REPORT ON DIAMOND DRILLING SUBMITTED FOR

ASSESSMENT WORK ON THE EAST GROUP OF

MINERAL CLAIMS

Mary, Snafu
Dog, Doo, Sun
Mars, Moon,
R2 to R4

Hole Locations	Latitude	50°	35½' N
	Longitude	127°	22 3/4' W
Mining Division	-		Nanaimo
N.T.S. Location	-		Map 92^{L}/11W 1:50000
Detailed Locations	-		About 2600 meters east of Rupert Inlet on and south of the W.F.P. Rupert Mainline Road.
Owners	-		Utah Mines Ltd.
Operator	-		Utah Mines Ltd.
Authors	-		J.A. Fleming and G.L. Holland
Date Submitted	-		August 10, 1984

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,768

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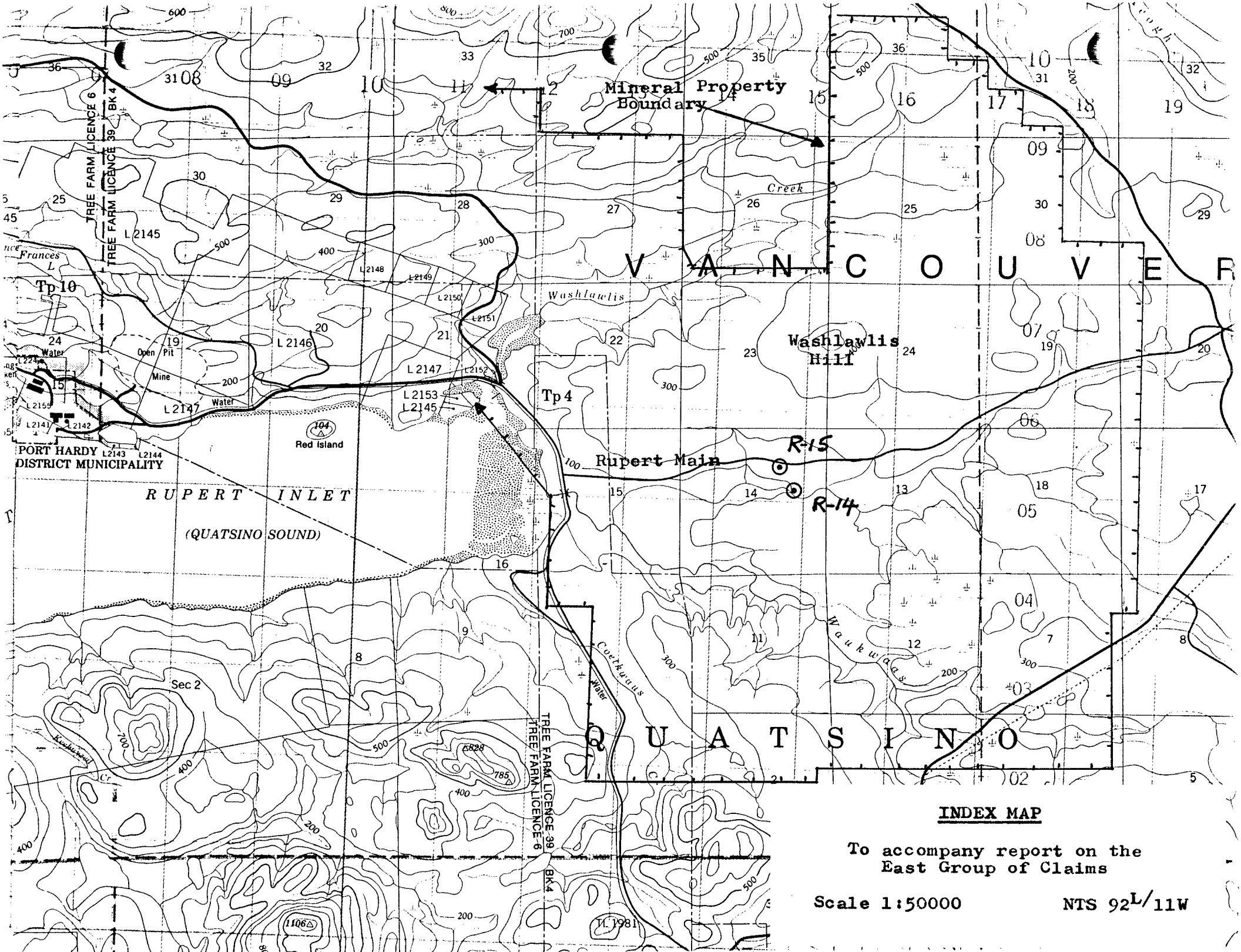


INDEX MAP

To accompany report on the East Group of Claims

Scale 1:50000 NTS 92L/11W

OBJECTIVE:

The holes (R-14 and R-15) were drilled on mineral claim Moon (#65). The holes are 6.1 km. east of the Island Copper pit. Lying to the east of the east margin of the Rupert monzonite porphyry stock they were drilled to test this zone for possible mineralization associated with the stock. The nearest known diamond drill hole is 300 meters to the east.

WORK PERFORMED:

1. Two holes were diamond drilled to NQ size between July 13th and July 17th, 1984. Total depth, 245.1 meters.

2. Located on Moon #65 mineral claim they are situated about 2600 meters east of Rupert Inlet on and south of the W.F.P. Rupert Mainline logging road.

3. Particulars of the holes are:

Hole	Inclination	Length	Collar Elev.	Collar Co-ordinates
R-14	-90°	118.0 m	17.2 m	1838.7N and 48768.6E
R-15	-90°	127.1 m	22.8 m	2796.5N and 48339.8E

The survey co-ordinate positions of the holes are based on that in use at the mine.

4. Drill core logs are attached to the report. All core logging was done by G.L. Holland, B.Sc., University of British Columbia, who is on Utah Exploration staff. All core is stored at the mine site.

5. An itemized Cost Statement is included in the report.

6. An Index Map (1:50000 NTS) and a detailed Claim Map, form part of the report and show the drill hole location and the position of the East Group of claims.

