85-404a

FILMED

Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
DIAMOND DRILLING	$47,778.91

AUTHOR(S) J.A. Fleming SIGNATURE(S) J.A. Fleming

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED April 17, 1985 YEAR OF WORK 1984

PROPERTY NAME(S) WEST 85 GROUP

COMMODITIES PRESENT Not determined

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Nanaimo NTS 92 L/12 E

LATITUDE 50° 37½' LONGITUDE 127° 32½'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

BAY 83-85, COIR 4, MIMAS (12 units), JUNO (15 units), APPLE 2 (18 units), APPLE 3 (9 units) APPLE 4 (18 units) APPLE 5 (20 units), APPLE 6 (4 units)

OWNER(S)

(1) UTAH MINES LTD.

MAILING ADDRESS
BOX 370
PORT HARDY, B.C. VON 2PO.

(2) GORDON MILBOURNE

MAILING ADDRESS
c/o LADNER DOWNS
2100 - 700 WEST GEORGIA STREET
VANCOUVER, B.C.

OPERATOR(S) (that is, Company paying for the work)

(1) UTAH MINES LTD.

MAILING ADDRESS
BOX 370,
PORT HARDY, VON 2PO. B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,169

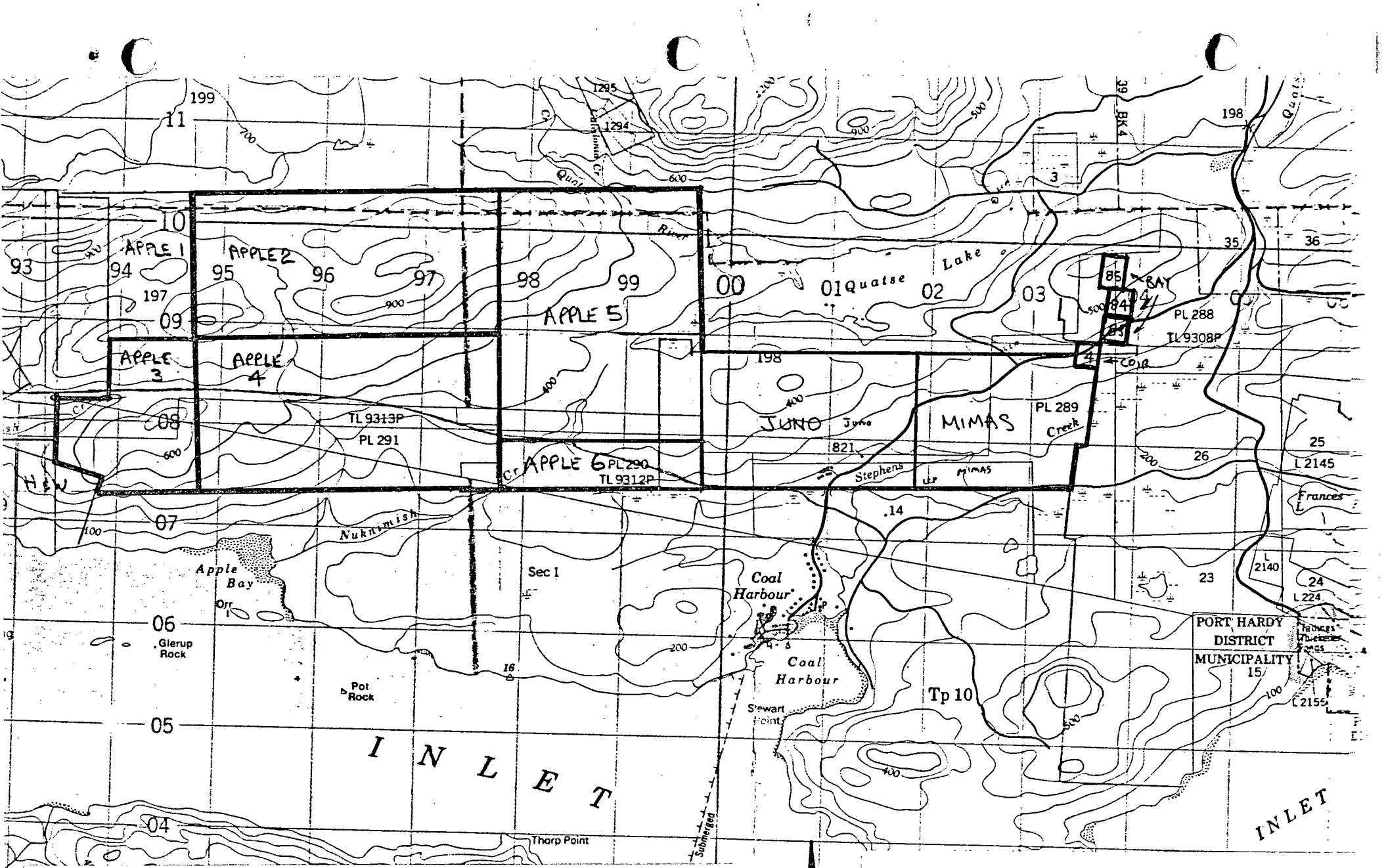
SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

The area is underlain by the Upper Triassic to Lower Jurassic volcanic and sedimentary succession of the Vancouver and Bonanza Groups and the Cretaceous sedimentary cover. Mid-Jurassic granodioritic stocks (Quatse Stock), and quartz-feldspar porphyry dykes cut the succession. Hydrothermal alterations and mineralization are associated with the porphyry dykes in the Bonanza tuffs. The succession dips gently to the southwest. Four prominant fracture directions are present on the property at 020°, 060°, 090° and 130°. The dykes are present along the 060° and 130° fracture directions.

REFERENCES TO PREVIOUS WORK Assessment Report #'s 08150, 11366, 11460

(over)

TABLE OF CONTENTS



INDEX MAP

To accompany report on the WEST 85 group of mineral claims. Refer to MAP SHEET 92L/ 12E

INTRODUCTION

Between the 14th of July and the 2nd of August, 1984, two diamond drill holes and four percussion holes totalling 302.4 meters (992 feet) and 307.8 meters (1010 feet) respectively, were drilled within the limits of the West 85 group of mineral claims. This formed part of the drilling program in the area in 1984 carried out in exploration for a near surface porphyry copper-molybdenum deposit.

PROPERTY DESCRIPTION

The West 85 group consists of 100 claim/units contiguous to claims on the west boundary of the Island Copper mineral leases.

PHYSIOGRAPHY

The area is characterized by low to moderate rolling hills with a maximum relief of 210 meters. The Stephen's Creek cuts across the east end and drains into Coal Harbour while Nukinimish Creek drains from Quatse Lake through the central part of the group and into Apple Bay.

ACCESS

The area is accessible by paved road from Port Hardy some eight kilometers to the north and by logging road suitable for two wheel drive vehicles.

PREVIOUS WORK

Recent work by Utah has included mapping, VLF/Mag, I.P. and geochem surveys, and diamond drilling east and northeast of the Mimas and Juno claims, and mapping and a road mag-VLF survey over the remainder of the group.

OBJECTIVE

The objective of the drilling was to intersect a near surface porphyry copper-molybdenum mineral deposit, or at least favourable rock types and alterations to guide further exploration in the area. Holes W-9 and W-10 were specifically drilled to determine the extent, attitude and relationships of quartz-feldspar porphyry, andesite porphyry and hornblende porphyry dykes and sills mapped in the area and to test for copper and molybdenum mineralization associated with the intrusives and mapped wallrock alterations. The percussion holes were drilled to fill gaps between existing drill holes.

WORK PERFORMED

The following drill holes were drilled on the group of claims.

Hole	Claim	Claim #	Mine Grid Co-ords North	East	Elev. (Meters) Above SL	Length
a) Diamond Drill Holes						
W-9	Bay 85	17831	17731.0	12838.9	186.4	151.2
W-10	Bay 85	17831	17991.9	13604.2	175.7	151.2
b) Percussion Drill Holes						
WP-1	Bay 83	17829	15719.3	12767.0	102.6	91.4
WP-3	Bay 83	17829	14668.9	13602.1	69.5	91.4
WP-4	Bay 83	17829	15415.6	14154.4	98.8	33.5
WP-4A	Bay 83	17829	15207.5	13781.9	87.3	91.4

Drill core from holes W-9 and W-10 was logged, photographed and measured for recovery, RQD (percent core greater than or equal to four inches in length), and magnetic susceptibility (x 10^{-3} CGS units). The core was split and sampled in ten foot intervals. All samples were assayed for copper and molybdenum. Some lead and zinc assays were done as indicated on the assay sheets. The core is stored on racks in the upper core shack at the Island Copper mine site.

The percussion samples were collected at the drill with a 12 volt splitter box having an 8:1 sample split ratio. Percussion drilling was performed with water. Each sample was dried at room temperature and a portion screened using 8, 20 and 50 mesh screens. Enough material starting with the coarse faction was affixed to a white card with contact cement to fill a 5 by 5 cm square. The chip cards were used for logging. A binocular microscope with 20X and 40X powers was used to log the chips. The cards are filed in the upper core shack at the mine site.

The core was logged by G.L. Holland the percussion chips were logged by G.A. Clarke. Both are staff geologists employed by Utah Mines Ltd.

RESULTS - Diamond Drilling

Hole-W9

The hole penetrated 6.4 meters (21 feet) of overburden. The next 10.1 meters (33 feet) consisted of white to pale green, chlorite, sericite altered quartz-feldspar porphyry with minor quartz veins and about three percent disseminated pyrite. From 16.5 meters to 130.5 meters (54 feet to 428 feet) is a pale to dark green, moderately to strongly silicified and moderately chloritized hornblende porphyry. Formational breccia occurs in scattered short sections throughout the unit with an increase towards the lower contact. Fracture fillings are pyrite (<1 percent), calcite, zeolite, pyrobitumen (gilsonite ?) and epidote. A 0.6 meter (2 foot) quartz-feldspar porphyry dyke at 50° to the core axis defines the lower contact. From 131.1 meters (430 feet) to the bottom of the hole is a green, moderately silicified and chloritized andesite breccia. The main fracture fillings are silica and quartz-carbonate veins. Some contorted bedding is present near the bottom of the hole. Copper and molybdenum grades are all less than 0.03% Cu and 0.002% Mo, respectively.

