

86-281-14777



Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S) DIAMOND DRILLING	TOTAL COST \$17,896.75
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AUTHOR(S) J.A. FLEMING SIGNATURE(S) *J.A. Fleming*

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED March 4, 1986 YEAR OF WORK 1985

PROPERTY NAME(S) CENTRAL-86 GROUP OF CLAIMS

COMMODITIES PRESENT NOT DETERMINED

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

MINING DIVISION NANAIMO NTS 92L/11W, 12E

LATITUDE 50° 37 1/2' N LONGITUDE 127° 28 1/2' W

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 50, 52, 53, 56, 58-63, 68-70; CORK Fr; BAR; BAR Fr; LAKE (16 UNITS); RUBY(8 UNITS); BIM 1-4; SPAM 1 Fr-4 Fr, 12 Fr, 13 Fr, 16 Fr, 17 Fr, 21 Fr, 22 Fr, 24 Fr; KEN 1-8,13, 14; BEE 1, 2, F1 Fr; F3 Fr; F1-15; TAR 2,4,6; CAR 3, 5-8, 11, 13-16; KEY Fr; SLIM Fr; F2 Fr.

OWNER(S) (1) UTAH MINES LTD. (2) GORDON MILBOURNE c/o LADNER DOWNS

FILMED

MAILING ADDRESS BOX 370, PORT HARDY, B.C. VON 2P0. 2100 - 700 W. GEORGIA STREET VANCOUVER, B.C.

OPERATOR(S) (that is, Company paying for the work) UTAH MINES LTD. (1) (2) GEOLOGICAL BRANCH

ASSESSMENT REPORT

MAILING ADDRESS BOX 370 PORT HARDY, B.C., VON 2P0.

14777

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

The hole intersected the gently southwestward dipping Upper Triassic Vancouver Group succession of, from youngest to oldest, Parson Bay Formation siltstone with thick sections of tuffaceous/porphyritic rocks, Quatsino Formation limestone and interlayered tuffaceous/porphyritic rocks, and Karmutsen Formation basalt... A quartz-feldspar porphyry dyke occurs cutting the Parson Bay rocks. The Quatsino Formation has an apparent thickness of about 45 meters in this location. Sphalerite and chalcocopyrite occur in short sections of garnet skarn in the limestone at contacts between the limestone and the tuffaceous/porphyritic rocks.

REFERENCES TO PREVIOUS WORK Assessment Reports #1693, 5033, 6027, 7562, 13009, 13716, and 14084

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground
Photo
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic
Electromagnetic
Induced Polarization
Radiometric
Seismic
Other
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Soil
Silt
Rock
Other
DRILLING (total metres; number of holes, size)			
Core	202.1m, 1 hole, NQ	BAY 70 IN CENTRAL-86 GROUP	17,794.75
Non-core
RELATED TECHNICAL			
Sampling/assaying	51 SAMPLES	- SAME -	102.00
Petrographic
Mineralogic
Metallurgic
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)
Topographic (scale, area)
Photogrammetric (scale, area)
Line/grid (kilometres)
Road, local access (kilometres)
Trench (metres)
Underground (metres)
			TOTAL COST \$17,896.75...

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)	
Value of work approved	
Value claimed (from statement)	
Value credited to PAC account	
Value debited to PAC account	
Accepted	Date	Rept. No.	Information Class

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MAPS

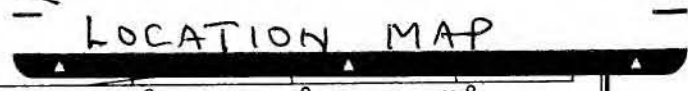
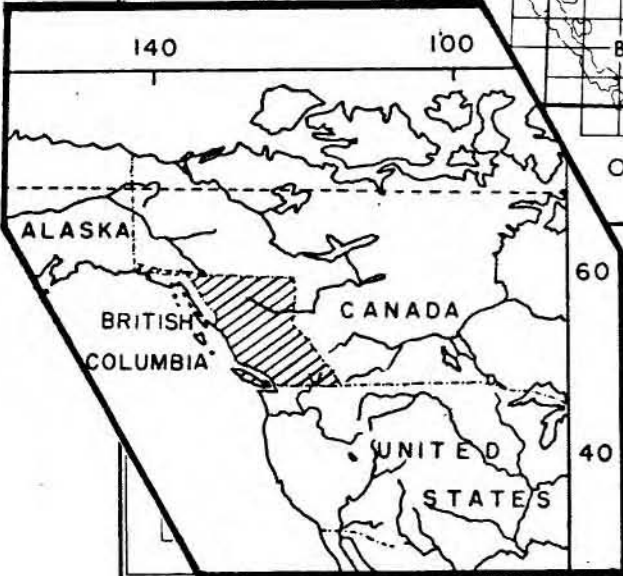
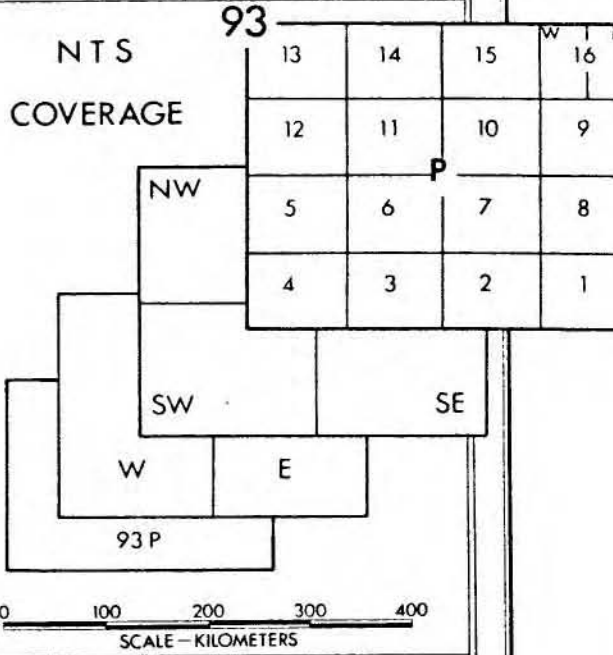
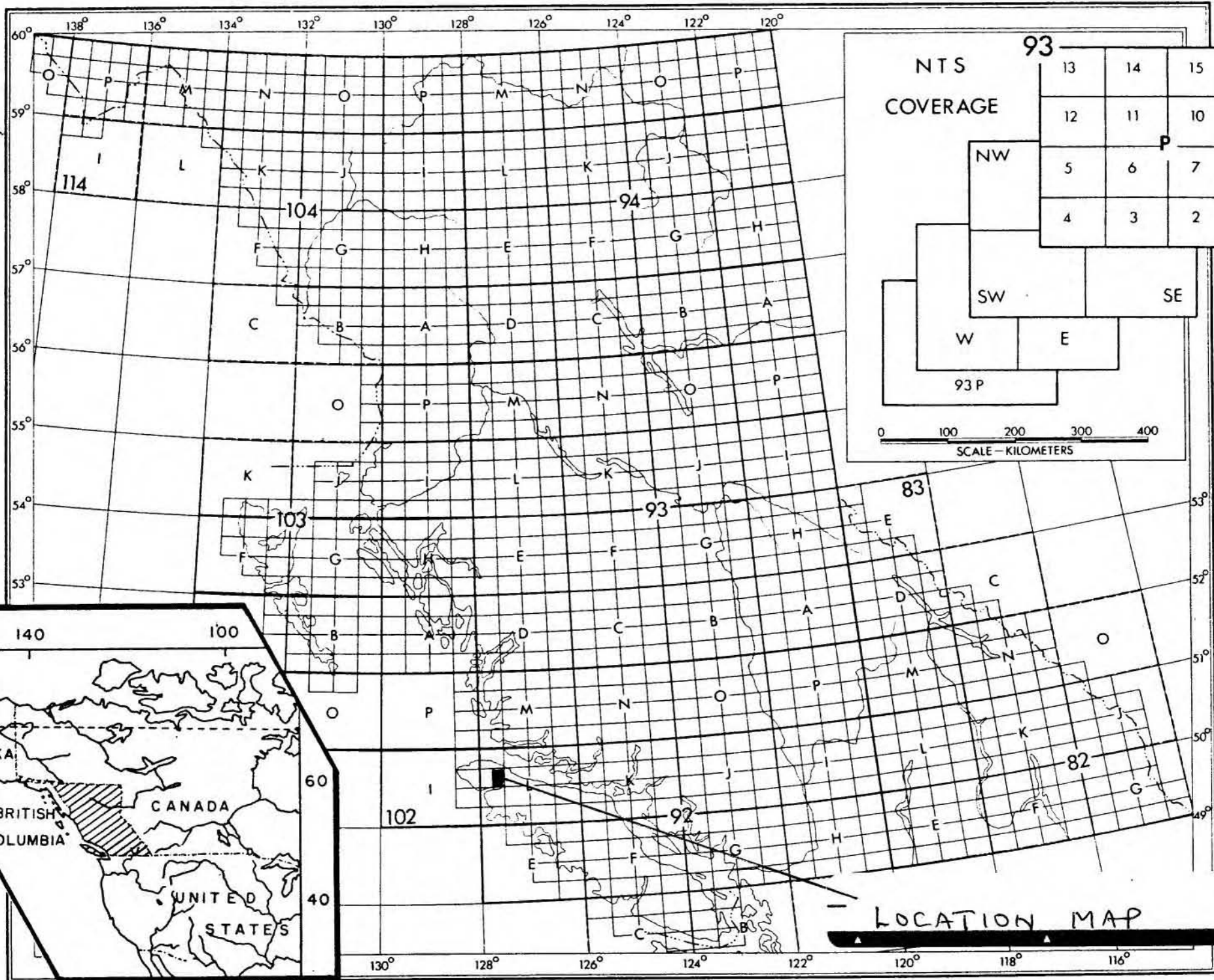
1. Index Map	1:50000	2
2. Claim Group Maps with Hole Locations	1:12000	Back Pocket
3. Detail Hole Location Map	1:4800	Back Pocket

CORE LOGS AND ASSAYS

Back Pocket

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,777



RECEIVED
1667-17-1967

TOM
251 (6)

PICK 6
775 (2)
(30 X 45)

PICK 1
744 (1)
(30 X 30)

CLIFF 3
738 (12)

CLIFF 4
739 (12)

CLIFF 5
740 (12)

CLIFF 6
741 (12)

CLIFF 7
742 (12)

CLIFF 8
743 (12)

CLIFF 81
890 (6)
(30 X 45)
(77643)

PICK 1
744 (1)
(30 X 30)

CLIFF 78
301 (9)

PICK 8
775 (2)

LOCATION OF EGGS

LAKE B (E)

RUBY
16 (6)

MIMAS
1223 (7)
30 X 45

L 2145
M34

L 2145
M34

F-5

F-6

F-3

F-1

F-2

F-1

L 2140
M31

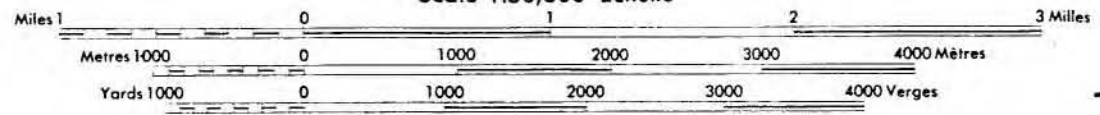
L 2140
M31

L 2146
M35

L 2147
M36 Red

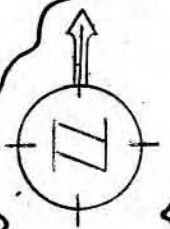
LOCATION MAP

Scale 1:50,000 Échelle



RED. MIN. 8 PLACES
1/2 MILE EITHER SIDE
23, 19 JAN. 72
CASE REQUIRED.

SUN
64 (2)



DO NOT
SEE
E.V.

GOOD
STANDING
TILL '83

LAMB
1047 (11)
30 X 45

STAR
255 (6)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

ALSO
DOG 1
1233 (7)
ALSO
R2
1233 (7)

INTRODUCTION

Between 29th of September and the 2nd of October, 1985, a diamond drill hole 202.1 meters (663 feet) in length was drilled on the Bay 70 claim, part of the Central-86 Group of claims. This forms part of the mineral exploration program in the area in 1985.

PROPERTY DESCRIPTION

The Central-86 group consists of 100 claim/units contiguous to the boundary of the Island Copper mineral leases.

LOCATION AND ACCESS

The claim group is located in the Nanaimo Mining Division with co-ordinates $50^{\circ} 37\frac{1}{2}'$ N and $127^{\circ} 28\frac{1}{2}'$ W. It is located on the NTS map sheet 92L/11W, 12E and borders on the north boundary of the Utah Mines Ltd. mineral leases, some 8 km south of Port Hardy (Map 1). Access is provided part way by paved highway from Port Hardy and the remainder by logging roads suitable for two wheel drive vehicles.

PHYSIOGRAPHY

The area is in the coastal lowland of the Suquash Basin forming part of the Nahwitti Lowlands of the Central Trough physiographic subdivision. The area is characterized by rounded, gently rolling hills with a maximum relief of about 150 meters and that range in elevations from sea level to about 150 meters.

PREVIOUS WORK

Recent work by Utah Mines Ltd. has included mapping, Mag/VLF, IP and geochem surveys, and diamond and percussion drilling.

OBJECTIVES

The objective was to collar in the Parson Bay Formation and penetrate through the Quatsino Formation to the Karmutsen Formation to determine the thickness and position of the Quatsino limestone and the extent of any skarn alterations and related mineralization. This forms part of the ongoing program of exploration on claims contiguous to the Island Copper mineral leases.

WORK PERFORMED

Hole: E-65 Core Size: NQ
Length: 202.1 meters (663 feet)
Mine Grid Co-ordinates (feet): 18611.6 N, 16591.1E
Collar Elevation: 101.1 meters (331.8 feet) above sea level
Inclination: -50° Azimuth: 018°

Drill core from E-65 was logged, photographed, measured for recovery, RQD (percent of core greater than or equal to four inches in length), and magnetic susceptibility ($\times 10^{-3}$ CGS units). The core was split and sampled on intervals based on geological contacts with a maximum sample length of 3.0 meters (10 feet), a minimum sample length of 0.46 meter (1.5 feet) and a maximum sample interval of 12.2 meters (40 feet). Samples were assayed for copper, molybdenum, lead, zinc. Gold and silver assays were done as indicated on the assay sheet. Assays were performed in the Island Copper Lab. The core, sample pulps and sample rejects are stored in the upper core shack at the Island Copper Mine site.

The core was logged by the author.

RESULTS

The hole penetrated 8.8 meters (29 feet) of overburden. From 9.4 meters (31 feet) to 45.7 meters (150 feet) the rock consisted of interlayered, thin-bedded, fine grained, altered sediments and coarse ash-lapilli, crystal tuff (porphyry ?). Chlorite-epidote altered augite (?) -feldspar porphyry extends to 77.4 meters (254 feet) with a fault occurring at 50.0 to 50.6 meters (164 to 166 feet) and an associated strong crackle/fracture zone from 45.7 to 62.5 meters (150 to 254 meters). A light green, grey, coarse grained quartz-feldspar porphyry occurs from 77.4 to 92.4 meters (254 to 303 feet) with xenoliths of finer grained granitoid intrusive. Another augite (?) -feldspar porphyry section extends to 110.3 meters (362 feet) and is followed by a chlorite-epidote altered andesite tuff/porphyry (?) to 123.7 meters (406 feet). Yellowish-green, mineralized, epidotized, garnetized, calcareous, thin bedded siltstone and shale grading 1.84% Zn over 6.1 meters (20 feet) extends to 128.0 meters (420') with blue-grey limestone to 135.3 meters (444 feet), yellow-green garnet skarn grading 1.56% Zn over 0.6 meters (2 feet) to 137.9 meters (452.5 feet), and blue-grey limestone to 148.4 meters (487 feet). A greyish-green, carbon stained (bitumen) coarse ash and crystal tuff/porphyry (?) occurs to 159.4 meters (523 feet) with strong sericite alteration over the last 5.5 meters (18 feet). Sphalerite mineralized, yellow-brown garnet skarn grading 6.56% Zn and 0.45% Cu over 1.2 meters (4 feet) is underlain by thin bedded, grey and white, carbonaceous limestone from 160.6 to 163.4 meters (527 to 536 feet) and massive, blue-grey limestone to 171.3 meters (562 feet). A yellow-brown garnet skarn with minor sphalerite and some chalcopyrite grading 0.76% Cu extends to 173.1 meters (568 feet) with a section of epidotized tuff/porphyry (?) to 175.6 feet, reddish-brown garnet skarn grading 0.88% Cu over 2.4 meters (8 feet) to 178.0 meters (584 feet) and another section of epidotized tuff to 18.4 meters (595 feet). From there to the end of the hole at 202.1 meters (663 feet) the rock is a grey-green, porphyritic/amygdular basalt.

The pyrite content is generally less than 1% in the altered sediments, limestone and porphyries, about 2 to 5 percent in the tuff and basalt and 5 to 10% in the skarn sections. Sphalerite and chalcopyrite mineralization is associated with skarn alterations. Silver assays in the skarn sections range from 2 to 8 ppm while gold assays are all less than 0.04 ppm.

DISCUSSION

The Quatsino Formation has an apparent thickness of about 45 meters (150 feet). The hole was collared in Parson Bay Formation and intersected interlayered sedimentary and volcanic/volcaniclastic rocks to 128.0 meters (420 feet). The augite-feldspar porphyry logged in this hole and hornblende porphyry unit logged in other holes in the area are likely closely related, or the same unit and have been labelled 'PPHB' (mafic porphyry) in the log for consistency. The Quatsino Formation contains both bedded and massive limestone with a tuff layer occurring in mid section from 148.4 to 159.4 meters (487 to 523 feet) and several other thinner layers.

The skarn altered sections occur at the interface between the limestone and volcanic/volcaniclastic units except for the bottom skarn layer where the limestone has been completely altered to skarn.

CONCLUSIONS

The Quatsino limestone intersected in this hole contains some garnet skarn and limited zinc and copper mineralization. This is probably related to underlying Island Intrusion granitoid intrusives represented in this hole by the quartz-feldspar porphyry dyke.

COST STATEMENTCONTRACTORS' COSTSDiamond Drilling ContractorOverburden:

31' @ \$16.25 \$ 503.75

Rock:

469' @ \$16.25 \$7,621.25

163' @ \$17.00 2,771.00

10,392.25

Field Costs:

6 hrs. @ \$25/hr. \$ 150.00

13 hrs. @ \$50/hr. 650.00

3.25 hrs. @ \$60/hr. 195.00

995.00

Casing, Shoes and Bits

765.79

Mob and Demob

105.40

Supplies

658.61

Other31.78

\$13,452.58

Other Contractors (Move Drill)1) Bruner Brothers Ltd.