STATEMENT OF COSTS

FOR THE

EAST GROUP OF CLAIMS

CONTRACTORS' CHARGES

A. Diamond Drilling Contractor:

Overburden -		
50 feet @ $16.75	=	$ 837.50
Rock -		
784 feet @ $16.75	=	$13,132.00
Field Costs -		
Moving, setting up, water lines, set casing, etc.	=	1,285.18
Extra Charges -		
Mobilization Cost @ 20% of total charge for contract	=	340.00

B. Other Contractors

1) D-6 Cat and Operator -		
Move and prepare site - 10.0 hours @ $60.00	=	600.00
Standby Rate - 4 days @ $120.00	=	480.00
2) Lowbed and highboy trailers, tractor and operator - Move D-6 Cat and drill from sites - 6.0 hours @ $65.00	=	390.00

UTAH COSTS

1.	Core House Labour	=	400.00
2.	Geological Supervision	=	1,200.00
3.	Company Overhead @ 25% of labour + Supervision	=	400.00
4.	Core Boxes 44 @ $3.50 each	=	154.00
5.	Core storage 784 ft. @ $0.40	=	313.60
6.	Preparation of Report	=	300.00
7.	Survey of Holes	=	200.00
8.	Sample Preparation and Assays 76 @ $10.00	=	760.00
		Total:	$20,792.28

Total Footage Drilled - 834 feet (254.2 m)

Cost Per Foot Drilled $24.93 ($81.79/m)

RESULTS

1) Hole R-14

The hole intersected dark and pale green, medium grained, quartz, chlorite, sericite, magnetite ± epidote ± hematite altered, weakly to moderately fractured andesite tuff. The dark green tuff matrix is moderately to strongly altered to silica, magnetite and chlorite while the pale green tuff matrix is weakly altered to chlorite and sericite. Feldspar and mafic phenocrysts are partially altered to sericite and chlorite respectively.

The main fracture fillings are quartz, pyrite, calcite and magnetite. The pyrite content ranges from 1 to 4 percent in proportion to the fracture density. Minor chalcopyrite and molybdenite occur associated with shears and quartz veins, but copper and molybdenum assays are low.

Two strong fault zones occur from 29.9 m to 44.8 m and 61.3 m to 73.8 m at angles to the core axis of about 30° and 45° respectively. Both zones are characterized by sericite-clay rich gouge, strong pyrite veining with up to 8 percent pyrite, pyrophyllite altered breccia fragments and short sections of more competent andesite.

2) Hole R-15

Dark and pale green, medium grained andesite tuff was also intersected in this hole, but with sections of pale to dark green and pinkish quartz-feldspar porphyry to 32 m thick cutting the andesite. Contacts are generally sheared or brecciated. Chlorite and sericite alterations occur in the porphyry as well as the tuff. Silicification varies from weak to strong.

Thin (0.3 m - 1.0 m) feldspar porphyry dykes cutting the andesite are scattered through the core while a pink-orange quartz monzonite occurs near the top of the hole in contact with the tuff and quartz-feldspar porphyry, and at depth as breccia fragments mixed in with tuff and feldspar porphyry fragments.

Shears occur through the hole, commonly with strong pyrite veining. Strong faults occur at 22.3 m, 70.1 m and 86.9 m. The fracture density is moderate to strong with quartz, calcite, pyrite and zeolite as the main fracture fillings. A quartz-carbonate vein set is prominant and cuts an earlier quartz vein set. Pyrite occurs primarily as fracture fillings in amounts up to 3 percent. Minor chalcopyrite and molybdenite were noted as in R-14, but copper and molybdenum grades are all low.

CONCLUSIONS

The holes confirm the extension of the Rupert Stock dyke system east from an earlier hole (R-13). Although many of the elements of a porphyry system are present, it is apparent that the copper and molybdenum components are not present in economic quantities. The present holes have tested the dyke and south side of the dyke. The north side is untested in this area, and although it would appear unlikely to host an orebody, the possibility should not be overlooked.

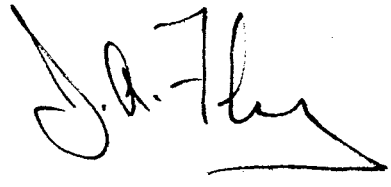
STATEMENT OF QUALIFICATIONS

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., (Majors 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. R-14
CASING COLLAR ELEV.: 1056.4 (SEA LEVEL = 1000') GROUND ELEV.:
COORDINATES: 1838.7 N. 48768.6 E.
INCLINATION: -90 BEARING: —

PROJECT: Island Copper
DATE STARTED: July 13, 1984
DATE FINISHED: July 15, 1984
TOTAL DEPTH: 417 feet

PAGE NO: 1 OF 7
REF. TO CLAIM CORNER:
SCALE: 1" = 10'
LOGGED BY: G. L. Holland

COMMENTS: Legend
→ qtz-carb vnlts
→ qtz vnlt.
→ Py
Mineralization
Magnetite
Chlorite

* General comment
CN - Contact
CA - core axis
H/L - Hairline

AVE CORE REC'Y / HOLE 97.3%

SECTION	ALTERATION: Silica	ALTERATION: Sericite	ALTERATION: Chlorite	ALTERATION: Magnetite	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP INT.	ESTIMATED % Cu
0								0-1 Stick-Up							
								1-20 Overburden.							
								Casing left in hole							
20	moderate to strong	weak (phenos)	weak	weak to moderate	strong	pyrite		20'	3%			N.Q. wireline	Sample Tag No. 38330		< 0.10%
								20-98 MEDIUM GRAINED ANDESITE TUFF					38331		
								Dark green to pale green colored, fine grained matrix w 15-30% 3mm feldspar and mafic phenos. Color variations are due to alt'n. An average of 5% pyrite w 3-5% in the darker green and <2% in the pale green rock. Up to 1% Py on frts, often in qtz-cal vnlts up to 1 cm in size. Minor hematitic staining around frts and vnlts. Minor qtz-carb vnlts that range up to 1cm in wide but average 4-6mm in size					38332		
								- dk green tuff - mod to str pervasive alt'n w minor silica rich salvages on frts, up to 1cm in width. Phenos often indistinct due to alt'n					38333		
								matrix - 75-80% altd to silica + mag ± chl.							
								Phenos - 20-25% - 20-25% fsp → ser							
								0-5% mafics → chl							
								- magnetite is weak to moderate							
								- pale green tuff - phenos are distinct, v. weak to non magnetic							
								matrix - 60-70%, weakly alt'd to ser-chl.							
								phenos - 30-40% fsp → ser							
								mafics → chl.							
								- 80% dk green Tuff and 20% pale green tuff.							
								- weakly developed (2mm) qtz s/w present							
								* Minor epidote alt'n present in localized zones							
60															

2cm qtz-cal-py vnlt.
1cm qtz-cal vnlt.
5cm zone of str py-mag vns
1-2 qtz vnlt.
2cm qtz-cal w py vnlt.