Hole W-10

The top 5.2 meters (17 feet) of the hole is overburden. From bedrock to 30.5 meters (100 feet) the hole intersected strongly silicified, weakly to strongly epidotized, bedded, fine grained sediments. The bedding is generally at 60° to the core axis. A bleached white aplite dyke cuts the sediments from 8.5 to 11.3 meters (28 to 37 feet). The section from 30.5 to 62.8 meters (100 to 206 feet) consists mainly of siliceous, bedded sediments mixed with quartz-feldspar porphyry. The porphyry bearing section is bounded at top and bottom by strong chlorite-pyrite altered zones. From 62.8 meters (208 feet) to the bottom of the hole are white, pale green and green, silicified, thin bedded sediments. Bedding ranges from 20° to 50° to the core axis. Fracturing in this section is moderate to intense with pryite as the main fracture filling. Quartz-carbonate veins become common at about 110 meters (360 feet). Pyrobitumen is common with pyrite veins. A strong fault zone from 88.4 to 92.7 meters (290 to 304 feet) is accompanied with breccia and strong zones of gouge. Numerous shears occur in the section, generally with pyrobitumen present. The copper and molybdenum grades are less than 0.07% Cu and 0.005% Mo, respectively.

RESULTS - Percussion Drilling

WP-1

The hole intersected 9.8 meters (32 feet) of overburden. The remainder of the hole consists primarily of medium grey-green, variably weakly to moderately chlorite, sericite, epidote and quartz altered porphyritic andesite and tuff. From 42.7 to 51.8 meters (140 to 170 feet) the rock is bleached, moderately to strongly sericite altered volcanic. Minor red-brown garnet and light and dark green amphiboles occur near the top of the hole. Locally, quartz veinlets are suggested by quartz chips. Main fracture fillings are pyrite (1 to 4 percent), calcite and minor zeolite and pyrobitumen. Copper and molybdenum grades are less than 0.04% Cu and 0.003% Mo, respectively.

WP-2

The first 12.8 meters (47 feet) are in overburden. From there to 61.0 meters (200 feet) the hole is in light to medium grey, green, generally weakly to moderately chlorite, epidote, and quartz altered, fine grained andesite tuff. Main fracture fillings are pyrite (1 to 7 percent), calcite and zeolite. From 61.0 to 91.4 meters (200 to 300 feet) the rock is darker grey-green with sections of strong epidote alteration. Hornblende crystals are common. Some black sphalerite are also noted. Copper and molybdenum grades are all less than 0.10% Cu and 0.004% Mo, respectively.

WP-4

This hole was stopped at 33.5 meters (110 feet) in overburden, this being the practical limit of overburden penetration with this rig.

WP-4A

This hole was drilled in lieu of WP-4. Overburden is 20.1 meters (66 feet) thick in this hole. The remainder of the hole intersected light to medium grey-green, weakly to moderately chlorite, epidote and quartz altered, coarse ash andesite tuff. Some moderate magnetite alteration occurs at 67.1 meters (220 feet). A brown alteration occurs throughout. Hornblende crystals are noted throughout the hole. Main fracture fillings are pyrite (1 to 10 percent), calcite, zeoloite and pyrobitumen. The pyrite content is higher near the top of the hole. Copper and molybdenum assays are all less than 0.02% Cu and 0.002% Mo, respectively.

DISCUSSION

The quartz-feldspar porphyry mapped in outcrop in the area was intersected in both W-9 and W-10 with associated moderate to strong silicification of the wall rocks. This is consistent with strong silicification accompanying the Island Copper intrusive system. In contrast, however, the magnetite alterations are uncharacteristically weak in these holes. The hornblende porphyry in hole W-9 is strongly silicified and therefore earlier than the quartz-feldspar porphyry. The siliceous sediments inhole W-10 are interpreted to be altered Parson Bay sediments with the silicification again related to the quartz-feldspar porphyry dykes and parent stocks.

The percussion holes indicated that weak to moderate hydrothermal alterations of the andesite tuffs are present in the area between hole W-7 which had some weak to moderate copper and molybdenum mineralization and hole W-2 which was unmineralized. These two holes were drilled in earlier programs and described in assessment reports #11460 and #08150 respectively. The brown alteration encountered in holes WP-1 and WP-4A is in part due to the pyrobitumen, but may also reflect some biotite and/or garnet.

CONCLUSIONS

The diamond drilling confirmed the presence of quartz-feldspar porphyry dykes and associated hydrothermal alterations at depth in the area, but did not encounter any interesting copper and molybdenum mineralization. The percussion holes likewise did not produce any good copper or moly grades.

COST STATEMENT

CONTRACTOR COSTS

DIAMOND DRILLING CONTRACTORS

Overburden			
34' @ $16.75		$ 569.50	
Rock			
958' @ $16.75		16,046.50	
Field Costs			
15.5 hrs. @ $60/hr.	930.00		
34.5 hrs. @ $50/hr.	1,725.00	$ 2,655.00	
Other Charges			
Casings and Shoes	247.66		
Mobilization	666.00		
Core Boxes 54 x $5.36/box	289.44		
Supplies & Freight	1,141.03		
Water Truck Drivers	996.58	3,340.71	$22,611.71

OTHER CONTRACTORS

1) D-6 Cat and Operator		
Move Drill & Prepare Sites 17 hrs. @ $60/hr.	1,020.00	
Build Cat Trail	2,700.00	
Standby - 7 days @ $120/day	840.00	
2) Lowbed and Highboy Trailers, Tractor and Operator Move D-6 Cat and Drill from Sites	357.50	
3) Water Truck and Operator Supply Water to Drill	938.74	5,856.24
TOTAL CONTRACTOR COSTS:-		$28,467.95

DIAMOND DRILL HOLES W-9 and W-10

CONTRACTOR COSTS

PERCUSSION DRILLING CONTRACTOR

Overburden			
197 ft. @ $7.80/ft.		$ 1,536.60	
Rock			
813 ft. @ $7.80/ft		6,341.40	
Field Costs			
20.5 hours @ $95/hour	1,947.50		
6.0 hours @ $50/hour	300.00	2,247.50	
Other Costs			
Casings and Shoes	50.02		
Bags	23.17		
Mob and Demob			
4 Holes @ $300/hole	1,200.00		
Water Truck Drivers	301.38	1,574.57	$11,700.97

OTHER CONTRACTORS

1) D-6 Cat and Operator Prepare site 1 hr. @ $60/hr.	60.00	
2) Lowbed Trailer, Tractor and Operator Move Cat 1 hr. @ $62.50/hr.	62.50	
3) Water Truck and Driver Supply Water to Drill	283.89	
4) 980 Loader and Operator Load Gravel and Prepare Site 2 Hr. @ $91.00/hr.	182.00	
5) Dump Truck and Operator Haul Gravel 5 ½ hrs. @ $55/hr.	302.50	890.89
TOTAL CONTRACTOR COSTS:-		$12,590.96

PERCUSSION HOLES WP-1, W-3, W-4, W-4A

UTAH COSTS

DIAMOND DRILLING

1)	Core House Labour	$ 750.00	
2)	Supervision and Core Logging	1,400.00	
3)	Company Overhead @ 25% of Supervision and Labour	537.00	
4)	Core Storage 958' @ $0.40/ft.	383.00	
5)	Sample Assays 97 @ $10/sample	970.00	$4,040.00

PERCUSSION DRILLING

1)	Core House Labour	125.00	
2)	Supervision and Core Logging	1,400.00	
3)	Company Overhead	375.00	
4)	Sample Assay 78 @ $10/sample	780.00	2,680.00

TOTAL UTAH COSTS:- $ 6,720.00

COST SUMMARY

DIAMOND DRILLING

Contractor Costs	$28,467.95	
Utah Costs	4,040.00	
Total Diamond Drilling Cost:	$32,507.95	$32,507.95

Unit Cost for 992 feet = $32.77/foot
302.4 meters = $107.50/meter

PERCUSSION DRILLING

Contractor Costs	$12,590.96	
Utah Costs	2,680.00	
Total Percussion Drilling Cost:	$15,270.96	$15,270.96

Unit Cost for 1010 feet = $15.12/foot
307.8 meters = $49.61/meter

TOTAL DRILLING COST:- $47,778.91
==========

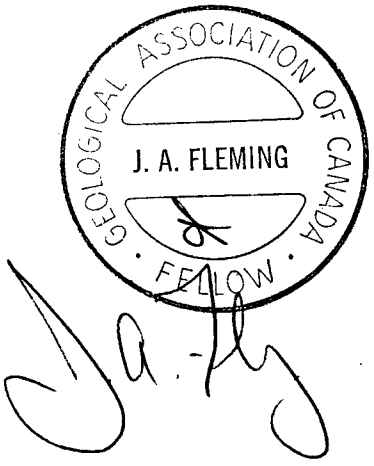
STATEMENT OF QUALIFICATIONS

I submit that I am qualified to prepare and present this report for assessment credit. My qualifications are as follows:

1) I have a B.Sc., (Major Geology) 1971 from McGill University.

2) I have been employed as a geologist continuously since June, 1968, and am presently Chief Geologist, Island Copper Mine, Utah Mines Ltd.

3) I have been a Fellow of the Geological Association of Canada since 1974.



J.A. Fleming, B.Sc.,

Chief Geologist.

Island Copper Mine

Utah Mines Ltd.