Cat 4.38 hrs. @ \$60/hr. \$ 262.50

Lowboy 4.75 hrs. @ \$65/hr. 308.75

571.25

2) Route of the Haida FreightwaysHighboy: 4.0 hrs. @ \$85/hr. 340.00

911.25

Total Contractors' Costs: \$14,363.83

UTAH'S COSTS

Core Shack Labour	\$500.00
Supervision and Core Logging	800.00
Company Overhead @ 25% of Supervision and Labour	270.00
Core Storage: 632 feet @ \$0.50/ft.	316.00
Truck Rental: 4 days @ \$15/day	60.00
Core Boxes: 38 boxes @ \$4.84/box.	183.92
Assays: 51 Samples x \$20/sample	102.00
Report	<u>300.00</u>
Total Utah Costs:	\$ <u>3,532.92</u>

COST SUMMARY

Contractors' Costs	\$14,363.83
Utah's Costs	<u>3,532.92</u>
Total Drilling Cost:	\$17,896.75

=====

Unit Cost: for 202.1 meters \$88.55/meter
for 663 feet = \$26.99/foot.

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.



DRILLHOLE/TRVERSE :HEADER

PROJECT IDEN : ISLAND
COLLAR NORTHING :
TOTAL LENGTH : 0.00

START DATE : 86/ 2/ 7
COLLAR EASTING :
CORE/HOLE SIZE :

COMPLETION DATE : 85/ 5/27
COLLAR ELEVATION :
MACHINE TYPE :

GEOLOGGED BY : GAC + JAF
GRID AZIMUTH :
CONTRACTOR : TONTO

K E Y	F L Y G	- INTERVAL - (UNITS = FT) FROM - TO	CORE RECOV- ERY (FT.1)	% M X	TYPI- M TYPE	QAL MIN 1	TEX- MIN 2	GRAIN TURNS QM1	FRAC- CHARACS F C % M	STRUCTUR-1 ID STK DIP	ALTERATION H H H H	MINS A A A A	ORE-TYPE MIN A A A MIN	MINS H H H H	SUMMARY

SUMMARY REMARKS

ROCK CODES U24-27	G SCALE	ALTERATION AND ORE MINERALS	FACIES U77-79
OVER OVERBURDEN	? POSS	QZ QUARTZ	0 FRESH
STKP STICKUP	/ PROB	CY CLAY	1 CHL-EPI
CASN CASING-NO CORE	0 0.0%	DU DUMORTIERITE	2 CHL-MAG
MISN CORE MISSING	. 0.01%	KF K-FELDSPAR	3 BIO-CHL
FAUL FAULT GOUGE	- 0.03%	BI BIOTITE	4 MAG-QTZ
SAND SAND (TECTONIC)	(0.1%	BX BRECCIA FRAG	5 PYROPHYLLITE
ISGD ISL GRANODIORITE	* 0.3%	PP PYROPHYLLITE	6 SERICITE
INBX INTRUSIVE BRECCIA) 1.0%	CL CHLORITE	7 SER-CHL
BVAL ANDESITE ?	+ 2.5%	CB CARBONATE	8 K-SPAR
QTZV QUARTZ VEIN	= 5.0%	EP EPIDOITE	9 SILICIC
BVAG BON. AGGLOMERATE	1 10%	MG MAGNETITE	
PPFX FELDSPAR PORPH	2 20%	HE HEMATITE	MINERAL ZONE
BVAT ANDESITE TUFF	3 30%	FL FLUORITE	L 77-79
BVAE ANDESITE FLOW	4 40%	PY PYRITE	0 NEGLIGIBLE
BVAB BRECCIA	5 50%	PR PYRROTITE	<0.5%
ISDR ISLAND DIORITE	6 60%	CP CHALCOPYRITE	1 PY
BVAN ANDESITE UNDIFF	7 70%	MO MOLYBDENITE	2 PY>CP
KMBA KARLUTSEN BASALT	8 80%	EN ENARGITE	3 PY>CP,MO
PPQF QUARTZ FELDS POR	9 90%	CV COVELITE	4 PY+MO CP
KMLS KARLUTSEN LST.	X 100%	CC CHALCOHITE	5 PY+CP+CC+BO
BRXX BRECCIA ZONE		FX FELDSPAR	+CV+/-MO
CLAY CLAY ZONE		VF VOLC FRAG	6 PY+BO+CC+CV
ISQD ISL QTZ DIORITE		GI GILSONITE	+/-MO
CONG CONGLOMERATE		AK ANKERITE	7
MATR MATRIX DESCR.		X1 GRN SER ?	8 MO
PBL PARSON BAY LST.		X2 SAUSSERITE ?	
PBSD PB. SEDIMENTS		X3 WH ZEOLITE ?	
PBTF P.B. TUFFS		X4 GYPSUM ?	
PBVS P.B. SEGS/TUFFS		X5 BRN CHL ?	
PPAN ANDESITE PORPH.		X6 BRN BIO ?	
PPHB HORNBLende/AUGITE PORP.			
QALS QUATSINO LST.			
SKAR SKARN			
ARGL ARGILLITE			
EXE EXOTIC			

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14-777

UTAH MINES LTD., VANCOUVER B.C.
ISLAND COPPER: EXPLORATION

DRILLHOLE/TRVERSE : HEADER (CONTINUED)

SUMMARY REMARKS

TUFF UNDIFFERENTIATED TUFF
TFLP LAPILLI TUFF
AN/L ANDESITE SILL
PPXX PORPHYRY, GENERAL
% MIX IS AMOUNT OF NEST
IN PGI, G SCALE,%

I SCALE

KEY FLAGS (2-4)	X EXTREME	3 WEAK
	9 V STR-EX	2 V WK-WK
KTOX TOP OF OXIDE ZONE	8 STR-V STR	1 VERY WEAK
KBOX BOTTOM OF OXIDE	7 STRONG	0 NONE
	6 MOD-STR	" RETURN TO BLANK
	5 MODERATE	
	4 WK-MOD	

H-SCALE HOW OF ALTERATION MINERALS

X MASSIVE	1 MINOR MICROVNS+ SCTD.XT
9 PERVASIVE	0 BARREN
8 DISS, PATCHES>VNS,SEL,ENV	0 DISSEMINATIONS
7 DISS, PATCHES<VNS,SEL,ENV	V VEINS
6 DISS, PATCHES<VNS,SEL,ENV	E ENVELOPES
5 VNS +/- OR ABUNDANT ENV	S SELVAGES
4 VNS +/- OR OCCASIONAL ENV	P PERVASIVE
3 VNS = SPOTS+PATCHES	Q PATCHES
2 MICROVEINS + VEINS	C COATINGS
	K STOCKWORK
	U COATING VUGS
	" RETURN TO BLANK

STRUCTURE IDS	STRUCTURE THICKNESS	COLOR	HUE
VQ VEIN QUARTZ	T-SCALE	LIGHTNESS	L29
VP VEIN PYRITE	0 < 1 MM	L28	W WHITE
VY VEIN PYROPH	1 1-3 MM	9 PALEST	A GREY
VC VEIN CLAY	2 3-6 MM	8 PALE	U BROWN
VA VEIN QTZ PY	3 6-10 MM	7 LIGHT	T TAN
VM VEIN QTZ MO	4 1-3 CM	6 MED-LIGHT	G GREEN
F/ FAULT	5 3-6 CM	5 MEDIUM	R RED
C/ CONTACT	6 6-12 CM	4 MED-DARK	O ORANGE
SH SHEAR	7 12-30 CM	3 DARK	N BLACK
SW STOCKWORK	8 30-60 CM	2 VERY DARK	B BLUE
BN BANDING	9 60-100 CM	1 DARKEST	P PURPLE
VH CPY VN	X >1 M	\$ ISH	L LIME
VL CALC VN		M MOTTLED	\$ ISH
BD BEDDING			
VB VEIN CARB			
BR BRECCIATED			
V/ VEIN			
<< MICROVN'D			
VF MAG VN			
VZ VEOLITE VN			

U,L 49-50

U,L 48

TYPIFYING MINERALS FRACTURE I.D.

UTAH MINES LTD., VANCOUVER B.C.
ISLAND COPPER: EXPLORATION

DRILLHOLE/TRVERSE : HEADER (CONTINUED)

SUMMARY REMARKS

TEXTURES	TM1U28-29 QMIU32-33	F-SCALE
TX1(U35-36)	TM2U30-31 QM2L32-33	U-45-PYRITE
TX2(L35-36)	TM3L28-29	U-46-QUARTZ
PP PORPHYRITIC	QZ QUARTZ	L-46-DRY FRAC
P/ VAGUE PORPH	QX QTZ PHENOS	FRACTURE COUNT
EQ EQUIGRANULAR	QF QTZ FRAGS	(U,L 44,46)
FR FRAGMENTAL	FX FELDSPAR	F-SCALE
CT CATACLASTIC	BI BIOTITE	1<1/FT
VG VUGGY	HB HORNBLLENDE	2 1/FT
BR BRECCIATED	PX PYROXENE	3 2-3/FT
B/ VAGUE BRECCIA	MG MAGNETITE	4 4-6/FT
KR CRACKLED	RF ROCK FRAGMENT	5 7-10/FT
SH SHEARED	VF VOLC FRAGMENT	6 11-18/FT
GG GOUGED	IF INTRUS FRAG	7 19-25/FT
BD BEDDED	VG OPEN SPACE	8 25-50/FT
CM CHILLED MARGIN	PF PY FRAG	9 >50/FT
BN BANDED	GG FLT GOUGE	X EXTREME
SW STOCKWORK	GA GARNET	
	MX MAFIC PHENOS	
	AK ANKERITE	
	BR BRECCIA	
	EP EPIDOTE	
	MD MUDSTONE	
REMARK HEADERS		
RALT	REMARK, ALTERATION	
RCOL	REMARK, COLOUR	
RCON	REMARK, CONTACT	
RFRC	REMARK, FRACTURE	
RCMP	REMARK, COMPOSITION	
RLTH	REMARK, LITHOLOGY	
RCOR	REMARK, CHANGE OF CORE SIZE	
RMIN	REMARK, MINERAL (NON-SULPHIDE)	
RMNZ	REMARK, MINERALIZATION	
RSAM	REMARK, SAMPLE	
RSTR	REMARK, STRUCTURE	
RTXT	REMARK, TEXTURE	
RVEN	REMARK, VEIN	
BYRD	REMARK, X-RAY DIFFRACTION	
RSUM	REMARK, SUMMARY	
RPHO	REMARK, PHOTO	
STHN	REMARK, THIN SECTION	

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRAVERSE : DDHE-065

PROJECT IDEN : ISLAND
COLLAR NORTHING: 18611.60
TOTAL LENGTH : 663.00

START DATE : 85/09/29
COLLAR EASTING : 16591.10
CORE/HOLE SIZE : NQ

COMPLETION DATE 85/10/02
COLLAR ELEVATION: 1331.80
MACHINE TYPE : SUPER 38

GEOLOGGED BY : JAF +
GRID AZIMUTH : 0.00
CONTRACTOR : TONTO

SURVEY FLAG		SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
	000	.0		18.00	-50.00		
	001	300.0		18.00	-52.00		
	002	663.0		18.00	-52.00		

R HED
R HED

DRILLED NORTH OF COAL HARBOUR ROAD, INCLINED TO NORTH TO PENETRATE THROUGH QUATSINO LST AND INTO THE KARMTUSEN FM.

F - INTERVAL - K L (UNITS = FT) E A Y G FROM - TO		CORE RECOVERY (FT.1)	% M ROCK I X TYPE	TYPI- QAL TEX- GRAIN FRAC- FYING MIN TURES CHARACS TURE TM TM MAT TX TX F C % M 1 2 QM1 1 2 F F C P # TK	STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS H H H H H ANY H H H ANY T ID STK DIP A A A A A MIN A A A MIN 1 AZM RT QZ BI CY CB MG XX PY CP GL YY SUMMARY
K F E L Y G		ROCK FOR EN RT QUAL MEM V Q LC- 3 DESIG AGE COL	TM QM2 TX TX S R S O DIP F 3 4 0 N H / SML I R D P C	T ID STK DIP KF MU CL EP HE HA PR MO SL HA 2 AZM RT H H H H H H H H STRUCTUR-2 A A A A A A A A	
P	.0 2.0		STKP		P
P	2.0 31.0		OVER		P
P	31.0 67.0		PBTF	FR MX 6 8 M AG VF C 3	P
R LTH	31.0 67.0		MED GRY-GREEN, FINE GRAINED, CHLORITE - EPIPOTE - SERICITE ALT'D, THIN BANDED/BEDDED SEDIMENTS. ROCK IS SOFT, STRONGLY ALT'D WITH CALCITE ABD AS FRACT. FILLINGS AND VEINLETS. BEDS SHOW SOME BRECCIATION. CHLORITE AND SERICITE ALT'NS ARE PER, WHILE EPI OCCURS AS SPOTS, PATCHES AND ALONG BDS. RK LABELLED (PPSD) ALTHOUGH THE SEGS MAYBE TUFFACEOUS. SOME SPHALERITE OCCURS IN CHL-EPI PATCHES AND AS VEINLETS TO 2 MM. INTERBEDDED WITH THE ABOVE THIN BDD MATERIAL IS A GREYISH-GREEN COARSE ASH, CRYSTAL TO LAPILLI ANDES. TUFF THAT HAS UP TO 15% BLACK PYROXENE CRYSTALS TO 2-3 MM IN LENGTH. THE TUFF IS CHLORITE - SERICITE ALTERED WITH CHLORITE ALT'N MAINLY OF PYROXENE. X'ALS AND LITHIC CLASTS AND SERICITE IN MATRIX. PYRITE CONTENT IS LOW. THE TUFF COMPOSES ABOUT 50% OF THE SECTION 31 TO 67 FEET.		P2 P4 V1 ZE 7) V3
R LTH	31.0 67.0		X PBSO	BD BN E G SH BR	N 2 BD 35 7 3 BD 50
R LTH	35.0 35.3		SAMPLE OF BDD RK. GREEN LITHIC - X'AL TUFF - (ANDESITE PORPHYRY?)		P5 PS 83 V3 6*
R THN	39.0 39.0		X PBSO	BD	N 2 BD 50
N	43.0 45.0				
N	55.0 59.0		X PBSO	BD SH	N 2 BD 50

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRAVERSE : DDHE-065 (CONTINUED)

K E Y	F - INTERVAL - L (UNITS = FT) FROM - TO		CORE RECOV- ERY (FT.1)	%	M ROCK I X	TYP1- QAL FYING TM	QAL MIN TM	TEX- TURES TX	GRAIN FRAC- CHARACS F C % M	STRUCTUR-1 ID STK AZM RT	ALTERATION H H H H A A A A	MINS H H H H A A A A	ORE-TYPE MINS H H H H A A A A	SUMMARY
	ROCK QUAL DESIG	FOR MEM AGE												
N L	63.0	67.0			X	PBSD	AG	BR		7	3 SH	40		
							AG	BD BR		N 2	BD	80		7=
P L	67.0	150.0				PBTF	MX VF	FR MX	H B K	P			V2	ZE 7)
R LTH	67.0	150.0				MX			C	3			P2 P4 P1	V3
R LTH	67.0	150.0												
R LTH	67.0	150.0												
R LTH	67.0	150.0												
N L	80.0	110.0				X	PBTF	MX VF	FR MX	H B K	N		V2	ZE 7)
							MX		C	2			P2 P4 P1	V3
N L	83.0	85.0				S	PBSD	BD	E G	N 2	BD	40		
							GA			7			L4 L4 L4	
R SAM	86.0	86.4												
R SAM	86.0	86.4												
R SAM	86.0	86.4												
R SAM	86.0	86.4												
R SAM	86.0	86.4												
R SAM	86.0	86.4												
R ALT	89.0	90.0												
N L	89.0	90.0				X	PBSD			N 2	BD	50		
							6G			9			P7	
R SAM	90.5	90.8												
R SAM	90.5	90.8												
N L	110.0	130.0				B	PBTF	MX VF	FR MX	H B K	N 3	VZ	45	V4
							MX		C	5			P2 P4 P1	V4
N L	130.0	150.0				X	PBTF	MX VF	FR MX	H B K	N		V2	ZE 7)
							MX		C	2			P2 P4 P1	V3
P L	150.0	166.0				PPHB	MX	PP SH	J B K	P 4	F/	30	V6	ZE 8)
								KR GG	C	6	2 VL	20	P5 72	V4
R FRC	150.0	205.0												
R FRC	150.0	205.0												
R FRC	150.0	205.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R LTH	150.0	254.0												
R VEN	150.0	205.0												

THE ROCK IS CRACKLED BRECCIATED AND HEALED WITH WHITE CALC AND WT ZEO VEINS 1 MM - 1 CM THK. THE HIGH FRACTURE DENSITY IS DUE TO A FAULT @ 164-166 FT. LATE CARB VEINS ALSO DISRUPTED. A MED-GREEN, PORPHYRITIC APPEARING RK WITH BRONZY, STUBBY, PHENOS TO 1 CM BUT AVERAGING 5 MM COMPOSING UP TO 15% OF RK. SOME SECTIONS HAVE THIN, GREY REACTION RIMS. MOST OF THE PHENOS ARE EUHEDRAL. THIS IS A DISTINCTLY DIFFERENT TEXTURED ROCK FROM THE ABOVE TO 150 FT. THIS IS INCL WITH HBL PORPHYRY. SOME WHITE, ROUND QTZ GRAINS NOTED THRO UNIT PLUS SOME BIOTITE TO 4 MM. BLK GILSONITE AND BRN CARBON STAINED CALCITE IN SECTION.

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

- INTERVAL - (UNITS = FT)		CORE RECOVERY (FT.1)	% ROCK TYPE	TYPI- QAL FYING MIN QM1	TEX- TURES TX TX F C % M	GRAIN CHARACS S R S O DIP F	FRAC- TURE # TK	STRUCTUR-1		ALTERATION MINS				ORE-TYPE MINS				SUMMARY				
FROM	TO							ID	STK	DIP	A	A	A	A	A	A	A		A	A	A	A
R LTH	150.0	205.0																				
N	164.0	166.0																				
L																						
P	166.0	205.0																				
R LTH	170.0	170.2																				
R STR	199.0	201.0																				
P	205.0	254.0																				
R LTH	250.0	254.0																				
R CON	250.0	254.0																				
P	254.0	303.0																				
R LTH	254.0	254.0																				
R THN	254.0	254.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
R LTH	254.0	303.0																				
N	272.0	274.0																				
R LTH	274.0	280.0																				
R TXT	274.0	280.0																				
N	289.0	295.0																				
R LTH	297.0	297.5																				
R SAM	297.0	297.5																				
P	303.0	362.0																				
R LTH	314.0	314.3																				
R SAM	314.0	314.3																				
N	325.0	330.0																				
R LTH	330.0	362.0																				
R LTH	330.0	362.0																				
R LTH	330.0	362.0																				
R LTH	330.0	362.0																				

THE UNIT COULD BE A X'AL TUFF, BUT IT'S NOT OBVIOUSLY SO.

THIN GRN REACTION RIMS AROUND PHENOS.
HIGHLY SHEARED, BKN CORE ON FAULT AT 199 FT WITH 10 CM GOUGE.

INCREASE MAGNETITE ALT'N TOWARD CONTACT - CONTACT SHARP.