HOLE NO. R-14 | PROJECT: I.C. | PAGE NO: 2 OF 7

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 | Sericite | Chlorite | Magnetite | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y / HOLE

DESCRIPTIVE GEOLOGY

% SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE TAG NO | % REC'Y. SAMP. INT. | ESTIMATED % Cu

SECTION: 60 | 70 | 80 | 90 | 100 | 110 | 120

Silica: mod-str | strong | mod

Sericite: weak (phenos) | intense

Chlorite: weak

Magnetite: wk - mod | mod-strong | weak

FRACTURING: str | mod-str | v. str | intense

MINERAL: py - (cpy)

GEOLOGY:
- 1cm qtz-carb vn/t. in a small shear zone
- str qtz-cal s/w
- 2x1cm qtz vn/t
- 1cm py vn/t @ 70° to C.A
- 2cm qtz vn/t.
- Fault zone @ 45° to C.A
- Fault zone @ 30° to C.A
- str qtz-cal on frts

Medium Grained Andesite Tuff con't.
as sheet #1

70% dark green tuff, 30% pale green tuff

* Altn in the dark green tuff is getting stronger towards the fault zone. Strong silicification, moderate to strong magnetite.
* weak qtz-cal along frts
* Minor patches of epidote.

91-92 - Fault zone w mod to strong sericite cementing

93-105 - Very strong qtz-cal frt filling and vn/ts. Pink hemetitic stain present

98-147 - Fault zone in the Tuffs
- weak to mod sericite cementing w numerous gouge zones.
- 30-50% rounded Tuff frags in the soft matrix
- sharp increase in py within the fault w sections up to 8% sulphides. Py is in the gougy matrix and as vn/ts, up to 2cm in size
- zones of pyrophyllite brxx within the fault.

* Minor, short (1-3 feet) sections of competent tuff within the fault. The tuffs are the dk green mag-silica rich tuff.

% SULPHIDES: 3-4% | 4-8%

CORE SIZE: NQ wireline

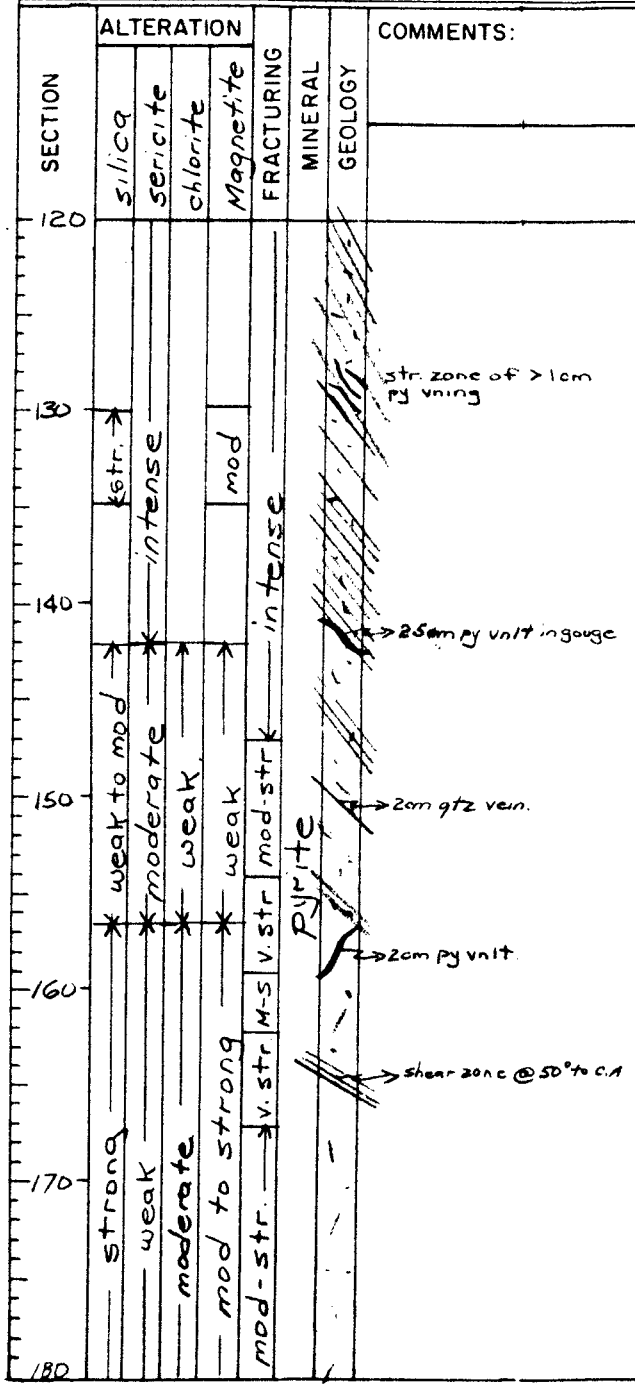
SAMPLE TAG NO	% REC'Y. SAMP. INT.	ESTIMATED % Cu
38334	70	<0.10
38335	80	<0.10
38336	90	<0.10
38337	100	<0.10
38338	110	<0.10
38339		<0.10

HOLE NO. R-14 | PROJECT: I.C. | PAGE NO: 3 OF 7

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

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

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



COMMENTS:

AVE CORE REC'Y / HOLE

DESCRIPTIVE GEOLOGY

FAULT ZONE within MED. GRN'D ANDESITE TUFF

* weak to mod cementing ω sericite

130-132 - DK green tuff ω str silic & mod mag alt'n

130-135 - Rock is more competent than before - less gouge

* Continues to be pyrophyllite frags within the gouge

142.0 - End of gouge, frts are qtz-cal healed.