HOLE NO. WP-1 | PROJECT: ISLAND COPPER | PAGE NO: 1 OF 5

CASING COLLAR ELEV.: 1336.7 | GROUND ELEV.: | DATE STARTED: Aug 1, 1984 | REF. TO CLAIM CORNER:

COORDINATES: 15719 S N. 12767 E. | DATE FINISHED: Aug 2, 1984 | SCALE: 1" = 10'

INCLINATION: -90° | BEARING: | TOTAL DEPTH: 300' | LOGGED BY: GAC

COMMENTS: This hole consists of a single rock type with possible exception from 140-160 megascopically, alterations appear to be weak with slight increase from 160-200

AVE CORE REC'Y / HOLE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
0					0-32' overburden - no samples.							
32					32-40 f g andesite porphyry - plag ϕ/ phenos to 1mm. 30% dk minerals with occ hbl pheno to .5mm. matrix slcs, med-dk grey. Mafics wkly chl alt'd. 1-2% py with associated minor red-brn garnet, magnetite? and chalcopyrite. Occ white qtz may be from vnlts. Abund. py as diss and pass frac flng. occ friable (zeo?) chip and minor sor alt'n	3-4% Py						.01
40					40-50 same as 32-40 - more calc frac coatings.	3%						.01
50					50-60 same as 32-40 15% calc vlt chips. 1 chip has calc xtals to 2.5 mm in a dk grey aphanitic matrix (flt?). hairline grey qtz(?) vlts cut some calc chips.	3%						—

HOLE NO. WP-1 | PROJECT: | PAGE NO: 2 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
60					60-70 - same as 32-40 minor calcite chips. minor actinolite ~~so~~. one aggregate of striated py & needle-like dk grn-blk hbl (or tourmaline ?) xtals. no garnets noted.		2% py						—
70					70-80 same as 32-40. sl incr in chl and epi but still wk. cpy(?) as hairline frac coating.		3% py						.02
80					80-90 same as 32-40 ~~%~~ mod epi alt^n seems to favour matrix over blk (hbl?) phenos. no mag or garnet. poss cpy in qtz vlt.		3% py						.03
90					90-100 Same as 32-40 -v. minor calc as vlts and/or f.g. py grains to 3mm x 3mm.		2%						—
100					100-110 same as 32-40. slightly lighter overall epi in matrix (as 80-90) ~~plus~~ epi in pale friables non-lime (zeo) vlts. Appears slightly more felsic than 32-40.		2%						—
110					110-120 f.g. v. mod gry grn dacite. appears more felsic than 32-40. Similar texture c 2-3mm plag phenos, 1-2mm hbl. Mod epi ± poss garnet. wk chl alt^n.		1%						—

HOLE NO. WP-1 | PROJECT: | PAGE NO: 3 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: CAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
120					120-130 same as 32-40 - trace epi minor py mainly as diss grains to 1 mm		1% py						—
130					130-140 same as 32-40. more qtz chips which may indicate mod qtz vns. or vlts. wk ser alt^n py mainly as coarse (2mm +) diss.		2% py						—
140					140-150 - alt^d andesite? mafics largely absent and rock appears bleached and mod-strong ser alt^d. mod qtz and minor epi. some chl pseudomorphs of mafics (hbl.) py diss and v. minor f.f.		2% py						—
150					150-160 - same as 140-150. acc^2 chips wkly epi alt^d pyroclastic andesite lithic tuff. poss cpy assoc ē mag in qtz chip (vn?)		2%						—
160					160-170 Same as 140-150. ser alt^n mod - acc mafics recognizable - actinolite + hbl. mod epi alt^n.		2%						—
170					(70 -180) same as 32-40 ? mod ser alt^d andesite tuff or porphyry. mod stks. wk epi, chl alt^n py diss & minor f.f. poss epi/py assoc^n occ fleck mag to .3mm.		3% py						—

HOLE NO. WP-1 | PROJECT: | PAGE NO: 4 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
180					180-190 Same as 170-180 no mag seen.		2%						—
190					190-200 same as 140-150 mod-str ser/sics alt'n probably andesite but postive I.D. impossible.		1-2%						—
200					200-210 Same as 170-180 low total sulph. 1 grain ZnS(?) dk brn striated, hard, [illegible]		< 1% py						—
210					210-220 - same as 32-40 absent epi. porph² texture not as obvious, no garnets, mag noted. mod chl alt'n		2%						—
220					220-230 - same comp² as 32-40. sl incr in ser alt'n 5-10% epi. possibly and. tuff no mag/garnet.		1%						
230					230-240 Same as 32-40. mod (5-10%) epi. tuff? no mag/garnet.		1%						—

HOLE NO. WP-1 | PROJECT: | PAGE NO: 5 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
240					240-250 same as 32-40. mod calc/zeo ff. poss mag.		<1/2% py						—
250					250-260 same as 32-40 wk epi alth. mod calc/zeo vlts.. Chip bitumen ~ 3mm x 2mm x .1mm contamination?		<.5						
260					260-270 similar to 32-40 cl incs in ser/slcs alth. bbl phenos relatively un-altered.. Minor zeo		<.5						
270					270-280 same as 32-40 but textures not distinguishable epi almost absent. occ platy pale grn ser? grain.		<1/2%						
280					280-290 same as 32-40 - too fine to determine textures. poss blk bio flakes present.		<5%						
290					290-300 same as 32-40 - no textures determinable. calc vlts (+ zeo?) poss bio?		<5%						

End of Hole

HOLE: WP-1

Depth 300'
O/B ± 26'

ASSAY TAG.	FOOTAGE	MAG.	R.QD	%Cu	%Mo	%Pb	%Zn	%Fe	%Cu	%S	ppm Au	ppm Ag					
260	32-40			.026	.001	.006	.02	6.14	2.17	7.12							
261	40-50			.012	.001	.005	.01	5.84	2.20	6.97							
262	50-60			.009	.001	.004	.01	5,42	2.36	5.89							
263	60-70			.005	.001	.004	.01	5.63	2.25	7.16							
264	70-80			.003	.001	.004	.01	5.76	2.29	7.71							
265	80-90			.003	.001	.003	.01	5.93	2.22	7.09							
266	90-100			.001	.001	.004	.01	6.11	2.19	8.90							
267	100-110			.010	.001	.003	.01	5.83	2.26	7.10							
268	110-120			.007	.001	.005	.10	5.56	2.32	4.12							
269	120-130			.010	.001	.003	.02	5.61	2.30	4.66							
270	130-140			.007	.001	.006	.07	6.07	2.19	7.40							
271	140-150			.010	.001	.004	.02	5.49	2.03	6.63							
272	150-160			.012	.001	.003	.01	5.00	2.20	5.65							
273	160-170			.012	.001	.004	.01	5.05	2.21	4.10							
274	170-180			.013	.002	.005	.01	5.21	2.14	3.65							
275	180-190			.015	.002	.006	.02	5.03	2.16	2.88							
401	190-200			.006	.001	.004	.01	5.88	2.17	1.78							
402	200-210			.006	.001	.004	.07	6.59	1.98	0.88							
403	210-220			.008	.001	.003	.03	6.67	2.01	0.66							
405	220-230			.007	.001	.003	.01	6.73	2.01	1.26							
406	230-240			.010	.001	.009	.05	5.29	2.11	3.55							
407	240-250			.012	.002	.006	.02	6.30	1.76	1.63							
408	250-260			.012	.001	.003	.01	6.44	1.88	0.97							
409	260-270			.007	.001	.004	.01	6.11	1.85	1.09							
410	270-280			.006	.001	.003	.01	6.41	2.09	1.54							
411	280-290			.007	.001	.003	.01	6.23	2.16	1.52							
412	290-300			.005	.001	.003	.01	6.31	1.93	0.36							
			$\bar{x}$	.009													

HOLE NO. WP-3 | PROJECT: ISLAND COPPER | PAGE NO: 1 OF 5

CASING COLLAR ELEV.: 1227.9 GROUND ELEV.: | DATE STARTED: JULY 14, 1984 | REF. TO CLAIM CORNER:

COORDINATES: 14668 9 N. 13602.1 E. | DATE FINISHED: JULY 15, 1984 | SCALE: 1" = 10'

INCLINATION: -90° BEARING: | TOTAL DEPTH: 300 | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: DESCRIPTIVE GEOLOGY	SULPHIDES DRILLING	AVE CORE RECOV'Y / HOLE INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% RECV. SAMPLANT.	ESTIMATED CHART
					0 - 47 feet overburden - no samples.							
40					47-50' f.g. lithic andesite tuff ± clast to 1.5 mm. Clasts range from light-med grey (dacitic?) to dk grey (basalt?) in a med grey slcs matrix clasts wk chl altd. mod py as f.f. and diss minor epi	1-2% py						—
47												
50					50-60 similar to 47-50 but dominated by light colored frags. clasts are mostly pale grey grn in pale grey slcs matrix.	3% py						—
60					60-70 Same as 47-50. slcs. minor calc (fzeo?) ults. py as diss and f.f. to .1 mm.	5%						.05
70					70-80 . same as 47-50. few dk clasts so light grey o.all. hue. mod fleck mag	5%						.01
80					80-90 same as 47-50 light grey o.a minor calc. f.f. abund diss py ± grains to .5mm	7%						—

GEOLOGICAL ASSESSMENT REPORT

14,169

HOLE NO. WP-3 | PROJECT: | PAGE NO: 2 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
90					90-100 same as 47-50. light grey. py diss throughout & grains typically .1mm. v. minor cpi		7%						/
100					100-110 same as 47-50. higher proportion dk clasts than 90-100 med grey grn hue.		3%						—
110					110-120 same as 47-50 minor coarse py (to 3mm), some calc vlts.		3%						—
120					120-130 same as 47-50 occ sles, cherty frag. pass 2.5 in calc vlt (shear?)		2%						—
130					130-140 same as 47-50 mod limy. minor py but occ py Xtal to 1mm		1-2%						—
140					140-150 same as 47~~50~~ small grain size (1mm) makes textures hard to determine. SI limy & poss geo vlts.		1%						—

HOLE NO. WP-3 | PROJECT: | PAGE NO: 3 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
150					150-160 same as 47-50. minor calc f.f. which have occ py xtals to .5mm.		3%						–
160					160-170 same as 47-50 poss wk chl alt^n, minor calc.		2%						–
170					170-180 same as 47-50 (frac flng?) mod limey occ wh & grg banded chip mod slcs o.a. appearance.		1-2%						–
180					180-190 similar to 47-50, minor epi alt^n occ dk grg chips with v.f.g py or cpy (est 10-20 μm)		1%						.02
190					190-200 andesite f.g. dked grg grn. textures not apparent. mod -str epi alt^n, poss blackjack Zn (plk, non mag, sub metallic) poss mag, mod limy.		3%						
200					200-210 same as 190-200, slcs, no Zn seen.		3%						

HOLE NO. WP-3 | PROJECT: | PAGE NO: 4 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
210					210-220 same as 190-200 some blk hbl xtals. poss bio vague tuff texture. One chip shows nmrs (>10) hairline py f.f. over a thickness of 2mm - may indicate py accts as f.f. on megascopic scale.	2%						
220					220-230 same as 190-200 higher proportion of dk grey-blk f.g. chips - some of which are mag^{s}. wk epi alt^{n}	2%						
230					230-240 same as 220-230 dk chips may be hbl wk chl alt^{n}	3%						
240					240-250 same as 190-200 occ hbl xtal., mod slcs, wk chl, epi	3%						
250					250-260 same as 190-200 - probable ash/lithic tuff mod lmy, minor mag. silty slcs.	1%						
260					260-270 same as 190-200. 2 distinct grain sizes .1mm and 5mm size. Coarse frac is more slcs ± ser alt^{n}. mod lmy.							