REDDISH MICACEOUS MINERAL - ALSO IN UNDERLYING QFP AS ALT'N OF PYROX(?) PHENOS.
LT GREEN-GREY, COARSE GRAINED, QFP WITH QTZ PHENOS TO 10 MM COMP ABT 5%; WHITE EUHEDRAL FELD TO 5 MM COMP TO 50% AND CHLORITIZED MAFIC PHENOS TO 4 MM COMP ABOUT 5%. THE QFP IS WEAKLY ALT'D WITH LOC STRG SERIC ALT'N OF FELD AND CHLORITE IN SHEARED PORPHYRY. SEVERAL SHORT SECTIONS OF FINER GRAINED, MORE EQUIGRANULAR INTR. OCCUR WITHIN QFP SECTION. XENOLITH OF THE GREY INTR IS FOUND FROM 274-280 FEET INDICATING THE QFP IS YOUNGER. HOWEVER, THE COMPOSITIONS APPEAR SIMILAR. THE CONTACTS ARE SOMEWHAT DIFFUSE & THE GREY INTR (297-298) IS PORPHYRITIC.

XENOLITHS OF THE GREEN, EQUIGRANULAR INTRUSIVE OCCUR IN THE QFP.

CONTACT BTW QFP AND GRN PORPHYRITIC INTR.

DK CHL ALT'D PHENOS COMP 15% OF PORPHYRY.

SIMILAR TO 166-254 FEET BEING MED DARK PORPHYRITIC RK WITH 10-15% BLK CHL ALT'D PYROX PHENOS TO 3 MM, 5-10% EUHEDRAL, LT GRN, GRN, BRNZY FELD (?) PHENOS TO 5 MM IN FINER GRAINED CHL-SERICITE ALT'D MATRIX. THIS COULD BE, AS THE ABOVE

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	F - INTERVAL - L (UNITS = FT)		CORE RECOV- ERY (FT.1)	M ROCK I X TYPE	TYPI- FYING TM	QAL MIN TM	TEX- TURES TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS													
	FROM	TO								T	ID	STK	DIP	A	A	A	A	A	MIN	A	A	A	MIN
Y G										1	AZM	RT	QZ	BI	CY	CB	MG	XX	PY	CP	GL	YY	
R LTH	330.0	362.0																					
R LTH	330.0	362.0																					
N	330.0	362.0																					
L																							
R CON	360.0	362.0																					
R CON	360.0	362.0																					
R CON	360.0	362.0																					
P	362.0	406.0																					
L																							
R LTH	362.0	396.0																					
R LTH	362.0	396.0																					
R LTH	362.0	396.0																					
R LTH	362.0	396.0																					
R LTH	362.0	396.0																					
R LTH	362.0	396.0																					
R LTH	362.0	396.0																					
R THN	366.0	366.0																					
R VEN	380.0	396.0																					
N	392.0	395.0																					
L																							
R CON	396.0	406.0																					
R CON	396.0	406.0																					
R CON	396.0	406.0																					
N	396.0	406.0																					
L																							
P	406.0	420.0																					
L																							
R LTH	406.0	420.0																					
R LTH	406.0	420.0																					
R LTH	406.0	420.0																					
R LTH	406.0	420.0																					
R LTH	406.0	420.0																					
R LTH	406.0	420.0																					
R SAM	414.0	415.0																					
R THN	416.0	416.0																					
P	420.0	444.0																					
L																							
R LTH	420.0	444.0																					
R LTH	420.0	444.0																					
R LTH	420.0	444.0																					
R LTH	420.0	444.0																					

UNIT, A POORLY EXPRESSED X'AL TUFF. CALL IT PART OF HORNBLENDE,
(FELDSPAR) PORPHYRY UNIT. (IE. HBL-AUGITE-FELD PORP)
X PPHB FX HX SH I 4 K N 6 F/ 0 V5 ZE 7)
AG GG BR 0 4 3 VL 70 P2 P4 V3

SHEARED, BROKEN CONTACT ALONG WITH 20 CM OF COARSE BXX WITH
80% ANGULAR FRAGS TO 1.5 CM. THE PORPHYRY ABOVE THE CONTACT
IS LACED WITH WHITE CALCITE VEINLETS 1-3 MM THK ON AVG.

PBTF I 8 K P 2 VL 40 V4 ZE 7+ G I
GA C 3 72 P4 62 V2 V 3

MED GREENISH-GREY, MASSIVE, WEAKLY PORPHYRITIC ANDESITE
WITH A TUFFACEOUS LOOK. A SIMILAR UNIT LOGGED IN HOLE
E64 180-193 FEET. POSSIBLY A FINER GRAINED VARIETY OF
THE PORPHYRY, A PORPHYRITIC ANDESITE OR A ASH-X'AL
TUFF. THE RK HAS A MOD CHL ALT'N, WEAK SERIC WITH SERIC
AND EPI AS ENV TO 5 CM (PER SIDE) ON TIGHT FRACTS.
PYRITE IS MORE ABD IN THIS UNIT THAN ABV. UNITS (ABT 2.5%)
GILSONITE OR BRN CARBON STAIN COMMON IN CALC-EPI-PYR VEINS.
PORPHYRITIC ANDESITE (TUFF?)
MINOR GREY GYPSUM VEINLETS OCCUR WITH WHITE CALCITE.
X PBTF I 8 K N 2 VL 40 V4 ZE 7+ G I
BG C 3 65 P3 65 V2 V 3

HIGHLY SHEARED, CHL-SERIC ALT'D CONTACT WITH ABT 30 CM
FOLIATED GOUGE AT 396 FEET. CALCITE IS ABD AS VNLTS AND
IN GOUGE.
X PBTF SH GG I 8 K N 5 F/ 40 V4 ZE 7+ G I
GA KR C 8 72 P4 62 V2 V 3

PBSD BD F 8 H P 2 BD 60 V4 GA
LS C 4 2 BD 50 L7 64 L) Q2

GREEN, YELLOWISH GREEN BANDED, THIN BDD'S EPIDOTIZED
CALCAREOUS SEDIMENTS. BRILLIANT RED HEM OCCURS WITH CALC VEINS
AS SELVEGES AND SELECTIVELY ALT'S BEDS. SOME BROWN GARNET OCCURS
IN SOME OF THE EPIOTE BANDS. THE RK IS CUT BY THIN WT CALCITE
VEINLETS. SPHALERITE OCCURS ALONG THIN BDS.
CRACKLED SED HEALED WITH BLK CHL.
ALT'D, THIN BEDDED, CALLAREOUS SEDS.

QALS G 7 H P
BA C

BLUISH-GREY, FINE GRAINED, PARTLY CRYSTALLIZED LIMESTONE
WITH UP TO 2% GREYISH-BLACK CHERTY NODULES AND BANDS
GENERALLY WITH SOME DEFORMATION OF THE NODULES. THE
DARK COMPONENTS AVERAGE 1 CM IN DIA AND UP TO 3 CM LONG

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRAVERSE : DDHE-065 (CONTINUED)

- INTERVAL - (UNITS = FT)			CORE RECOVERY (FT.1)	% ROCK	TYPICAL MIN	QUAL MAT	TEXTURES	GRAIN CHARACTERS	FRAC-TURE	STRUCTUR-1	ALTERATION	MINS	ORE-TYPE	MINS	SUMMARY					
K E Y	F A Y	G FROM - TO	ROCK QUAL DESIG	FOR EN V Q	RT Q LC-	TM 1 2	TX 1 2	SR 1 2	SO 1 2	DIP F	T ID 1 2	STK AZM	DIP RT	A A A A	H H H H	A A A A	MIN ANY	MIN ANY	MIN ANY	
R LTH	420.0	444.0																		
R LTH	420.0	444.0																		
R LTH	420.0	444.0																		
R LTH	420.0	444.0																		
R SAM	442.0	442.5																		
P	444.0	452.5																		
L																				
R LTH	444.0	452.5																		
R LTH	444.0	452.5																		
R LTH	444.0	452.5																		
R LTH	444.0	452.5																		
R LTH	444.0	452.5																		
R LTH	444.0	452.5																		
N	446.0	451.0																		
L																				
P	452.5	487.0																		
L																				
R LTH	452.5	487.0																		
R LTH	452.5	487.0																		
N	452.5	487.0																		
L																				
R SAM	483.0	483.6																		
P	487.0	523.0																		
L																				
R LTH	487.0	523.0																		
R LTH	487.0	523.0																		
R LTH	487.0	523.0																		
R LTH	487.0	523.0																		
R LTH	487.0	523.0																		
R LTH	487.0	523.0																		
R THN	496.0	496.0																		
R THN	496.0	496.0																		
P	523.0	527.0																		
L																				
R LTH	523.0	527.0																		
R LTH	523.0	527.0																		
R LTH	523.0	527.0																		
R LTH	523.0	527.0																		

IN THE BANDED VARIETY. CALCITE VEINLETS 1-2 MM THK X-CUT THE BLACK MATERIAL AND THE LIMESTONE. THE CORE SURFACE SHOWS A FINE TO V-FINE SAND SIZED DETRITAL TEXTURE WHILE THE BROKEN SURFACES GIVE A X'AL TEXTURE (PROB. CALCITE CEMENT) BLUE GRY LST WITH BLK CHERTY BANDS AND PATCHES.

SKAR G B H P 2 VL V3 61 6) G A L 5
LS YG C 4 85
YELLOWISH-GREEN, MEDIUM GRAINED, GARNETIFEROUS SKARN. THE ORIGINAL ROCK IS A GREY X'AL - ASH TUFF WITH HBL (?) AND FELD X'ALS TO 5 MM. MANY OF THE FELD ARE SHARD L'L SUGGESTING THE TUFACEOUS SOURCE. THE SKARN AT THIS POSITION IN THE LST IS PROB DUE TO THE PRESENCE OF THE TUFACEOUS LAYER. THE SKARN ALT'NS EXTEND 50 CM ABOVE THE TUFF CONTACT INTO THE LST AND APT 40CM. BELOW THE LOWER CONTACT OF THE TUFF.

QALS BN G 9 H P 5 BN 60 V*
BA C 5 BN 50
BLUE GRY LST WITH APT 50% AS LT WHITE BANDS ASSOC WITH THIN (1 MM) PYR VNLS.
5 QALS BN G 9 H N 3 BN 40 V*
7W C 5 BN 50
CLOTS OF EPI-SKARN IN SWIRLED BANDS (BDS?) IN GRY-WT LST.

QATF H B K P 2 VL 30 3 V2 7+
AG C 3 73 P4 P2
GREYISH-GREEN TO LT GREENISH-GREY, COARSE ASH-X'AL TUFF WITH MAFIC CLASTS TO 4 MM. THE UNIT COULD BE A PORPHYRITIC ANDESITE EXCEPT THAT SOME BEDS OF COARSER TUFF OCCUR THRO THE SECTION. A GREASY BRN STAIN OCCURS FROM 496 TO APT 505 FEET. FROM 505-523 THE RK IS LIGHTER COLOURED REFLECTING A PERV. SERICITE ALT'N OF THE FELD CLASTS AND THE MATRIX. SPOTTED VOLC WITH MAFIC CLASTS TO 3 MM REPLACED WITH AMPHIBOLE (?) NEEDLES AND STRG BRN STAIN.

SKAR H B I P V3 7* 6/ 6+ G A L 7
LS YG C 3
INTENSELY SKARNIFIED LST AT CONTACT BTW TUFF AND LST. YELLOW-BROWN ANDRADITE GARNET COMP UP TO 60% OF SOME LAYERS. SOME COARSE CALC-SILICATE (DIOP?) NOTED IN WITH GARNETIZED RK. CALCITE (WT) VEINLETS CUT SKARN.

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

F - INTERVAL - L (UNITS = FT) G FROM - TO			CORE RECOVERY (FT.1)	% ROCK X TYPE	TYPI- QAL FYING MIN MAT 1 2 QM1 1 2 F F C P # TK	TEXT- TURES CHARAC TURE F C % M	GRAIN FRAC- S R S O DIP F	STRUCTUR-1 ID STK DIP AZM RT	ALTERATION MINS ORE-TYPE MINS								SUMMARY		
									FOR EN RT	TM QM2 TX TX	S R S O	DIP F	T ID STK DIP	KF MU CL EP HE HA PR MO SL HA	H H H H H ANY H H H ANY	A A A A A MIN A A A MIN		CP GL YY	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R LTH	595.0	663.0																	
R THN	617.0	617.0																	
N	623.0	663.0																	
L																			

GREY-GREEN, PORPHYRITIC, BASALT WITH PHENOS OF DK MAFICS COMPOSING 10% - 15%, TO 2 MM AND ALT'D FELD PHENOS TO 4 MM COMPOSING, 15-25% OF RK IN AN APHANITIC TO FINE GRAINED MATRIX. LOCALLY AMYGDULES TO 5 MM WITH CHLORITE FILLINGS. REDDISH HEMATIZED ALT'N ENVELOPES TO 3 CM PER SIDE, BUT GEN 5-10 MM PER SIDE OCCUR ON WHITE ZEO AND PYRITE VNS GEN 5 MM - 10 MM TK AND AT 50 DEG TO CORE. SOME BLK CARBON MTL OCCURS IN WITH WT ZEOLITE VEINLETS. ZEO-PYR WITH REDDISH ALT'N ENV'S IN BASALT.

X K MBA FX MX PP 6 9 K N 2 VZ 50 V2 ZE 7+
C 2 VP 50 P2 P2 V6

SUMMARY REMARKS

- 0-2 - STICKUP
- 2-31 - OVERBURDEN
- 31-150 - INTERLAYERED THIN BANDED/BEDDED FINE GRAINED ALT'D P.B. SEDS. AND COARSE ASH-LAPILLI-CRYSTAL TUFF. THE LATTER MAY BE A LESS PORPHYRITIC VARIETY OF THE AUGITE-FELD PORPHYRY FROM 35-274 FEET IN HOLE E-66. LESS THAN 10% OF THE SECTION IS THE THIN BEDDED ROCK.
- 150-254 - CHLORITE-EPIDOTE ALT'D AUGITE-FELDSPAR PORPHYRY. A STRONG FRACTURE/CRACKLE ZONE FROM 150-205 FEET IS ASSOCIATED WITH A FAULT AT 164-166 FEET.
- 254-303 - LIGHT GREEN-GREY, COARSE GRAINED QUARTZ-FELDSPAR PORPHYRY WITH XENOLITHS OF FINER GRAINED, LESS PORPHYRITIC GRANITIC INTRUSIVE.
- 303-362 - AUGITE-FELDSPAR PORPHYRY SIMILAR TO SECTION 166-254 FT
- 362-406 - CHLORITE-EPIDOTE-SERICITE ALTERED ANDESITE TUFF. PORPHYRY (?); A VARIETY OF AUGITE-FELD PORPHYRY(?).
- 406-420 - YELLOWISH-GREEN, EPIDOTIZED CALCAREOUS THIN BEDDED, FINE GRAINED SEDIMENTS - ALTERED SILTSTONE-SHALE WITH SOME BROWN GARNET SKARN IN PARSON BAY SEDS AND SOME SPHALERITE.
- 420-444 - BLUE GREY LIMESTONE - QUATSINO FORMATION.
- 444-452.5 - YELLOW-GREEN, GARNETIFEROUS SKARN - ALTERED LIMY TUFF (?).
- 452.5-487 - BANDED BLUE-GREY AND WHITE LIMESTONE.
- 487-523 - GREYISH-GREEN COARSE ASH-CRYSTAL TUFF WITH GREASY-BROWN CARBON STAIN FROM 496-505 AND MODERATE SERICITE ALTERATION FROM 505-523 FEET.
- 523-527 - SPHALERITE MINERALIZATION IN YELLOW-BROWN GARNET SKARN ALTERATION AT TUFF-LIMESTONE CONTACT.

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

SUMMARY REMARKS

- 527-536 - THIN BEDDED GREY AND WHITE CARBONACEOUS LIMESTONE.
- 536-562 - BLUE GREY, MASSIVE LIMESTONE.
- 562-568 - YELLOW-BROWN GARNET SKARN WITH CPY, SP AND
PY VEINS.
- 568-579 - EPIDOTIZED TUFF (?).
- 576-584 - REDDISH-BROWN GARNET SKARN WITH PATCHES OF CPY,
SPHALELITE AND PYRITE.
- 584-595 - EPIDOTIZED TUFF.
- 595-663 - GREY-GREEN, PORPHYRITIC/AMYGDUULAR BASALT -
KARLUTSEN FM.

Note 1 ft = 0.305 m

DIAMOND DRILL CORE ASSAYS

HOCE=E-065

FROM (FEET)	TO	CU %	MO %	PB %	ZN %	AU PPM	AG PPM	FE %	TAG
39.0	45.0	0.08	0.004	-0.001	0.134	.	.	.	2804
55.0	65.0	0.07	0.004	-0.001	0.028	.	.	.	2805
80.0	90.0	0.07	0.004	-0.001	0.005	.	.	.	2806
120.0	130.0	0.08	0.003	-0.001	0.044	.	.	.	2807
160.0	170.0	0.09	0.003	-0.001	0.021	.	.	.	2808
200.0	210.0	0.09	0.004	-0.001	0.008	.	.	.	2809
240.0	250.0	0.08	0.003	-0.001	0.011	.	.	.	2810
245.0	250.0	0.02	0.001	0.000	0.010	.	.	.	1582
280.0	290.0	0.06	0.004	-0.001	0.006	.	.	.	2811
320.0	330.0	0.08	0.004	0.004	0.023	.	.	.	2812
360.0	370.0	0.07	0.004	0.032	0.045	.	.	.	2813
370.0	380.0	0.08	0.004	0.002	0.006	0.020	0.250	.	3226
380.0	390.0	0.08	0.005	0.106	0.470	0.020	0.210	.	3227
390.0	400.0	0.07	0.004	0.001	0.400	0.020	0.100	.	3228
400.0	406.0	0.08	0.007	0.008	2.300	.	.	.	2814
406.0	410.0	0.08	0.011	0.009	1.720	.	.	.	2815
410.0	413.0	0.09	0.007	0.030	0.780	.	.	.	2816
413.0	420.0	0.07	0.009	0.016	1.980	0.010	1.500	.	2817
420.0	430.0	0.07	0.003	0.001	0.005	0.010	0.100	.	3229
430.0	440.0	0.07	0.004	0.003	0.003	0.030	0.050	.	3230
440.0	444.0	0.07	0.004	0.010	0.380	0.010	0.380	.	2818
444.0	446.0	0.21	0.004	0.001	1.560	0.010	2.050	.	2819
446.0	451.0	0.11	0.004	0.001	0.130	0.010	0.850	.	2820
451.0	452.5	0.15	0.003	0.002	1.140	0.020	1.490	.	2821
452.5	460.0	0.07	0.003	0.001	0.067	0.010	0.320	.	2822
460.0	470.0	0.07	0.003	0.003	0.021	0.030	0.090	.	3231
470.0	480.0	0.07	0.004	0.002	0.032	0.010	0.190	.	3232
480.0	490.0	0.07	0.004	0.003	0.038	0.020	0.040	.	3233
488.0	495.0	0.09	0.004	0.001	0.033	0.010	0.280	.	2823
490.0	501.0	0.08	0.004	0.001	0.004	0.010	0.370	.	3234
501.0	510.0	0.10	0.003	-0.001	0.024	0.010	0.390	.	2824
510.0	523.0	0.09	0.005	0.001	0.002	0.010	0.110	.	3235
523.0	527.0	0.45	0.003	0.001	6.560	0.020	6.870	.	2825
527.0	548.0	0.08	0.004	0.001	0.083	0.020	0.350	.	3236
540.0	550.0	0.10	0.003	-0.001	0.780	0.020	0.830	.	2826
550.0	557.0	0.08	0.004	0.001	0.049	0.010	0.260	.	3237
557.0	560.0	0.24	0.005	-0.001	0.600	0.020	2.530	.	2827
560.0	563.0	0.31	0.025	0.002	0.198	0.020	3.700	.	2828
563.0	568.0	0.76	0.018	-0.001	0.150	0.030	6.520	.	2829
568.0	570.0	0.19	0.005	-0.001	0.010	0.010	1.070	.	2830
570.0	576.0	0.19	0.005	-0.001	0.013	0.010	1.150	.	2831
576.0	580.0	0.83	0.009	-0.001	0.087	0.010	6.550	.	2832
580.0	584.0	0.94	0.004	-0.001	0.148	0.010	7.780	.	2833
584.0	590.0	0.22	0.007	-0.001	0.020	0.010	2.060	.	2834
590.0	595.0	0.12	0.050	-0.001	0.010	0.010	0.660	.	2835
595.0	600.0	0.12	0.008	-0.001	0.002	0.010	0.440	.	2836
600.0	610.0	0.11	0.013	0.001	0.056	0.010	0.300	.	3238
610.0	620.0	0.11	0.004	0.001	0.003	0.020	0.280	.	3239
620.0	630.0	0.12	0.004	0.001	0.002	0.030	0.400	.	3240
630.0	640.0	0.11	0.004	-0.001	0.001	.	.	.	2837
640.0	650.0	0.11	0.004	0.001	0.001	0.030	0.300	.	3241
653.0	663.0	0.05	0.001	0.000	0.000	.	.	.	1583

DIAMOND DRILL CORE ASSAYS

ROCK QUALITY DESIGNATION (R.Q.D.)