142-156.5 - Tuff is largely the pale green ω minor sections of the stronger alt'd dk green tuff

* Hemetitic staining on frts and in the qtz-cal.

156.5 - DK green, strongly silicified-magnetite alt'd Tuff becomes prominant. Up to 50% large chlorite-mag alt'd mafic phenos or clots in the matrix. A minor amount of fsp phenos noted but it is probable they are destroyed by the alt'n. (description is for both alt'n phases)

60% dk green Tuff 40% pale green Tuff.

< 2% sulphides, mainly on frts

- alt'n strong

168.2 - sharp decrease in qtz-cal.

% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE NO INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED % Cu
4-8%			N.Q wireline	38340	150	<0.10
				38341		<0.10
				38342	150	<0.10
				38343		<0.10
2%				38344	160	<0.10
				38345	170	<0.10

HOLE NO. R-14 | PROJECT: I.C. | PAGE NO: 4 OF 7

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, Sericite, Chlorite, Magnetite | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE TAG INTERVAL No | % REC'Y. SAMP. INT | ESTIMATED % Cu

SECTION

180

DESCRIPTIVE GEOLOGY

MEDIUM GRAINED ANDESITE TUFF cont.

- dark and pale green matrix tuff ẅ dk green chl-mag rich clots or phenos

* Weak qtz-cal vning

* Weak hemetite staining on the frts & vnlts

201-242 Fault zone in the Tuffs. Strong sericite-clay rich gouge. Weak to moderately cemented. The tuff is primarily a pale green, sericite rich tuff ẅ hem staining and minor pyrophyllite. Minor dk grey, siliceous tuff is also present. Strong increase in sulph within the fault 3-7% py ẅ minor MoS_2 on frts.
- strong py vning at the upper contact
- very minor qtz-carb vning ẅ pyrite.

* Small 1-4foot zones of weak gouging present throught the fault zone. Those sections are strly frtd but healed ẅ py or qtz-carb vnlts

* The heart of the fault is 201-213 ẅ numerous smaller gouge zones below. There is more gouge than competent rock so the entire zone is described as a Fault zone.
- py content much stronger in and around the gouge zones.

2x1cm py vnlts

4cm shear zone @ 45° to C.A

1m shear @ 55° to C.A.

Gouge zone @ 45° to C.A

15cm qtz vnlt ẅ minor MoS_2 and py

Fault CN @ 45° to C.A

Str py vning @ CN

2cm qtz vn in Fault

minor MoS_2 in 2cm qtz vn

2cm py vnlt

4cm qtz vn ẅ minor MoS_2

Zone of str. py vning

3cm qtz vn ẅ py.

Zone of str. py vning

15cm qtz vnlt

FRACTURING: M-S, V str, Int, Str

MINERAL: intense pyrite-(MoS_2)-(cpy)

ALTERATION: strong, v. weak, moderate to strong, weak, mod to str., weak to moderate, moderate, weak

% SULPHIDES: 2%, 3-7%

DRILLING INTERVAL

% CORE RECOVERED

CORE SIZE: NQ wireline

SAMPLE TAG INTERVAL No	% REC'Y. SAMP. INT	ESTIMATED % Cu
180		
38346		<0.10
190		
38347		<0.10
200		
38348		<0.10
210		
38349		<0.10
220		
38350		<0.10
230		
49745		<0.10
240		

HOLE NO. R-14 | PROJECT: I.C. | PAGE NO: 5 OF 7

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, sericite, chlorite, magnetite | 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

SECTION 240

Medium Grained Andesite Tuff cont

242 - End of gouge in the Fault.

242-330.5 Predominantly grass green colored Tuff w 20-25% sections of the stronger alt'd dark green tuff. Mod frting away from the fault zone. Alt'n appears a bit stronger than above the fault zone. Only minor hematite stain around qtz-carb vnlts. Phenos alt'd to sericite ± chlorite. General alt'n is pervasive chlorite ± sericite w sericite rich selvages up to 1cm around 90% of the frts. <1% diss pyrite and 1% py on frts. Weak magnetite throughout.

254-257 - Gouge zone - mod cemented

* MoS_2 and cpy not noted below the fault zone @ 242'

265-271 - Zone of str py vning

* Sulphide content in proportion to fracture density.

* frts are healed w qtz-carb and/or pyrite.

End of Fault

2cm py vnlt

1.5cm qtz-carb vnlt

Gouge zone @ 40° to C.A.

10cm gouge zone

str 1% py vning

2cm qtz-carb vnlt

5cm qtz-carb vnlt w MoS_2

3cm qtz-carb vnlt w Py

1.5cm py vnlt.

Alteration: weak; moderate; moderate to strong; weak; moderate

Fracturing: strong; moderate

Mineral: Pyrite - (MoS_2) - (cpy)

% Sulphides: 2-4%; 1-2%

% Core Recovered: NQ wireline

SAMPLE # INTERVAL	% REC'Y. SAMP. INT	ESTIMATED % Cu
49746		<0.10
49747		<0.10
49748		<0.10
49749		<0.10
49750		<0.10
001		<0.10

240 250 260 270 280 290 300

HOLE NO. R-14 | PROJECT: I.C. | PAGE NO: 6 OF 7

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 | sericite | chlorite | magnetite

FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE TAG INTERVAL No | % REC'Y. SAMP. INT. | ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

SECTION

300

2cm qtz-carb vnlt

3cm qtz vnlt

MEDIUM GRAINED ANDESITE TUFF cont.

@ 308 - silicification of the matrix increases. It appears to replace the sericite sericite envelopes disappear as well chlorite still replaces the phenos and minor zones of pervasive chlorite are present

310

shear zone @ 35° to C.A

310-312 - Weakly cemented shear zone ω gouge

1cm py vnlt

A decrease in magnetite is associated ω the alt'n change @ 308

320

3cm shear @ 30° to C.A

* Qtz vnlts are increasing and qtz-cal vnlts decreasing with depth.

