

sphalerite-galena replacement of limestone at its intrusive contact with the sheared diorite of the Head Bay Stock assayed 3.42% lead and 15.3% zinc in sample #172172. Grab sample #172167, taken from chalcopyrite-rich skarn nearby on the same contact assayed 8.67 grams gold per tonne with 6.13% copper. Narrow pyrite-chalcopyrite veins within the adjacent diorite are weakly auriferous, containing 350 ppb gold with 4000 ppm copper.

The magnetite skarns of the Glengarry-Stormont deposit and those extending onto VIG 3 contain locally anomalous gold values (Figure 4). Sample #172118 contains 985 ppm gold within magnetite skarn which lacked apparent sulphide mineralization. As this sample was composed of chips taken over an area several meters in diameter, gold mineralization may be controlled by a narrower, richer structure which was not observed.

## 8.0 DISCUSSION AND CONCLUSIONS

The Road Zone mineralization, while yielding impressive gold assays, has been shown by drilling to be too narrow and discontinuous to warrant further exploration.

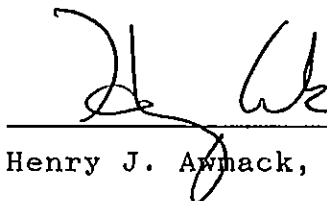
Mineralized float assaying 17.00 grams gold per tonne has been discovered approximately 450 meters southeast of the Road Zone. No follow-up prospecting has yet been done to discover the bedrock source for this float. It is possible that this mineralization is related to the prominent northwesterly trending fracture system and gullies which extend up to the Road Zone from this point.

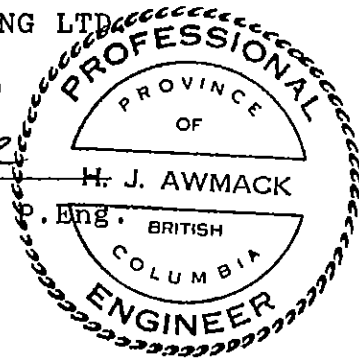
Zinc(-lead-copper-gold) skarn occurrences have received limited sampling over an area of 300 meters by 360 meters on the VIG 8 claim. Three highly anomalous soil samples a further 250 meters west of this area may reflect similar mineral occurrences.

The true width, areal extent and significance of these skarn showings is not yet apparent. Several weak soil geochemical gold anomalies downslope from the skarn occurrences deserve further investigation.

A few of the geochemical anomalies from the 1987 program have been successfully traced to their sources. In particular, the discovery of mineralized float grading 17.00 grams gold per tonne in the center of three weakly anomalous soil samples (containing 60, 80 and 90 ppb gold), shows the significance of the 1987 geochemical anomalies. No satisfactory source has yet been found for several of the strongest geochemical anomalies discovered during 1987, particularly for the highly anomalous drainage on the north boundary of the VIG 3 claim and for several soil samples which contained greater than 100 ppb gold. Further prospecting will be necessary to determine their sources.

Respectfully submitted,  
EQUITY ENGINEERING LTD.

  
Henry J. Awmack, P. Eng.



Vancouver, British Columbia  
June 10, 1987

APPENDIX A

BIBLIOGRAPHY

## BIBLIOGRAPHY

- Awmack, H.J. (1987): 1987 Summary Report on the Head Bay Project; Report submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources for assessment credit in August, 1987.
- Bancroft, M.F. (1940): Zeballos Mining District and Vicinity, British Columbia; GSC Paper 40-12.
- BCMEMP (1956): Ministry of Mines Annual Review, p. 131-133.
- Cavey, George (1983): Geochemical Report on the Elaine Claims; BCMEMP Assessment Report #11,221.
- Caulfield, David A. (1985): Prospecting Report on the Mohawk Group; BCMEMP Assessment Report #13,806.
- Chabot, G.E. (1982): Report on Reconnaissance Geological Mapping Conducted on the TAH 2-21 Mineral Claims; BCMEMP Assessment Report #10,157.
- Flanagan, M. (1984): Geology and Geochemistry of the TAH 22 Claim; BCMEMP Assessment Report #13,026.
- Hoadley, J.W. (1953): Geology and Mineral Deposits of the Zeballos-Nimpkish Area, Vancouver Island, British Columbia; GSC Memoir 272.
- Muller, J.E., Cameron, B.E.B, and Northcote, K.E. (1981): Geology and Mineral Deposits of Nootka Sound Map-Area, Vancouver Island, British Columbia; GSC Paper 80-16.
- Robinson, J.E. (1983): Geological and Geochemical Report on the TAH Group; BCMEMP Assessment Report #12,058.
- Ronning, Peter A. (1985): Geology and Litho-geochemistry of the TAH Claim Group; BCMEMP Assessment Report #13,681.
- Stevenson, John S. (1950): Geology and Mineral Deposits of the Zeballos Mining Camp; BCMEMP Bulletin No. 27.
- White, G.D. and Chabot, G.E. (1981): Report on a Reconnaissance Geochemical Survey conducted on the TAH 1-19 Claims; BCMEMP Assessment Report #9,130.
- Young, G.A. and Uglow, W.L. (1926): Iron Ores of Canada, Vol. 1; GSC EG-3-1, 253 pp.

APPENDIX B

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES  
 HEAD BAY PROPERTY  
 MAY 1-16, 1988

PROFESSIONAL FEES AND WAGES:

Henry J. Awmack, P.Eng.		
April 19 - June 8		
20.0 days @ \$300/day	\$ 6,000.00	
Elmer DeBock, Prospector		
May 1 - May 16, 1988		
16.0 days @ \$250/day	4,000.00	
Fraser Ray, Sampler		
May 2 - May 15, 1988		
14.0 days @ \$175/day	<u>2,450.00</u>	
		\$ 12,450.00

EQUIPMENT RENTALS:

4WD Truck		
15.0 days @ \$60/day		900.00

SUBCONTRACTS:

Engineering	\$ 378.00	
Drilling		
1457 feet @ \$20/ft	29,140.00	
151 manhours @ \$22	3,322.00	
61 coreboxes @ \$5.05	<u>308.00</u>	
		33,148.00

EXPENSES:

Recording Fees	\$ 130.00	
Chemical Analyses	4,568.75	
Materials and Supplies	295.72	
Printing and Reproductions	7.50	
Meals	1,145.40	
Accomodation	2,088.00	
Travel	456.40	
Automotive Expenses	346.16	
Telephone Distance Charges	11.07	
Courier and Telefax	18.99	
Freight	<u>16.00</u>	
		9,083.99

REPORT PREPARATION:		1,000.00
---------------------	--	----------

MANAGEMENT FEE:

7.5% on subcontracts

\$ 2,486.10

15% on expenses only

1,362.60

3,848.70

\$ 60,430.69

=====





APPENDIX C

DRILL LOGS

# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT HEAD BAY (VIG 3)	GROUND ELEV. 451.3 m
HOLE NO. V88-01	BEARING 030°
LOCATION Drill site No. 1	DIP -50°
	TOTAL LENGTH 299' (91.1 m)
LOGGED BY Awmack	HORIZONTAL PROJECT 58.56 m
DATE	VERTICAL PROJECT 69.8 m
CONTRACTOR Globe Drilling	<b>ALTERATION SCALE</b>  <ul style="list-style-type: none"> <li>absent</li> <li>slight</li> <li>moderate</li> <li>intense</li> </ul>
CORE SIZE BQ	
DATE STARTED May 5, 1988	<b>TOTAL SULPHIDE SCALE</b>  <ul style="list-style-type: none"> <li>traces only</li> <li>&lt; 1%</li> <li>1% - 3%</li> <li>3% - 10%</li> <li>&gt; 10%</li> </ul>
DATE COMPLETED	
DIP TESTS No	
COMMENTS	<b>LEGEND</b> <p>Ep - mag Alteration          Endoskarn composed of (ungrained) epidote and quartz, up to 25% coarse magnetite and lesser (5%) porphyroblastic pink garnet.</p> <p>+ Diorite          + Andesite Dike</p>



MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS		
		FROM	TO	WIDTH		A <sub>v</sub> (g/t)	A <sub>g</sub> (g/t)	
		2.70	4.30	1.60	172051	<0.07	1.0	
6.3 - 6.45 limonitic gooss surrounding goethitic quartz boxwork		6.30	6.45		172052	<0.07	<0.5	
		7.50	8.10		172053	<0.07	<0.5	
		13.8	14.6		172054	<0.07	<0.5	
18.20 - 18.45 70% pyrite, 10% atz, 20% black chlorite and ferri-gooss; 1% cpy		18.20	18.45		172055	22.94	14.06	
18.45 - 18.75 Discrete - Ni-c... ..		18.45	18.75		172056	<0.07	<0.5	

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ
					Ep Mag A)	B	C	D	E		
25.0	8	+		Diorite - variable in grain size from 2mm, equigranular to 1cm - variable in composition, locally 50% plagi.							
	100	+									2/m
27.5	100	+									
	100	+									
30.0	100	+									
	100	+								5/m	
32.5	100	+									
	100	+									
35.0	100	+									
	100	+		50% plagi. Coarse augite to 1cm							
37.5	100	+									
	100	+									
40.0	100	+		39.4 Chloritic shear @ 75° to C.A.							
	100	+									
42.5	100	+									
	100	+		10% garnet (pink)							
45.0	100	+		44.1 Dark green, fine-grained andesite dike @ 60° to C.A.							2/m
	100	+		44.3							

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS			
		FROM	TO	WIDTH		A <sub>s</sub> (g/t)	A <sub>g</sub> (g/t)		
25.2-26.9. Epidote-rich endoskarn, 10% magnetite, 85% garnet, no sulphides		25.2	26.9	1.7	172057	<0.07	<0.05		
39.35-39.45 Chloritic shear with 2 cm dark grey quartz vein 1% pyrite at body of quartz vein and chlorite gouge. Ep-rich from 39.35-39.38. Chlorite gouge from 39.41-39.45		39.35	39.45	0.10	172058	<0.07	<0.5		







DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ
					Ep. 6ar A	B	C	D	E		
				Diorite							
70.0	100	+									
	100	+									
	100	+		71.2 0.5 cm calcite-quartz vein // C.A.						2/m	
72.5	100	+		73.0 0.5 cm calcite-quartz vein // C.A. Epidote-rich envelope							
	100	+		74.4 0.2 cm calcite on fracture @ 30° to C.A.							
75.0	100	+									
	100	+									
77.5	100	+									
	100	+		0.5 cm quartz-calcite-epidote vein @ 10° to C.A.						2/m	
80.0	100	+									
	100	+									
82.5	100	+									
	100	+									
85.0	100	+									
	100	+									
87.5	100	+		88.2 0.5 cm calcite-quartz vein @ 20° to C.A.							
	100	+									
90.0	100	+		90.0 0.5 cm quartz-epidote-chlorite shear @ 10° to C.A.							