* Expansion hole → dia 4" only!

HOLE #: E-65

DATE: 12/11/85

LOGGED BY: BFD

FEET/INCHES (FT)		INTERVAL		CORE	%	CUMUL. LENGTH OF PIECES (INCHES)			R. Q. D.			# of	FILE
FROM	TO	INCHES	CUM. INCHES	REC # (in)	RECY	≥ 2"	≥ 4"	≥ 8"	2'	4'	8'	PIECES	NO.
31	40	108	420	10%	100		22			20			
40	50	120	600	120	100		8			7			
50	60	120	720	120	100		22			18			
60	70	120	840	120	100		24			20			
70	80	120	960	120	100		30			25			
80	90	120	1080	120	100		27			22.5			
90	100	120	1200	120	100		81			67.5			
100	110	120	1320	120	100		16			13			
110	120	120	1440	120	100		22			18			
120	130	120	1560	120	100		27			22.5			
130	140	120	1680	120	100		65			54			
140	150	120	1800	120	100		56			47			
150	160	120	1920	120	100		27			22.5			
160	170	120	2040	120	100		52			43			
170	180	120	2160	120	100		62			52			
180	190	120	2280	120	100		26			23			
190	200	120	2400	120	100		19			16			
200	210	120	2520	120	100		44			37			
210	220	120	2640	120	100		20			17			
220	230	120	2760	120	100		34			28			
230	240	120	2880	120	100		37			31			
240	250	120	3000	SAMPLED									
250	260	120	3120	120	100		13			11			
260	270	120	3240	120	100		8			7			
270	280	120	3360	120	100		36			30			
280	290	120	3480	120	100		17			14			
290	300	120	3600	120	100		22			18			
300	310	120	3720	120	100		70			58			
310	320	120	3840	120	100		46			38			
320	330	120	3960	80	67		4			3			
330	340	120	4080	120	100		65			54			
340	350	120	4200	120	100		21			17.5			
350	360	120	4320	120	100		40			33			
360	370	120	4440	120	100		68			57			
370	380	120	4560	120	100		50			42			

ROCK QUALITY DESIGNATION (R.Q.D.)

* Exploratory hole - do 4" only!

HOLE #: **E-65**

DATE: **12/12/85**

LOGGED BY: **BDF**

FOOTAGES (FT)		INTERVAL		CORE	%	CUMUL. LENGTH OF PIECES (INCHES)			R. Q. D.			# of	FRAC.
FROM	TO	INCHES	CUM. INCHES	REC # (IN)	REC %	≥ 2"	≥ 4"	≥ 8"	2"	4"	8"	FRACTS	INTEN.
380	390	120	4680	120	100		51			42.5			
390	400	120	4800	120	"		22			18			
400	410	120	4920	120	"		24			20			
410	420	120	5040	120	"		53			44			
420	430	120	5160	290	75		10			8		MAYBE MISMATCH	
430	440	120	5280	120	100		29			24			
440	450	120	5400	120	100		56			47			
450	460	120	5520	120	100		96			80			
460	470	120	5640	120	100		102			85			
470	480	120	5760	120	100		76			63			
480	490	120	5880	120	100		73			61			
490	500	120	6000	120	100		56			47			
500	510	120	6120	120	100		64			53			
510	520	120	6240	120	100		77			64			
520	530	120	6360	120	100		90			75			
530	540	120	6480	120	100		42			35			
540	550	120	6600	120	100		82			68			
550	560	120	6720	120	100		68			57			
560	570	120	6840	120	100		48			40			
570	580	120	6960	120	100		46			38			
580	590	120	7080	120	100		47			39			
590	600	120	7200	120	100		65			54			
600	610	120	7320	120	100		77			64			
610	620	120	7440	120	100		84			70			
620	630	120	7560	120	100		51			42.5			
630	640	120	7680	120	100		91			76			
640	650	120	7800	120	100		88			73			
650	660	120	7920										
660	663	36	7956	36	100		0			0			
END OF HOLE													

DRILLHOLE/TRVERSE :HEADER

PROJECT IDEN : ISLAND START DATE : 86/ 2/ 7 COMPLETION DATE : 85/ 5/27 GEOLOGGED BY : GAC + JAF
 COLLAR NORTHING: COLLAR EASTING : COLLAR ELEVATION: GRID AZIMUTH :
 TOTAL LENGTH : 0.00 CORE/HOLE SIZE : MACHINE TYPE : CONTRACTOR : TONTO

K E Y	F L Y G	- INTERVAL - (UNITS = FT) FROM - TO	CORE RECOVERY (FT.1)	% M ROCK TYPE	TYPICAL MIN QM1	QAL TEX- TURES	GRAIN CHARACTERS	FRAC- % M	STRUCTUR-1	ALTERATION	MINS	ORE-TYPE	MINS	SUMMARY
K	F		ROCK FOR EN RT	TM QM2	TX TX S R S O	DIP F	T ID STK DIP	KF MU	CL EP HE HA PR MD SL HA					
E	L		QUAL MEM V Q LC- 3	3 4 0 N H / SML I			2 AZM RT		H H H H H H H H					
Y	G		DESIG AGE COL		R D P C		STRUCTUR-2		A A A A A A A A					

SUMMARY REMARKS

ROCK CODES U24-27	G SCALE	ALTERATION AND ORE MINERALS	FACIES U77-79
OVER OVERBURDEN	? POSS	QZ QUARTZ	0 FRESH
STKP STICKUP	/ PROB	CY CLAY	1 CHL-EPI
CASN CASING-NO CORE	0 0.0%	DU DUMORTIERITE	2 CHL-MAG
MISN CORE MISSING	. 0.01%	KF K-FELDSPAR	3 BIO-CHL
FAUL FAULT GOUGE	- 0.03%	BI BIOTITE	4 MAG-QTZ
SAND SAND (TECTONIC)	(0.1%	BX BRECCIA FRAG	5 PYROPHYLLITE
ISGD ISL GRANODIORITE	* 0.3%	PP PYROPHYLLITE	6 SERICITE
INBX INTRUSIVE BRECCIA) 1.0%	CL CHLORITE	7 SER-CHL
BVAL ANDESITE ?	+ 2.5%	CB CARBONATE	8 K-SPAR
QTZV QUARTZ VEIN	= 5.0%	EP EPIOTTE	9 SILICIC
BVAG BON. AGGLOMERATE	1 10%	MG MAGNETITE	
PPFX FELDSPAR PORPH	2 20%	HE HEMATITE	MINERAL ZONE
BVAT ANDESITE TUFF	3 30%	FL FLUORITE	L 77-79
BVAE ANDESITE FLOW	4 40%	PY PYRITE	0 NEGLIGIBLE
BVAB BRECCIA	5 50%	PR PYRROTITE	<0.5%
ISDR ISLAND DIORITE	6 60%	CP CHALCOPYRITE	1 PY
BVAN ANDESITE UNDIFF	7 70%	MO MOLYBOENITE	2 PY>CP
KMBA KARMUTSEN BASALT	8 80%	EN ENARGITE	3 PY>CP,MO
PPQF QUARTZ FELDS POR	9 90%	CV COVELITE	4 PY+MO CP
KMLS KARMUTSEN LST.	X 100%	CC CHALCOCITE	5 PY+CP+CC+BO
BRXX BRECCIA ZONE		FX FELDSPAR	+CV+/-MO
CLAY CLAY ZONE		VF VOLC FRAG	6 PY+BO+CC+CV
ISQD ISL QTZ DIORITE		GI GILSONITE	+/-MO
CONG CONGLOMERATE		AK ANKERITE	7
MATR MATRIX DESCR.		X1 GRN SER ?	8 MO
PBLS PARSON BAY LST.		X2 SAUSSERITE ?	
PBSD PB. SEDIMENTS		X3 WH ZEOLITE ?	
PBTF P.B. TUFFS		X4 GYPSUM ?	
PBVS P.B. SEDS/TUFFS		X5 BRN CHL ?	
PPAN ANDESITE PORPH.		X6 BRN BIO ?	
PPHB HORNBLende/AUGITE PORP.			
QALS QUATSINO LST.			
SKAR SKARN			
ARGL ARGILLITE			
CFX CRYTA. TUF			

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14-777

UTAH MINES LTD., VANCOUVER B.C.
ISLAND COPPER: EXPLORATION

DRILLHOLE/TRVERSE : HEADER (CONTINUED)

SUMMARY REMARKS

TUFF UNDIFFERENTIATED TUFF
TFLP LAPILLI TUFF
AN/L ANDESITE SILL
PPXX PORPHYRY, GENERAL
% MIX IS AMOUNT OF NEST
IN PGI, G SCALE, %

I SCALE

KEY FLAGS (2-4)	X EXTREME	3 WEAK
	9 V STR-EX	2 V WK-WK
KTOX TOP OF OXIDE ZONE	8 STR-V STR	1 VERY WEAK
KBOX BOTTOM OF OXIDE	7 STRONG	0 NONE
	6 MOD-STR	" RETURN TO BLANK
	5 MODERATE	
	4 WK-MOD	

H-SCALE HOW OF ALTERATION MINERALS

X MASSIVE	1 MINOR MICROVNS+ SCTD.XT
9 PERVASIVE	0 BARREN
8 DISS, PATCHES>VNS,SEL,ENV	D DISSEMINATIONS
7 DISS, PATCHES=VNS,SEL,ENV	V VEINS
6 DISS, PATCHES<VNS,SEL,ENV	E ENVELOPES
5 VNS +/OR ABUNDANT ENV	S SELVAGES
4 VNS+ /OR OCCASIONAL ENV	P PERVASIVE
3 VNS = SPOTS+PATCHES	Q PATCHES
2 MICROVEINS + VEINS	C COATINGS
	K STOCKWORK
	U COATING VUGS
	" RETURN TO BLANK

STRUCTURE IDS	STRUCTURE THICKNESS	COLOR	HUE
VQ VEIN QUARTZ	T-SCALE	LIGHTNESS	L28
VP VEIN PYRITE	0 < 1 MM	9 PALEST	W WHITE
VY VEIN PYROPH	1 1-3 MM	8 PALE	A GREY
VC VEIN CLAY	2 3-6 MM	7 LIGHT	U BROWN
VA VEIN QTZ PY	3 6-10 MM	6 MED-LIGHT	T TAN
VM VEIN QTZ MO	4 1-3 CM	5 MEDIUM	G GREEN
F/ FAULT	5 3-6 CM	4 MED-DARK	R RED
C/ CONTACT	6 6-12 CM	3 DARK	O ORANGE
SH SHEAR	7 12-30 CM	2 VERY DARK	N BLACK
SW STOCKWORK	8 30-60 CM	1 DARKEST	B BLUE
BN BANDING	9 60-100 CM	\$ ISH	P PURPLE
VH CPY VN	X >1 M	M MOTTLED	L LIME
VL CALC VN			\$ ISH
BD BEDDING			
VB VEIN CARB			
BR BRECCIATED			
V/ VEIN			
<< MICROVN'D			
VF MAG VN			
VZ VEOLITE VN			

U,L 49-50

U,L 48

TYPIFYING MINERALS FRACTURE I.D.

UTAH MINES LTD., VANCOUVER B.C.
ISLAND COPPER: EXPLORATION

DRILLHOLE/TRVERSE : HEADER (CONTINUED)

SUMMARY REMARKS

TEXTURES	TMH28-29 QMIJ32-33	F-SCALE
TX1(U35-36)	TMJ30-31 QM2L32-33	U-45-PYRITE
TX2(L35-36)	TMSL28-29	U-46-QUARTZ
PP PORPHYRITIC	QZ QUARTZ	L-46-DRY FRAC
P/ VAGUE PORPH	QX QTZ PHENOS	FRACTURE COUNT
EQ EQUIGRANULAR	QF QTZ FRAGS	(U,L 44,46)
FR FRAGMENTAL	FX FELDSPAR	F-SCALE
CT CATACLASTIC	BI BIOTITE	1<1/FT
VG VUGGY	HB HORNBLLENDE	2 1/FT
BR BRECCIATED	PX PYROXENE	3 2-3/FT
B/ VAGUE BRECCIA	MG MAGNETITE	4 4-6/FT
KR CRACKLED	RF ROCK FRAGMENT	5 7-10/FT
SH SHEARED	VF VOLC FRAGMENT	6 11-18/FT
GG GOUGED	IF INTRUS FRAG	7 19-25/FT
BD BEDDED	VG OPEN SPACE	8 25-50/FT
CM CHILLED MARGIN	PF PY FRAG	9 >50/FT
BN BANDED	GG FLT GOUGE	X EXTREME
SW STOCKWORK	GA GARNET	
	MX MAFIC PHENOS	
	AK ANKERITE	
	BR BRECCIA	
	EP EPIDOTE	
	MD MUDSTONE	
REMARK HEADERS		
RALT	REMARK, ALTERATION	
RCOL	REMARK, COLOUR	
RCON	REMARK, CONTACT	
RFRC	REMARK, FRACTURE	
RCMP	REMARK, COMPOSITION	
RLTI	REMARK, LITHOLOGY	
RCOR	REMARK, CHANGE OF CORE SIZE	
RMIN	REMARK, MINERAL (NON-SULPHIDE)	
RMNZ	REMARK, MINERALIZATION	
RSAM	REMARK, SAMPLE	
RSTR	REMARK, STRUCTURE	
RTXT	REMARK, TEXTURE	
RVEN	REMARK, VEIN	
RYRD	REMARK, X-RAY DIFFRACTION	
RSUM	REMARK, SUMMARY	
RPHO	REMARK, PHOTO	
STHN	REMARK, THIN SECTION	

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065

PROJECT IDEN : ISLAND
COLLAR NORTHING: 18611.60
TOTAL LENGTH : 663.00

START DATE : 85/09/29
COLLAR EASTING : 16591.10
CORE/HOLE SIZE : NQ

COMPLETION DATE 85/10/02
COLLAR ELEVATION: 1331.80
MACHINE TYPE : SUPER 38

GEOLOGGED BY : JAF +
GRID AZIMUTH : 0.00
CONTRACTOR : TONTO

SURVEY FLAG		SURVEY POINT LOCATION	FORESIGHT	AZIMUTH (DEGREES)	VERTICAL ANGLE (DEGREES)	NORTHING	EASTING
000		.0		18.00	-50.00		
001		300.0		18.00	-52.00		
002		663.0		18.00	-52.00		

R HED
R HED

DRILLED NORTH OF COAL HARBOUR ROAD, INCLINED TO NORTH TO PENETRATE THROUGH QUATSINO LST AND INTO THE KARMTUSEN FM.