HOLE NO. WP-3 | PROJECT: | PAGE NO: 5 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
270					270-280 same as 190-200 wk-mod chl alt^n mod epi. occ calc vlt. & py hairline f.f.		<.5						—
280					280-290 Same as 190-200 with coarse, lighter coloured, more s/cs fraction as per 260-270. mod epi alt^n. py present as fine (1 mm) diss in wk, non limy, qtz (or zeo?) chips								
290					290-300 same as 190-200 mod-str epi alt^n poss mag.								
300					END of Hole.								

HOLE: WP-3

Depth 300'
O/B 46'

ASSAY TAG.	FOOTAGE	MAG.	R.QD	% Cu	% Mo	% Pb	% Zn	% Fe	% Cu	% S	ppm Au	ppm Ag					
00741	47-50			.014	.002			6.2	1.6	4.4							
00742	50-60			.012	.001			5.7	1.8	6.2							
00743	60-70			.007	.001			5.0	2.0	5.0							
00744	70-80			.009	.001			5.1	2.0	5.3							
00745	80-90			.003	.001			5.2	2.1	7.0							
00746	90-100			.012	.001			5.3	2.1	6.1							
00747	100-110			.006	.002			5.8	1.9	3.3							
00748	110-120			.019	.001			6.3	1.9	3.2							
DUPES 00749	120-130			.015	.003			6.3	1.9	3.9							
DUPES 24401	120-130			.022	.004			8.1	1.2	13.3							
24402	130-140			.006	.001			8.6	1.1	14.7							
24403	140-150			.005	.001			6.9	1.6	5.8							
24404	150-160			.005	.001			6.1	1.8	4.0							
24405	160-170			.005	.002			6.5	1.6	2.5							
24406	170-180			.005	.001			6.7	1.7	5.0							
24407	180-190			.010	.001			6.7	2.1	8.0							
24408	190-200			.020	.001			6.8	2.0	6.9							
24409	200-210			.014	.001			6.7	2.0	4.7							
24410	210-220			.012	.001			7.3	1.8	2.9							
24411	220-230			.015	.001			7.8	1.6	1.9							
24412	230-240			.010	.001			7.5	1.7	2.5							
24413	240-250			.011	.001			7.3	1.7	3.3							
24414	250-260			.010	.001			7.6	1.7	3.4							
24415	260-270			.013	.001			7.4	1.8	3.0							
24416	270-280			.010	.001			7.6	1.7	2.8							
24417	280-290			.009	.001			7.3	1.8	3.2							
24418	290-300			.013	001			7.4	1.8	3.8							

HOLE NO. WP-4 | PROJECT: ISLAND COPPER | PAGE NO: 1 OF 1

CASING COLLAR ELEV.: | GROUND ELEV.: 1324.0 | DATE STARTED: JULY 15, 1984 | REF. TO CLAIM CORNER:

COORDINATES: 15415.6 N. 14154.4 E. | DATE FINISHED: JULY 16, 1984 | SCALE: 1" = 10'

INCLINATION: -90 | BEARING: | TOTAL DEPTH: 110 | LOGGED BY: GAC

COMMENTS: Abandoned due to excessive O.b

AVE CORE REC'Y / HOLE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
					0-110 feet all overburden - no samples.							

HOLE NO. WP-4A | PROJECT: ISLAND COPPER | PAGE NO: 1 OF 5

CASING COLLAR ELEV.: 1286.3 | GROUND ELEV.: | DATE STARTED: 17 JULY, 84 | REF. TO CLAIM CORNER:

COORDINATES: 15207.5 N. 13781.9 E. | DATE FINISHED: 17 JULY, 84 | SCALE: 1" = 40'

INCLINATION: -90 | BEARING: | TOTAL DEPTH: 300' | LOGGED BY: G.A.C.

COMMENTS: similar to WP-3 47-190'. No change in gross features from collar to bottom.

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. DIAM. INT.	ESTIMATED
0					AVE CORE REC'Y / HOLE							
					0-66' Overburden - no samples.							
60					66-70' Lt grey andesite (dacite or rhyo-dacite?) tuff mod slcs. clasts f g (to .5mm) pale grey grn. This appears to be primary, not secondary bleaching. matrix is pale grey-white mod slcs. occ tarry hydrocarbon - likely contamination poss wk ser alt^{n}, some s/c$^{\pm}$. Abund diss py ± poss cpy.	7-10%						-.03
66												
70					there is a weak pinkish brown over all tint which may be due to Fe staining of qtz.							
					70-80' - same as 66-70. occ qtz clast to 1mm	5%						—
80					80-90 - same as 66-70 epi ± py alt^{n} of some mafic clasts	5%						.02
90					90-100 same as 66-70 mod s/cs., sl limy.	3%						
100					100-110 same as 66-70 poss mag alt^{n} of hbl/pyroxene s. py as f.f. to .2mm occ 3mm pyroxenes.	4%						

HOLE NO. WP-4A | PROJECT: | PAGE NO: 2 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
110					110-120 same as 66-70, minor epi, slightly limy.		3% py						
120					120-130 same as 66-70 sl incr to brn stn qtz · mod limy.		3 py						—
130					130-140 same as 66-70 - tuff texture only rarely discernable more brn sil as per 120-130		2 py						—
140					140-150 same as 66-70 mod limy. occ py smears on calc chips - likely from shear zone. v. minor epi		2% py						—
150					150-160 same as 66-70 possible actinolite in some darker chips. increase in silica due to reduced grain size. wk - mod epi		3%						—
160					160-170 same as 66-70 wk epi alth		2						—

HOLE NO. WP-4A | PROJECT: | PAGE NO: 3 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
170					170-180 same as 66-70 one qtz VN frag has actinolite with poss brn garnet ass'd, wk epi alt'n		2						—
180					180-190 same as 66-70 wk epi, poss zeo, mod limy.		2						—
190					190-200 same as 66-70 wk epi. occ calc thomb.		3-4						.03
200					200-210 same as 66-70 wk epi and calc. poss zeo chl alt'n of mafics.		2-3						—
210					210-220 same as 66-70 tuff texture indistinct, occ hbl xtal (porphyritic andesite?) mod calc (incl twinned xtals to 3mm) slcs cherty laminae - may be f.f., weak epi.		2-3						—
220					220-230 same as 66-70 see also 210-220. mod slcs & limy, chl alt'd hbl xtal to 2.5 mm. mod mag alt'n		3						—

HOLE NO. WP-4A | PROJECT: | PAGE NO: 4 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
230					230-240 slcs lt-med grn grn andesite may be tuff, wk epi, mod mag alt^n, minor calcite, py as fine diss and occ coarser (3mm) grain wk chl, mag alt^n of mafics. mod zes f.f. which has wk brn stn. (hem or possibly gils), similar to 66-70 but slightly more mafics and mag alt^n	1-2						—
240					240-250 same as 230-240. wk ser alt^n, wk brn stn to qtz as per 66-70	1-2						—
250					250-260 same as 230-240 blk gils(?) on frac occ fresh hbl xtal	1-2						/
260					260-270 same as 230-240 pres blk bio., calc xtals to 3mm epi mag ass^d in ~~qtz~~ qtz chip.	1						—
270					270-280 same as 230-240 abund v.dk grn-brn to blk chips wk ser alt^n. Hbl frags. (+bio?)	1						—
280					280-290 same as 230-240. more mafics, mostly hbl. wk mg alt^n to v wk chl alt^n. minor mag.	1						—

HOLE NO. WP-4A | PROJECT: | PAGE NO: 5 OF 5

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY: GAC

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
290					290-300 Same as 230-290 - hbl frags present. v. wk. alt'n's		1						—
300					END of HOLE								

HOLE: WP-4A

Replaced WP4 which had 110' OB

Depth 300'
OB 66'

ASSAY TAG.	FOOTAGE	MAG.	R.QD	% Cu	% Mo	% Pb	% Zn	% Fe	% Cu	% S	ppm Au	ppm Ag					
24442	66-70			.006	<.001			6.2	1.93	10.69							
24443	70-80			.011	<.001			5.7	1.96	7.23							
24444	80-90			.012	<.001			5.4	2.04	5.39							
24445	90-100			.011	<.001			5.7	1.81	7.13							
24446	100-110			.010	<.001			5.4	2.11	5.23							
24447	110-120			.011	<.001			5.8	1.80	5.59							
24448	120-130			.009	<.001			5.3	1.93	5.13							
24449	130-140			.012	.001			5.0	2.09	4.63							
24450	140-150			.011	.002			5.2	2.12	5.01							
24451	150-160			.006	<.001			5.6	2.19	6.90							
24452	160-170			.006	<.001			6.1	1.88	6.87							
24453	170-180			.010	<.001			5.9	1.94	7.45							
24454	180-190			.007	<.001			5.7	2.02	5.06							
24454	190-200			.007	<.001			5.8	1.56	4.36							
24456	200-210			.009	.001			5.9	1.66	5.24							
24457	210-220			.011	.002			5.2	1.93	4.26							
24458	220-230			.009	.002			5.2	2.26	5.01							
24459	230-240			.009	.002			5.4	2.13	3.84							
38351	240-250			.009	<.001			5.7	2.02	4.59							
38352	250-260			.011	<.001			6.3	1.89	3.81							
38353	260-270			.010	<.001			6.6	1.94	3.61							
38354	270-280			.013	<.001			7.4	1.84	3.73							
38355	280-290			.012	<.001			6.6	2.05	3.93							
38356	290-300			.013	.002			5.9	1.61	4.16							

HOLE NO. W-9 | PROJECT: Island Copper. | PAGE NO: 1 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: 1611.5 | DATE STARTED: July 26, 1984 | REF. TO CLAIM CORNER:

COORDINATES: 17,731.0 N. 12,838.9 E. — | DATE FINISHED: July 29, 1984 | SCALE: 1"=10'

INCLINATION: -60° | BEARING: 198° | TOTAL DEPTH: 496' | LOGGED BY: G.L. Holland

RQD=80.8% | AVE CORE REC'Y / HOLE 97.4%

DESCRIPTIVE GEOLOGY

0-21 Overburden.