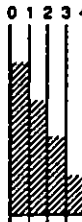
E.O.H. 91.1 m





# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT HEAD BAY	GROUND ELEV. 457.3 m
HOLE NO. V88-02	BEARING 030°
LOCATION DRILLSITE No. 1	DIP -70°
	TOTAL LENGTH 124' 37.79 m
LOGGED BY AWMACK	HORIZONTAL PROJECT 12.93 m
DATE	VERTICAL PROJECT 35.51 m
CONTRACTOR GLOBE DRILLING	<b>ALTERATION SCALE</b>  <ul style="list-style-type: none"> <li>0 absent</li> <li>1 slight</li> <li>2 moderate</li> <li>3 intense</li> </ul>
CORE SIZE BQ	
DATE STARTED May 7, 1988	<b>TOTAL SULPHIDE SCALE</b>  <ul style="list-style-type: none"> <li>0 traces only</li> <li>1 &lt; 1%</li> <li>2 1% - 3%</li> <li>3 3% - 10%</li> <li>4 &gt; 10%</li> </ul>
DATE COMPLETED May 7, 1988	
DIP TESTS No	
COMMENTS	<b>LEGEND</b> As for V88-01



MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS	
		FROM	TO	WIDTH		A <sub>v</sub> (g/t)	A <sub>s</sub> (g/t)
2.70-3.40 1.0 cm quartz vein in epidote-rich envelope.		2.70	3.40	0.70	172063	<0.07	<0.5
12.30-12.50 Goethite, crumbly fault gouge and sheared diorite. No visible sulphides		12.30	12.75	0.45	172064	<0.07	<0.5
15.50-16.10 Several narrow vuggy quartz-epidote veinlets @ 45° and 90° to C.A.		15.50	16.10	0.60	172065	<0.07	<0.5







PAGE

OF

PROJECT:

HOLE NO.

DEPTH (m)

% CORE REC

LITHOLOGY

STRUCTURE

GEOLOGICAL DESCRIPTION

ALTERATION

A

B

C

D

E



FRACTURE INTENSITY

% VEIN QTZ



# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT HEAD BAY	GROUND ELEV. 451.3 m
HOLE NO. V88-03	BEARING -
LOCATION DRILLSITE #1	DIP 090°
	TOTAL LENGTH (100') 30.48 m
LOGGED BY ANMACK	HORIZONTAL PROJECT -
DATE May 8, 1988	VERTICAL PROJECT 30.48 m
CONTRACTOR GLOBE DRILLING	<b>ALTERATION SCALE</b>  <ul style="list-style-type: none"> <li>0 absent</li> <li>1 slight</li> <li>2 moderate</li> <li>3 intense</li> </ul>
CORE SIZE BQ	
DATE STARTED May 7, 1988	<b>TOTAL SULPHIDE SCALE</b>  <ul style="list-style-type: none"> <li>0 traces only</li> <li>1 &lt; 1%</li> <li>2 1% - 3%</li> <li>3 3% - 10%</li> <li>4 &gt; 10%</li> </ul>
DATE COMPLETED May 8, 1988	
DIP TESTS No	
COMMENTS	LEGEND

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					A	B	C	D	E		
	60			Diorite							
2.5	85									10/m	
	95										
5.0	95			4.5 Calcite stringer @ 10° to C.A.							
	100										
7.5	100			7.0 Chlorite stringer @ 40° to C.A.							
	100			8.2 1.5 cm green @ 15° to C.A. 8.5 calcite stringer @ 25° to C.A.							
10.0	100										
	100										
12.5	100									5/m	
	100			13.3 Quartz-calcite vein (1.0 cm) @ 15° to C.A.							
15.0	100			14.93 Qtz-py-cpy-pa vein							
	95			16.6 Dark green andesite dike, 5% plag. phenos. 15.75 16.3 2cm qtz vein with coarse py-cpy @ 60° to C.A. 16.6 Chl-qtz-py shear @ 80° to C.A.							
17.5	100			17.1 Andesite dike 18.3							
	100										
20.0	100										
	100										
22.5	100			22.0 1.0 cm quartz vein @ 50° to C.A. 22.25 E <sub>0</sub> shear @ 80° to C.A.							2/m

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS			
		FROM	TO	WIDTH		Au (g/t)	Ag (g/t)		
8.0 - 9.05 - Several 0.5 - 1.0 cm vuggy quartz-calcite veins with dark brown stain. No associated alteration.		8.0	9.05	1.05	172067	40.07	40.5		
14.40 - 14.92 Weak epidote altered in		14.40	14.92	0.52	172068	40.07	40.5		
14.92 - 14.94 Vuggy quartz vein with 30% pyrite, 5% chalcopyrite, 5% sphalerite, 5% pyrrhotite. Stickensides @ 50° to C.A. Minor fault zone.		14.92	14.94	0.02	172069	1.44	16.0		
		14.94	16.20	1.26	172070	40.07	40.5		
		16.20	16.95	0.75	172071	0.69	1.8		
14.94 - 16.20 Unaltered									
16.20 - 16.95 Several shears with quartz-chlorite and py = cpy blebs.									
22.00 - 22.25 Weakly cleaved + epidote altered		22.0	22.25	0.25	172072	40.07	40.5		







# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT HEAD BAY	GROUND ELEV. 451.3 m
HOLE NO. V88-04	BEARING 090°
LOCATION DRILL SITE No. 1	DIP -45°
	TOTAL LENGTH 100' 30.48 m
LOGGED BY AWMACK	HORIZONTAL PROJECT 21.55 m
DATE May 9, 1988	VERTICAL PROJECT 21.55 m
CONTRACTOR Globe Drilling Ltd	<b>ALTERATION SCALE</b> 
CORE SIZE BQ	
DATE STARTED May 8, 1988	<b>TOTAL SULPHIDE SCALE</b> 
DATE COMPLETED May 8, 1988	
DIP TESTS No	
COMMENTS	<b>LEGEND</b>  As for V88-01











MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS			
		FROM	TO	WIDTH		A <sub>v</sub> (g/t)	A <sub>s</sub> (g/t)		
22.65-22.77 Diorite, weakly clay-altered with 2% py+cpy in disseminated cubes and veinlets		22.65	22.90	0.25	172076	58.20	8.5		
		22.90	24.25	1.35	172077	0.27	<0.5		
22.77-22.84 70% pyrite, 5% cpy, 25% quartz - 50% to C.A.									
22.89-22.90 Diorite, weakly clay-altered									
		25.40	26.65	1.25	172078	60.07	<0.5		
26.45-26.55 weakly clay-altered diorite with 5% disseminated pyrite cubes Non-magnetic									
29.95-30.45 Weakly clay-altered diorite. Broken core. 1% fg dissem pyrite		29.95	30.45	0.50	172079	<0.07	<0.5		



# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT HEAD BAY	GROUND ELEV. 451.3 m
HOLE NO. V88-05	BEARING 130°
LOCATION DRILLSITE No. 1	DIP -45°
	TOTAL LENGTH 150' 45.72 m
LOGGED BY ANMACK	HORIZONTAL PROJECT 32.32 m
DATE MAY 11, 1988	VERTICAL PROJECT 32.32 m
CONTRACTOR GLOBE DRILLING LTD	<b>ALTERATION SCALE</b> 
CORE SIZE BQ	
DATE STARTED MAY 9, 1988	<b>TOTAL SULPHIDE SCALE</b> 
DATE COMPLETED MAY 9, 1988	
DIP TESTS No	
COMMENTS	LEGEND As for V88-01









MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS		
		FROM	TO	WIDTH		A <sub>v</sub> (g/t)	A <sub>g</sub> (g/t)	
24.75-25.05 Diorite, unaltered but with rare blobs of pyrite		24.75	25.05	0.97	172083	0.07	0.5	
25.68-25.73 Weakly clay-altered diorite		25.68	26.04	0.36	172084	17.60	16.5	
W. 5% py in veinlets + disseminated		26.04	27.00	0.9%	172085	0.07	0.5	
25.73-25.85 Andesite dikes cut by irregular quartz-cpy-molybdenite veinlets. 2% cpy, Tr. moly								
25.85-25.97 Qtz-cpy-py vein following chlorite-pyrite shear @ 50° to C.A.								
50% quartz, 25% py, 15% cpy								
10% dark green chlorite								
25.97-26.04 Weakly clay-altered diorite								
32.42-32.90 Weakly clay-altered diorite with 1% disseminated pyrite. Up to 10% py for 3 cm around veins and shears		32.42	32.90	0.48	172086	0.14	0.5	

PAGE

OF

PROJECT:

HOLE NO.

DEPTH (m)

% CORE REC

LITHOLOGY

STRUCTURE

GEOLOGICAL DESCRIPTION

ALTERATION

A

B

C

D

E

FRACTURE INTENSITY

% VEIN QTZ



# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT HEAD BAY	GROUND ELEV. 451.3 m
HOLE NO. V88-06	BEARING 170°
LOCATION DRILLSITE No. 1	DIP -45°
	TOTAL LENGTH 150' (45.72 m)
LOGGED BY AWMACK	HORIZONTAL PROJECT 32.33 m
DATE May 11, 1988	VERTICAL PROJECT 32.33 m
CONTRACTOR Globe Drilling Ltd	<b>ALTERATION SCALE</b> <ul style="list-style-type: none"> <li>absent</li> <li>slight</li> <li>moderate</li> <li>intense</li> </ul>
CORE SIZE BQ	
DATE STARTED May 10, 1988	<b>TOTAL SULPHIDE SCALE</b> <ul style="list-style-type: none"> <li>traces only</li> <li>&lt; 1%</li> <li>1% - 3%</li> <li>3% - 10%</li> <li>&gt; 10%</li> </ul>
DATE COMPLETED May 10, 1988	
DIP TESTS No	
COMMENTS	<b>LEGEND</b> As for V88-01





DEPTH (M)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ep A	Clay B	Silic C	D	E		
				Diorite							
		+									
	100	+		Contact @ 20° to C.A. 0.5 cm calcite vein @ 10° to C.A. (not // dike)						2/m	
25.0	100	+		0.2 cm garnet-quartz shear @ 35° to C.A.							
	100	+									
27.5	100	+									
	100	+									
	95	+		Purple-grey andesite dike - fine-grained equigranular.						5/m	
30.0	100	+		Several 0.2 cm calcite stringers @ various orientations.							
	100	+		4 cm quartz-calcite-epidote shear @ 50° to C.A.						10/m	
32.5	100	+		Fractures along C.A.							
	100	+		1.0 cm quartz-calcite vein @ 30° to C.A.						2/m	
35.0	100	+									
	100	+		0.5 cm calcite vein // C.A.							
37.5	100	+									
	100	+		0.2 cm calcite stringer @ 50° to C.A.							
40.0	100	+									
	100	+		1.0 cm quartz-epidote shear @ 30° to C.A.							
42.5	100	+									
	100	+		0.5 cm quartz vein @ 40° to C.A.						5/m	
45.0	100	+									

E.O.H. 150' (45.7m)


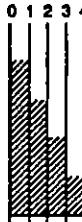






# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT <i>HEAD BAY</i>	GROUND ELEV. <i>451.3 m</i>
HOLE NO. <i>V88-07</i>	BEARING <i>210°</i>
LOCATION <i>DRILLSITE No. 1</i>	DIP <i>-45°</i>
	TOTAL LENGTH <i>104' (31.69 m)</i>
LOGGED BY <i>AWMACK</i>	HORIZONTAL PROJECT <i>22.41 m</i>
DATE <i>MAY 13, 1988</i>	VERTICAL PROJECT <i>22.41 m</i>
CONTRACTOR <i>Globe Drilling Ltd.</i>	<b>ALTERATION SCALE</b>  <ul style="list-style-type: none"> <li>0 absent</li> <li>1 slight</li> <li>2 moderate</li> <li>3 intense</li> </ul>
CORE SIZE <i>BQ</i>	
DATE STARTED <i>May 10, 1988</i>	<b>TOTAL SULPHIDE SCALE</b>  <ul style="list-style-type: none"> <li>0 traces only</li> <li>1 &lt; 1%</li> <li>2 1% - 3%</li> <li>3 3% - 10%</li> <li>4 &gt; 10%</li> </ul>
DATE COMPLETED <i>May 11, 1988</i>	
DIP TESTS <i>No</i>	
COMMENTS	LEGEND <i>As for V88-01</i>













# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT <i>HEAD BAY</i>	GROUND ELEV. <i>451.3 m</i>
HOLE NO. <i>V88-08</i>	BEARING <i>270°</i>
LOCATION <i>DRILL SITE No. 1</i>	DIP <i>-45°</i>
	TOTAL LENGTH <i>104' (31.69 m)</i>
LOGGED BY <i>AWMACK</i>	HORIZONTAL PROJECT <i>22.41 m</i>
DATE <i>MAY 13, 1988</i>	VERTICAL PROJECT <i>22.41 m</i>
CONTRACTOR <i>GLOBE DRILLING LTD.</i>	<b>ALTERATION SCALE</b>  <ul style="list-style-type: none"> <li>absent</li> <li>slight</li> <li>moderate</li> <li>intense</li> </ul>
CORE SIZE <i>BQ</i>	
DATE STARTED <i>MAY 11, 1988</i>	<b>TOTAL SULPHIDE SCALE</b>  <ul style="list-style-type: none"> <li>traces only</li> <li>&lt; 1%</li> <li>1% - 3%</li> <li>3% - 10%</li> <li>&gt; 10%</li> </ul>
DATE COMPLETED <i>MAY 12, 1988</i>	
DIP TESTS <i>No</i>	
COMMENTS	<b>LEGEND</b> <i>As for V88-01</i>















# EQUITY ENGINEERING LTD.

## DRILL LOG

PROJECT <i>HEAD BAY</i>	GROUND ELEV. <i>457.3 m</i>
HOLE NO. <i>V88-09</i>	BEARING <i>330°</i>
LOCATION <i>DRILL SITE No. 1</i>	DIP <i>-45°</i>
	TOTAL LENGTH <i>30' (92.35 m)</i>
LOGGED BY <i>AWMACK</i>	HORIZONTAL PROJECT <i>65.30 m</i>
DATE <i>MAY 13, 1988</i>	VERTICAL PROJECT <i>65.30 m</i>
CONTRACTOR <i>GLOBE DRILLING LTD</i>	ALTERATION SCALE 
CORE SIZE <i>BQ</i>	TOTAL SULPHIDE SCALE 
DATE STARTED <i>May 12, 1988</i>	
DATE COMPLETED <i>May 12, 1988</i>	
DIP TESTS <i>No</i>	
COMMENTS	LEGEND <i>As for V88-01</i>



MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS			
		FROM	TO	WIDTH		Au g/t	Ag g/t		
4.30 0.5 cm limonitic fault gouge Weak clay-py envelope for 1 cm.		4.20	4.50	0.30	172095	<0.07	<0.5		
11.30 - 11.60 Unaltered diorite with 1% disseminated pyrite		11.30	11.60	0.30	172096	<0.07	<0.5		



DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ	
					Ep A	Clay B	Silic C	D	E			
25.0	100	+										
	100	+								2/m		
	100	+										
	100	+										
30.0	100	+										
	95	+										
	90	+								50/m		
	100	+								2/m		
32.5	100	+		1.0 cm calcite vein @ 15° to C.A.								
	100	+										
	100	+										
35.0	100	+		1.6 cm Qtz-calcite - 4% py vein @ 25° to C.A.								
	100	+										
	100	+		1.0 cm Qtz-calcite - py vein @ 20° to C.A.								
37.5	100	+		1.0 cm calcite vein @ 10° to C.A.								
	100	+										
	100	+		0.5 cm calcite vein @ 30° to C.A.								
	100	+										
	100	+										
42.5	100	+										
	100	+										
45.0	100	+		2.0 cm calc-epidote vein @ 60° to C.A.								
	100	+										

v. coarse  
Augite-magnetite  
rich



DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ.
					Ep A	Clay B	Silic C	D	E		
100	+										
47.5	100	+		1.0 cm rusty gtz - calcite - epidote vein							
	+			48.3 Contact @ 50° to C.A.						2/m	
50.0	95	+									
	+			5.0 cm rusty ep - calc - gtz vein @ 55° to C.A.							
52.5	100	+									
	+										
55.0	100	+		Contact @ 40° to C.A.							
	+										
	+										
57.5	100	+		1.0 cm gtz - calc - diop vein along contact @ 65° to C.A.							
	+										
60.0	100	+									
	+										
	+										
62.5	100	+		0.5 cm gtz vein @ 20° to C.A.							
	+										
65.0	100	+									
	+										
	+			1.0 cm gtz vein @ 60° to C.A.							
67.5	100	+		Contact @ 40° to C.A.							

← 1% py over 2cm →



DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION					FRACTURE INTENSITY	% VEIN QTZ
					Ep A	clay B	Silic C	D	E		
70.0	100			DK green andesite dike, with rounded feldspar phenas.						2 1/2	
	+									5/m	
72.5	100			2 cm qtz vein @ 30° to C.A.							
	+										
75.0	100										
	+										
77.5	100										
	+			1.0 cm calc - qtz - ep vein @ 10° to C.A.							
80.0	95										
	+										
82.5	100										
	+			82.14 1.0 cm qtz vein on chlorite sheet @ 45° to C.A.							
85.0	100			84.1 1.0 cm qtz vein @ 30° to C.A.							
	+			84.7 0.2 cm qtz vein @ 30° to C.A.							
87.5	100			86.3 0.3 cm qtz vein @ 25° to C.A.							
	+			1.0 cm qtz vein @ 25° to C.A.							
90.0	100			0.5 cm qtz vein @ 45° to C.A.							
	+			Three calcite stringers // @ 40° to C.A.							











APPENDIX D

ROCK DESCRIPTIONS

Sampler AWMACK  
Date May 2-15, 1988

Project CENTAUR  
Property HEAD BAY

Location Ref \_\_\_\_\_  
Air Photo No \_\_\_\_\_

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS						
				Rock Type	Alteration	Mineralization		Au	Ag	Cu	Pb	Zn		
172016	Vig 7	Float	1-3cm	Amygdaloidal Karmutsen		Banded quartz calcite boxwork	North of Suckwa River	<5	0.1					
172019	Vig 7	Float	<10cm	Karmutsen	Ep-chl-di	<1% Py.	Vuggy quartz-calcite-epidote stockwork.	<5	0.1					
172020	Vig 3 - near Road 2	Grab	20cm	Diorite	Shear	<1% py	Black chlorite, tan calcite vein ∠ 150°/45°W	<5	0.1					
172021	Vig 8	Grab	20cm	Skarn (chl-epidote)		10% sphal, 1% py-Miner cpy	On contact between green dioritic, sheared dike with and limestone	0.07 g/t	55.5 g/t		0.75%	18.60%		
172022	Vig 8	Grab	40cm	Diorite	Rusty shear zone		∠ 078/90	5	0.1					
172023	Vig 7	Grab	5cm	Limestone/Dike		70% py, 30% gtz	Diorite dike. intensely silicified pyritic. ∠ 122/685 for lens. (1.0 m long)	75	0.2					

NTS \_\_\_\_\_

 Sampler E.A. Dainoff

Project \_\_\_\_\_

Location Ref \_\_\_\_\_

Date \_\_\_\_\_

 Property ULG III

Air Photo No \_\_\_\_\_

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width	True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
					Rock Type	Alteration	Mineralization		Au	Ag	Cu	Pb		
172101	E side Sweeney	Rock float	5cm		Volcanic Qtz	Qtz	Pyrite		120	0.1	343			
2	"	"			Volcanic Qtz	Qtz	Pyrite	Pyrite abundant on margins of vein	15	0.1				
3	"	"	40cm		"	"	"	" "	40	0.1	256			
4	"	"	40		"	"	"	" "	20	0.1				
5	"	float Rock			"	"	"	" "	10	0.1				
172106	W side Sweeney	Rock			Volcanic	Qtz	Chalcopyrite Pyrite	Qtz veining on volcanic flow about river	120	1.6	5060			
172107	Near Creek Leases Near CR Canyon of Leases	Rock			Alteration margin of dyke	Qtz	-		<5	0.1				
172108	"	Rock			Silica margin	Silica	Pyrite Sphalerite		<5	0.1	121	1		
172109	"	Rock			Silica	Silica	" "		<5	0.1	136			
172110	"	"			"	"	" "		<5	0.1	37			
172111	"	"			"	"	magnetite		<5	0.1				
172112	"	"			"	"	" "		<5	0.1				
172113	"	"			Volcanic	Qtz veining	Pyrite		<5	0.1				
172114	"	"			"	Qtz epidote	Pyrite	Shear zone	<5	0.1				

# EQUITY ENGINEERING LTD.

## Geochemical Data Sheet - ROCK SAMPLING

Sampler P.A.D.  
Date 06/05/88

Project \_\_\_\_\_  
Property HEAD BAY

NTS \_\_\_\_\_  
Location Ref \_\_\_\_\_  
Air Photo No \_\_\_\_\_

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		As	Ag	Cu	Pb	Zn	
172115	S END 11B III	Rock	/	Skaen	Mag. Skaen	magnetite chalc pyrite		45	0.1	177			
172116	"	"	/	"	"	magnetite pyrite		45	0.1				
172117	"	Rock float	/	"	"	chalc magnetite		30	5.9	8830			
172118	"	Rock	/	Skaen	Mag Skaen	magnetite		985	0.1				
<del>172119</del>	"	"	/	"	qtz veins								
172119	"	"	/	"	Mag Skaen	serp chalc pyrite		5	0.1				
172120	"	"	/	"	"	chalc malachite		135	3.0	8600			
172121	"	"	/	"	"	chalc hemite pyrite		65	22.0				
172122	"	"	/	Diorite	qtz vein	-		45	0.1				
172123	"	"	/	Skaen	Mag. Skaen	magnetite chalc		85	3.2	6400			
172124	"	"	/	"	"	magnetite Zn - hematite		30	6.7				710000
172125 07/05/88	"	"	/	Diorite	Sheared oxidized epidote	pyrite		30	0.2				
172126	"	Rock float	/	"	leached epidote	magnetite		10	0.1				
172127	"	Gouge	/	"	Gouge from shear	pyrite		380	1.4				
172128	"	Rock	/	Diorite	qtz calcite	-		10	0.1				
172129	"	"	/	"	shear zone epidote	pyrite chalc		5	0.6	335			