10cm qtz vnlt ω py

3cm ser. gouge zone.

* Fracturing is moderate, except around the shear zones where it ranges from strong to intense

330

1.5cm qtz vnlt ω py

20cm gouge ω qtz

2%

335-340 - Shear zone ω weak cementing

340

shear zone ω gouge

* Sulphides increase in the shear zones, up to 4-5%
- mainly py ω minor cpy ± MoS_2
- py is 90% confined to frits ± qtz vnlts

Zone of shearing MoS_2 ± cpy in the shears.

350

3cm qtz vnlt ω py

2cm shear zone.

356-357 - Formational Brxx ω MoS_2 in the matrix and cutting the fragments. Bounded by a py-qtz vnlt. Poss minor galena

Formational Brxx

360

moderate to strong — weak — moderate — V. weak — moderate

Pyrite - cpy - MoS_2

NQ wireline.

SAMPLE TAG INTERVAL No	% REC'Y. SAMP. INT.	ESTIMATED % Cu
002	310	<0.10
003	320	<0.10
004	330	<0.10
005	340	<0.10
006	350	<0.10
007		<0.10

HOLE NO. R-14 | PROJECT: I.C. | PAGE NO: 7 OF 7

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, sericite, chlorite, magnetite | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y / HOLE | % SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE INTERVAL NO | % REC'Y. SAMP. INT. | ESTIMATED % Cu

SECTION

DESCRIPTIVE GEOLOGY

MEDIUM GRAINED ANDESITE TUFF cont

Below the Formational Brxx @ 357' the tuffs take on a much paler color.

- tan to pale green ω numerous large (2cm) rounded chlorite clots. Due to an increase in silica alt'n. The chlorite is generally confined to the clots but minor sections of pervasiveness are present. An increase in diss py - 2%, frt controlled ~ 1%, magnetite disappears.

* Minor MoS_2 ? cpy associated ω the shears and qtz vnlts.

* frts are qtz healed

* Chlorite clots contain strong pyrite

410-412 - Weakly devel banding present @ 40° to CA.

411 - 1st sign of H/L mag vnlts.

417' E.O.H.

Section	Alteration	Fracturing	Mineral	Geology
360	strong silica, moderate sericite, moderate chlorite, weak magnetite	moderate	Pyrite (cpy) (MoS_2)	1cm gouge zone
370				1cm gouge zone; 1cm qtz-carb vnlt; 15cm shear zone ω gouge + qtz
380				4cm qtz vnlt ω MoS_2
390				strly cemented shear ω py.
400				
410				2cm gouge zone.
417				

Sample Interval No	% Rec'y. Samp. Int.	Estimated % Cu
008		<0.10
009		<0.10
010		<0.10
011		<0.10
012		<0.10
013		<0.10

% Sulphides: 3-4%

% Core Recovered: NQ wireline

HOLE R-14 ASSAYS

TAG #	FROM (FT.)	TO (FT.)	% Cu	% Mo	
38330	20	30	0.01	0.001	
31	30	40	0.01	0.001	
32	40	50	0.01	0.001	
33	50	60	0.01	0.001	
34	60	70	0.01	0.001	
35	70	80	0.01	0.001	
36	80	90	0.01	0.001	
37	90	100	0.01	0.001	
38	100	110	0.01	0.001	
39	110	120	0.01	0.001	
40	120	130	0.01	0.001	
41	130	140	0.01	0.001	
42	140	150	0.01	0.001	
43	150	160	0.01	0.001	
44	160	170	0.01	0.001	
45	170	180	0.01	0.001	
46	180	190	0.01	0.001	
47	190	200	0.01	0.017	
48	200	210	0.01	0.001	
49	210	220	0.01	0.023	
50	220	230	0.02	0.004	
49745	230	240	0.03	0.005	
46	240	250	0.04	0.002	
47	250	260	0.03	0.002	
48	260	270	0.02	0.001	
49	270	280	0.02	0.001	
50	280	290	0.02	0.002	
001	290	300	0.02	0.001	
2	300	310	0.03	0.001	
3	310	320	0.01	0.001	
4	320	330	0.02	0.001	
5	330	340	0.08	0.001	
6	340	350	0.10	0.087	
7	350	360	0.12	0.033	
8	360	370	0.14	0.025	
9	370	380	0.08	0.004	

HOLE R-14 ASSAYS

TAG #	FROM (FT.)	TO (FT.)	% Cu	% Mo	
010	380	390	0.06	0.003	
011	390	400	0.03	0.001	
012	400	410	0.05	0.001	
013	410	417	0.06	0.001	

E NO. R-15 (SEA LEVEL = 1000')
CASING COLLAR ELEV.: GROUND ELEV.: 1074.9'
COORDINATES: 2796.5' N. 48 339.8' E.
INCLINATION: −90° BEARING:

PROJECT: Island Copper
DATE STARTED: July 15, 1984
DATE FINISHED: July 17, 1984
TOTAL DEPTH: 387'

PAGE NO: 1 OF 7
REF. TO CLAIM CORNER:
SCALE: 1" : 10'
LOGGED BY: G.L. Holland

ALTERATION: silica | sericite | chlorite | clay
FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y / HOLE 95.1 %

DESCRIPTIVE GEOLOGY

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

0-1 Stick-Up

1-28 Overburden.

Casing removed from hole.

28

28-30 Casing in bedrock

30

MEDIUM GRAINED ANDESITE TUFF
- 30% euhedral fsp phenos (4-5mm) in a fg Matrix. Mod chl ± ser alt'n of matrix, ser alt'n of phenos, 1% py on frts; frts healed ω qtz-carb;

2cm qtz vnlt

Irregular intrusive contact ω wk chills

33

Quartz Monzonite
- minor, small FP dykes cut the Monzonite
- Monzonite - 80% (3-7mm) phenos in a finer grained matrix; strong pink-orange stain obscures textures; py on frts and in chl alt'd phenos; alt'n weak - fsp ± clay ± mafics → chl.; some frts show slip movement; frts well healed ω qtz and/or pys non-magnetic

badly broken up at contact

39

Quartz-Feldspar Porphyry
- pale green to dark grey color
- alt'n ranges from strong to very strong ω the phenos often completely destroyed. Ghost phenos often noted in the stronger alt'd sections
- roughly 20-30% phenos - 5-10% mafics → chl. minor qtz phenos
  20-25% fsp → ser.
  matrix - completely alt'd → silica ± ser.
- frting strong - healed ω silica and qtz-carb vnlts.
- qtz-carb vnlts has pinkish stain → hematite ?
- weakly devel qtz s/w.
- weak to mod magnetic response.