Casing removed from hole

21'

21-54 Quartz-Feldspar Porphyry

- minor sections of Andesite Tuff within.
- color ranges from white to pale green.
- 30% 2-4mm phenos - 10% qtz eyes.
  15% fsp → ser-chl.
  5% mafics → chl.
- matrix siliceous, aphanitic.
- moderate alt'n.
- limonite on frts to 23 feet.
- 3% py as diss & on frts.
- minor qtz veining.
- minor gilsonite in the carb-zeolite vns.
- minor epid. alt'n on frts.

*QFP is broken up - weak frt healing

10cm shear.

1cm shear.

1cm carb zeol. vns. ± gilsonite.

1cm qtz vn @ CA.

54'

Contact @ 30° to C.A

HORNBLENDE PORPHYRY

- Breccia to 57'

discription next page.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,169

SECTION	ALTERATION: silica	sericite	chlorite	FRACTURING	MINERAL	GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
0													
10													
20													
30	weak	moderate	weak	moderate	py - (cpy)		3%			NQ wire line			<0.10
40													<0.10
50	str	mod		wk	py		1%						<0.10
60													<0.10

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 2 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	sericite	chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

60

HORNBLENDE PORPHYRY cont

- color ranges from pale to dk green.
- strongly silicified ± chlorite alt'n.
- minor formational / brecciation in the pale green.
- ∠1% py on frts.
- frting is weak
- 15% 2-4mm hbl phenos → chl
  alt'n ranges from weak to strong
  - often only relic phenos noted
- the darker the coloring the stronger the alt'n.
- minor cal vns that cut the pyrite.

70 — Brxx

80 — Brxx

* Non magnetic.

hungry looking rock. -very featureless

90

100

110

120 — Brxx

ALTERATION: strong

FRACTURING: weak

MINERAL: pyrite.

ALTERATION: moderate

% SULPHIDES: 1%

CORE SIZE: NQ wireline

SAMPLE INTERVAL: 70 | 80 | 90 | 100 | 110 | 120

ESTIMATED % Cu: ∠0.05 | ∠0.05 | ∠0.05 | ∠0.05 | ∠0.05

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 3 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	ALTERATION: sericite	ALTERATION: chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
120	moderate to strong		moderate	weak	pyrite		DESCRIPTIVE GEOLOGY		1%			NQ wireline			<0.05
130						Breccia								130	<0.05
140						2cm qtz vn.								140	<0.05
150														150	<0.05
160						1cm py vn.								160	<0.05
170														170	<0.05
180														180	

Hornblende Porphyry cont.

@ 121 - silicification decreases slightly, phenos become more distinct

* Minor lighter green envelopes present around some fractures - less than 0.5cm.

* Small zones of weak to mod alt'n in the predominantly strongly alt'd rock.

* Weak fracturing healed w cal ± pyrite

HOLE NO. W-9 | PROJECT: | PAGE NO: 4 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	ALTERATION: sericite	ALTERATION: chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
180	moderate to strong		moderate	weak	pyrite		Hornblende Porphyry cont.								<0.05
190						→ cal rich zone	* hornblende phenos quite prominant							190	<0.05
200						→ 1.5 cm qtz vn.	* Minor epidote assoc. w the qtz veins					NQ wireline.		200	<0.05
210							* Alt'n envelopes have disappeared.		1%					210	<0.05
220						→ Breccia								220	<0.05
230														230	<0.05
240						→ 100cm gouge zone.								240	

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 5 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION | ALTERATION: silica, sericite, chlorite | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE INTERVAL | % REC'Y. SAMP. INT. | ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

HORNBLENDE PORPHYRY cont.

240

shear healed ⑤ qtz-carb

250 — 1cm qtz-carb vn.

Formational Brec.

255' to 268' - Minor Formational Brecciation.

260

* Starting to find more pyrite clots or masses.

* Alt'n envelopes reappearing.

270

286 - Rock takes on dk green to brown color. Due to stronger silicification. Phenos are relics. or ghosts.

280

290 — py clot.

1cm qtz-carb vn.

300

ALTERATION: silica — moderate to strong; sericite — strong; chlorite — moderate

FRACTURING — weak

MINERAL — pyrite.

% SULPHIDES — 1%

CORE SIZE — NQ wireline

SAMPLE INTERVAL: 250, 260, 270, 280, 290, 300

% REC'Y. SAMP. INT.: 250, 260, 270, 280, 290, 300

ESTIMATED % Cu: <0.05 | <0.05 | <0.05 | <0.05 | <0.05

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 6 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	sericite	chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
300	strong	moderate	weak	Pyrite.			HORNBLENDE PORPHYRY cont.								
							* Minor epid. present in the frts								<0.05
310														310	
															<0.05
320							Very featureless rock.							320	
															<0.05
330									1%			NQ. wireline		330	
															<0.05
340							338-352 - Mod. qtz-carb vning ω zeolites. minor gilsonite present ω the vns.							340	
															<0.05
350														350	
															<0.05
360															

Brxx.

1.5cm qtz-carb-zeol vn.

6cm shear ω qtz-carb

20cm shear zone

2cm qtz-carb vn.

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 7 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	sericite	chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

360

HORNBLENDE PORPHYRY cont.

<0.05

370

Featureless rock.

<0.05

380

1% → str. py.

<0.05

390

10cm shear

Brxx.

390.5 decrease in silicification. Phenos more distinct.

1%

<0.05

* Zones of breccia increase towards the contact.

400

Brxx.

1cm qtz vns.

<0.05

410

Brxx

<0.05

420

Brxx

NQ wireline

strong

moderate

moderate

weak

pyrite

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 8 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: Silica	ALTERATION: Sericite	ALTERATION: Chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
420	mod		mod	wk	pyrite		DESCRIPTIVE GEOLOGY								
430							HORNBLENDE PORPHYRY cont		1%					430	<0.05
440							428-430 - Q.F.P. @ 50° to C.A 430' FRAGMENTAL BRECCIA - 30-40% dk green, subangular, 1-2cm andesite frags in a pale green andesite matrix. - minor gilsonite on frts - alt'n mod - chl + sil. Traces epid on frts - mod frting healed w silica + qtz-carb vns - <1% py on frts					NQ wire line		440	<0.05
450	moderate		moderate	moderate					<1%					450	<0.05
460														460	<0.05
470														470	<0.05
480														480	

DFP. dyke.

2cm shear w py

2cm qtz vn w str. epid envel.

2cm qtz w MoS_2

1cm gouge zone.

HOLE NO. W-9 | PROJECT: I.C. | PAGE NO: 9 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	sericite	chlorite	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
480	moderate		moderate	moderate	PY - PØ		FRAGMENTAL BRECCIA cont.								
															0.05
490							490 - 493 - Bedding present - strongly contorted. 0-80° to C.A.		< 1%				490		
							2cm PØ - PY vn.								0.05
							2cm qtz vn.								
							496' E.O.H.								

HOLE: W-9

(MAG SUSCEPTIBILITY $\times 10^{-3}$ CGS UNITS)

ASSAY TAG.	FOOTAGE	MAG	R.QD %	%Cu	%Mo	%Pb	%Zn	%Fe	%Ca	%S	ppm Ag	ppm Au	% REC
overburden	0-21												
636	21-30	.12	44.6	.01	.001			6.2	2.22	2.95			58
635	30-40	.16	45.4	.01	.001			5.6	2.47	4.43			83
634	40-50	.02	50.0	.01	.001			5.6	2.57	3.08			86
633	50-60	.14	49.2	.01	.001			6.7	2.25	0.75			95
632	60-70	.16	86.2	.01	.001			6.7	2.26	0.51			100
631	70-80	.08	90.3	.01	.001			6.9	2.19	0.61			100
630	80-90	.10	86.9	.01	.001			6.8	2.24	1.30			100
629	90-100	.14	70.2	.01	.001			6.6	2.29	0.08			100
628	100-110	.16	95.0	.01	.001			6.8	2.27	0.10			100
627	110-120	.36	94.0	.01	.001			6.5	2.31	1.19			100
626	120-130	.14	89.5	.01	.001			6.5	2.32	1.84			100
625	130-140	.08	78.3	.01	.001			7.1	2.15	1.87			100
624	140-150	.14	78.3	.01	.001			7.0	2.13	0.90			100
623	150-160	.16	77.3	.01	.001			7.1	2.09	1.48			100
622	160-170	.18	83.7	.01	.001			6.9	2.15	1.45			100
621	170-180	.20	91.2	.01	.001			7.2	2.06	1.28			99
620	180-190	.40	87.7	.01	.001			6.6	2.17	1.18			99
619	190-200	.02	85.5	.01	.001			6.8	2.18	1.81			100
618	200-210	.08	76.0	.01	.001			6.6	2.29	1.81			100
617	210-220	.06	62.9	.01	.001			6.5	2.25	1.06			93
616	220-230	.12	73.6	.01	.000			6.7	2.25	1.55			94
615	230-240	.12	80.8	.01	.000			6.5	2.25	2.72			100
614	240-250	.14	56.3	.01	.000			6.6	2.28	3.27			99
613	250-260	.18	58.6	.01	.000			6.8	2.11	2.30			99
612	260-270	.22	90.7	.01	.000			6.8	2.20	2.21			100
611	270-280	.24	85.0	.01	.000			6.8	2.14	1.73			100
610	280-290	.30	84.5	.01	.000			6.7	2.24	1.65			96
609	290-300	.36	84.8	.01	.000			6.8	2.23	1.39			97