K E Y	F - INTERVAL - L (UNITS = FT)		CORE RECOVERY (FT.1)	X TYPE	M ROCK	TYPI- QAL FYING MIN TURE	TEX- GRAIN TM TX TX F C % M	FRAC- TURE	STRUCTUR-1 T ID STK DIP	ALTERATION A A A A A	MINS MIN A A A	ORE-TYPE MIN A A A	MINS MIN A A A	SUMMARY
	FROM	TO												
K E Y	F		ROCK		FOR EN RT	TM QM2	TX TX S R S O	DIP F	T ID STK DIP	KF MU CL EP HE HA PR MO SL HA				
	L		QUAL		MEM V Q LC-3	3 4 0 N H /	SML I	2	AZM RT	H H H H H H H H				
	Y	G	DESIG		AGE	COL	R D P C		STRUCTUR-2	A A A A A A A A				
P	.0	2.0			STKP									
P	2.0	31.0			OVER									
P	31.0	67.0			PBT		FR MX G B M				V1	ZE 7)		
L					AG		VF C 3				P2 P4	V3		
R LTH	31.0	67.0			MED GRAY-GREEN, FINE GRAINED, CHLORITE - EPIPOTE - SERICITE									
R LTH	31.0	67.0			ALT'D, THIN BANDED/BEDDED SEDIMENTS. ROCK IS SOFT, STRONGLY									
R LTH	31.0	67.0			ALT'D WITH CALCITE AND AS FRACT. FILLINGS AND VEINLETS.									
R LTH	31.0	67.0			BEDS SHOW SOME BRECCIATION. CHLORITE AND SERICITE ALT'NS									
R LTH	31.0	67.0			ARE PER, WHILE EPI OCCURS AS SPOTS, PATCHES AND ALONG BDS.									
R LTH	31.0	67.0			RK LABELLED (PPSD) ALTHOUGH THE SEOS MAYBE TUFFACEOUS.									
R LTH	31.0	67.0			SOME SPHALERITE OCCURS IN CHL-EPI PATCHES AND AS VEINLETS									
R LTH	31.0	67.0			TO 2 MM.									
R LTH	31.0	67.0			INTERBEDDED WITH THE ABOVE THIN BOD MATERIAL IS									
R LTH	31.0	67.0			A GREYISH-GREEN COARSE ASH, CRYSTAL TO LAPILLI ANDES.									
R LTH	31.0	67.0			TUFF THAT HAS UP TO 15% BLACK PYROXENE CRYSTALS TO									
R LTH	31.0	67.0			2-3 MM IN LENGTH. THE TUFF IS CHLORITE - SERICITE									
R LTH	31.0	67.0			ALTERED WITH CHLORITE ALT'N MAINLY OF PYROXENE, X'ALS									
R LTH	31.0	67.0			AND LITHIC CLASTS AND SERICITE IN MATRIX. PYRITE									
R LTH	31.0	67.0			CONTENT IS LOW. THE TUFF COMPOSES ABOUT 50% OF THE SECTION									
R LTH	31.0	67.0			31 TO 67 FEET.									
N	31.0	40.0			X PBSD		BD BN E G	N 2 BD	35		V5	ZE 7)		
L					AG		SH BR	7	3 BD	50	P5 P5	B3	V3	6*
R LTH	35.0	35.3			SAMPLE OF BOD RK.									
R THN	39.0	39.0			GREEN LITHIC - X'AL TUFF - (ANDESITE PORPHYRY?)									
N	43.0	45.0			X PBSD		BD	N 2 BD	50					
L					AG			7						
N	55.0	59.0			X PBSD		BD SH	N 2 BD	50					

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

F - INTERVAL - L (UNITS = FT) E A Y G FROM - TO			CORE RECOV- ERY (FT.1)	% M ROCK I X TYPE	TYPI- QAL FYING MIN TM TM MAT	TEX- TURES TX TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1 T ID STK DIP 1 AZM RT QZ	ALTERATION MINS H H H H H A A A A A QZ BI CY CB MG XX PY CP GL YY	ORE-TYPE MINS H H H H H A A A A A MIN A A A A A	SUMMARY
K F			ROCK QUAL DESIG	FOR EN RT MEM V Q LC- AGE COL	TM QM2 TX TX S R S O 3 3 4 0 N H / SML I	FR MX H B K C	DIP F R D P C	T ID STK DIP 2 AZM RT	STRUCTUR-2 KF MU CL EP HE HA PR MO SL HA			
L N L	63.0	67.0		X PBSD AG AG		BR BD BR SH	7 N 3 SH 2 BD 7					7=
P L R LTH R LTH R LTH R LTH R LTH N L N L	67.0 67.0 67.0 67.0 67.0 80.0 83.0	150.0 150.0 150.0 150.0 150.0 110.0 85.0		PBTF MX VF MX X PBSD GA	FR MX H B K C	H B K C	P 3 N 2			V2 P2 P4 P1 V2 P2 P4 P1 L4 L4 L4		ZE 7) V3 ZE 7) V3
R SAM R SAM R SAM R SAM R SAM R ALT N L R SAM R SAM N L N L P L R FRC R FRC R FRC R LTH R LTH R LTH R LTH R LTH R LTH R LTH R VEN	86.0 86.0 86.0 86.0 86.0 89.0 89.0 90.5 90.5 110.0 130.0 130.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0	86.4 86.4 86.4 86.4 88.4 90.0 90.0 90.8 90.8 130.0 150.0 166.0 205.0 205.0 205.0 254.0 254.0 254.0 254.0 254.0 254.0 205.0										
<p>LARGE LITHIC CLASTS TO 7 CM LONG - FRAGS ARE TUFF AND BDD RK AND SHOW SOME BREAKAGE IN PLACE WITH SLIGHT DISPLACEMENT OF BROKEN PARTS OF CLASTS. SOME DARK, CHLORITIC PYROX ALS ARE UP TO 1 CM LONG. NOTE THE CUSPATE LOOK OF THE DARK CLASTS - SOFT PYROCLAST FALL - AGGLOMERATIC - SEE 53-71 FT. IN HOLE E-66. SOFT, LIMY, SKARNY LOOKING ALT'D BEDDED ROCK. PYROXENE EUHEDRA TO 2 CM IN LAPILLI CLAST OF PYROX- FELD PORPHYRY. THE ROCK IS CRACKLED BRECCIATED AND HEALED WITH WHITE CALC AND WT ZEO VEINS 1 MM - 1 CM THK. THE HIGH FRACTURE DENSITY IS DUE TO A FAULT @ 164-166 FT. LATE CARB VEINS ALSO DISRUPTED. A MED-GREEN, PORPHYRITIC APPEARING RK WITH BRONZY, STUBBY, PHENOS TO 1 CM BUT AVERAGING 5 MM COMPOSING UP TO 15% OF RK. SOME SECTIONS HAVE THIN, GREY REACTION RIMS. MOST OF THE PHENOS ARE EUHEDRAL. THIS IS A DISTINCTLY DIFFERENT TEXTURED ROCK FROM THE ABOVE TO 150 FT. THIS IS INCL WITH HBL PORPHYRY. SOME WHITE, ROUND QTZ GRAINS NOTED THRO UNIT PLUS SOME BIOTITE TO 4 MM. BLK GILSONITE AND BRN CARBON STAINED CALCITE IN SECTION.</p>												

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	- INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	% M I X	ROCK TYPE	TYPI- FYING TM	QAL MIN 2	TEX- TURES TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1			ALTERATION				MINS				ORE-TYPE				SUMMARY													
	FROM	TO									ID	STK	DIP	A	A	A	A	H	H	H	H	A	A	A	A		MIN	A	A	A	A	MIN	A	A	A	A			
R L N	150.0	205.0																																					
THE UNIT COULD BE A X'AL TUFF, BUT IT'S NOT OBVIOUSLY SO.																																							
P R S	166.0	205.0																																					
PPHB MX PP SH J 8 K P 5 VL 30 P5 V6 ZE 8) 6 J																																							
R S R	170.0	170.2																																					
THIN GRV REACTION RIMS AROUND PHENOS.																																							
R S R	199.0	201.0																																					
HIGHLY SHEARED, BKN CORE ON FAULT AT 199 FT WITH 10 CM GOUGE.																																							
P L R	205.0	254.0																																					
PPHB J 8 K P 2 VL 30 V3 ZE 7) P4 73 V3																																							
R C O N	250.0	254.0																																					
INCREASE MAGNETITE ALT'N TOWARD CONTACT - CONTACT SHARP.																																							
P L R T H N	254.0	303.0																																					
PPQF QX FX PP J 6 L P V4 ZE 7) P1 P3 73 V3																																							
R T H N	254.0	254.0																																					
REDDISH MICACEOUS MINERAL - ALSO IN UNDERLYING QFP AS ALT'N OF PYROX(?) PHENOS.																																							
R L T H	254.0	303.0																																					
LT GREEN-GRAY, COARSE GRAINED, QFP WITH QTZ PHENOS TO 10 MM COMP APT 5%; WHITE EUHEDRAL FELD TO 5 MM COMP TO 50% AND CHLORITIZED MAFIC PHENOS TO 4 MM COMP ABOUT 5%. THE QFP IS WEAKLY ALT'D WITH LOC STRG SERIC ALT'N OF FELD AND CHLORITE IN SHEARED PORPHYRY. SEVERAL SHORT SECTIONS OF FINER GRAINED, MORE EQUIGRANULAR INTR. OCCUR WITHIN QFP SECTION. XENOLITH OF THE GREY INTR IS FOUND FROM 274-280 FEET INDICATING THE QFP IS YOUNGER. HOWEVER, THE COMPOSITIONS APPEAR SIMILAR. THE CONTACTS ARE SOMEWHAT DIFFUSE & THE GREY INTR (297-298) IS PORPHYRITIC.																																							
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
R L T H	254.0	303.0																																					
N L	272.0	274.0																																					
X ISGD EQ I 8 J N P2 P4 7)																																							
R T X T	274.0	280.0																																					
XENOLITHS OF THE GREEN, EQUIGRANULAR INTRUSIVE OCCUR IN THE QFP.																																							
R T X T	274.0	280.0																																					
N L	289.0	295.0																																					
X PPQF QX FX SH GG J 6 L N P6 P3 73 V4 ZE 7) V3																																							
R S A M	297.0	297.5																																					
CONTACT BTW QFP AND GRV PORPHYRITIC INTR.																																							
P L R S A M	303.0	362.0																																					
PPHB FX HX PP I 4 K P 3 VL 0 P2 P4 V5 ZE 7) V3																																							
R S A M	314.0	314.3																																					
DK CHL ALT'D PHENOS COMP 15% OF PORPHYRY.																																							
N L	325.0	330.0																																					
X FAUL GG F/ N 6 F/																																							
R L T H	330.0	362.0																																					
SIMILAR TO 166-254 FEET BEING MED DARK PORPHYRITIC RK WITH 10-15% BLK CHL ALT'D PYROX PHENOS TO 3 MM, 5-10% EUHEDRAL, LT GRN, GRV, BRONZY FELD (?) PHENOS TO 5 MM IN FINER GRAINED CHL-SERICITE ALT'D MATRIX. THIS COULD BE, AS THE ABOVE																																							

DRILLHOLE/TRVERSE : D0HE-065 (CONTINUED)

K E Y	F - INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	% M ROCK I X TYPE	TYPI- QAL		TEX- GRAIN		FRAC- CHARACS		STRUCTUR-1		ALTERATION		MINS		ORE-TYPE		MINS SUMMARY																			
	FROM	TO			TM	TM	TX	TX	S	R	S	O	DIP	F	T	ID	STK	DIP		A	A	A	A	A	MIN	A	A	MIN										
Y	G				1	2	Q	M1	1	2	F	F	C	P	#	TK	1	AZM	RT	QZ	BI	CY	CB	MG	XX	PY	CP	GL	YY									
E L Y	F R O M	T O	ROCK QUAL	FOR MEM	EN V	RT Q	TM LC-3	Q M2	TX 3	TX 3	S 0	R N	S H	O /	DIP SML	F I	T 2	ID AZM	STK RT	DIP RT	KF	MU	CL	EP	HE	HA	PR	MO	SL	HA								
Y	G		DESIG	AGE	COL																																	
R	LTH	330.0																																				
R	LTH	330.0																																				
N	L	330.0																																				
R	CON	360.0																																				
R	CON	360.0																																				
R	CON	360.0																																				
P	L	362.0																																				
R	LTH	362.0																																				
R	LTH	362.0																																				
R	LTH	362.0																																				
R	LTH	362.0																																				
R	LTH	362.0																																				
R	LTH	362.0																																				
R	THN	366.0																																				
R	VEN	380.0																																				
N	L	392.0																																				
R	CON	396.0																																				
R	CON	396.0																																				
R	CON	396.0																																				
N	L	396.0																																				
P	L	406.0																																				
R	LTH	406.0																																				
R	LTH	406.0																																				
R	LTH	406.0																																				
R	LTH	406.0																																				
R	LTH	406.0																																				
R	LTH	406.0																																				
R	SAM	414.0																																				
R	THN	416.0																																				
P	L	420.0																																				
R	LTH	420.0																																				
R	LTH	420.0																																				
R	LTH	420.0																																				
R	LTH	420.0																																				

UNIT, A POORLY EXPRESSED X'AL TUFF. CALL IT PART OF HORNBLLENDE,
(FELDSPAR) PORPHYRY UNIT. (IE. HBL-AUGITE-FELD PORP)

X PPHB FX HX SH I 4 K N 6 F/ D V5 ZE 7)
AG GG BR 0 4 3 VL 7D P2 P4 V3

SHEARED, BROKEN CONTACT ALONG WITH 20 CM OF COARSE BXX WITH
80% ANGULAR FRAGS TO 1.5 CM. THE PORPHYRY ABOVE THE CONTACT
IS LACED WITH WHITE CALCITE VEINLETS 1-3 MM THK ON AVG.

PBTF I 8 K P 2 VL 40 V4 ZE 7+ G I
GA C 3 72 P4 62 V2 V 3

MED GREENISH-GREY, MASSIVE, WEAKLY PORPHYRITIC ANDESITE
WITH A TUFFACEOUS LOOK. A SIMILAR UNIT LOGGED IN HOLE
E64 180-193 FEET. POSSIBLY A FINER GRAINED VARIETY OF
THE PORPHYRY, A PORPHYRITIC ANDESITE OR A ASH-X'AL
TUFF. THE RK HAS A MOD CHL ALT'N, WEAK SERIC WITH SERIC
AND EPI AS ENV TO 5 CM (PER SIDE) ON TIGHT FRACTS.
PYRITE IS MORE ABD IN THIS UNIT THAN ABV. UNITS (ABT 2.5%)
GILSONITE OR BRN CARBON STAIN COMMON IN CALC-EPI-PYR VEINS.
PORPHYRITIC ANDESITE (TUFF?)

MINOR GREY GYPSUM VEINLETS OCCUR WITH WHITE CALCITE.

X PBTF I 8 K N 2 VL 40 V4 ZE 7+ G I
BG C 3 65 P3 65 V2 V 3

HIGHLY SHEARED, CHL-SERIC ALT'D CONTACT WITH ABT 30 CM
FOLIATED GOUGE AT 396 FEET. CALCITE IS ABD AS VNLTS AND
IN GOUGE.

X PBTF SH GG I 8 K N 5 F/ 40 V4 ZE 7+ G I
GA KR C 8 72 P4 62 V2 V 3

PBSD BD F 8 H P 2 BD 60 V4 GA
LS C 4 2 BD 50 L7 64 L) Q2

GREEN, YELLOWISH GREEN BANDED, THIN BDD'S EPIDOTIZED
CALCAREOUS SEDIMENTS. BRILLIANT RED HEM OCCURS WITH CALC VEINS
AS SELVEGES AND SELECTIVELY ALT'S BEDS. SOME BROWN GARNET OCCURS
IN SOME OF THE EPIDOTE BANDS. THE RK IS CUT BY THIN WT CALCITE
VEINLETS. SPHALERITE OCCURS ALONG THIN BDS.

CRACKLED SED HEALED WITH BLK CHL.
ALT'D, THIN BEDDED, CALLAREOUS SEDS.

QALS G 7 H P
BA C

BLUISH-GREY, FINE GRAINED, PARTLY CRYSTALLIZED LIMESTONE
WITH UP TO 2% GREYISH-BLACK CHERY NODULES AND BANDS
GENERALLY WITH SOME DEFORMATION OF THE NODULES. THE
DARK COMPONENTS AVERAGE 1 CM IN DIA AND UP TO 3 CM LONG

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	% M I X	ROCK TYPE	TYPI- FYING TM	QAL MIN MAT	TEX- TURES TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1 ID STK DIP	ALTERATION A A A A	MINS H H H H	ORE-TYPE MIN A A A A	MINS H H H H	SUMMARY	
	FROM	TO															
R L Y	LTH	420.0	444.0	ROCK	FOR EN RT	TM QM2	TX TX	S R S O	DIP F	T ID STK DIP	KF MU CL EP	HE HA PR MO SL HA					
E L	LTH	420.0	444.0	QUAL	MEM V Q LC-3	3 4	0 N H	/ SML I		2 AZM RT		H H H H					
Y G	LTH	420.0	444.0	DESIG	AGE COL		R D P C			STRUCTUR-2		A A A A					
	R L Y	LTH	420.0	444.0													
	R L Y	LTH	420.0	444.0													
	R L Y	LTH	420.0	444.0													
	R L Y	SAM	442.0	442.5													
	P L		444.0	452.5													
	R L Y	LTH	444.0	452.5													
	R L Y	LTH	444.0	452.5													
	R L Y	LTH	444.0	452.5													
	R L Y	LTH	444.0	452.5													
	R L Y	LTH	444.0	452.5													
	R L Y	LTH	444.0	452.5													
	N L		446.0	451.0													
	P L		452.5	487.0													
	R L Y	LTH	452.5	487.0													
	R L Y	LTH	452.5	487.0													
	N L		452.5	487.0													
	R L Y	SAM	483.0	483.6													
	P L		487.0	523.0													
	R L Y	LTH	487.0	523.0													
	R L Y	LTH	487.0	523.0													
	R L Y	LTH	487.0	523.0													
	R L Y	LTH	487.0	523.0													
	R L Y	LTH	487.0	523.0													
	R L Y	THN	496.0	496.0													
	R L Y	THN	496.0	496.0													
	P L		523.0	527.0													
	R L Y	LTH	523.0	527.0													
	R L Y	LTH	523.0	527.0													
	R L Y	LTH	523.0	527.0													
	R L Y	LTH	523.0	527.0													

IN THE BANDED VARIETY. CALCITE VEINLETS 1-2 MM THK X-CUT
THE BLACK MATERIAL AND THE LIMESTONE. THE CORE SURFACE
SHOWS A FINE TO V-FINE SAND SIZED DETRITAL TEXTURE WHILE
THE BROKEN SURFACES GIVE A X'AL TEXTURE (PROB. CALCITE CEMENT)
BLUE GRY LST WITH BLK CHERTY BANDS AND PATCHES.

SKAR G B H P 2 VL V3 61 6) G A
LS YG C 4 85 L 5
YELLOWISH-GREEN, MEDIUM GRAINED, GARNETIFEROUS SKARN.
THE ORIGINAL ROCK IS A GREY X'AL - ASH TUFF WITH HBL (?)
AND FELD X'ALS TO 5 MM. MANY OF THE FELD ARE SHARD
LIL SUGGESTING THE TUFACEOUS SOURCE. THE SKARN AT
THIS POSITION IN THE LST IS PROB DUE TO THE PRESENCE
OF THE TUFACEOUS LAYER. THE SKARN ALT'NS EXTEND
50 CM ABOVE THE TUFF CONTACT INTO THE LST AND ABT 40CM.
BELOW THE LOWER CONTACT OF THE TUFF.
X QATF H 6 L N 2 VL 45 V3 7+
C 4 87

QALS BN G 9 H P 5 BN 60 V*
BA C 5 BN 50
BLUE GRY LST WITH ABT 50% AS LT WHITE BANDS ASSOC WITH THIN
(1 MM) PYR VNLTs.
5 QALS BN G 9 H N 3 BN 40 V*
7W C 5 BN 50

QATF H 8 K P 2 VL 30 3 V2 7+
AG C 3 73 P4 P2
GREYISH-GREEN TO LT GREENISH-GREY, COARSE ASH-X'AL TUFF
WITH MAFIC CLASTS TO 4 MM. THE UNIT COULD BE A PORPHYRITIC
ANDESITE EXCEPT THAT SOME BEDS OF COARSER TUFF OCCUR THRO
THE SECTION. A GREASY BRN STAIN OCCURS FROM 496 TO ABT 505
FEET. FROM 505-523 THE RK IS LIGHTER COLOURED REFLECTING A
PERV. SERICITE ALT'N OF THE FELD CLASTS AND THE MATRIX.
SPOTTED VOLC WITH MAFIC CLASTS TO 3 MM REPLACED WITH
AMPHIBOLE (?) NEEDLES AND STRG BRN STAIN.

SKAR H B I P V3 7* 6/ 6+ G A
LS YG C 3 L 7
INTENSELY SKARNIFIED LST AT CONTACT BTW TUFF AND LST.
YELLOW-BROWN ANDRADITE GARNET COMP UP TO 60% OF SOME LAYERS.
SOME COARSE CALC-SILICATE (DIOP?) NOTED IN WITH GARNETIZED
RK. CALCITE (WT) VEINLETS CUT SKARN.