3cm gouge @ 70° to c.A

2cm qtz vnlt // s gouges

3cm gouge @ 30° to c.A

4cm gouge @ 30° to c.A

* Rock badly fractured from surface to 61 feet.

1 %

N.Q wireline

Assay Tag Numbers	% REC'Y SAMP INT	ESTIMATED % Cu
014		<0.10
015		<0.10
016		<0.10

0 10 20 30 40 50 60

strong — moderate to weak — weak — strong — pyrite

HOLE NO. R-15 | PROJECT: Island Copper | PAGE NO: 2 OF 7

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; sericite — moderate / weak; chlorite — weak / moderate / strong

FRACTURING: strong

MINERAL: pyrite - (MoS_2)

GEOLOGY

COMMENTS:

AVE CORE REC'Y / HOLE

DESCRIPTIVE GEOLOGY

% SULPHIDES | DRILLING INTERVAL | % CORE RECOVERED | CORE SIZE | SAMPLE TAG RECORD No | % REC'Y. SAMP. INT | ESTIMATED % Cu

NQ wireline

60

5cm gouge zone ẅ qtz

FELDSPAR PORPHYRY cont.

* Weakly developed silica rich selvages around numerous pyrite vnlts. (up to 4mm in width)

4cm gouge zone @ 70° to C.A

69.5 - 70.0 - Weakly developed brecciation ẅ minor gouge.

70

2cm gouge ẅ py

72.5 - 85.0 - Moderate to strongly cemented fault zone in the FP ẅ minor Q.M. present. Often a breccia ẅ only minor gouge. Estimated at 60° to C.A.. A lot of qtz and qtz-carb healing of the frts. 1-2% diss py in gouged sections. Minor MoS_2 assoc ẅ the qtz-carb vning.

78.0 Mod-strly cemented fault zone ẅ minor MoS_2

75-78 (- Quartz Monzonite)

80

78.0 - 132 ANDESITE TUFF

78 - 103 - pale to grass green; medium grained; moderate chloritic alt'n, mod magnetite present, as disseminations; appears to be sericite ẅ the chlorite. Frts are healed ẅ qtz-cal.
- minor dark green siliceous sections.
- py confined to frts

4cm shear zone

str qtz s/w

90

F.P Dyke @ 30° to C.A

* Qtz-carb. vnlts contain zeolites

97 - 99.5 - F.P Dyke

F.P Dyke ẅ gouge contacts @ 45° to C.A

100

shear zone in the Tuffs.

99.5 - 103 - Shear zone ẅ weak to moderate cementing. Minor FP frags in the Tuffs.

103 - 132 - dark green, silicified tuff ẅ mod magnetite. Alt'n has destroyed any textures that may have been present. Pyrite confined to frts (2%) Grass green selvages, up to 0.5cm in width, are noted around frts.

6cm shear @ 20° to C.A

110

shear @ 45° to C.A

FP dyke bounded by shears

shear @ 30° to C.A

1cm py vnlt

112 - 113 - FP dyke ẅ strong py. Bounded by 45° shear @ top and 30° shear @ bottom

1cm qtz-carb vnlt ẅ mag

120

SECTION	% SULPHIDES	SAMPLE TAG RECORD No	% REC'Y. SAMP. INT	ESTIMATED % Cu
60	1%	017	70	<0.10
70	1-2%	018	80	<0.10
80	1-2%	019	90	<0.10
90	1-2%	020	100	<0.10
100	1-2%	021	110	<0.10
110	1-2%	022	120	<0.10
120				

HOLE NO. R-15 | PROJECT: I.C | PAGE NO: 3 OF 7

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	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE TAG INTERVAL No	% REC'Y. SAMP. INT.	ESTIMATED % Cu.
120	strong		weak to mod chlorite		pyrite		ANDESITE TUFF cont.	1-2%				023		<0.10%
							str qtz-carb vning							
							- as described on page 2							
130							sheer contact @ 85° to C.A.						130	
							132.0							
							Brec'n below contact w str py.					024		<0.10
							132-159 QUARTZ FELDSPAR PORPHYRY							
							- pale green matrix w 15-25% 4-5mm phenos. Phenos are mainly fsp > ser w minor qtz ± mafic > chl phenos. Weakly devel qtz s/w. 2% diss and frt controlled pyrite. Moderate carbonate veining ± qtz. ± zeolites							
140							str. py vning						140	
							- Upper + lower contacts are brecciated.							
							- alt'n is weakly developed							
							2cm qtz vnlt	2%				025		<0.10
150													150	
							1.5cm qtz vnlt.							
							strong qtz-cal vning extends down to 167.5 feet							
							- zeolites w the qtz-cal					026		<0.10
							Brecciated contact							
160							159.0 Brecciated Contact						160	
	weak to strong (patchy)	weak	moderate	moderate	pyrite		159-252.5 - ANDESITE TUFF							
							- grass to dark green.							
							- str. qtz-carb vning to 168 feet							
							- the grass green is non mag, mod chl ± ser alt'd							
							- the dk green is wkly mag, strong silica-chl alt'd.							
							- qtz s/w weakly developed.							
							- 80% frtures are healed w qtz ± qtz-carb; py							
							- Mag is both pervasive w the silica and as mafic replacement w the chlorite							
170							9cm qtz-carb vnlt.	2-3%				027	170	<0.10
							- 2-3% py as diss. and frt fills							
												028		<0.10
180														

N.Q wireline

HOLE NO. R-15 | PROJECT: I.C | PAGE NO: 4 OF 7

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 — moderate; Sericite — weak; Chlorite — moderate

FRACTURING: moderate; Intense

MINERAL: pyrite

GEOLOGY

COMMENTS:

DESCRIPTIVE GEOLOGY

ANDESITE TUFF cont

1cm qtz vnlt cut by 1cm qtz-carb vnlt

* Quartz-carbonate veins noted cutting quart veins

2x3cm qtz-carb vnlt ω Py @ 30° to C.A.