Hole: W-9

ASSAY TAG.	FOOTAGE	MAG. (x10⁻³ CGS)	R.QD	% Cu	% Mo	% Pb	% Zn	% Fe	% Co	% S	ppm Pt	ppm Au		% REC			
			% ≥ 4"														
608	300-310	.10	87.9	.00	.000			6.6	2.26	0.10				98.3			
607	310-320	.14	94.6	.00	.000			6.7	2.26	0.49				99			
606	320-330	.32	89.4	.00	.000			6.5	2.25	0.70				93			
605	330-340	.10	65.7	.01	.000			6.5	2.25	1.30				88			
604	340-350	.42	67.8	.01	.000			6.8	2.26	1.02				100			
603	350-360	.88	93.5	.01	.000			6.5	2.38	0.81				100			
602	360-370	.34	95.8	.01	.000			6.9	2.16	0.21				99			
601	370-380	.02	93.3	.01	.000			6.6	2.22	0.71				99			
600	380-390	.06	78.0	.01	.000			6.8	2.22	2.75				100			
599	390-400	.08	61.0	.01	.000			6.6	2.34	.72				100			
598	400-410	.08	87.0	.01	.000			7.0	2.22	.86				100			
597	410-420	.10	82.0	.01	.000			7.0	2.13	1.41				100			
596	420-430	.12	88.0	.01	.000			6.8	2.18	1.27				100			
595	430-440	.04	83.0	.00	.001			6.9	2.12	1.65				99			
594	440-450	.08	83.7	.02	.000			6.7	2.05	2.48				99			
593	450-460	.12	88.8	.01	.000			7.2	1.92	1.89				100			
592	460-470	.08	85.7	.01	.000			6.8	2.08	1.04				99			
591	470-480	.08	88.7	.01	.000			6.8	2.23	0.83				99			
590	480-490	.14	96.2	.01	.000			7.3	1.99	3.25				100			
589	490-496	.125	91.7	.01	0.000			6.6	2.18	3.68				100			

HOLE NO: W-10 | PROJECT: Island Copper | PAGE NO: 1 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: July 29, 1984 | REF. TO CLAIM CORNER:

COORDINATES: 17,991.9 N. 13604.2 E. 1576.5 | DATE FINISHED: August 2, 1984 | SCALE: 1"=10'

INCLINATION: -50° | BEARING: 198° | TOTAL DEPTH: 496' | LOGGED BY: G.L. Holland

COMMENTS: RQD = 55.7%

AVE CORE REC'Y / HOLE 91.4 %

SECTION	ALTERATION: silica	chlorite	epidote	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
0							0-17' overburden.							
17 feet							17-100 SILICIFIED BEDDED SEDIMENTS - strong bedding @ 60° to C.A.; thin beds of pale green, white, and dark grey; strong epidote alt'n on select beds. - frtng, moderate - filled w calcite and a bk limy material. Probably Parson's Bay. - Some of the beds are epid. alt'd. this is not a depositional feature but a fracture controled feature.							
20			strong				Brx'n towards CN.					20		<0.10
30			mod				irregular intrusive contact.					30		<0.10
40	strong		weak		pyrite		28-37 - Aplite Dyke - bleached white to pale green; contacts brecciated w str. epid. alt'n. Frtng weak. Aphanitic and extremely siliceous. Minor relic phenos present w some qtz eyes. Minor sulphs. on frts. - Contacts irregular intrusive 3cm cal. vn/t irregular intrusive contact Below the dyke the bedding is contorted. - 20°-60° to C.A. Minor disseminated pyrite within the epidote alt'd beds.	1%			NQ wireline	40		<0.10
50	weak	strong	moderate				The bk limy filled frts are only within the strongly epid alt'd beds and not the very siliceous beds 1cm cal vn. 50' - sharp decrease in epidote alt'n. Less pervasive and more selective towards bedding planes.					50		<0.10
60												60		

HOLE NO. W-10 | PROJECT: Island Copper | PAGE NO: 2 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

ALTERATION: silica — strong — weak; chlorite — strong — str.; epidote — weak — str.

FRACTURING: moderate

MINERAL: pyrite

GEOLOGY

COMMENTS:

AVE CORE REC'Y / HOLE

DESCRIPTIVE GEOLOGY

% SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE INTERVAL | % REC'Y. SAMP. INT. | ESTIMATED % Cu.

60

Silicified Bedded Sediments cont.

1cm py vn.

* Frts healed ω calcite.

Brxx zone.

ESTIMATED % Cu: <0.10

70

Bedding is less contorted.
40° to 60° to C.A.
- thin bedding

2cm cal. vn

4cm py-epid rich bed.

ESTIMATED % Cu: <0.10

80

84-88 weakly devel. mottled texture ω the epid.

% SULPHIDES: 1%

ESTIMATED % Cu: <0.10

90

ESTIMATED % Cu: <0.10

100

100

100-206 CONTACT ZONE OF SEDIMENTS AND Q.F.P.

100-115 - strong chlorite ω up to 10% py noted.
Brecciation noted

- Contact @ 10° to C.A. This zone is an mix of steeply dipping siliceous seds that are often brecciated and a Q.F.P. strong epidote alt'n is present throughout

Q.F.P. - 40% fsp phenos ⊕ ser. (3mm in size)
- minor qtz eyes present
- siliceous matrix.

strong chl ± py rich breccia

% SULPHIDES: 10-12%

ESTIMATED % Cu: <0.10

110

115 - Increase in epidote.

* Mostly seds throughout this zone.

% SULPHIDES: 1%

ESTIMATED % Cu: <0.10

120

CORE SIZE: NQ wireline

HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 3 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

ALTERATION: silica, chlorite, epidote | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE INTERVAL | % REC'Y. SAMP. INT. | ESTIMATED % Cu

SECTION

DESCRIPTIVE GEOLOGY

Contact Zone of Sediments and Q.F.P.

* QFP matrix strongly epidote alt'd. Minor sections of lesser alt'n where the typical QFP texture is apparent.

* V. weak chlorite alt'n around fractures.

* Fractures contain bk limy material and/or pyrite. Definite increase in frt py than above the contact.

Contacts and bedding @ 10° to 15° to C.A.
- appear to be drilling along the contact.

120 | 130 | 140 | 150 | 160 | 170 | 180

strong | v. weak | strong | moderate

mod | str.

pyrite

chl rich shear @ 10° to C.A.

1cm shear zone.

Breccia

1 %

N/Q wire line

<0.10 | 130 | <0.10 | 140 | <0.10 | 150 | <0.10 | 160 | <0.10 | 170 | <0.10

180-194 - V weak epidote alt'n.

HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 4 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

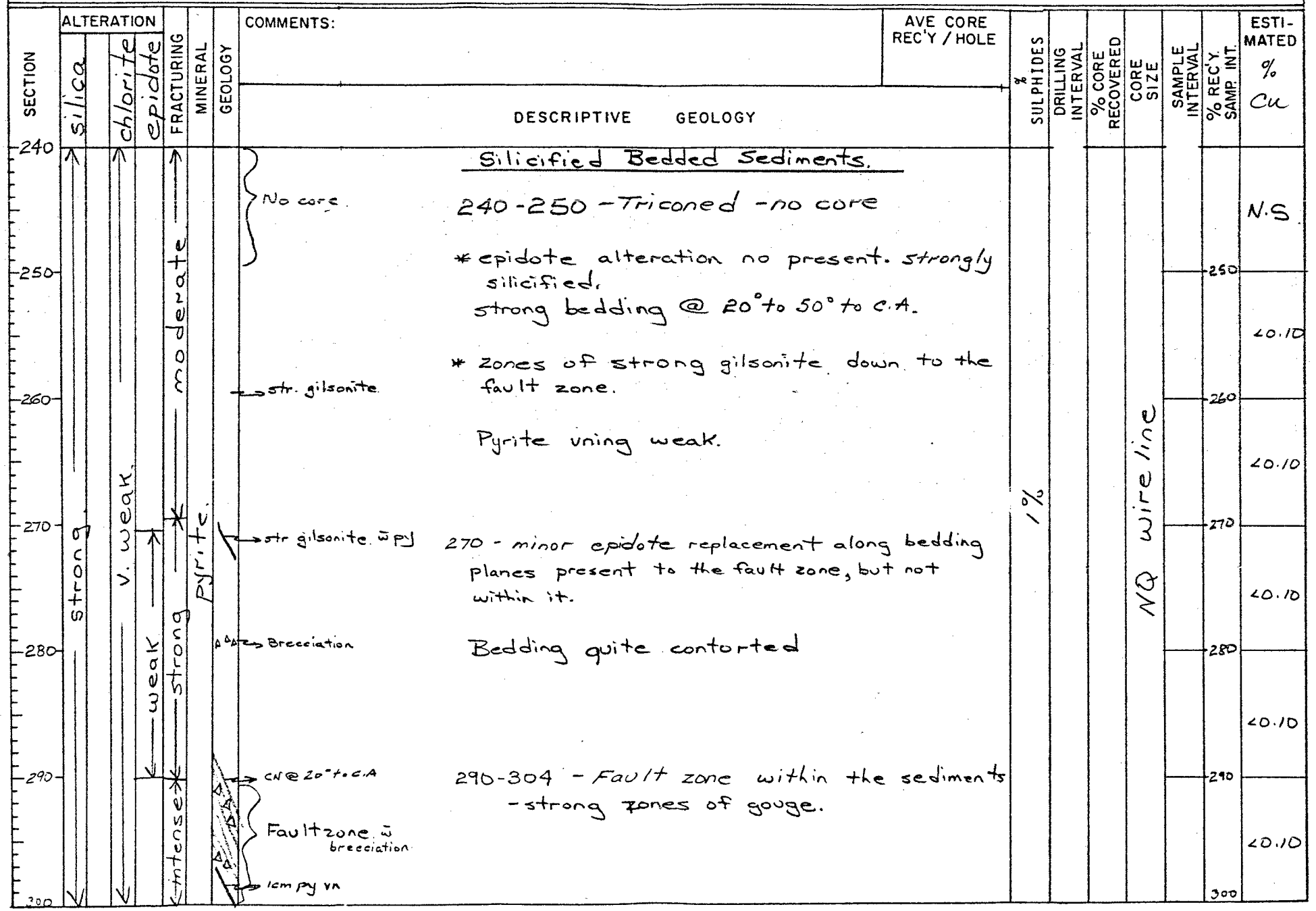
SECTION	ALTERATION: silica	ALTERATION: chlorite	ALTERATION: epidote	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
180	strong						Contact Zone of Sediments and QFP.							180	
							180-195 - Zone of bleaching w gilsonite present.		1%						<0.10
190														190	
							194-206 Zone of Strong chlorite ± pyrite								<0.10
		strong		strong			* QFP presence is bounded above and below by the strong chlorite-pyrite zones		15%						
200						str py vning								200	
							last sign of QFP.								<0.10
							206								
			weak		pyrite		SILICIFIED BEDDED SEDIMENTS - thin beds of white-pale green-dk green colors - epidote replacement along bedding planes present - frts contain gilsonite. - numerous py vns. - qtz-cal vning common. - seds strongly silicified.					NQ wireline.			
210						str gilsonite.								210	
						lcm py vn.									<0.10
						str. gilsonite.									
	strong						Bedding consistant @ 35° to C.A.		1%						
220														220	
															<0.10
230				moderate		str. cal vning								230	
							233-250 Fault Zone - a lot of gouge.								<0.10.
				intense			Tri coned from 240 to 250 because of rod squeezing & No core.								
240														240	

HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 5 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

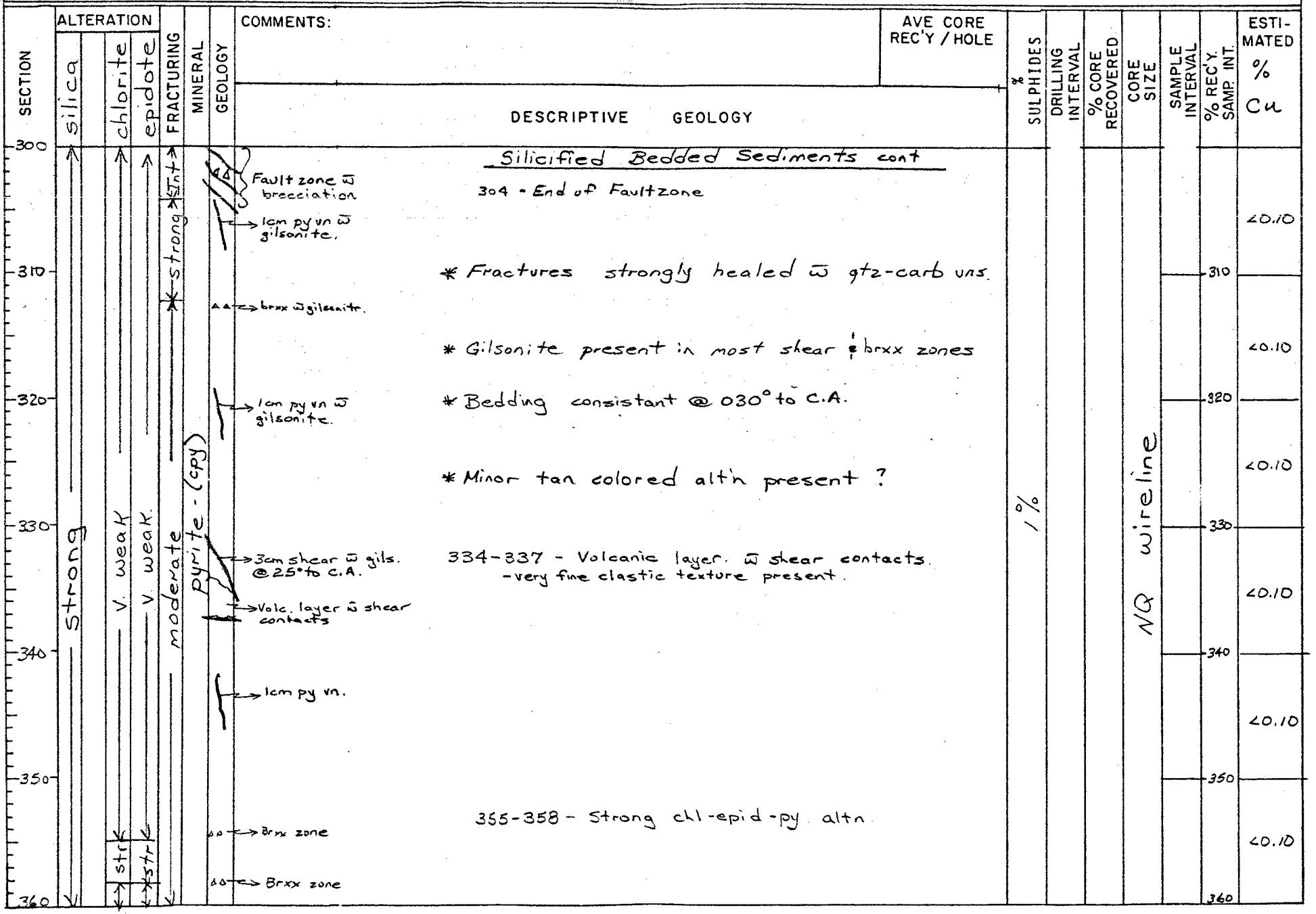


HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 6 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:



HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 7 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

ALTERATION: silica, chlorite, epidote | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE INTERVAL | % REC'Y. SAMP. INT. | ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

SILICIFIED BEDDED SEDIMENTS cont

360 — strong silica; weak chlorite; weak epidote; moderate fracturing; pyrite - (cpy)

Shear zone w/ brecciation.

Bedding @ 20° to c.A.

370

Str qtz-carb zone.

Qtz-carb vning getting stronger.

4cm gouge zone w/ qtz-carb + py.

376 - Bedding present but often indistinct.

380

2cm qtz-carb vn. w/ py.

* Patchy brnish to tan coloring in the core

1%

390

Bedding @ 20° to c.A.

4cm qtz-carb vn.

401-404 - Str pyrite - 15%.
- intensely silicified zone

400

2cm qtz-carb w/ gils.

410

412-416 - Strong pyrite - 13-16%
w/ 0.3% cpy. - intense silicification

strong

420

NQ wireline

ESTIMATED % Cu: <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10

HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 8 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

ALTERATION: silica, chlorite, epidote | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE INTERVAL | % REC'Y. SAMP. INT. | ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

Silicified Bedded Sediments cont.

Bedding @ 20° to C.A. - often silification has obscured the bedding

455 - 470 - Minor, thin sections of QFP ∞ no distinct contacts.

Stronger bedding than above @ 20° to C.A

silica: strong

chlorite: weak

epidote: v. weak

FRACTURING: moderate

MINERAL: Pyrite - (cPy)

GEOLOGY:
- 1cm py vnlt.
- 2cm gil. zone.
- 2x4cm cal vns.
- 15cm. healed shear zone.
- 2cm py-chl vn.
- Zone of brxx'n.
- 3cm brxx
- 1cm py vn.

% SULPHIDES: 1%

CORE SIZE: NQ wireline

ESTIMATED % Cu: <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10

420 430 440 450 460 470 480

HOLE NO. W-10 | PROJECT: I.C. | PAGE NO: 9 OF 9

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED: | REF. TO CLAIM CORNER:

COORDINATES: N. E. | DATE FINISHED: | SCALE:

INCLINATION: | BEARING: | TOTAL DEPTH: | LOGGED BY:

SECTION	ALTERATION: silica	chlorite	epidote	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
480	strong	weak	v. weak	moderate	Pyrite		DESCRIPTIVE GEOLOGY								
							SILICIFIED BEDDED SEDIMENTS cont.								
							Strong bedding @ 20° to C.A.		1%			NQ wireline			<0.10
490							1cm py unit							490	
							2cm shear zone.								<0.10
							496' End of Hole.								

Hole: W-10

XD -3 CGS

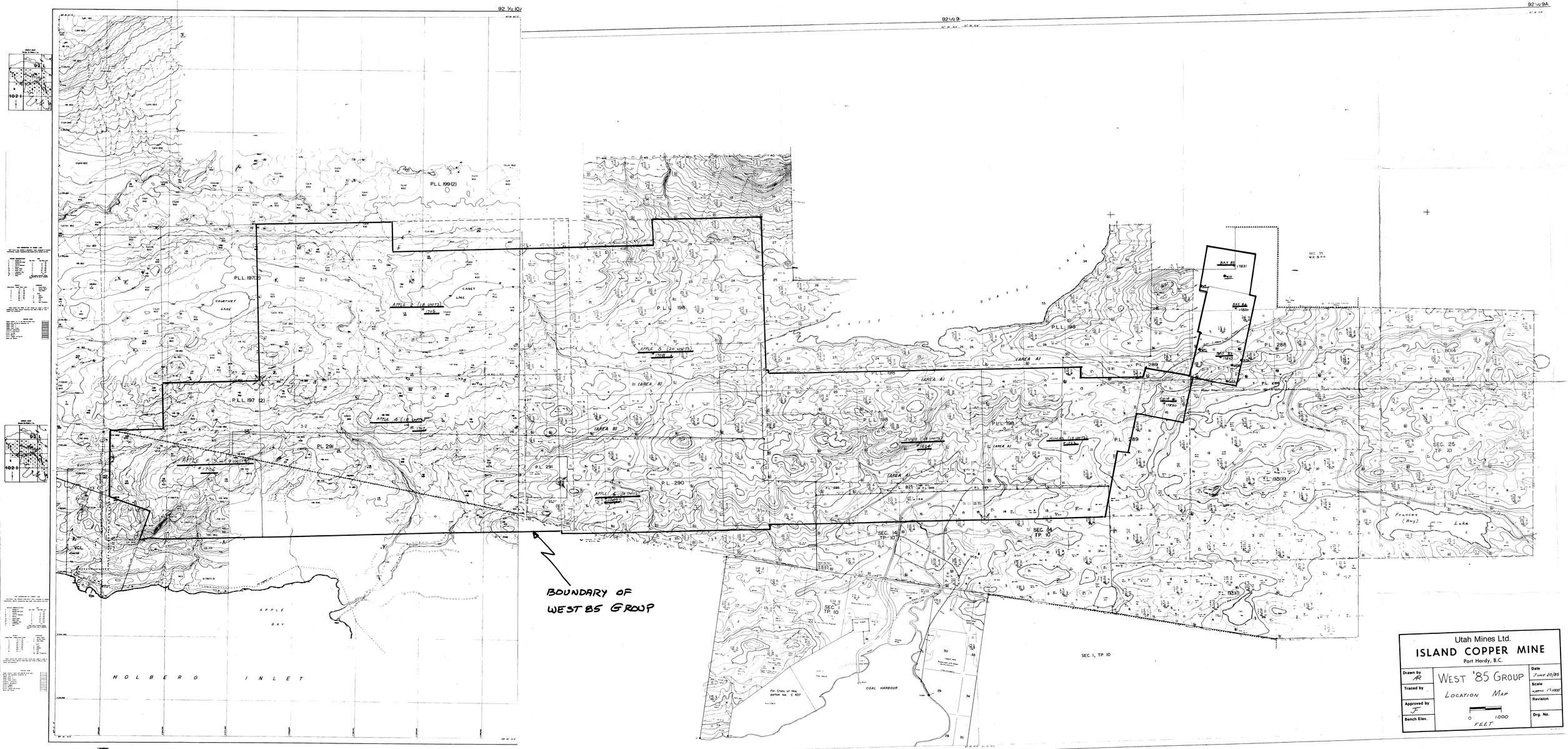
% ≥4"