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	- INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	% M ROCK I X TYPE	TYPI- FYING MIN 1 2	QAL MAT Q1	TEX- TX 1 2	GRAIN F C % M	FRAC- CHARACS P #	STRUCTUR-1 T ID 1	ALTERATION H H H H A A A A	MINS A A A A MIN A A A A	ORE-TYPE A A A A A A A A	MINS A A A A A A A A	SUMMARY	
	FROM	TO														
R E L E V E N G	THN	525.0	525.0													
	R MNZ	526.0	527.0													
	R MNZ	526.0	527.0													
	R MNZ	526.0	527.0													
	R SAM	526.0	526.1													
	P	527.0	536.0													
	L															
	R LTH	527.0	536.0													
	R LTH	527.0	536.0													
	R SAM	530.0	530.3													
	P	536.0	562.0													
	L															
	R TXT	536.0	555.0													
	R MNZ	536.0	557.0													
	R SAM	548.0	548.3													
	R SAM	552.0	552.4													
	R MNZ	557.0	558.0													
	P	562.0	595.0													
	L															
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R LTH	562.0	595.0													
	R MNZ	562.0	563.0													
	R MNZ	562.0	563.0													
	R MNZ	562.0	568.0													
	L															
	N	576.0	584.0													
	L															
	R THN	580.0	580.0													
	N	584.0	595.0													
	L															
	P	595.0	663.0													
	L															

YELLOW-BRN GARNETIFEROUS SKARN.
MASSIVE REPLACEMENT OF SKN BY SPHALERITE (BLK AND RESINOUS VARIETIES) AND POSS GALENA* WITH PYR AND CPY ALONG STR AT 20 DEG. * NOTE: ASSAYS SHOW <0.003 %PB; IE. NO GALENA.
SMALL SAMP. OF SULPHIDE MINERALS.

QALS BD H B J P 2 BD 60 V3
LS BA C 2 VH 60

THIN BDD GRY-WT LST WITH BDS GEN < 1 CM THK.
DARK LAYERS PROB DUE TO CARBONACEOUS MTL.
BEDDED LST WITH BLK BANDS - PARSON BAY FM (?)

QALS BN G B I P 2 BN 50 V3 V(
5A C 2 VP 45

THE LST IS NOT THIN BDD AS 527-536.
SCATT. PYR VEINS CUT BDD.
BLUE-GRY LST WITH CALC. VEINLETS.
BLK CHERT NODULES TO 6 CM DIA IN LST.
A 2 CM TK CP, SL, PY VN @ 55 DEG AT 558 FT.

SKAR G B I P 3 VH 30 V3 7= 3* G A
LS 5G C 4 P2 77 6* L 4

THE ZONE CONSISTS OF SEVERAL SECTIONS OF GREENISH EPIDOTIZED
RK AND REDDISH-BRN GARNITIZED RK AS FOLLOWS:
562-568 - INT YELLOW-BRN GARNET ALT'N WITH CPY AND
SPHALERITE VNS. BLK SL SPOTS THROUGHOUT.
568-576 - STRG EPI ALT'D
576-584 - INT REDDISH-BRN WITH VEINS AND PATCHES OF
CPY, SP, GALENA (?)
584-595 - GREEN EPIDOTIZED TUFF. THE GRN EPI RICH
SECTIONS APPEAR TO BE ASH TUFF INTERBEDS
WITH LST.
A 3 CM CPY VEIN @ 30 DEG AND A 1 CM PARALLEL VEIN PLUS PY AT
562 FT.

X SKAR G B I N 3 VH 30 V3 7= 3) 6/ G A
LS YG C 3 P2 72 6+ L B
X SKAR G B I N 3 VH 30 V3 71 3+ 6/ G A
LS RG C 4 P2 72 6+ L B

MINERALIZED GARNETIFEROUS SKARN.
X SKAR FX FR G B I N 3 VH 30 V3 7= 3* G A
LS 5G C 4 P2 77 6* L 4

KMBA FX MX PP 6 9 K P 2 VZ 50 V2 ZE 7+
C 2 VP 50 P2 P2 V4

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	- INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	X M I X TYPE	TYPI- FYING TM	QAL MIN TM	TEX- TURES TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1				ALTERATION MINS				ORE-TYPE MINS				SUMMARY										
	FROM	TO								T	ID	STK	DIP	A	A	A	A	A	MIN	A	A		A	MIN	A	A	A	A				
R L T H	595.0	663.0	ROCK	FOR	EN	RT	TM	QM2	TX	TX	S	R	S	O	DIP	F	T	ID	STK	DIP	KF	MU	CL	EP	HE	HA	PR	MO	SL	HA		
E L	595.0	663.0	QUAL	MEM	V	Q	LC-3		3	4	O	N	H	/	SML	I	2	AZM	RT				H	H	H	H	H	H	H	H		
Y G	617.0	617.0	DESIG	AGE		COL					R	D	P	C			STRUCTUR-2						A	A	A	A	A	A	A	A		
N	623.0	663.0																														

GREY-GREEN, PORPHYRITIC, BASALT WITH PHENOS OF DK MAFICS
COMPOSING 10% - 15%, TO 2 MM AND ALT'D FELD PHENOS TO 4 MM
COMPOSING, 15-25% OF RK IN AN APHANITIC TO FINE GRAINED
MATRIX. LOCALLY AMYGDULES TO 5 MM WITH CHLORITE FILLINGS.
REDDISH HEMATIZED ALT'N ENVELOPES TO 3 CM PER SIDE,
BUT GEN 5-10 MM PER SIDE OCCUR ON WHITE ZEO AND PYRITE
VNS GEN 5 MM - 10 MM TK AND AT 50 DEG TO CORE. SOME
BLK CARBON MTL OCCURS IN WITH WT ZEOLITE VEINLETS.
ZEO-PYR WITH REDDISH ALT'N ENV'S IN BASALT.
X KMBA FX MX PP 6 9 K N 2 VZ 50 V2 ZE 7+
C 2 VP 50 P2 P2 V6

SUMMARY REMARKS

- 0-2 - STICKUP
- 2-31 - OVERBURDEN
- 31-150 - INTERLAYERED THIN BANDED/BEDDED FINE GRAINED
ALT'D P.B. SEDS. AND COARSE ASH-LAPILLI-CRYSTAL TUFF.
THE LATTER MAY BE A LESS PORPHYRITIC VARIETY OF THE
AUGITE-FELD PORPHYRY FROM 35-274 FEET IN HOLE E-66.
LESS THAN 10% OF THE SECTION IS THE THIN BEDDED ROCK.
- 150-254 - CHLORITE-EPIDOTE ALT'D AUGITE-FELDSPAR PORPHYRY.
A STRONG FRACTURE/CRACKLE ZONE FROM 150-205
FEET IS ASSOCIATED WITH A FAULT AT 164-166
FEET.
- 254-303 - LIGHT GREEN-GREY, COARSE GRAINED QUARTZ-FELDSPAR
PORPHYRY WITH XENOLITHS OF FINER GRAINED, LESS
PORPHYRITIC GRANITIC INTRUSIVE.
- 303-362 - AUGITE-FELDSPAR PORPHYRY SIMILAR TO SECTION 166-254 FT
- 362-406 - CHLORITE-EPIDOTE-SERICITE ALTERED ANDESITE TUFF.
PORPHYRY (?); A VARIETY OF AUGITE-FELD PORPHYRY(?).
- 406-420 - YELLOWISH-GREEN, EPIDOTIZED CALCAREOUS THIN
BEDDED, FINE GRAINED SEDIMENTS - ALTERED
SILTSTONE-SHALE WITH SOME BROWN GARNET SKARN IN
IN PARSON BAY SEDS AND SOME SPHALERITE.
- 420-444 - BLUE GREY LIMESTONE - QUATSINO FORMATION.
- 444-452.5 - YELLOW-GREEN, GARNETIFEROUS SKARN - ALTERED
LIMY TUFF (?).
- 452.5-487 - BANDED BLUE-GREY AND WHITE LIMESTONE.
- 487-523 - GREYISH-GREEN COARSE ASH-CRYSTAL TUFF WITH
GREASY-BROWN CARBON STAIN FROM 496-505 AND MODERATE
SERICITE ALTERATION FROM 505-523 FEET.
- 523-527 - SPHALERITE MINERALIZATION IN YELLOW-BROWN GARNET
SKARN ALTERATION AT TUFF-LIMESTONE CONTACT.

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

SUMMARY REMARKS

- 527-536 - THIN BEDDED GREY AND WHITE CARBONACEOUS LIMESTONE.
- 536-562 - BLUE GREY, MASSIVE LIMESTONE.
- 562-568 - YELLOW-BROWN GARNET SKARN WITH CPY, SP AND
PY VEINS.
- 568-579 - EPIDOTIZED TUFF (?).
- 576-584 - REDDISH-BROWN GARNET SKARN WITH PATCHES OF CPY,
SPHALELITE AND PYRITE.
- 584-595 - EPIDOTIZED TUFF.
- 595-663 - GREY-GREEN, PORPHYRITIC/AMYGDULAR BASALT -
KARMUTSEN FM.

Note 1 ft = 0.305 m

DIAMOND DRILL CORE ASSAYS

HOLE=E-035

FROM (FEET)	TO	CU %	MO %	PB %	ZN %	AU PPM	AG PPM	FE %	TAG
39.0	45.0	0.08	0.004	-0.001	0.134	.	.	.	2804
55.0	65.0	0.07	0.004	-0.001	0.028	.	.	.	2805
80.0	90.0	0.07	0.004	-0.001	0.005	.	.	.	2806
120.0	130.0	0.08	0.003	-0.001	0.044	.	.	.	2807
160.0	170.0	0.09	0.003	-0.001	0.021	.	.	.	2808
200.0	210.0	0.09	0.004	-0.001	0.008	.	.	.	2809
240.0	250.0	0.08	0.003	-0.001	0.011	.	.	.	2810
245.0	250.0	0.02	0.001	0.000	0.010	.	.	.	1582
280.0	290.0	0.06	0.004	-0.001	0.006	.	.	.	2811
320.0	330.0	0.08	0.004	0.004	0.023	.	.	.	2812
360.0	370.0	0.07	0.004	0.032	0.045	.	.	.	2813
370.0	380.0	0.08	0.004	0.002	0.006	0.020	0.250	.	3226
380.0	390.0	0.08	0.005	0.106	0.470	0.020	0.210	.	3227
390.0	400.0	0.07	0.004	0.001	0.400	0.020	0.100	.	3228
400.0	406.0	0.08	0.007	0.008	2.300	.	.	.	2814
406.0	410.0	0.08	0.011	0.009	1.720	.	.	.	2815
410.0	413.0	0.09	0.007	0.030	0.780	.	.	.	2816
413.0	420.0	0.07	0.009	0.016	1.980	0.010	1.500	.	2817
420.0	430.0	0.07	0.003	0.001	0.005	0.010	0.100	.	3229
430.0	440.0	0.07	0.004	0.003	0.003	0.030	0.050	.	3230
440.0	444.0	0.07	0.004	0.010	0.380	0.010	0.380	.	2818
444.0	446.0	0.21	0.004	0.001	1.560	0.010	2.050	.	2819
446.0	451.0	0.11	0.004	0.001	0.130	0.010	0.850	.	2820
451.0	452.5	0.15	0.003	0.002	1.140	0.020	1.490	.	2821
452.5	460.0	0.07	0.003	0.001	0.067	0.010	0.320	.	2822
460.0	470.0	0.07	0.003	0.003	0.021	0.030	0.090	.	3231
470.0	480.0	0.07	0.004	0.002	0.032	0.010	0.190	.	3232
480.0	490.0	0.07	0.004	0.003	0.038	0.020	0.040	.	3233
488.0	495.0	0.09	0.004	0.001	0.033	0.010	0.280	.	2823
490.0	501.0	0.08	0.004	0.001	0.004	0.010	0.370	.	3234
501.0	510.0	0.10	0.003	-0.001	0.024	0.010	0.390	.	2824
510.0	523.0	0.09	0.005	0.001	0.002	0.010	0.110	.	3235
523.0	527.0	0.45	0.003	0.001	6.560	0.020	6.870	.	2825
527.0	548.0	0.08	0.004	0.001	0.083	0.020	0.350	.	3236
540.0	550.0	0.10	0.003	-0.001	0.780	0.020	0.830	.	2826
550.0	557.0	0.08	0.004	0.001	0.049	0.010	0.260	.	3237
557.0	560.0	0.24	0.005	-0.001	0.600	0.020	2.530	.	2827
560.0	563.0	0.31	0.025	0.002	0.198	0.020	3.700	.	2828
563.0	568.0	0.76	0.018	-0.001	0.150	0.030	6.520	.	2829
568.0	570.0	0.19	0.005	-0.001	0.010	0.010	1.070	.	2830
570.0	576.0	0.19	0.005	-0.001	0.013	0.010	1.150	.	2831
576.0	580.0	0.83	0.009	-0.001	0.087	0.010	6.550	.	2832
580.0	584.0	0.94	0.004	-0.001	0.148	0.010	7.780	.	2833
584.0	590.0	0.22	0.007	-0.001	0.020	0.010	2.060	.	2834
590.0	595.0	0.12	0.050	-0.001	0.010	0.010	0.660	.	2835
595.0	600.0	0.12	0.008	-0.001	0.002	0.010	0.440	.	2836
600.0	610.0	0.11	0.013	0.001	0.056	0.010	0.300	.	3238
610.0	620.0	0.11	0.004	0.001	0.003	0.020	0.280	.	3239
620.0	630.0	0.12	0.004	0.001	0.002	0.030	0.400	.	3240
630.0	640.0	0.11	0.004	-0.001	0.001	.	.	.	2837
640.0	650.0	0.11	0.004	0.001	0.001	0.030	0.300	.	3241
653.0	663.0	0.05	0.001	0.000	0.000	.	.	.	1583

DIAMOND DRILL CORE ASSAYS

ROCK QUALITY DESIGNATION (RQD)

* Exploration hole - 4" dia only!

HOLE #: E-65

DATE: 12/11/85

LOGGED BY: RDS

DEPTH (FT)		INTERVAL		CORE REC. (in)	% REC.	CUMUL. LENGTH OF PIECES (INCHES)			R. Q. D.			# of FACETS	GRA 100%
FROM	TO	INCHES	CUM. INCHES			≥ 2"	≥ 4"	≥ 8"	2"	4"*	8"		
31	40	108	480	10%	100	22				20			
40	50	120	600	120	100	8				7			
50	60	120	720	120	100	22				18			
60	70	120	840	120	100	24				20			
70	80	120	960	120	100	30				25			
80	90	120	1080	120	100	27				22.5			
90	100	120	1200	120	100	81				67.5			
100	110	120	1320	120	100	16				13			
110	120	120	1440	120	100	22				18			
120	130	120	1560	120	100	27				22.5			
130	140	120	1680	120	100	65				54			
140	150	120	1800	120	100	56				47			
150	160	120	1920	120	100	27				22.5			
160	170	120	2040	120	100	52				43			
170	180	120	2160	120	100	62				52			
180	190	120	2280	120	100	26				23			
190	200	120	2400	120	100	19				16			
200	210	120	2520	120	100	44				37			
210	220	120	2640	120	100	20				17			
220	230	120	2760	120	100	34				22			
230	240	120	2880	120	100	37				31			
240	250	120	3000	SAM	PLED	---	---	---	---	---			
250	260	120	3120	120	100	13				11			
260	270	120	3240	120	100	8				7			
270	280	120	3360	120	100	36				30			
280	290	120	3480	120	100	17				14			
290	300	120	3600	120	100	22				18			
300	310	120	3720	120	100	70				58			
310	320	120	3840	120	100	46				38			
320	330	120	3960	80	67	4				3			
330	340	120	4080	120	100	65				54			
340	350	120	4200	120	100	21				17.5			
350	360	120	4320	120	100	40				33			
360	370	120	4440	120	100	68				57			
370	380	120	4560	120	100	50				42			

ROCK QUALITY DESIGNATION (R.Q.D.)

* Expansion hole → dia 4" only!

HOLE # : **E-65**

DATE : **12/12/85**

LOGGED BY : **BDF**

FOOTAGES (FT)		INTERVAL		CORE	% RECY	CUMUL LENGTH OF PIECES (INCHES)			R. Q. D.			# of FRACT	TOTAL INTER	
						FROM	TO	INCHES	CUM INCHES	REC (IN)	≥2"			≥4"
380	390	120	4680	120	100		51			42.5				
390	400	120	4800	120	"		23			18				
400	410	120	4920	120	"		24			20				
410	420	120	5040	120	"		53			44				
420	430	120	5160	≈90	75		10			8		MAX BE MISMATCH		
430	440	120	5280	120	100		29			24				
440	450	120	5400	120	100		56			47				
450	460	120	5520	120	100		96			80				
460	470	120	5640	120	100		102			85				
470	480	120	5760	120	100		76			63				
480	490	120	5880	120	100		73			61				
490	500	120	6000	120	100		56			47				
500	510	120	6120	120	100		64			53				
510	520	120	6240	120	100		77			64				
520	530	120	6360	120	100		90			75				
530	540	120	6480	120	100		42			35				
540	550	120	6600	120	100		82			68				
550	560	120	6720	120	100		68			57				
560	570	120	6840	120	100		48			40				
570	580	120	6960	120	100		46			38				
580	590	120	7080	120	100		47			39				
590	600	120	7200	120	100		65			54				
600	610	120	7320	120	100		77			64				
610	620	120	7440	120	100		84			70				
620	630	120	7560	120	100		51			42.5				
630	640	120	7680	120	100		91			76				
640	650	120	7800	120	100		88			73				
650	660	120	7920	--- SAMPLED ---										
660	663	36	7956	36	100		0			0				
				END OF HOLE										

DRILLHOLE/TRAVERSE :HEADER

PROJECT IDEN : ISLAND
COLLAR NORTHING:
TOTAL LENGTH : 0.00

START DATE : 86/ 2/ 7
COLLAR EASTING :
CORE/HOLE SIZE :

COMPLETION DATE : 85/ 5/27
COLLAR ELEVATION:
MACHINE TYPE :

GEOLOGGED BY : GAC + JAF
GRID AZIMUTH :
CONTRACTOR : TONTO

F - INTERVAL - K L (UNITS = FT)		CORE RECOVERY (FT.1)	% M ROCK I X TYPE	TYPI- QAL	TEX- TURES	GRAIN CHARACS	FRAC- TURE	STRUCTUR-1	ALTERATION	MINS	ORE-TYPE	MINS	
Y G FROM - TO				1 2 QM1	1 2 F F C P	% M	# TK	T ID STK DIP AZM RT	H H H H H H H H	A A A A A A A A	MIN A A A A A A A A	MIN A A A A A A A A	SUMMARY
K F		ROCK	FOR EN RT	TM QM2	TX TX S R S O	DIP F		T ID STK DIP KF MU CL EP HE HA PR MO SL HA					
E A		QUAL	MEM V Q LC-3	3 4 O N H /	R D P C			2 AZM RT					
Y G		DESIG	AGE	COL				STRUCTUR-2	A A A A A A A A				