# EQUITY ENGINEERING LTD.

## Geochemical Data Sheet - ROCK SAMPLING

NTS \_\_\_\_\_

Sampler F. A. DeBock

Project \_\_\_\_\_

Location Ref \_\_\_\_\_

Date 08/05/88

Property \_\_\_\_\_

Air Photo No \_\_\_\_\_

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width	True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
					Rock Type	Alteration	Mineralization		Au	Ag	Cu	Pb	Zn	
172130 <del>08/05/88</del>	S end V16 III	Rock			Volcanic	qtz-epidote	—		<5	0.1				
172131	"	"			"	"	"		<5	0.1				
172132	"	"			"	qtz	Chalco Pyrite		70	1.0	2900			
172133	"	"			dyke	qtz-epidote	—		5	0.1				
172134	"	Float			Volcanic	qtz vein	Chalco Pyrite		10	0.9	5250			
172135 09/05/88	"	Float			Intusive	qtz vein	Pyrite	Near station 13+00N 20+00E	Trace	2.5				
172136 10/05/88	SW V16V	Rock			dyke & Limestone	Skarn	Pyrite Chalco		165	1.8	740			
172137	"	"			Altered Intusive	Silicified	Pyrite		65	0.1	68			
172138	"	"			Volcanics	Shear zone	Pyrite Chalco		65	0.2	530			
172139	"	"			Limestone dyke Contact	Contact Skarn	Pyrite Chalco Sphal.		15	1.8	1400		75	
172140	"	"			" "	" "	Chalco Pyrite-Zn		30	0.4	435		48	
172141	"	"			qtz-epidote	epidote alteration	Pyrite		20	0.2	70			
172142	"	"			Intusive	Silicified	Pyrite		10	0.1				
172143	"	"			Dyke-Limestone	qtz-vein	Pyrite		10	0.2				
172144	"	"			Intusive	Shear	Pyrite Chalco		330	0.8				
172145	"	"			dyke	—	Pyrite Chalco		10	0.1				
172146	"	"			Skarn	Skarn	Pyrite		<5	0.1				
172147	"	"			"	"	Sphal. Pyrite		<5	1.0	680			

# EQUITY ENGINEERING LTD.

## Geochemical Data Sheet - ROCK SAMPLING

Sampler E.A.D.  
Date 10/05/88

Project \_\_\_\_\_  
Property \_\_\_\_\_

NTS \_\_\_\_\_  
Location Ref \_\_\_\_\_  
Air Photo No \_\_\_\_\_

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au	Ag	Cu	Pb	Zn	
172148 10/05/88	VIB U	Rock		Skarn	Skarn	Spha- Galena Chalco.		90	36.0	800	>10000	>10000	
172149	"	"		Intrusive	Shear qtz vein	Pyrite		110	26				
172150 10/05/88	Claim Line VIB 8	"		Skarn	Skarn	Magnetite massive	1 m wide zone	<5	0.5				
172151 12/05/88	VIB 8	Rock		Skarn	Skarn	Chalco Magnetite	30 cm zone	15	0.5	1680			
172152	"	"		"	"	magnetite pyrite		15	1.0				
172153	"	"		"	"	"		5	0.2				
172154	"	"		Dyke	Shear zone qtz	Pyrite chalco magnetite		5	0.7	1400			
172155	"	"		"	"	Pyrite		30	0.1	950			
172156 13/05/88	VIB 8	Bozo		Intrusive	Shear zone	-		<5	0.1				
172157	"	"		"	"			<5	0.1				
172158	"	Rock		Intrusive	Shear bleached	Pyrite		<5	0.1				
172159	"	"		Skarn	Skarn	magnetite chalco		330	9.3	4480			
172160	"	"		Dyke	qtz vein	-		<5	0.3				
172161	"	"		Skarn	Skarn	magnetite		<5	0.1				
172162	"	"		"	"	"		<5	0.1				

# EQUITY ENGINEERING LTD.

## Geochemical Data Sheet - ROCK SAMPLING

Sampler E. A. D.  
Date 13/05/88

Project \_\_\_\_\_  
Property \_\_\_\_\_

NTS \_\_\_\_\_  
Location Ref \_\_\_\_\_  
Air Photo No \_\_\_\_\_

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS						
				Rock Type	Alteration	Mineralization		Ag	A <sub>g</sub>	Cu	Pb	Zn		
172163 13/05/88	VIG 8	Rock	/	SKarn	SKarn	hematite pyrite		<5	0.2					
<del>172164</del>	<del>"</del>	<del>"</del>	<del>/</del>	<del>Dyke</del>	<del>Dyke</del>	<del>magnetite</del>								
172164	"	"	/	Dyke	Dyke	pyrite		<5	0.3					
172165	"	"	/	SKarn	SKarn	magnetite		<5	0.1					
172166	"	"	/	Intrusive	veins	Chalco		350	2.8	4000				
172167	"	"	/	Dyke Intrusive	Contact zone	pyrite Chalco		867	62.0	>10000	8	5030		
172168	"	"	/	Shear in dyke	shear epidote qtz	Sphalerite pyrite		90	206	193		>10000		
172169	"	"	/	Intrusive	Silicified	Sphalerite		65	3.8					
172170	"	"	/	SKarn	SKarn	Malachite azurite Chalco		515	15.2	7600				
172171	"	"	/	"	"	Magnetite		20	0.2					
172172	"	Float	/	qtz	qtz	galena Sphal Cadmium?		0.14 g/t	60.0	617	>10000	>10000		
172173 14/05/88	VIG 8	Gouge	/	Intrusive	shear	-		895	0.5					
172174	"	Rock	/	SKarn	SKarn	magnetite		25	0.3					
172175	"	"	/	Limestone	Contact Alteration	pyrite		25	0.1					
172176	"	"	/	SKarn	silicified	galena Sphal chalco		45	10.3	980	9900	>10000		
172177	"	"	/	dyke	qtz veins	chalco sphal.		15	1.4	1430				
172178	"	"	/	"	pyrite vein	pyrite		25	0.2					
172179	"	"	/	Diorite	"	"		10	0.1					





APPENDIX E

CERTIFICATES OF ANALYSIS



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project : HEAD BAY  
Comments:

\*\*Page No. : 1  
Tot. Pages: 2  
Date : 23-MAY-88  
Invoice # : I-8815517  
P.O. # : KNL88-01

## CERTIFICATE OF ANALYSIS A8815517

SAMPLE DESCRIPTION	PREP CODE	Au g/tonne	Ag g/tonne	Pb %	Zn %						
172021	207 ---	0.07	55.5	0.75	18.60						
172051	207 ---	>>> 0.07	<<< 1.0	-----	-----						
172052	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172053	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172054	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172056	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172057	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172058	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172059	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172060	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172061	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172062	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172063	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172064	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172065	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172066	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172067	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172068	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172069	207 ---	>>> 1.44	<<< 16.0	-----	-----						
172070	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172071	207 ---	>>> 0.69	<<< 1.8	-----	-----						
172072	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172073	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172074	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172075	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172076	207 ---	58.20	8.5	-----	-----						
172077	207 ---	>>> 0.27	<<< 0.5	-----	-----						
172078	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172079	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172080	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172081	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172082	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172083	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172084	207 ---	17.60	16.5	-----	-----						
172085	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172086	207 ---	>>> 0.14	<<< 0.5	-----	-----						
172087	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172088	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172089	207 ---	>>> 0.07	<<< 0.5	-----	-----						
172090	207 ---	>>> 0.07	<<< 0.5	-----	-----						

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION :

*[Handwritten Signature]*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project: HEAD BAY

Comments:

\*\*Page No. 2  
Tot. Pages: 2  
Date: 23-MAY-88  
Invoice #: I-8815517  
P.O. #: KNL88-01

## CERTIFICATE OF ANALYSIS A8815517

SAMPLE DESCRIPTION	PREP CODE	Au g/tonne	Ag g/tonne	Pb %	Zn %						
172091	207 ---	< 0.07	< 0.5	-----	-----						
172092	207 ---	< 0.07	< 0.5	-----	-----						
172093	207 ---	< 0.07	< 0.5	-----	-----						
172094	207 ---	< 0.07	< 0.5	-----	-----						
172095	207 ---	< 0.07	< 0.5	-----	-----						
172096	207 ---	< 0.07	< 0.5	-----	-----						
172097	207 ---	< 0.07	< 0.5	-----	-----						
172098	207 ---	< 0.07	< 0.5	-----	-----						
172099	207 ---	< 0.07	< 0.5	-----	-----						
172100	207 ---	< 0.07	< 0.5	-----	-----						

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION

*J. Swales*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 BROOKSBANK AVE NORTH VANCOUVER,  
 BRITISH COLUMBIA, CANADA V7J-2C1  
 PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
 VANCOUVER, BC  
 V6B 1N2

Project HEAD BAY  
 Comments

\*\*Page No. :1  
 Tot. Pages:1  
 Date 12-MAY-88  
 Invoice # I-8815156  
 P.O # KNL88-01

## CERTIFICATE OF ANALYSIS A8815156

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Ag ppm Aqua R						
172018	205	< 5	-----	-----	0.1						
172101	205	120	343	-----	0.1						
172102	205	15	-----	-----	0.1						
172103	205	40	256	-----	0.1						
172104	205	20	-----	-----	0.1						
172105	205	10	-----	-----	0.1						
172106	205	120	5060	-----	1.6						
172107	205	<<< 5	-----	-----	0.1						
172108	205	<<< 5	121	-----	0.1						
172109	205	<<< 5	136	-----	0.1						
172110	205	<<< 5	37	-----	0.1						
172111	205	<<< 5	-----	-----	0.1						
172112	205	<<< 5	-----	-----	0.1						
172113	205	<<< 5	-----	-----	0.1						
172114	205	<<< 5	-----	-----	0.1						
172115	205	<< 5	177	-----	0.1						
172116	205	<< 5	-----	-----	0.1						
172117	205	30	8830	-----	5.9						
172118	205	985	-----	-----	0.1						
172119	205	5	-----	-----	0.1						

CERTIFICATION

*Hart Becker*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project: HEAD BAY  
Comments:

\*\*Page No : 1  
Tot. Pages 2  
Date : 24-MAY-88  
Invoice #: I-8815516  
P.O. #: KNL88-01

## CERTIFICATE OF ANALYSIS A8815516

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	Cu ppm	Pb ppm	Zn ppm					
172019	205 ---	< 5	0.1	-----	-----	-----					
172020	205 ---	< 5	0.1	-----	-----	-----					
172022	205 ---	5	0.1	-----	-----	-----					
172023	205 ---	75	0.2	-----	-----	-----					
172120	205 ---	135	3.0	8600	-----	-----					
172121	205 ---	65	22.0	-----	-----	-----					
172122	205 ---	< 5	0.4	-----	-----	-----					
172123	205 ---	85	3.2	6400	-----	-----					
172124	205 ---	30	0.7	-----	-----	>10000					
172125	205 ---	30	0.2	-----	-----	-----					
172126	205 ---	10	0.1	-----	-----	-----					
172127	205 ---	380	1.4	-----	-----	-----					
172128	205 ---	10	0.1	-----	-----	-----					
172129	205 ---	5	0.6	335	-----	-----					
172130	205 ---	< 5	0.1	-----	-----	-----					
172131	205 ---	< 5	0.1	-----	-----	-----					
172132	205 ---	70	1.0	2900	-----	-----					
172133	205 ---	5	0.1	-----	-----	-----					
172134	205 ---	10	0.9	5250	-----	-----					
172135	205 ---	>10000	2.5	-----	-----	-----					
172136	205 ---	165	1.8	740	-----	-----					
172137	205 ---	65	0.1	68	-----	-----					
172138	205 ---	65	0.2	530	-----	-----					
172139	205 ---	15	1.8	1400	-----	75					
172140	205 ---	30	0.4	435	-----	48					
172141	205 ---	20	0.2	70	-----	-----					
172142	205 ---	10	0.1	-----	-----	-----					
172143	205 ---	10	0.2	-----	-----	-----					
172144	205 ---	330	0.8	-----	-----	-----					
172145	205 ---	10	0.1	-----	-----	-----					
172146	205 ---	< 5	0.1	-----	-----	-----					
172147	205 ---	< 5	1.0	680	-----	-----					
172148	205 ---	90	36.0	800	>10000	>10000					
172149	205 ---	110	2.6	-----	-----	-----					
172150	205 ---	< 5	0.5	-----	-----	-----					
172151	205 ---	15	0.5	1680	-----	-----					
172152	205 ---	15	1.0	-----	-----	-----					
172153	205 ---	5	0.2	-----	-----	-----					
172154	205 ---	5	0.7	1400	-----	-----					
172155	205 ---	30	0.7	950	-----	-----					