ASSAY TAG.	Footage	MAG.	R.QD	% Cu	% Mo	% Pb	% Zn	% Fe	% Ca	% S	ppm Au	ppm Ag		% REC.			
overburden	0-17	—	—														
588	17-20	.15	52.1	.000	.002			5.3	2.60	0.76				81			
578	20-30	.20	61.9	.01	.001			5.9	2.44	2.86				89			
587	30-40	.36	37.3.	.02	.000			5.5	2.55	1.98				81			
586	40-50	.52	45.2	.01	.001			6.9	2.24	7.76				97			
585	50-60	.06	35.8	.03	.001			6.1	2.36	9.90				97			
584	60-70	.14	32.0	.01	.001			5.2	2.61	7.38				88			
583	70-80	.12	53.0	.01	.001			5.0	2.62	6.45				90			
582	80-90	.10	46.4	.01	.001			6.7	2.33	8.85				97			
581	90-100	.14	46.9	.01	.001			6.6	2.28	6.24				96			
580	100-110	.08	69.6	.01	.001			8.7	1.92	12.08				91			
579	110-120	.14	32.4	.01	.001			7.0	2.15	7.55				96			
577	120-130	.26	61.7	.01	.001			7.0	2.25	8.96				98			
576	130-140	.06	55.4	.01	.001			5.9	2.44	7.20				90			
575	140-150	0.0	44.8	.01	.001			6.8	2.33	7.87				78			
574	150-160	.02	57.2	.01	.001			5.9	2.47	6.86				88			
573	160-170	.14	68.8	.01	.001			7.0	2.30	9.26				94			
572	170-180	.04	54.7	.01	.002			7.1	2.27	8.05				92			
571	180-190	0.0	19.1	.01	.001			5.4	2.50	7.96				90			
570	190-200	.08	34.2	.01	.001			7.1	2.23	9.61				95			
569	200-210	.06	69.2	.02	.001			6.6	2.36	10.91				98			
568	210-220	.06	82.5	.02	.001			5.0	2.52	6.23				100			
567	220-230	.12	59.6	.02	.001			4.4	2.65	4.21				91			
566	230-240	.04	22.9	.02	<.001			5.3	2.45	5.33				58			
	240-250	0.0	∅											0			
565	250-260	0.0	62.9	.03	.002			5.6	1.56	5.71				82			
564	260-270	0.0	91.3	.03	.002			5.3	1.45	4.57				100			
563	270-280	0.0	85.4	.03	<.001			5.4	2.42	6.27				100			
562	280-290	0.0	50.8	.03	<.001			5.0	2.47	5.10				100			

HOLE # CV-10

XRD 3 CGS d's 4"

ASSAY TAG.	FOOTAGE	MAG.	R.QD	%Cu	%Mo	%Pb	%Zn	%Fe	%Co	%S	ppm Pt	ppm Ag		% REC			
561	290-300	0.0	22.0	.03	.003			4.5	2.76	4.43				70			
560	300-310	.02	74.3	.03	.004			4.9	2.22	4.19				91			
559	310-320	.06	82.1	.05	.001			5.6	1.76	6.18				98			
558	320-330	.08	57.1	.03	<.001			5.6	1.89	6.13				98			
557	330-340	.12	57.9	.03	<.001			5.5	2.35	7.28				98			
556	340-350	.16	68.8	.03	<.001			5.8	1.56	6.84				92			
555	350-360	.10	69.6	.03	<.001			6.1	1.98	6.28				96			
554	360-370	.08	65.0	.05	.002			5.3	1.95	4.88				100			
553	370-380	0.0	63.3	.05	<.001			5.8	2.02	7.66				96			
552	380-390	0.0	66.6	.03	<.001			5.7	2.29	6.70				98			
551	390-400	0.0	43.2	.03	<.001			5.6	1.93	5.52				98			
550	400-410	.04	58.8	.06	<.001			6.9	1.86	13.64				97			
549	410-420	.10	70.1	.08	<.001			7.3	1.68	16.13				98			
548	420-430	.10	75.5	.03	.003			5.4	2.24	4.50				98			
547	430-440	0.0	75.1	.03	.002			5.4	2.19	4.61				94			
546	440-450	.02	53.8	.04	<.001			5.5	2.11	5.11				100			
545	450-460	.02	47.8	.04	.001			5.6	2.17	4.98				105			
544	460-470	.06	73.2	.04	.004			5.3	2.04	4.94				95			
543	470-480	.08	60.0	.04	.002			5.3	2.29	5.81				99			
542	480-490	.08	66.8	.05	.001			5.4	2.31	6.43				100			
541	490-496	.075	59.0	.05	.002			5.3	2.21	4.95				100			



Utah Mines Ltd.

ISLAND COPPER MINE

Port Hardy, B.C.

Drawn by AK	WEST '85 GROUP	Date June 20/85
Traced by	LOCATION MAP	Scale approx. 1"=1000'
Approved by F	0 1000 FEET	Revision
Bench Elev.		Drg. No.

QUATSINO TREE FARM LICENCE 6

VANCOUVER ISLAND, B.C.

METRES

SCALE 1:

RECTANGULAR GRID VALUES ARE IN FEET

CONTOUR INTERVAL 25 FEET

QUATSINO TREE FARM LICENCE NO. 6

VANCOUVER ISLAND B.C.

CRUISE MAP

METRES

SCALE 1:

RECTANGULAR GRID VALUES ARE IN FEET

CONTOUR INTERVAL 25 FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,169

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,169

QUATSE

LAKE

W.L. 1246

COAL HARBOUR ROAD

WEST '85
AND - OUTCROP
WP-4 - PERC. HOLE
W9 - D.D. HOLE
SCALE 1" = 400'

0 100 200
METRES

N

5000 N

4000 N

3000 N

11000 E

12000 E

13000 E

14000 E

21+00 E

22+00 E

23+00 E

24+00 E

25+00 E

26+00 E

27+00 E

28+00 E

29+00 E

200 N

100 N

0

100 S

200 S

300 S

400 S

500 S

600 S

700 S

800 S

IN PHASE

OUT OF PHASE

+10% — +20%

0 — +10%

-10% — 0

34+00 E

35+00 E

36+00 E

0

100 S

200 S

300 S

400 S

500 S

600 S

700 S

IN PHASE

OUT OF PHASE

+10% — +30%

0 — +20%

-10% — +10%

CADWALLADER CREEK

13,617 PART OF 4

SURVEY FACING NORTHERLY

STATION : ANNAPOLIS MARYLAND

SCALE : 1" = 100 Ft.

VLF-EM ANOMALY (STRONG, MEDIUM, WEAK)

VLF-EM IN-PHASE PROFILE

VLF-EM OUT-OF-PHASE PROFILE

TO ACCOMPANY REPORT BY E.R. ROCKEL,
INTERPRETEX RESOURCES LTD.

MAP SCALE

100 0 100 200

FEET

NTS 92 J/15

REVISIONS	No	Date	MADE BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

DATE	DRAWN BY	CHECKED	APPROVED
FEB. 1985			

E & B Explorations Inc.

OFFICE	DEPARTMENT

BRALORNE PROJECT

VLF-EM PROFILES
51B FW AREA

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1" = 100 Ft.	283

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,617 PART 1 OF 4

SURVEY FACING NORTHERLY
STATION : ANNAPOLIS, MARYLAND
4 FIRST DERIVATIVE CONTOUR
SCALE : 1" = 100 Ft.

TO ACCOMPANY REPORT BY E.R.ROCKEL,
INTERPRETEX RESOURCES LTD.

MAP SCALE
100 0 100 200
FEET
NTS 92J/15

No	Date	MADE BY	DESCRIPTION
REVISIONS 1			
2			
3			
4			
5			

DATE	DRAWN BY	CHECKED	APPROVED
FEB. 1985			

E & B Explorations Inc.

OFFICE	DEPARTMENT

BRALORNE PROJECT
VLF - EM FIRST DERIVATIVE OF IN-PHASE VALUES
51 B FW AREA

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1" = 100 Ft.	4

ANNETTE FR.
L 5524

BLACKBIRD
L 1176

NELLIE FR.
L 458

MARY FR.
L 459

IDA MAY
L 457

AUDREY FR.
L 6954

EAGLE No. 1
L 5470

EXCHANGE FR.
L 673

EMPIRE FR.
L 5478

LITTLE JOE
L 539

EAGLE
L 5469

EAGLE FR.
L 5468

COUNTLESS
L 1177

SB84-41
SB84-33
SB84-43
SB84-44
SB84-30
SB84-42
SB84-22
SB84-49
SB84-25
SB84-28
SB84-20
SB84-40
SB84-27
SB84-38
SB84-26
SB84-36
SB84-47
SB84-45
SB84-48
SB84-34
SB84-24
SB84-17
SB84-18
SB84-19
SB84-23
SB84-21
SB84-32
SB84-29
SB84-46
SB84-35
SB84-37
SB84-39
SB84-31

Log Landing
Log Landing
EXISTING CAT ROAD
PROPOSED ROAD
WATER SUPPLY
TAYLOR VENT RAISE
TAYLOR PORTAL
UNDERGROUND WORKINGS
SURFACE PROJECTION

7000 N
6000 N
5000 N
4000 N
3000 N
2000 N
8000 E
9000 E
10000 E
11000 E
12000 E
13000 E
14000 E

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,617
PART 1 OF 4

LEGEND

- PROPOSED DRILL SITES
- PROPOSED ROAD CONSTRUCTION
- PROPOSED ROAD REHABILITATION

B3	C3	
B4	C4	D4
B5	C5	

MAP SCALE
200 0 200 400
N.T.S.

REVISIONS	No.	DATE	MADE BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

DATE	DRAWN BY	CHECKED	APPROVED
JULY	J.V.V		

E & B Explorations Inc.

OFFICE DEPARTMENT

BRALORNE PROJECT

1984 SURFACE DRILLING PROGRAM

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1" = 200'	3