SUMMARY REMARKS

ROCK CODES U24-27	G SCALE	ALTERATION AND ORE MINERALS	FACIES U77-79
OVER OVERBURDEN	? POSS	QZ QUARTZ	0 FRESH
STKP STICKUP	/ PROB	CY CLAY	1 CHL-EPI
CASN CASING-NO CORE	0 0.0%	DU DUMORTIERITE	2 CHL-MAG
MISN CORE MISSING	. 0.01%	KF K-FELDSPAR	3 BIO-CHL
FAUL FAULT GOUGE	- 0.03%	BI BIOTITE	4 MAG-QTZ
SAND SAND (TECTONIC)	(0.1%	BX BRECCIA FRAG	5 PYROPHYLLITE
ISGD ISL GRANODIORITE	* 0.3%	PP PYROPHYLLITE	6 SERICITE
INBX INTRUSIVE BRECCIA) 1.0%	CL CHLORITE	7 SER-CHL
BVAL ANDESITE ?	+ 2.5%	CB CARBONATE	8 K-SPAR
QTZV QUARTZ VEIN	= 5.0%	EP EPIDOTE	9 SILICIC
BVAG BON. AGGLOMERATE	1 10%	MG MAGNETITE	
PPFX FELDSPAR PORPH	2 20%	HE HEMATITE	MINERAL ZONE
BVAT ANDESITE TUFF	3 30%	FL FLUORITE	L 77-79
BVAE ANDESITE FLOW	4 40%	PY PYRITE	0 NEGLIGIBLE
BVAB BRECCIA	5 50%	PR PYRRHOTITE	<0.5%
ISDR ISLAND DIORITE	6 60%	CP CHALCOPYRITE	1 PY
BVAN ANDESITE UNDIFF	7 70%	MO MOLYBOENITE	2 PY>CP
KMBA KARMUTSEN BASALT	8 80%	EN ENARGITE	3 PY>CP,MO
PPQF QUARTZ FELDS POR	9 90%	CV COVELITE	4 PY+MO CP
KMLS KARMUTSEN LST.	X 100%	CC CHALCOCITE	5 PY+CP+CC+BO
BRXX BRECCIA ZONE		FX FELDSPAR	+CV+/-MO
CLAY CLAY ZONE		VF VOLC FRAG	6 PY+BO+CC+CV
ISQD ISL QTZ DIORITE		GI GILSONITE	+/-MO
CONG CONGLOMERATE		AK ANKERITE	7
MATR MATRIX DESCR.		X1 GRN SER ?	8 MO
PBLS PARSON BAY LST.		X2 SAUSSERITE ?	
PBSD PB. SEDIMENTS		X3 WH ZEOLITE ?	
PBTF P.B. TUFFS		X4 GYPSUM ?	
PBVS P.B. SEDS/TUFFS		X5 BRN CHL ?	
PPAN ANDESITE PORPH.		X6 BRN BIO ?	
PPHB HORNBLENDE/AUGITE PORP.			
QALS QUATSINO LST.			
SKAR SKARN			
ARGL ARGILLITE			
FXL CRYSTALLITE			

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14-777

UTAH MINES LTD., VANCOUVER B.C.
ISLAND COPPER: EXPLORATION

DRILLHOLE/TRVERSE : HEADER (CONTINUED)

SUMMARY REMARKS

TUFF UNDIFFERENTIATED TUFF
TFLP LAPILLI TUFF
AN/L ANDESITE SILL
PPXX PORPHYRY, GENERAL
% MIX IS AMOUNT OF NEST
IN PGI, G SCALE,%

I SCALE

KEY FLAGS (2-4)	X EXTREME	3 WEAK
	9 V STR-EX	2 V WK-WK
KTOX TOP OF OXIDE ZONE	8 STR-V STR	1 VERY WEAK
KBOX BOTTOM OF OXIDE	7 STRONG	0 NONE
	6 MOD-STR	" RETURN TO BLANK
	5 MODERATE	
	4 WK-MOD	

H-SCALE HOW OF ALTERATION MINERALS

8 MASSIVE	1 MINOR MICROVNS+ SCTD.XT
9 PERVASIVE	0 BARREN
8 DISS, PATCHES>VNS,SEL,ENV	D DISSEMINATIONS
7 DISS, PATCHES<VNS,SEL,ENV	V VEINS
6 DISS, PATCHES<VNS,SEL,ENV	E ENVELOPES
5 VNS +/OR ABUNDANT ENV	S SELVAGES
4 VNS+/ OR OCCASIONAL ENV	P PERVASIVE
3 VNS = SPOTS+PATCHES	Q PATCHES
2 MICROVEINS + VEINS	C COATINGS
	K STOCKWORK
	U COATING VUGS
	" RETURN TO BLANK

STRUCTURE IDS	STRUCTURE THICKNESS	COLOR	
VQ VEIN QUARTZ	T-SCALE	LIGHTNESS	HUE
VP VEIN PYRITE	0 < 1 MM	L28	L29
VY VEIN PYROPH	1 1-3 MM	9 PALEST	W WHITE
VC VEIN CLAY	2 3-6 MM	8 PALE	A GREY
VA VEIN QTZ PY	3 6-10 MM	7 LIGHT	U BROWN
VM VEIN QTZ MO	4 1-3 CM	6 MED-LIGHT	T TAN
F/ FAULT	5 3-6 CM	5 MEDIUM	G GREEN
C/ CONTACT	6 6-12 CM	4 MED-DARK	R RED
SH SHEAR	7 12-30 CM	3 DARK	O ORANGE
SW STOCKWORK	8 30-60 CM	2 VERY DARK	N BLACK
BN BANDING	9 60-100 CM	1 DARKEST	B BLUE
VH CPY VN	X >1 M	\$ ISH	P PURPLE
VL CALC VN		M MOTTLED	L LIME
BD BEDDING			\$ ISH
VB VEIN CARB			
BR BRECCIATED			
V/ VEIN			
<< MICROVN'D			
VF MAG VN			
VZ VEOLITE VN			

U,L 49-50

U,L 48

TYPIFYING MINERALS FRACTURE I.D.

DRILLHOLE/TRVERSE : HEADER (CONTINUED)

SUMMARY REMARKS

TEXTURES	TM1128-29 QM1132-33	F-SCALE
TX1(U35-36)	TM2030-31 QM2L32-33	U-45-PYRITE
TX2(L35-36)	TM3L28-29	U-46-QUARTZ
PP PORPHYRITIC	QZ QUARTZ	L-46-DRY FRAC
P/ VAGUE PORPH	QX QTZ PHENOS	FRACTURE COUNT
EQ EQUIGRANULAR	QF QTZ FRAGS	(U,L 44,46)
FR FRAGMENTAL	FX FELDSPAR	F-SCALE
CT CATACLASTIC	BI BIOTITE	1<1/FT
VG VUGGY	HB HORNBLENDE	2 1/FT
BR BRECCIATED	PX PYROXENE	3 2-3/FT
B/ VAGUE BRECCIA	MG MAGNETITE	4 4-6/FT
KR CRACKLED	RF ROCK FRAGMENT	5 7-10/FT
SH SHEARED	VF VOLC FRAGMENT	6 11-18/FT
GG GOUGED	IF INTRUS FRAG	7 19-25/FT
BD BEDDED	VG OPEN SPACE	8 25-50/FT
CM CHILLED MARGIN	PF PY FRAG	9 >50/FT
BN BANDED	GG FLT GOUGE	X EXTREME
SW STOCKWORK	GA GARNET	
	MX MAFIC PHENOS	
	AK ANKERITE	
	BR BRECCIA	
	EP EPIDOTE	
	MD MUDSTONE	
REMARK HEADERS		
RALT	REMARK, ALTERATION	
RCOL	REMARK, COLOUR	
RCON	REMARK, CONTACT	
RFRC	REMARK, FRACTURE	
RCMP	REMARK, COMPOSITION	
RLTH	REMARK, LITHOLOGY	
RCOR	REMARK, CHANGE OF CORE SIZE	
RMIN	REMARK, MINERAL (NON-SULPHIDE)	
RMINZ	REMARK, MINERALIZATION	
RSAM	REMARK, SAMPLE	
RSTR	REMARK, STRUCTURE	
RTXT	REMARK, TEXTURE	
RVEN	REMARK, VEIN	
RXRD	REMARK, X-RAY DIFFRACTION	
RSUM	REMARK, SUMMARY	
RPHO	REMARK, PHOTO	
STHN	REMARK, THIN SECTION	

UTAH MINES LTD., VANCOUVER B.C. DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065

PROJECT IDEN : ISLAND
COLLAR NORTHING: 18611.60
TOTAL LENGTH : 663.00

START DATE : 85/09/29
COLLAR EASTING : 16591.10
CORE/HOLE SIZE : NQ

COMPLETION DATE 85/10/02
COLLAR ELEVATION: 1331.80
MACHINE TYPE : SUPER 38

GEOLOGGED BY : JAF +
GRID AZIMUTH : 0.00
CONTRACTOR : TONTO

Table with columns: SURVEY FLAG, SURVEY POINT LOCATION, FORESIGHT, AZIMUTH (DEGREES), VERTICAL ANGLE (DEGREES), NORTHING, EASTING. Rows 000, 001, 002.

R HED DRILLED NORTH OF COAL HARBOUR ROAD, INCLINED TO NORTH TO PENETRATE THROUGH QUATSINO LST AND INTO THE KARMUTSEN FM.

Table with columns: F - INTERVAL - L (UNITS = FT), CORE RECOVERY (FT.1), % M ROCK TYPE, TYPI- QAL TEX- GRAIN FRAC- FACING MIN TURES CHARACS TURE, STRUCTUR-1 ALTERATION MINS ORE-TYPE MINS, Y G FROM - TO, T ID STK DIP A A A A A MIN A A A MIN, T ID STK DIP KF MU CL EP HE HA PR MO SL HA, Y G, ROCK FOR EN RT, QUAL MEM V Q LC- 3, DESIG AGE, COL, T ID STK DIP KF MU CL EP HE HA PR MO SL HA, STRUCTUR-2, A A A A A A A A

P .0 2.0 STKP P

P 2.0 31.0 OVER P

P 31.0 67.0 PBT F AG FR MX G 8 M P V1 ZE 7) P2 P4 V3

R LTH 31.0 67.0 MED GRY-GREEN, FINE GRAINED, CHLORITE - EPIPOTE - SERICITE

R LTH 31.0 67.0 ALT'D, THIN BANDED/BEDDED SEDIMENTS. ROCK IS SOFT, STRONGLY

R LTH 31.0 67.0 ALT'D WITH CALCITE ABD AS FRACT. FILLINGS AND VEINLETS.

R LTH 31.0 67.0 BEDS SHOW SOME BRECCIATION. CHLORITE AND SERICITE ALT'NS

R LTH 31.0 67.0 ARE PER, WHILE EPI OCCURS AS SPOTS, PATCHES AND ALONG BDS.

R LTH 31.0 67.0 RK LABELLED (PPSD) ALTHOUGH THE SEDS MAYBE TUFFACEOUS.

R LTH 31.0 67.0 SOME SPHALERITE OCCURS IN CHL-EPI PATCHES AND AS VEINLETS

R LTH 31.0 67.0 TO 2 MM.

R LTH 31.0 67.0 INTERBEDDED WITH THE ABOVE THIN BDD MATERIAL IS

R LTH 31.0 67.0 A GREYISH-GREEN COARSE ASH, CRYSTAL TO LAPILLI ANDES.

R LTH 31.0 67.0 TUFF THAT HAS UP TO 15% BLACK PYROXENE CRYSTALS TO

R LTH 31.0 67.0 2-3 MM IN LENGTH. THE TUFF IS CHLORITE - SERICITE

R LTH 31.0 67.0 ALTERED WITH CHLORITE ALT'N MAINLY OF PYROXENE, X'ALS

R LTH 31.0 67.0 AND LITHIC CLASTS AND SERICITE IN MATRIX. PYRITE

R LTH 31.0 67.0 CONTENT IS LOW. THE TUFF COMPOSES ABOUT 50% OF THE SECTION

R LTH 31.0 67.0 31 TO 67 FEET.

N 31.0 40.0 X PBSD BD BN E G N 2 BD 35 V5 ZE 7) AG SH BR 7 3 BD 50 P5 P5 83 V3 6*

R LTH 35.0 35.3 SAMPLE OF BDD RK.

R THN 39.0 39.0 GREEN LITHIC - X'AL TUFF - (ANDESITE PORPHYRY?)

N 43.0 45.0 X PBSD BD N 2 BD 50

L AG 7

N 55.0 59.0 X PBSD BD SH N 2 BD 50

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRAVERSE : DDHE-065 (CONTINUED)

K E Y	- INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	X M I X TYPE	TYPI- FYING TM	QAL MIN 1 2	TEX- TURES TX TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1			ALTERATION MINS				ORE-TYPE MINS				SUMMARY										
	FROM	TO								ID	STK	DIP	A	A	A	A	H	H	H	H		ANY	H	H	H	ANY					
L E L Y	F G		ROCK QUAL DESIG	FOR AGE	EN V	RT Q	TM LC- 3 COL	Q2 3	TX 3	TX 4	S O	R S	DIP SML I	F	T	ID	STK	DIP	KF	MU	CL	EP	HE	HA	PR	MO	SL	HA			
R L N L	L G	150.0 164.0																													
			THE UNIT COULD BE A X'AL TUFF, BUT IT'S NOT OBVIOUSLY SO.																												
			X FAUL GG SH 4 L N 6 F/ BR X																												
P L		166.0																													
R S R	S S STR	170.0 199.0																													
			PPHB MX PP SH J 8 K P 5 F/ 30 V6 ZE 8) 6 1 KR GG C 6 2 VL 20 P5 72 04																												
			THIN GRN REACTION RIMS AROUND PHENOS.																												
			HIGHLY SHEARED, BKN CORE ON FAULT AT 199 FT WITH 10 CM GOUGE.																												
P L		205.0																													
R L	CON	250.0																													
			PPHB J 8 K P 2 VL 30 V3 ZE 7) C 3 P4 73 V3																												
			INCREASE MAGNETITE ALT'N TOWARD CONTACT - CONTACT SHARP.																												
P L		254.0																													
R L	THN	254.0																													
			PPQF QX FX PP J 6 L P V4 ZE 7) 7G MX C 4 P1 P3 73 V3																												
			REDDISH MICACEOUS MINERAL - ALSO IN UNDERLYING QFP AS ALT'N OF PYROX(?) PHENOS.																												
			LT GREEN-GRY, COARSE GRAINED, QFP WITH QTZ PHENOS TO 10 MM COMP APT 5%; WHITE ELIHEDRAL FELD TO 5 MM COMP TO 50% AND CHLORITIZED MAFIC PHENOS TO 4 MM COMP ABOUT 5%. THE QFP IS WEAKLY ALT'D WITH LOC STRG SERIC ALT'N OF FELD AND CHLORITE IN SHEARED PORPHYRY. SEVERAL SHORT SECTIONS OF FINER GRAINED, MORE EQUIGRANULAR INTR. OCCUR WITHIN QFP SECTION. XENOLITH OF THE GREY INTR IS FOUND FROM 274-280 FEET INDICATING THE QFP IS YOUNGER. HOWEVER, THE COMPOSITIONS APPEAR SIMILAR. THE CONTACTS ARE SOMEWHAT DIFFUSE & THE GREY INTR (297-298) IS PORPHYRITIC.																												
N L		272.0																													
			X ISGD EQ I 8 J N P2 P4 7)																												
			5G C																												
			XENOLITHS OF THE GREEN, EQUIGRANULAR INTRUSIVE OCCUR IN THE QFP.																												
R L	TX	274.0																													
			X PPQF QX FX SH GG J 6 L N V4 ZE 7) GW MX KR C 8 P6 P3 73 V3																												
			CONTACT BTW QFP AND GRN PORPHYRITIC INTR.																												
P L		303.0																													
R L	SAM	314.0																													
			PPHB FX HX PP I 4 K P 3 VL 0 V5 ZE 7) AG 0 4 3 VL 70 P2 P4 V3																												
			DK CHL ALT'D PHENOS COMP 15% OF PORPHYRY.																												
N L		325.0																													
			X FAUL GG F/ N 6 F/ X																												
			SIMILAR TO 166-254 FEET BEING MED DARK PORPHYRITIC RK WITH 10-15% BLK, CHL ALT'D PYROX PHENOS TO 3 MM, 5-10% ELIHEDRAL, LT GRN, GRN, BRNZY FELD (?) PHENOS TO 5 MM IN FINER GRAINED CHL-SERICITE ALT'D MATRIX. THIS COULD BE, AS THE ABOVE																												

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

F - INTERVAL - K L (UNITS = FT)		CORE RECOV- ERY (FT.1)	% M ROCK I X TYPE	TYPI- FYING TM	QAL MIN TM	TEX- TURES TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1 T ID 1	ALTERATION H H H H H ANY H H H ANY	MINS A A A A A MIN A A A MIN	ORE-TYPE A A A A A	MINS A A A A A	SUMMARY
Y G	FROM - TO			1 2 QM1	1 2 F F C P				AZM RT QZ BI CY CB MG XX PY CP GL YY					
K F E L Y G		ROCK QUAL DESIG	FOR EN RT MEM V Q LC- 3 AGE COL	TM QM2 3	TX TX S R S O 3 4 0 N H / SML I R D P C	DIP F I		T ID 2	STK AZM RT	DIP RT	KF MU CL EP HE HA PR MO SL HA H H H H H H H H H H			
R LTH	330.0	362.0												
R LTH	330.0	362.0												
N	330.0	362.0												
L														
R CON	360.0	362.0												
R CON	360.0	362.0												
R CON	360.0	362.0												
P	362.0	406.0												
L														
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R LTH	362.0	396.0												
R THN	366.0	366.0												
R VEN	380.0	396.0												
N	392.0	395.0												
L														
R CON	396.0	406.0												
R CON	396.0	406.0												
R CON	396.0	406.0												
N	396.0	406.0												
L														
P	406.0	420.0												
L														
R LTH	406.0	420.0												
R LTH	406.0	420.0												
R LTH	406.0	420.0												
R LTH	406.0	420.0												
R LTH	406.0	420.0												
R LTH	406.0	420.0												
R SAM	414.0	415.0												
R THN	416.0	416.0												
P	420.0	444.0												
L														
R LTH	420.0	444.0												
R LTH	420.0	444.0												
R LTH	420.0	444.0												
R LTH	420.0	444.0												

UNIT, A POORLY EXPRESSED X'AL TUFF. CALL IT PART OF HORNBLENDE,
(FELDSPAR) PORPHYRY UNIT. (IE, HBL-AUGITE-FELD PORP)
X PPHB FX HX SH I 4 K N 6 F / 0 V5 ZE 7)
AG GG BR 0 4 3 VL 7D P2 P4 V3

SHEARED, BROKEN CONTACT ALONG WITH 20 CM OF COARSE BXX WITH
80% ANGULAR FRAGS TO 1.5 CM. THE PORPHYRY ABOVE THE CONTACT
IS LACED WITH WHITE CALCITE VEINLETS 1-3 MM THK ON AVG.