*Hautsichler*

CERTIFICATION : \_\_\_\_\_



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project: HEAD BAY

Comments:

\*\*Page No. : 2  
Tot. Pages: 2  
Date : 24-MAY-88  
Invoice #: I-8815516  
P.O. #: KNL88-01

## CERTIFICATE OF ANALYSIS A8815516

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Ag ppm Aqua R	Cu ppm	Pb ppm	Zn ppm					
172156	205	< 5	0.1	-----	-----	-----					
172157	205	< 5	0.1	-----	-----	-----					
172158	205	< 5	0.1	-----	-----	-----					
172159	205	330	9.3	4480	-----	-----					
172160	205	< 5	0.3	-----	-----	-----					
172161	205	< 5	0.1	-----	-----	-----					
172162	205	< 5	0.1	-----	-----	-----					
172163	205	< 5	0.2	-----	-----	-----					
172164	205	< 5	0.3	-----	-----	-----					
172165	205	< 5	0.1	-----	-----	-----					
172166	205	350	2.8	4000	-----	-----					
172168	205	90	20.0	193	-----	>10000					
172169	205	65	3.8	-----	-----	-----					
172170	205	515	15.2	7600	-----	-----					
172171	205	20	0.2	-----	-----	-----					
172173	205	895	0.5	-----	-----	-----					
172174	205	25	0.3	-----	-----	-----					
172175	205	25	0.1	-----	-----	-----					
172176	205	45	10.3	980	9900	>10000					
172177	205	15	1.4	1430	-----	-----					
172178	205	25	0.2	-----	-----	-----					
172179	205	10	0.1	-----	-----	-----					
172180	205	20	0.2	-----	-----	-----					
172181	205	15	0.1	-----	-----	-----					
172182	205	10	1.4	420	-----	-----					

*Hart Buchler*

CERTIFICATION : \_\_\_\_\_



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 944-0221

To EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project : HEAD BAY

Comments:

\*\*Page No. : 1  
Tot. Pages: 4  
Date : 27-MAY-88  
Invoice # : I-8815515  
P.O. # : KNL88-01

## CERTIFICATE OF ANALYSIS A8815515

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm				
88HA-41	201	---	10	52	5	100	0.3	30			
88HA-42	201	---	5	126	1	90	0.1	4			
88HA-43	201	---	15	118	1	118	0.1	3			
88HA-44	201	---	10	15	2	77	0.1	43			
88HA-45	201	---	< 5	18	1	44	0.1	4			
88HA-46	217	---	>>> 5	19	1	105	0.1	5			
88HA-47	201	---	>>> 5	23	15	585	0.1	12			
88HA-48	203	---	>>> 5	41	1	88	0.1	23			
FR88-01	203	---	>>> 5	43	11	80	0.1	10			
FR88-02	203	---	>>> 5	12	1	47	0.1	5			
FR88-03	201	---	>>> 5	35	2	123	0.1	6			
FR88-04	201	---	>>> 5	8	1	27	0.1	4			
FR88-05	201	---	>>> 5	27	1	88	0.1	6			
FR88-06	217	---	>>> 5	28	1	117	0.1	4			
FR88-07	217	---	>>> 5	14	2	85	0.1	6			
FR88-08	201	---	>>> 5	19	1	46	0.1	5			
FR88-09	201	---	>>> 5	25	1	100	0.1	9			
FR88-10	201	---	>>> 5	37	1	82	0.1	6			
FR88-11	201	---	>>> 5	21	2	55	0.1	7			
FR88-12	201	---	>>> 5	43	1	90	0.1	9			
FR88-13	217	---	>>> 5	13	1	42	0.1	6			
FR88-14	201	---	>>> 5	9	1	30	0.1	3			
FR88-15	217	---	>>> 5	5	1	18	0.1	3			
FR88-16	203	---	>>> 5	33	1	90	0.1	5			
FR88-17	217	---	>>> 5	10	2	55	0.1	4			
FR88-18	201	---	>>> 5	6	1	36	0.1	3			
FR88-19	217	---	>>> 5	6	1	17	0.1	3			
FR88-20	201	---	>>> 5	4	1	28	0.1	3			
FR88-21	217	---	>>> 5	4	1	39	0.1	3			
FR88-22	217	---	>>> 5	5	2	98	0.1	3			
FR88-23	201	---	>>> 5	6	1	33	0.1	3			
FR88-24	201	---	>>> 5	35	1	52	0.1	4			
FR88-25	201	---	>>> 5	7	1	34	0.1	3			
FR88-26	217	---	>>> 5	5	1	55	0.1	3			
FR88-27	201	---	>>> 5	8	1	57	0.1	4			
FR88-28	203	---	>>> 5	9	1	54	0.1	3			
FR88-29	217	---	>>> 5	40	1	116	0.1	4			
FR88-30	203	---	>>> 5	58	1	103	0.1	4			
FR88-31	201	---	>>> 5	40	1	73	0.1	4			
FR88-32	201	---	>>> 5	15	1	30	0.1	3			

CERTIFICATION : *Hart Bichler*





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project : HEAD BAY  
Comments :

\*\*Page No. 2  
Tot. Pages. 4  
Date : 27-MAY-88  
Invoice #: I-8815515  
P.O. #: KNL88-01

## CERTIFICATE OF ANALYSIS A8815515

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm				
FR88-33	201	< 5	15	1	30	0.1	5				
FR88-34	201	< 5	13	1	33	0.1	5				
FR88-35	217	< 5	16	1	58	0.1	5				
FR88-36	217	< 5	25	1	77	0.1	5				
FR88-37	217	< 5	16	1	46	0.1	5				
FR88-38	217	< 10	21	1	52	0.1	4				
FR88-39	201	< 15	24	1	43	0.1	5				
FR88-40	201	< 35	22	1	43	0.1	4				
FR88-41	203	< 5	29	10	50	0.1	5				
FR88-42	203	< 5	12	1	38	0.1	7				
FR88-43	217	< 5	7	3	24	0.1	4				
FR88-44	217	< 5	11	2	16	0.1	4				
FR88-45	201	< 5	6	1	10	0.1	3				
FR88-46	217	< 5	7	2	10	0.1	3				
FR88-47	217	< 5	9	2	35	0.1	3				
FR88-48	217	< 5	7	1	39	0.1	3				
FR88-49	217	< 5	6	1	38	0.1	3				
FR88-50	217	< 5	6	1	50	0.1	4				
FR88-51	203	< 15	22	1	84	0.2	6				
FR88-52	217	< 5	3	1	14	0.1	3				
FR88-53	201	< 5	4	1	9	0.1	3				
FR88-54	201	< 5	5	1	25	0.1	4				
FR88-55	217	< 5	8	7	25	0.1	3				
FR88-56	203	< 50	30	1	110	0.1	19				
FR88-57	201	< 5	28	4	96	0.1	3				
FR88-58	201	< 5	8	1	27	0.1	4				
FR88-59	203	< 10	27	3	93	0.1	10				
FR88-60	217	< 10	10	1	55	0.1	6				
FR88-61	201	< 5	30	2	88	0.1	9				
FR88-62	201	< 5	37	1	78	0.1	9				
FR88-63	201	< 5	20	1	68	0.1	5				
FR88-64	201	< 5	30	1	88	0.1	5				
FR88-65	217	< 5	23	1	120	0.1	3				
FR88-67	217	< 10	6	3	44	0.1	3				
FR88-68	217	< 5	7	1	63	0.1	3				
FR88-69	201	< 5	7	1	32	0.1	4				
FR88-70	201	< 5	9	1	41	0.1	3				
FR88-71	201	< 5	7	1	33	0.1	3				
FR88-72	201	< 5	10	1	57	0.1	3				
FR88-73	201	< 5	6	1	34	0.1	3				

CERTIFICATION :

*L. J. Weckler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project : HEAD BAY

Comments:

\*\*Page No. : 3  
Tot. Pages: 4  
Date : 27-MAY-88  
Invoice # : I-8815515  
P.O. # : KNL88-01

## CERTIFICATE OF ANALYSIS A8815515

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm				
FR88-74	201	< 5	5	1	28	0.1	3				
FR88-75	201	< 5	5	1	35	0.1	3				
FR88-76	201	< 5	20	1	37	0.1	3				
FR88-77	201	< 5	17	1	41	0.1	3				
FR88-78	201	< 5	16	1	42	0.1	3				
FR88-79	201	< 5	15	1	47	0.1	3				
FR88-80	201	< 5	20	1	53	0.1	3				
FR88-81	201	< 10	15	1	34	0.1	3				
FR88-82	201	< 5	14	1	25	0.1	3				
FR88-83	217	< 5	6	1	15	0.1	3				
FR88-84	201	< 5	10	1	34	0.1	3				
FR88-85	201	< 5	24	1	81	0.1	4				
FR88-86	201	< 5	22	1	48	0.1	5				
FR88-87	201	< 5	30	1	66	0.1	3				
FR88-88	201	< 10	15	1	35	0.1	4				
FR88-89	201	< 15	20	1	55	0.1	4				
FR88-90	217	< 10	15	1	72	0.1	3				
FR88-91	201	< 5	26	1	35	0.1	4				
FR88-92	203	< 5	14	1	42	0.1	4				
FR88-93	201	< 6.5	6	1	14	0.1	3				
FR88-94	201	< 15	9	1	20	0.1	3				
FR88-95	201	< 5	5	5	11	0.1	3				
FR88-96	201	< 5	8	1	33	0.1	3				
FR88-98	201	< 5	18	5	238	0.1	16				
FR88-99	203	< 2.5	12	1	61	0.1	6				
FR88-100	203	< 5	7	1	24	0.1	3				
FR88-101	201	< 5	2	2	69	0.1	3				
FR88-102	201	< 5	6	7	37	0.1	4				
FR88-103	201	< 5	6	5	30	0.1	3				
FR88-104	217	< 4.5	128	175	1080	0.8	11				
FR88-105	217	< 10	100	88	1000	0.4	14				
FR88-106	217	< 5	110	81	930	0.5	10				
FR88-107	201	< 6.5	6	1	43	0.1	4				
FR88-108	201	< 10	2	1	13	0.1	3				
FR88-109	217	< 1.5	13	6	134	0.1	3				
FR88-110	217	< 10	12	4	145	0.1	3				
FR88-111	217	< 5	10	4	130	0.1	3				
FR88-112	201	< 5	10	3	132	0.1	3				
FR88-113	201	< 90	13	2	37	0.1	5				
FR88-114	201	< 5	11	2	75	0.1	5				

CERTIFICATION : *W. Fischer*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project : HEAD BAY

Comments:

\*\*Page No : 4  
Tot. Pages: 4  
Date : 27-MAY-88  
Invoice # : I-8815515  
P.O. # : KNL88-01