* Pyrite mainly fracture controlled.

str qtz-carb zone

195-198 - Strly frt'd zone ω intense qtz-carb ω hematitic staining - minor zeolites present

* Quartz-carbonate vning strong, qtz vning weak.

F.P. dyke @ 40° to C.A

205 - 15cm Feldspar Porphyry dyke

3cm gouge zone

F.P. dyke @ 40° to C.A

210-211 - F.P. dyke.

brxn ω tuff & Q.M frags str pyrite

218-223 - Strongly healed breccia zone ω frags of Quartz Monzonite and Andesite Tuff in a pyritic-chlorite rich matrix.

* Minor pyrite vnlts have 5-8mm wide silicous selvages.

223-230 Strong qtz-carb vning in the tuffs

Fault CN @ 35° to C.A

230-240 Fault zone ω weak to moderate cementing of the tuff-QM-F.P fragments Gouge cementing

Fault CN @ 70° to C.A.

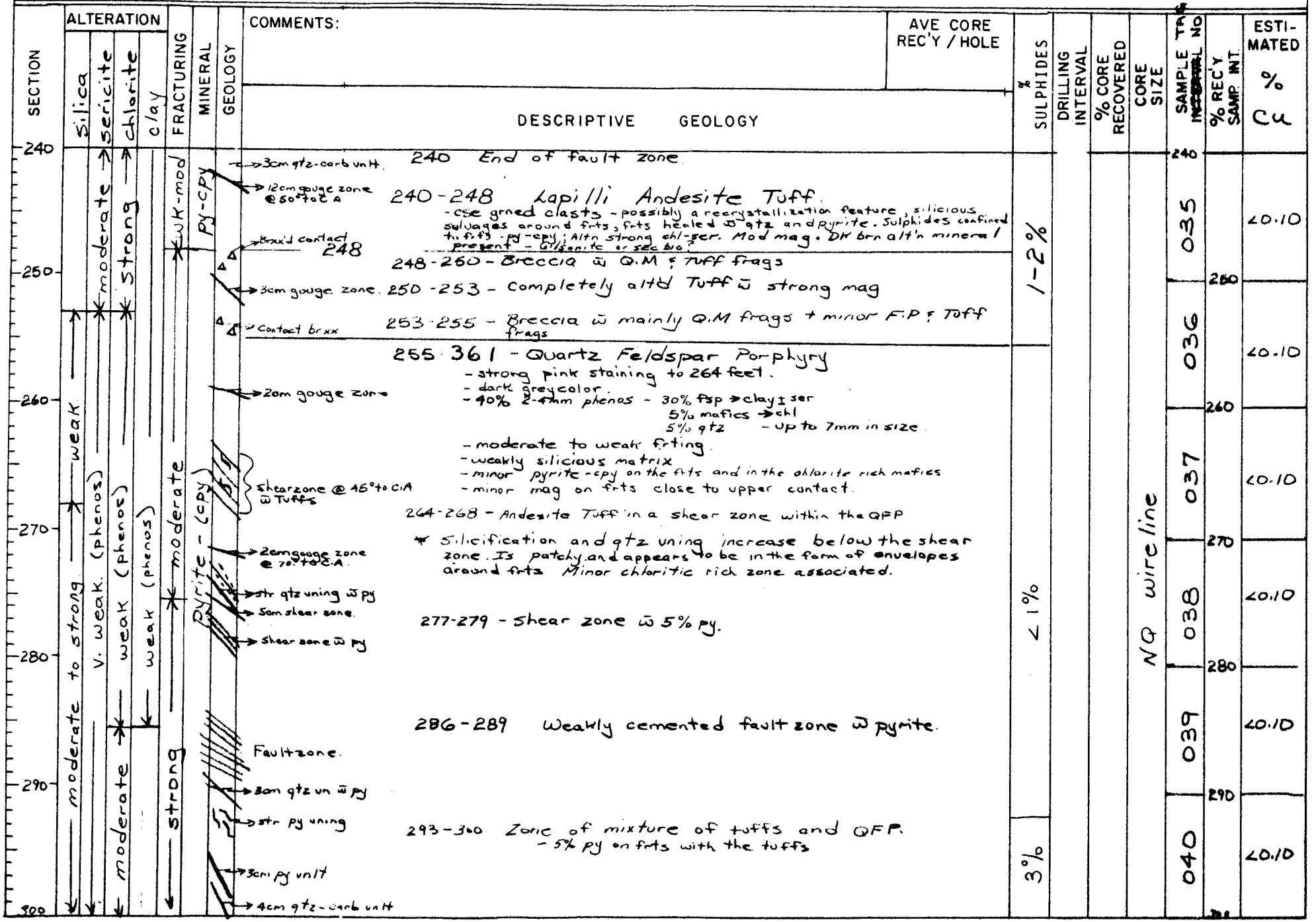
SECTION	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE TAG INTERVAL No.	% REC'Y. SAMP INT.	ESTIMATED % Cu.
180						180	
					029		<0.10
190						190	
					030		<0.10
200						200	
					031		<0.10
210	2%			N.Q wireline		210	
					032		<0.10
220						220	
					033		<0.10
230						230	
					034		<0.10
240						240	

HOLE NO. R-15 | PROJECT: I.C. | PAGE NO: 5 OF 7

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. R-15 | PROJECT: I.C | PAGE NO: 6 OF 7

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 TAG INTERVAL No. | % REC'Y. SAMP. INT. | ESTIMATED % Cu

DESCRIPTIVE GEOLOGY

300

Quartz Feldspar Porphyry cont.

* silicification decreases below 300 feet

308-311 - Brxx ω frags of tuff and QFP -3% py. Gouge contacts @ 50° to C.A

310

Brxx ω gouge contacts @ 50° to C.A

1cm qtz vn.

str qtz-carb ω zeolites

320

shear @ 60° to C.A

318-319 shear zone @ 60° to C.A

320-349 Pink staining present.