## CERTIFICATE OF ANALYSIS A8815515

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	As ppm				
FR88-115	201 ---	< 5	10	4	135	0.1	5				
FR88-116	201 ---	< 5	30	9	375	0.1	9				
FR88-117	201 ---	< 5	25	12	180	0.1	3				
FR88-118	201 ---	< 5	7	9	77	0.1	5				
FR88-119	201 ---	< 5	8	1	95	0.1	6				
FR88-120	217 ---	< 5	14	3	180	0.1	36				
FR88-121	201 ---	< 5	39	11	185	0.1	22				
FR88-122	201 ---	< 5	14	3	64	0.1	6				
FR88-123	201 ---	< 5	2	2	28	0.1	3				
FR88-124	201 ---	< 5	8	7	40	0.1	3				
FR88-126	201 ---	< 5	80	19	600	0.1	43				
FR88-127	201 ---	< 5	63	1	114	0.1	15				
FR88-128	201 ---	< 5	83	22	600	0.1	46				
FR88-129	217 ---	< 5	13	1	122	0.1	5				

CERTIFICATION :

*Fischer*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project: HEAD BAY

Comments: CC: CENTAUR RESOURCES LTD

\*\*Page No .1

Tot. Pages.1

Date .11-MAY-88

Invoice # .I-8815154

P.O. # .KNL88-01

## CERTIFICATE OF ANALYSIS A8815154

SAMPLE DESCRIPTION	PREP CODE		Au FA	Ag							
			oz/T	oz/T							
172055	207	--	0.669	0.41							

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION :

*W. San Martin*





# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To EQUITY ENGINEERING LTD

406 - 675 W HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project : HEAD BAY

Comments :

\*\*Page No. :1

Tot. Pages:1

Date : 6-JUN-88

Invoice # : I-8816153

P.O. # : KNL 8801

## CERTIFICATE OF ANALYSIS A8816153

SAMPLE DESCRIPTION	PREP CODE	Cu %	Pb %	Zn %							
172124	214	---	---	5.94							
172148	214	---	1.68	7.09							
172168	214	---	---	3.54							
172176	214	---	---	19.10							
172076	214	1.00	---	---							
172167	214	6.13	---	---							
172172	214	---	3.42	15.30							

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION : *W. L. Thompson*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1  
PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project: HEAD BAY  
Comments:

\*\*Page No. : 1-A  
Tot. Pages: 1  
Date : 23-MAY-88  
Invoice # : I-8815522  
P.O. # : KNL88-01

## CERTIFICATE OF ANALYSIS A8815522

SAMPLE DESCRIPTION	PREP CODE		Au	Al	Ag	As	Ba	Be	B1	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn
			g/tonne	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
172167	207	238	8.67	0.88	62.0	115	< 10	< 0.5	< 2	3.58	28.5	123	< 1	>10000	>15.00	< 10	< 1	0.01	< 10	1.14	1250
172172	207	238	0.14	0.08	60.0	15	< 10	< 0.5	126	7.74	>99.9	84	8	617	1.50	< 10	< 1	< 0.01	< 10	0.16	2260

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION

*B. Stewart*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

Project: HEAD BAY  
Comments:

\*\*Page No. 1-B  
Tot. Pages: 1  
Date: 23-MAY-88  
Invoice # 1-8815522  
P.O. # KNL88-01

## CERTIFICATE OF ANALYSIS A8815522

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
172167	207	238	24	0.01	30	< 10	8	5	3	52	0.02	< 10	< 10	21	< 5	5030
172172	207	238	6	< 0.01	4	230	>10000	< 5	< 1	115	< 0.01	< 10	< 10	4	85	>10000

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY BC CERTIFIED ASSAYERS

CERTIFICATION :

*[Signature]*



APPENDIX F

ANALYTICAL PROCEDURES



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1  
PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

A8815515

Comments:

## CERTIFICATE A8815515

EQUITY ENGINEERING LTD  
PROJECT : HEAD BAY  
P O # : KNL88-01

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 27-MAY-88.

### SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	82	Dry, sieve -80 mesh; soil, sed.
203	14	Dry, sieve -35 mesh and ring
217	38	Geochem: Ring only, no crush/split

### ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	134	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
2	134	Cu ppm: HNO <sub>3</sub> -aqua regia digest	AAS	1	10000
4	134	Pb ppm: HNO <sub>3</sub> -aqua regia digest	AAS-BKGD CORR	1	10000
5	134	Zn ppm: HNO <sub>3</sub> -aqua regia digest	AAS	1	10000
6	134	Ag ppm: HNO <sub>3</sub> -aqua regia digest	AAS-BKGD CORR	0.2	200
13	134	As ppm: HNO <sub>3</sub> -aqua regia digest	AAS-HYDRIDE/EDL	1	10000



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

A8815517

Comments:

## CERTIFICATE A8815517

EQUITY ENGINEERING LTD

PROJECT : HEAD BAY

P.O # : KNL88-01

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 23-MAY-88.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	50	Assay: Crush,split,pulv -140

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
399	50	Au g/tonne: 1/2 assay ton	FA-AAS	0.07	500.00
386	50	Ag g/tonne: Aqua regia digestion	AAS	0.3	500
312	1	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	1	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1  
PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

A8816153

Comments:

CERTIFICATE A8816153

EQUITY ENGINEERING LTD  
PROJECT HEAD BAY  
P O # : KNL 8801

Samples submitted to our lab in Vancouver, BC  
This report was printed on 6-JUN-88.

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	2	Cu % HClO <sub>4</sub> -HNO <sub>3</sub> digestion	AAS	0.01	100.0
312	2	Pb % HClO <sub>4</sub> -HNO <sub>3</sub> digestion	AAS	0.01	100.0
316	5	Zn % HClO <sub>4</sub> -HNO <sub>3</sub> digestion	AAS	0.01	100.0

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	7	Received sample as pulp

\* NOTE 2:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: EQUITY ENGINEERING LTD.

406 - 675 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 1N2

A8815522

Comments.

## CERTIFICATE A8815522

EQUITY ENGINEERING LTD

PROJECT : HEAD BAY

P O # : KNL88-01

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 23-MAY-88.

### SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	2	Assay: Crush, split, pulv -140
238	2	ICP: Aqua regia digestion

#### \* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

### ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
399	2	Au g/tonne: 1/2 assay ton	FA-AAS	0.07	500.00
921	2	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
922	2	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
923	2	As ppm: 32 element, soil & rock	ICP-AES	5	10000
924	2	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
925	2	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
926	2	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
927	2	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
928	2	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
929	2	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
930	2	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
931	2	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
932	2	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
933	2	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
951	2	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
934	2	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
935	2	La ppm: 32 element, soil & rock	ICP-AES	10	10000
936	2	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
937	2	Mn ppm: 32 element, soil & rock	ICP-AES	1	10000
938	2	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
939	2	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
940	2	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
941	2	P ppm: 32 element, soil & rock	ICP-AES	10	10000
942	2	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
943	2	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
958	2	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
944	2	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
945	2	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
946	2	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
947	2	U ppm: 32 element, soil & rock	ICP-AES	10	10000
948	2	V ppm: 32 element, soil & rock	ICP-AES	1	10000
949	2	W ppm: 32 element, soil & rock	ICP-AES	5	10000
950	2	Zn ppm: 32 element, soil & rock	ICP-AES	1	10000

APPENDIX G


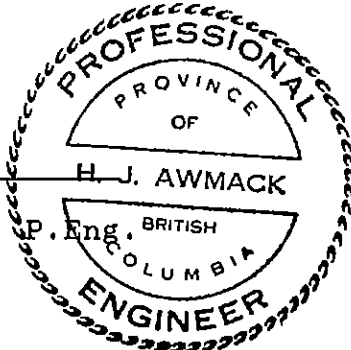
ENGINEER'S CERTIFICATE

ENGINEER'S CERTIFICATE

I, HENRY J. AWMACK, of 308-1510 Nelson Street, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

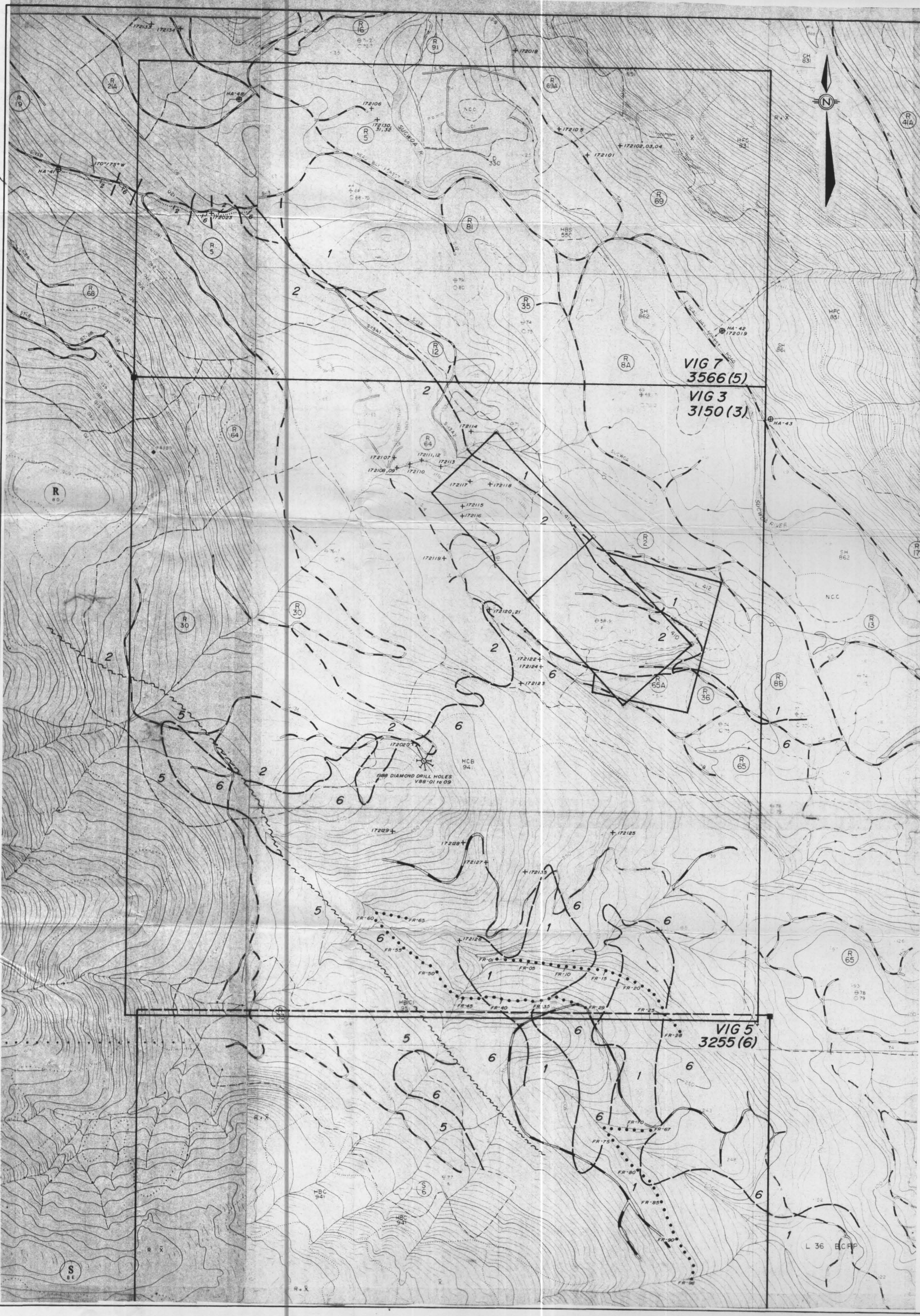
1. THAT I am a Consulting Geological Engineer with offices at Suite 406, 675 West Hastings Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of British Columbia with an honors degree in Geological Engineering.
3. THAT I am a member in good standing of the Association of Professional Engineers of British Columbia.
4. THAT this report is based on work carried out under my supervision, government publications and on reports filed with the Province of British Columbia.

DATED at Vancouver, British Columbia, this 13<sup>th</sup> day of June, 1988.

  
Henry J. Awmack, P. Eng. 

The seal is circular with a serrated border. The text inside the seal reads: "PROFESSIONAL" at the top, "PROVINCE OF" in the upper middle, "H. J. AWMACK" in the center, "BRITISH COLUMBIA" in the lower middle, and "ENGINEER" at the bottom.





**SAMPLE RESULTS**

SAMPLE NO.	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)	SAMPLE NO.	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
172101	120	0.1	343	—	—	—	FR88-31	15	0.1	40	1	73	4
172102	15	0.1	—	—	—	—	FR88-32	15	0.1	15	1	30	3
172103	40	0.1	256	—	—	—	FR88-33	15	0.1	15	1	30	5
172104	20	0.1	—	—	—	—	FR88-34	15	0.1	15	1	30	5
172105	15	0.1	—	—	—	—	FR88-35	15	0.1	15	1	30	5
172106	120	16	9060	—	—	—	FR88-36	15	0.1	11	1	30	5
172107	15	0.1	—	—	—	—	FR88-37	15	0.1	25	1	77	3
172108	15	0.1	191	1	—	—	FR88-38	10	0.1	21	1	32	4
172109	15	0.1	134	—	—	—	FR88-39	15	0.1	24	1	43	3
172110	15	0.1	37	—	—	—	FR88-40	25	0.1	22	1	43	3
172111	15	0.1	—	—	—	—	FR88-41	5	0.1	23	10	50	3
172112	15	0.1	—	—	—	—	FR88-42	15	0.1	12	1	38	7
172113	15	0.1	—	—	—	—	FR88-43	5	0.1	7	3	24	4
172114	15	0.1	—	—	—	—	FR88-44	15	0.1	11	1	36	5
172115	15	0.1	177	—	—	—	FR88-45	15	0.1	16	1	10	3
172116	15	0.1	—	—	—	—	FR88-46	15	0.1	9	2	35	3
172117	30	5.9	8830	—	—	—	FR88-47	15	0.1	7	1	39	3
172118	985	0.1	—	—	—	—	FR88-48	15	0.1	6	1	38	3
172119	5	0.1	—	—	—	—	FR88-49	15	0.1	6	1	30	4
172120	125	3.0	8800	—	—	—	FR88-50	15	0.1	6	1	30	4
172121	65	0.20	—	—	—	—	FR88-51	15	0.1	22	1	84	6
172122	15	0.4	—	—	—	—	FR88-52	15	0.1	3	1	14	3
172123	85	3.2	6400	—	—	—	FR88-53	15	0.1	4	1	9	3
172124	50	0.2	—	—	3.84	—	FR88-54	15	0.1	5	1	25	4
172125	30	0.2	—	—	—	—	FR88-55	15	0.1	8	7	20	3
172126	10	0.1	—	—	—	—	FR88-56	50	0.1	30	30	10	3
172127	10	0.1	—	—	—	—	FR88-57	15	0.1	28	4	96	3
172128	5	0.8	335	—	—	—	FR88-58	15	0.1	8	1	27	4
172129	15	0.1	—	—	—	—	FR88-59	10	0.1	27	3	35	10
172130	15	0.1	—	—	—	—	FR88-60	10	0.1	10	1	53	6
172131	15	0.1	—	—	—	—	FR88-61	5	0.1	30	2	89	9
172132	70	4.0	2900	—	—	—	FR88-62	15	0.1	37	1	79	9
172133	5	0.1	—	—	—	—	FR88-63	15	0.1	20	1	88	3
172134	10	0.9	6250	—	—	—	FR88-64	15	0.1	30	1	88	3
172135	1700W	2.5	—	—	—	—	FR88-65	15	0.1	23	1	120	3
172018	15	0.1	—	—	—	—	FR88-66	10	0.1	6	3	44	3
172019	15	0.1	—	—	—	—	FR88-67	15	0.1	7	1	62	3
172020	15	0.1	—	—	—	—	FR88-68	15	0.1	7	1	32	4
88HA-41	10	0.3	52	5	100	30	FR88-69	15	0.1	9	1	41	3
88HA-42	5	0.1	126	1	90	4	FR88-70	15	0.1	7	1	33	3
88HA-43	15	0.1	118	1	116	3	FR88-71	15	0.1	10	1	50	3
88HA-46	15	0.1	41	1	88	23	FR88-72	15	0.1	6	1	34	3
FR88-01	15	0.1	43	11	80	10	FR88-73	15	0.1	5	1	28	3
FR88-02	15	0.1	12	1	47	3	FR88-74	15	0.1	5	1	28	3
FR88-03	15	0.1	32	2	123	6	FR88-75	15	0.1	20	1	37	3
FR88-04	15	0.1	8	1	27	4	FR88-76	15	0.1	17	1	41	3
FR88-05	15	0.1	27	1	88	6	FR88-77	15	0.1	16	1	42	3
FR88-06	15	0.1	28	1	117	3	FR88-78	5	0.1	15	1	47	3
FR88-07	15	0.1	14	2	85	6	FR88-79	5	0.1	20	1	53	3
FR88-08	15	0.1	19	1	46	3	FR88-80	10	0.1	15	1	34	3
FR88-09	15	0.1	28	1	100	9	FR88-81	15	0.1	14	1	23	3
FR88-10	15	0.1	37	1	82	6	FR88-82	15	0.1	8	1	100	3
FR88-11	15	0.1	21	2	35	7	FR88-83	15	0.1	10	1	54	3
FR88-12	15	0.1	43	1	90	9	FR88-84	15	0.1	24	1	81	4
FR88-13	15	0.1	13	1	42	6	FR88-85	15	0.1	22	1	48	3
FR88-14	15	0.1	8	1	30	3	FR88-86	15	0.1	30	1	66	3
FR88-15	15	0.1	3	1	18	3	FR88-87	10	0.1	15	1	35	4
FR88-16	15	0.1	33	1	90	5	FR88-88	10	0.1	20	1	35	4
FR88-17	15	0.1	10	2	58	4	FR88-89	10	0.1	15	1	72	3
FR88-18	15	0.1	6	1	36	9	FR88-90	10	0.1	15	1	72	3
FR88-19	15	0.1	6	1	17	3	FR88-91	5	0.1	26	1	35	4
FR88-20	15	0.1	4	1	28	3	FR88-92	15	0.1	14	1	42	4
FR88-21	15	0.1	4	1	39	3	FR88-93	43	0.1	6	1	14	3
FR88-22	15	0.1	3	2	39	3	FR88-94	15	0.1	9	1	20	3
FR88-23	15	0.1	6	1	33	3	FR88-95	15	0.1	5	1	11	3
FR88-24	15	0.1	35	1	32	4	FR88-96	5	0.1	8	1	33	3
FR88-25	15	0.1	7	1	34	3							
FR88-26	15	0.1	5	1	55	3							
FR88-27	15	0.1	8	1	37	4							
FR88-28	15	0.1	4	1	34	3							
FR88-29	15	0.1	40	1	116	4							
FR88-30	15	0.1	58	1	103	4							

\* - VALUES IN GREEN Au, g/tonne Ag, %Cu, %Pb, %Zn

- LEGEND**
- TERTIARY Eocene
    - 7 Skarn: garnet-magnetite-epidote-diopside
    - 6 Head Bay Stock: diorite, gabbro, monzonite
  - JURASSIC Lower Jurassic
    - 5 Banana Group: felsic pyroclastics, flows and sills
  - TRIASSIC Vancouver Group
    - 3 Parsons Bay Formation: limey argillite
    - 2 Quatsino Formation: limestone
    - 1 Karmutsen Formation: basalt flows
  - Outcrop
  - Geological contact
  - Fault - inferred
  - 170°75'W / Bedding - strike/dip
  - Soil sample
  - ⊕ Silt sample
  - + Rock sample

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

17,521

SCALE 1:5000

**CENTAUR RESOURCES LTD.**

Head Bay Property  
**GEOLOGY & GEOCHEMISTRY**  
North Half

---

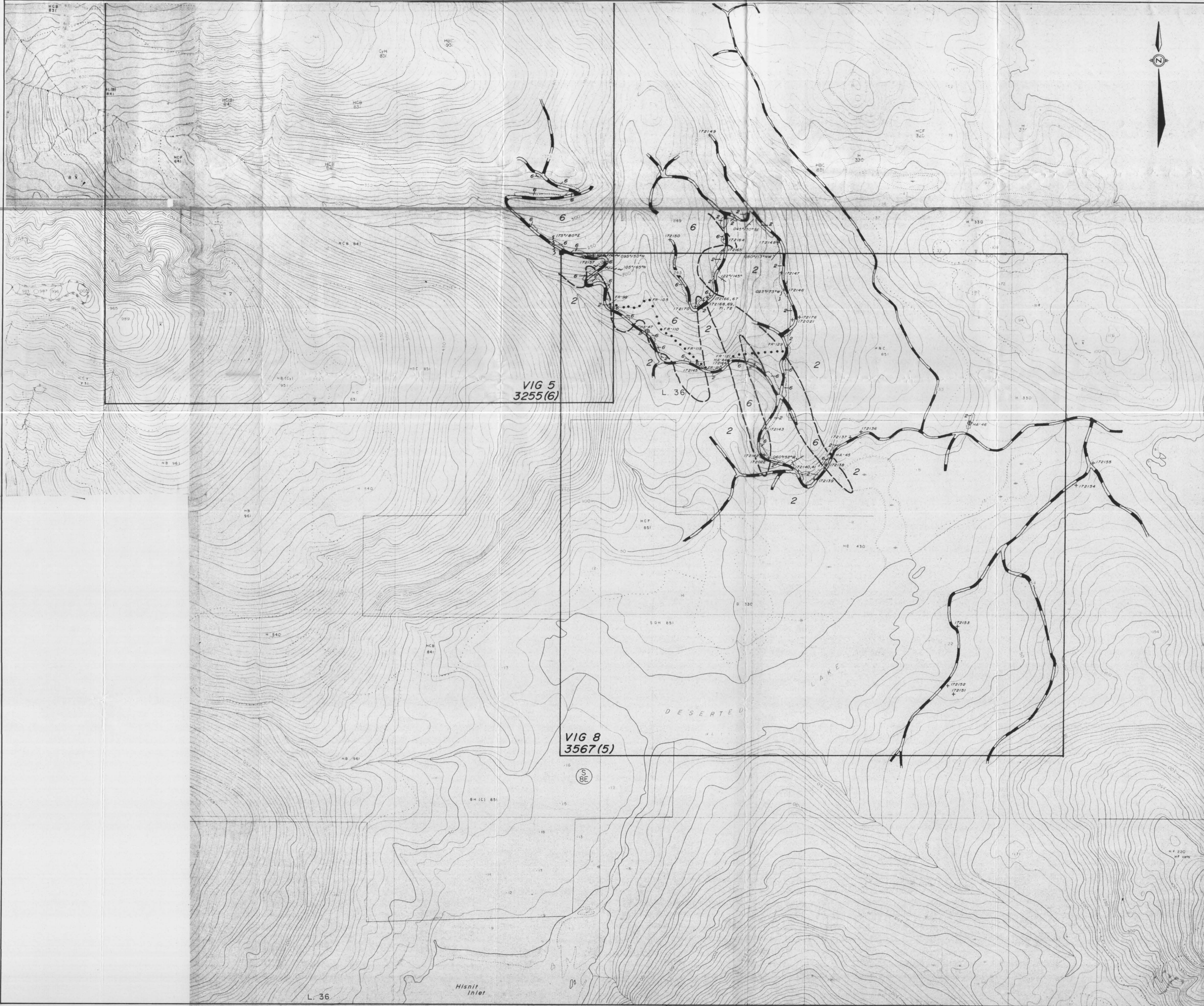
ALBERNI MINING DISTRICT  
NTS: 92E/15E

---

EQUITY ENGINEERING LTD.