* Minor section of f.g. dk grn tuff ω the QFP.

330

shear zone

340

2cm gouge zone.

349-356 Weakly brecciated and healed ω qtz veins. DK green color ω 2% py

350

< 1%

NQ wireline

041 042 043 044 045 046

310 320 330 340 350

<0.10 <0.10 <0.10 <0.10 <0.10 <0.10

ALTERATION: weak; weak (phenos); weak to moderate; str; WK to strong

FRACTURING: strong; weak

MINERAL: pyrite

HOLE NO. R-15 | PROJECT: I.C | PAGE NO: 7 OF 7

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 TAG INTERVAL No.	% REC'Y SAMP. INT	ESTIMATED % Cu
360	strong		moderate	strong	Pyrite		DESCRIPTIVE GEOLOGY		2-3%			NQ wire line	047		<0.10
370							QUARTZ FELDSPAR PORPHYRY cont						048	270	<0.10
380							361 - ANDESITE TUFF						049	280	<0.10

- irregular contact
- 2cm qtz vnlt
- strong silicified in most parts
- strong to weak mag
- 2-8% py, mainly fnts
- hematitic staining
- str fnting - qtz and qtz-carb healed
- 2cm qtz vnlt
- QFP
- 1cm qtz vnlt

Minor zone of QFP within

* rock is shattered & contact relationships are undetermined

387 END OF HOLE

HOLE R-15 ASSAYS

JEG #	FROM (FT)	TO (FT.)	% Cu	% Mo	
014	30	40	0.02	0.002	
015	40	50	0.03	0.005	
016	50	60	0.03	0.006	
017	60	70	0.02	0.006	
018	70	80	0.02	0.004	
019	80	90	0.02	0.003	
020	90	100	0.02	0.002	
021	100	110	0.02	0.001	
022	110	120	0.03	0.001	
023	120	130	0.04	0.001	
024	130	140	0.03	0.002	
025	140	150	0.02	0.004	
026	150	160	0.02	0.005	
027	160	170	0.02	0.002	
028	170	180	0.02	0.002	
029	180	190	0.02	0.001	
030	190	200	0.03	0.003	
031	200	210	0.03	0.002	
032	210	220	0.04	0.002	
033	220	230	0.02	0.002	
034	230	240	0.02	0.003	
035	240	250	0.04	0.003	
036	250	260	0.03	0.006	
037	260	270	0.05	0.006	
038	270	280	0.04	0.007	
039	280	290	0.04	0.006	
040	290	300	0.05	0.001	
041	300	310	0.06	0.004	
042	310	320	0.07	0.008	
043	320	330	0.06	0.008	
044	330	340	0.10	0.008	
045	340	350	0.07	0.007	
046	350	360	0.08	0.003	
047	360	370	0.10	0.003	
048	370	380	0.05	0.001	
049	380	387	0.04	0.001	

EAST GROUP (100 UNITS)

E-63 32490 JUNE 4	E-64 32491 JUNE 4	E-45 32472 JUNE 4	E-46 32473 JUNE 4	E-27 32454 JUNE 4 (1970)
E-61 32488 JUNE 4	E-62 32489 JUNE 4	E-43 32470 JUNE 4 (1970)	E-44 32471 JUNE 4 (1970)	E-25 32452 JUNE 4 (1970)
E-59 32486 JUNE 4	E-60 32487 JUNE 4	E-41 32468 JUNE 4 (1970)	E-42 32469 JUNE 4 (1970)	E-23 32450 JUNE 4 (1970)

24508 APR. 17

CAR 5 19982 SEPT. 21

CAR 6 19983 SEPT. 21

CAR 13 19990 SEPT 21

CAR 14 19991 SEPT 21

SPAM 28 FR 24512 APR. 17

CAR 3 19981 SEPT. 21

EXPO 56 19865 SEPT. 25

CAR 11 19988 SEPT 21

CAR 12 19989 SEPT. 21

EXPO 32 19841 SEPT 21

EXPO 55 19864 SEPT. 25

EXPO 31 19840 SEPT 21

APR. 17

24513

KEY FR 34195 AUG. 30

EXPO 54 19863 SEPT. 25

EXPO 18 FR

EXPO 30 19839 SEPT 21

EXPO 29 19838 SEPT 21

LAMB (3 UNITS)
#1047 (1981)
NOV. 23
3W x 1N

RUPERT 12 19350 MAY 1

EXPO 53 19862 SEPT. 25

R-5 #1236 (1982) JUL 20

RUPERT 11 19349 MAY 1

R-4 #1235 (1982) JUL 20

EXPO 51 19860 SEPT 25

STAR (15 UNITS)
#255 (1978)
JUNE 29
3N x 5E

WASHLANLIS HILL

MARS (16 UNITS)
#256 (1978)
JUNE 29
4N x 4E

SNAFU (12 UNITS)
#1237 (1982)
JUL 20
6S x 2W

RUPERT 13 19351 MAY 1

RUPERT 4 18614 MAY 17

RUPERT 15 19353 MAY 1

R-3 #1234 (1982) JUL 20

RUPERT 18 19356 MAY 1

RUPERT 6 18616 MAY 17

DOG #2 #1239 (1982) JUL 20

SNAFU

RUPERT 5 18615 MAY 17

DOG #1 #1238 (1982) JUL 20

RUPERT 7 18617 MAY 17

R-2 #1233 (1982) JUL 20

RUPERT MAIN

R-13

R-15

R-14

SUN (20 UNITS)
#64 (1976)
FEB 12
4N x 5W

MOON (16 UNITS)
#65 (1976)
FEB 12
4N x 4E

MARY (16 UNITS)
#965 (1981)
JUL 22
4S x 4W

VAL
#1066 (1982)
JAN 14
4S x 1E

WAUK (12 UNITS)
#878 (1981)
MAY 20
4N x 3W

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,768

84

Utah Mines Ltd.
Island Copper Mine
P.O. Box 370
Port Hardy, B.C. V0N 2P0, Canada

SCALE: 1"=1000'

LOCATION MAP - EAST GROUP

To accompany report on

East Group of claims

Island Copper Mine