Drawn by:	Project:	Date:	Figure:
B. A. M.	KNL88-01	June, 1988	4





SAMPLE NO.	ANALYSIS					RESULTS					
	As (ppm)	Fe (ppm)	Cu (ppm)	Zn (ppm)	Ag (ppm)	As (ppm)	Fe (ppm)	Cu (ppm)	Zn (ppm)	Ag (ppm)	
172136	163	1.8	740	—	—	172021	0.07	55.5	—	0.75	18.00
172137	85	0.1	48	—	—	172022	5	0.1	—	—	—
172138	65	0.2	300	—	—	172023	75	0.2	—	—	—
172139	15	1.8	1400	—	—	8804-44	10	0.1	15	2	77
172140	30	0.4	435	—	—	8804-45	15	0.1	18	1	44
172141	20	0.2	70	—	—	8804-46	15	0.1	18	1	105
172142	10	0.1	—	—	—	8804-47	15	0.1	23	18	780
172143	10	0.2	—	—	—	8804-48	15	0.1	18	1	105
172144	310	0.8	—	—	—	8804-49	15	0.1	18	1	105
172145	10	0.1	—	—	—	8804-50	15	0.1	18	1	105
172146	1.5	0.1	—	—	—	8804-51	15	0.1	18	1	105
172147	15	1.0	800	—	—	8804-52	15	0.1	18	1	105
172148	95	10.0	400	180	7.0	8804-53	15	0.1	18	1	105
172149	110	2.0	—	—	—	8804-54	15	0.1	18	1	105
172150	15	0.3	—	—	—	8804-55	15	0.1	18	1	105
172151	15	0.3	70	—	—	8804-56	15	0.1	18	1	105
172152	15	1.0	1800	—	—	8804-57	15	0.1	18	1	105
172153	5	0.2	—	—	—	8804-58	15	0.1	18	1	105
172154	5	0.2	1400	—	—	8804-59	15	0.1	18	1	105
172155	30	0.7	800	—	—	8804-60	15	0.1	18	1	105
172156	15	0.1	—	—	—	8804-61	15	0.1	18	1	105
172157	15	0.1	—	—	—	8804-62	15	0.1	18	1	105
172158	15	0.1	—	—	—	8804-63	15	0.1	18	1	105
172159	310	8.0	4800	—	—	8804-64	15	0.1	18	1	105
172160	15	0.3	—	—	—	8804-65	15	0.1	18	1	105
172161	15	0.1	—	—	—	8804-66	15	0.1	18	1	105
172162	15	0.1	—	—	—	8804-67	15	0.1	18	1	105
172163	15	0.2	—	—	—	8804-68	15	0.1	18	1	105
172164	15	0.2	—	—	—	8804-69	15	0.1	18	1	105
172165	15	0.1	—	—	—	8804-70	15	0.1	18	1	105
172166	300	8.0	4800	—	—	8804-71	15	0.1	18	1	105
172167	90	20.0	180	—	—	8804-72	15	0.1	18	1	105
172168	65	3.8	—	—	—	8804-73	15	0.1	18	1	105
172169	315	15.2	7800	—	—	8804-74	15	0.1	18	1	105
172170	15	0.1	—	—	—	8804-75	15	0.1	18	1	105
172171	15	0.1	—	—	—	8804-76	15	0.1	18	1	105
172172	614	60.0	617	345	13.3	8804-77	15	0.1	18	1	105
172173	895	0.3	—	—	—	8804-78	15	0.1	18	1	105
172174	0.5	0.3	—	—	—	8804-79	15	0.1	18	1	105
172175	0.5	0.1	—	—	—	8804-80	15	0.1	18	1	105
172176	15	10.0	880	8800	18.0	8804-81	15	0.1	18	1	105
172177	15	1.4	1800	—	—	8804-82	15	0.1	18	1	105
172178	0.5	0.2	—	—	—	8804-83	15	0.1	18	1	105
172179	10	0.1	—	—	—	8804-84	15	0.1	18	1	105
172180	20	0.2	—	—	—	8804-85	15	0.1	18	1	105
172181	15	0.1	—	—	—	8804-86	15	0.1	18	1	105
172182	10	1.4	420	—	—	8804-87	15	0.1	18	1	105

VALUES IN grams Ag, grams Au, % Cu, % Fe, % Zn

**LEGEND**

**TERTIARY**  
Eocene

7 Sarni gneiss-magnetite-epidote-diopside  
6 Head Bay Stock diorite, gabbro, monzonite

**JURASSIC**  
Lower Jurassic

5 Bonanza Group: felsic gneissolite, flows and silt  
3 Parsons Bay Formation: limey argillite  
2 Quaternary Formation: limestone  
1 Kormoran Formation: basalt flows

Overcrop  
Geological contact  
Fault - inferred  
Bedding - strike/dip  
Soil sample  
Silt sample  
Rock sample

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**17,521**

100 50 0 100 200 300 400 500 metres  
SCALE 1:5000

**CENTAUR RESOURCES LTD.**

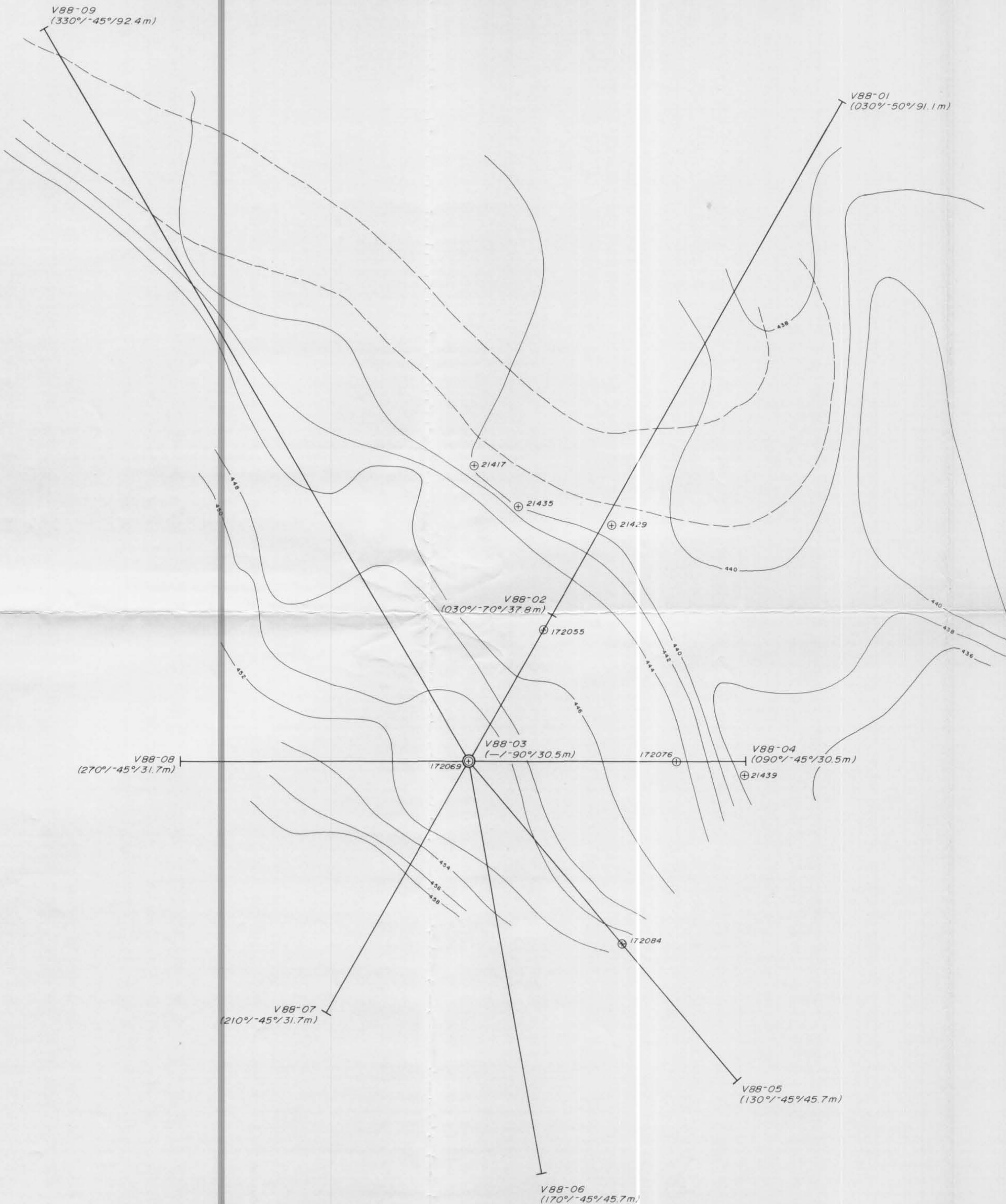
Head Bay Property  
**GEOLOGY & GEOCHEMISTRY**  
South Half

ALBERNI MINING DIVISION  
NTS: 92 E/15E

EQUITY ENGINEERING LTD.

Drawn by: B.A.M. Project: KNL 88 01 Date: June, 1988 Figure: 5





**SIGNIFICANT ASSAYS**

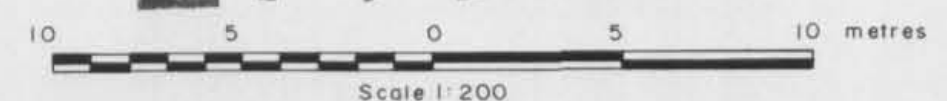
SAMPLE NUMBER	DRILL HOLE	LENGTH (m)	ELEVATION (m)	GOLD (g/t)
172055	V88-01	0.25	437.4	22.9
172069	V88-03	0.02	436.4	1.4
172076	V88-04	0.25	435.2	58.2
172084	V88-05	0.36	433.0	17.6
21417	TRENCH	0.15	439.6	7.1
21429	TRENCH	0.13	439.2	21.5
21435	TRENCH	0.38	440.1	2.4
21439	TRENCH	0.50	436.8	4.5

**LEGEND**

- Vein sample
- Diamond drillhole (azimuth/dip/length)
- Road

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**17,521**



<b>CENTAUR RESOURCES LTD.</b>			
Head Bay Property ROAD ZONE <b>DRILL PLAN</b>			
ALBERNI MINING DISTRICT NTS: 92E/15E			
<b>EQUITY ENGINEERING LTD.</b>			
Drawn by: B.A.M.	Project: KNL88-01	Date: June, 1988	Figure: 6