PBTf I 8 K P 2 VL 40 V4 ZE 7+ G 1
GA C 3 72 P4 62 V2 V3

MED GREENISH-GREY, MASSIVE, WEAKLY PORPHYRITIC ANDESITE
WITH A TUFFACEOUS LOOK. A SIMILAR UNIT LOGGED IN HOLE
E64 180-193 FEET. POSSIBLY A FINER GRAINED VARIETY OF
THE PORPHYRY, A PORPHYRITIC ANDESITE OR A ASH-X'AL
TUFF. THE RK HAS A MOD CHL ALT'N, WEAK SERIC WITH SERIC
AND EPI AS ENV TO 5 CM (PER SIDE) ON TIGHT FRACTS.
PYRITE IS MORE ABD IN THIS UNIT THAN ADV. UNITS (ABT 2.5%)
GILSONITE OR BRN CARBON STAIN COMMON IN CALC-EPI-PYR VEINS.
PORPHYRITIC ANDESITE (TUFF?)
MINOR GREY GYPSUM VEINLETS OCCUR WITH WHITE CALCITE.
X PBTf I 8 K N 2 VL 40 V4 ZE 7+ G 1
BG C 3 65 P3 65 V2 V3

HIGHLY SHEARED, CHL-SERIC ALT'D CONTACT WITH ABT 30 CM
FOLIATED GOUGE AT 396 FEET. CALCITE IS ABD AS VNLTS AND
IN GOUGE.
X PBTf SH GG I 8 K N 5 F / 40 V4 ZE 7+ G 1
GA KR C 8 72 P4 62 V2 V3

PBSD BD F 8 H P 2 BD 60 V4 GA
LS C 4 2 BD 50 L7 64 L) Q2

GREEN, YELLOWISH GREEN BANDED, THIN BOD'S EPIDOTIZED
CALCAREOUS SEDIMENTS. BRILLIANT RED HEM OCCURS WITH CALC VEINS
AS SELVEGES AND SELECTIVLY ALT'S BEDS. SOME BROWN GARNET OCCURS
IN SOME OF THE EPIDOTE BANDS. THE RK IS CUT BY THIN WT CALCITE
VEINLETS. SPHALERITE OCCURS ALONG THIN BODS.
CRACKLED SED HEALED WITH BLK CHL.
ALT'D, THIN BEDDED, CALLAREOUS SEDS.

QALS G 7 H P
BA C

BLUISH-GREY, FINE GRAINED, PARTLY CRYSTALLIZED LIMESTONE
WITH UP TO 2% GREYISH-BLACK CHERTY NODULES AND BANDS
GENERALLY WITH SOME DEFORMATION OF THE NODULES. THE
DARK COMPONENTS AVERAGE 1 CM IN DIA AND UP TO 3 CM LONG

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	INTERVAL (UNITS = FT)		CORE RECOV- ERY (FT.1)	% M ROCK I X TYPE	TYPI- FYING TM		QAL MIN MAT		TEX- TURES TX		GRAIN CHARACS F C % M		FRAC- TURE # TK		STRUCTUR-1		ALTERATION MINS					ORE-TYPE MINS					SUMMARY							
	FROM	TO			EN	RT	TM	Q2	TX	TX	S	R	S	O	DIP	F	T	ID	STK	DIP	A	A	A	A	A	MIN		A	A	A	MIN			
Y G			ROCK QUAL DESIG	FOR MEM AGE	V	Q	LC-	3	3	4	O	N	H	/	SML	I	2	AZM	RT															
R LTH	420.0	444.0	IN THE BANDED VARIETY. CALCITE VEINLETS 1-2 MM THK X-CUT THE BLACK MATERIAL AND THE LIMESTONE. THE CORE SURFACE SHOWS A FINE TO V-FINE SAND SIZED DETRITAL TEXTURE WHILE THE BROKEN SURFACES GIVE A X'AL TEXTURE (PROB. CALCITE CEMENT) BLUE GRY LST WITH BLK CHERTY BANDS AND PATCHES.																															
P	444.0	452.5	SKAR G B H P 2 VL V3 61 6) G A LS YG C 4 85 L 5																															
R LTH	444.0	452.5	YELLOWISH-GREEN, MEDIUM GRAINED, GARNETIFEROUS SKARN. THE ORIGINAL ROCK IS A GREY X'AL - ASH TUFF WITH HBL (?) AND FELD X'ALS TO 5 MM. MANY OF THE FELD ARE SHARD LIL SUGGESTING THE TUFFACEOUS SOURCE. THE SKARN AT THIS POSITION IN THE LST IS PROB DUE TO THE PRESENCE OF THE TUFFACEOUS LAYER. THE SKARN ALT'NS EXTEND 50 CM ABOVE THE TUFF CONTACT INTO THE LST AND ABT 40CM. BELOW THE LOWER CONTACT OF THE TUFF.																															
R LTH	444.0	452.5	X QATF H 6 L N 2 VL 45 V3 7+ C 4 87																															
P	452.5	487.0	QALS BN G 9 H P 5 BN 60 V* BA C 5 BN 50																															
R LTH	452.5	487.0	BLUE GRY LST WITH ABT 50% AS LT WHITE BANDS ASSOC WITH THIN (1 MM) PYR VNLTs.																															
R LTH	452.5	487.0	5 QALS BN G 9 H N 3 BN 40 V* 7W C 5 BN 50																															
R SAM	483.0	483.6	CLOTS OF EPI-SKARN IN SWIRLLED BANDS (BDS?) IN GRY-WT LST.																															
P	487.0	523.0	QATF H 8 K P 2 VL 30 3 V2 7+ AG C 3 73 P4 P2																															
R LTH	487.0	523.0	GREYISH-GREEN TO LT GREENISH-GREY, COARSE ASH-X'AL TUFF WITH MAFIC CLASTS TO 4 MM. THE UNIT COULD BE A PORPHYRITIC ANDESITE EXCEPT THAT SOME BEDS OF COARSER TUFF OCCUR THRO THE SECTION. A GREASY BRN STAIN OCCURS FROM 496 TO ABT 505 FEET. FROM 505-523 THE RK IS LIGHTER COLOURED REFLECTING A PERV. SERICITE ALT'N OF THE FELD CLASTS AND THE MATRIX. SPOTTED VOLC WITH MAFIC CLASTS TO 3 MM REPLACED WITH AMPHIBOLE (?) NEEDLES AND STRG BRN STAIN.																															
P	523.0	527.0	SKAR H 8 I P V3 7* 6/ 6+ G A LS YG C 3 L 7																															
R LTH	523.0	527.0	INTENSELY SKARNIFIED LST AT CONTACT BTW TUFF AND LST. YELLOW-BROWN ANDRADITE GARNET COMP UP TO 60% OF SOME LAYERS. SOME COARSE CALC-SILICATE (DIOP?) NOTED IN WITH GARNETIZED RK. CALCITE (WT) VEINLETS CUT SKARN.																															

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

K E Y	- INTERVAL - (UNITS = FT) FROM - TO		CORE RECOV- ERY (FT.1)	% M ROCK I X TYPE	TYPI- QAL FYING MIN		TEX- TURES		GRAIN CHARACS		FRAC- TURE		STRUCTUR-1		ALTERATION MINS		ORE-TYPE MINS		SUMMARY																						
	1	2			1	2	F	C	%	M	T	ID	STK	DIP	A	A	A	A		A	A	A																			
K E Y	F L G	F L G	ROCK QUAL DESIG	FOR MEM AGE	EN V	RT Q	TM LC- 3 COL	Q2 3	TX 3	TX 4	S O N H R D	S O H P C	DIP SML I	I 2	ID	STK	DIP	KF	MU	CL H	EP H	HE H	HA H	PR H	MO H	SL H	HA H														
R	THN	525.0	525.0																																						
R	MNZ	526.0	527.0																																						
R	MNZ	526.0	527.0																																						
R	MNZ	526.0	527.0																																						
R	SAM	526.0	526.1																																						
P		527.0	536.0																																						
L																																									
R	LTH	527.0	536.0																																						
R	LTH	527.0	536.0																																						
R	SAM	530.0	530.3																																						
P		536.0	562.0																																						
L																																									
R	TXT	536.0	555.0																																						
R	MNZ	536.0	557.0																																						
R	SAM	548.0	548.3																																						
R	SAM	552.0	552.4																																						
R	MNZ	557.0	558.0																																						
P		562.0	595.0																																						
L																																									
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	LTH	562.0	595.0																																						
R	MNZ	562.0	563.0																																						
R	MNZ	562.0	563.0																																						
R	MNZ	562.0	568.0																																						
N																																									
L																																									
N		576.0	584.0																																						
L																																									
R	THN	580.0	580.0																																						
N		584.0	595.0																																						
L																																									
P		595.0	663.0																																						
L																																									

YELLOW-BRN GARNETIFEROUS SKARN.
MASSIVE REPLACEMENT OF SKN BY SPHALERITE (BLK AND RESINOUS
VARIETIES) AND POSS GALENA* WITH PYR AND CPY ALONG STR AT 20
DEG. * NOTE: ASSAYS SHOW <0.003 %PB; IE. NO GALENA.
SMALL SAMP. OF SULPHIDE MINERALS.

QALS BD H B J P 2 BD 60 V3
LS BA C 2 VH 60
THIN BDD GRY-WT LST WITH BDS GEN < 1 CM THK.
DARK LAYERS PROB DUE TO CARBONACEOUS MTL.
BEDDED LST WITH BLK BANDS - PARSON BAY FM (?)

QALS BN G B I P 2 BN 50 V3 V3
SA C 2 VP 45
THE LST IS NOT THIN BDD AS 527-536.
SCATT. PYR VEINS CUT BDD.
BLUE-GRY LST WITH CALC. VEINLETS.
BLK CHERT NODULES TO 6 CM DIA IN LST.
A 2 CM TK CP, SL, PY VN @ 55 DEG AT 558 FT.

SKAR G B I P 3 VH 30 V3 7= 3* G A
LS 5G C 4 P2 77 6* L 4
THE ZONE CONSISTS OF SEVERAL SECTIONS OF GREENISH EPIDOTIZED
RK AND REDDISH-BRN GARNITIZED RK AS FOLLOWS:
562-568 - INT YELLOW-BRN GARNET ALT'N WITH CPY AND
SPHALERITE VNS. BLK SL SPOTS THROUGHOUT.
568-576 - STRG EPI ALT'D
576-584 - INT REDDISH-BRN WITH VEINS AND PATCHES OF
CPY, SP, GALENA (?)
584-595 - GREEN EPIDOTIZED TUFF. THE GRN EPI RICH
SECTIONS APPEAR TO BE ASH TUFF INTERBEDS
WITH LST.
A 3 CM CPY VEIN @ 30 DEG AND A 1 CM PARALLEL VEIN PLUS PY AT
562 FT.
X SKAR G B I N 3 VH 30 V3 7= 3) 6/ G A
LS YG C 3 P2 72 6+ L B
X SKAR G B I N 3 VH 30 V3 71 3+ 6/ G A
LS RG C 4 P2 72 6+ L B
MINERALIZED GARNETIFEROUS SKARN.
X SKAR FX FR G B I N 3 VH 30 V3 7= 3* G A
LS 5G C 4 P2 77 6* L 4

KMBA FX MX PP 6 9 K P 2 VZ 50 V2 ZE 7+
C 2 VP 50 P2 P2 V4

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRAVERSE : DDHE-065 (CONTINUED)

F - INTERVAL - (UNITS = FT)		CORE RECOV- ERY (FT.1)	X TYPE	M ROCK	TYPI- FYING TM	QAL MIN TM	TEX- TURES TX	GRAIN CHARACS F C % M	FRAC- TURE # TK	STRUCTUR-1			ALTERATION MINS					ORE-TYPE MINS				SUMMARY	
FROM	TO									T ID	STK	DIP	A	A	A	A	A	MIN	A	A	A		MIN
K E Y	L A G									1	AZM	RT	QZ	BI	CY	CB	MG	XX	PY	CP	GL	YY	
R E Y	L A G									2	AZM	RT											
		ROCK	FOR	EN	RT	TM	Q2	TX	TX	S	R	S	O	DIP	F								
		QUAL	MEM	V	Q	LC-	3	3	4	O	N	H	/	SML	I								
		DESIG	AGE		COL					R	D	P	C										
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	LTH	595.0	663.0																				
R	THN	617.0	617.0																				
N		623.0	663.0																				
L																							

GREY-GREEN, PORPHYRITIC, BASALT WITH PHENOS OF DK MAFICS
COMPOSING 10% - 15%, TO 2 MM AND ALT'D FELD PHENOS TO 4 MM
COMPOSING, 15-25% OF RK IN AN APHANITIC TO FINE GRAINED
MATRIX. LOCALLY AMYGDULES TO 5 MM WITH CHLORITE FILLINGS.
REDDISH HEMATIZED ALT'N ENVELOPES TO 3 CM PER SIDE,
BUT GEN 5-10 MM PER SIDE OCCUR ON WHITE ZEO AND PYRITE
VNS GEN 5 MM - 10 MM TK AND AT 50 DEG TO CORE. SOME
BLK CARBON MTL OCCURS IN WITH WT ZEOLITE VEINLETS.
ZEO-PYR WITH REDDISH ALT'N ENV'S IN BASALT.

X K MBA FX MX PP 6 9 K N 2 VZ 50 V2 ZE 7+
C 2 VP 50 P2 P2 V6

SUMMARY REMARKS

- 0-2 - STICKUP
- 2-31 - OVERBURDEN
- 31-150 - INTERLAYERED THIN BANDED/BEDDED FINE GRAINED
ALT'D P.B. SEDS. AND COARSE ASH-LAPILLI-CRYSTAL TUFF.
THE LATTER MAY BE A LESS PORPHYRITIC VARIETY OF THE
AUGITE-FELD PORPHYRY FROM 35-274 FEET IN HOLE E-66.
LESS THAN 10% OF THE SECTION IS THE THIN BEDDED ROCK.
- 150-254 - CHLORITE-EPIDOTE ALT'D AUGITE-FELDSPAR PORPHYRY.
A STRONG FRACTURE/CRACKLE ZONE FROM 150-205
FEET IS ASSOCIATED WITH A FAULT AT 164-166
FEET.
- 254-303 - LIGHT GREEN-GREY, COARSE GRAINED QUARTZ-FELDSPAR
PORPHYRY WITH XENOLITHS OF FINER GRAINED, LESS
PORPHYRITIC GRANITIC INTRUSIVE.
- 303-362 - AUGITE-FELDSPAR PORPHYRY SIMILAR TO SECTION 166-254 FT
- 362-406 - CHLORITE-EPIDOTE-SERICITE ALTERED ANDESITE TUFF.
PORPHYRY (?); A VARIETY OF AUGITE-FELD PORPHYRY(?).
- 406-420 - YELLOWISH-GREEN, EPIDOTIZED CALCAREOUS THIN
BEDDED, FINE GRAINED SEDIMENTS - ALTERED
SILTSTONE-SHALE WITH SOME BROWN GARNET SKARN IN
IN PARSON BAY SEDS AND SOME SPHALERITE.
- 420-444 - BLUE GREY LIMESTONE - QUATSINO FORMATION.
- 444-452.5 - YELLOW-GREEN, GARNETIFEROUS SKARN - ALTERED
LIMY TUFF (?).
- 452.5-487 - BANDED BLUE-GREY AND WHITE LIMESTONE.
- 487-523 - GREYISH-GREEN COARSE ASH-CRYSTAL TUFF WITH
GREASY-BROWN CARBON STAIN FROM 496-505 AND MODERATE
SERICITE ALTERATION FROM 505-523 FEET.
- 523-527 - SPHALERITE MINERALIZATION IN YELLOW-BROWN GARNET
SKARN ALTERATION AT TUFF-LIMESTONE CONTACT.

UTAH MINES LTD., VANCOUVER B.C.
DIAMOND DRILLING

DRILLHOLE/TRVERSE : DDHE-065 (CONTINUED)

S U M M A R Y R E M A R K S

- 527-536 - THIN BEDDED GREY AND WHITE CARBONACEOUS LIMESTONE.
- 536-562 - BLUE GREY, MASSIVE LIMESTONE.
- 562-568 - YELLOW-BROWN GARNET SKARN WITH CPY, SP AND
PY VEINS.
- 568-579 - EPIDOTIZED TUFF (?).
- 576-584 - REDDISH-BROWN GARNET SKARN WITH PATCHES OF CPY,
SPHALELITE AND PYRITE.
- 584-595 - EPIDOTIZED TUFF.
- 595-663 - GREY-GREEN, PORPHYRITIC/AMYGDOULAR BASALT -
KARMUTSEN FM.

Note 1 ft = 0.305 m

DIAMOND DRILL CORE ASSAYS

HOCE-E-065

FROM (Feet)	TO	CU %	MO %	PB %	ZN %	AU PPM	AG PPM	FE %	TAG
39.0	45.0	0.08	0.004	-0.001	0.134	.	.	.	2804
55.0	65.0	0.07	0.004	-0.001	0.028	.	.	.	2805
80.0	90.0	0.07	0.004	-0.001	0.005	.	.	.	2806
120.0	130.0	0.08	0.003	-0.001	0.044	.	.	.	2807
160.0	170.0	0.09	0.003	-0.001	0.021	.	.	.	2808
200.0	210.0	0.09	0.004	-0.001	0.008	.	.	.	2809
240.0	250.0	0.08	0.003	-0.001	0.011	.	.	.	2810
245.0	250.0	0.02	0.001	0.000	0.010	.	.	.	1582
280.0	290.0	0.06	0.004	-0.001	0.006	.	.	.	2811
320.0	330.0	0.08	0.004	0.004	0.023	.	.	.	2812
360.0	370.0	0.07	0.004	0.032	0.045	.	.	.	2813
370.0	380.0	0.08	0.004	0.002	0.006	0.020	0.250	.	3226
380.0	390.0	0.08	0.005	0.106	0.470	0.020	0.210	.	3227
390.0	400.0	0.07	0.004	0.001	0.400	0.020	0.100	.	3228
400.0	406.0	0.08	0.007	0.008	2.300	.	.	.	2814
406.0	410.0	0.08	0.011	0.009	1.720	.	.	.	2815
410.0	413.0	0.09	0.007	0.030	0.780	.	.	.	2816
413.0	420.0	0.07	0.009	0.016	1.980	0.010	1.500	.	2817
420.0	430.0	0.07	0.003	0.001	0.005	0.010	0.100	.	3229
430.0	440.0	0.07	0.004	0.003	0.003	0.030	0.050	.	3230
440.0	444.0	0.07	0.004	0.010	0.380	0.010	0.380	.	2818
444.0	446.0	0.21	0.004	0.001	1.560	0.010	2.050	.	2819
446.0	451.0	0.11	0.004	0.001	0.130	0.010	0.850	.	2820
451.0	452.5	0.15	0.003	0.002	1.140	0.020	1.490	.	2821
452.5	460.0	0.07	0.003	0.001	0.067	0.010	0.320	.	2822
460.0	470.0	0.07	0.003	0.003	0.021	0.030	0.090	.	3231
470.0	480.0	0.07	0.004	0.002	0.032	0.010	0.190	.	3232
480.0	490.0	0.07	0.004	0.003	0.038	0.020	0.040	.	3233
488.0	495.0	0.09	0.004	0.001	0.033	0.010	0.280	.	2823
490.0	501.0	0.08	0.004	0.001	0.004	0.010	0.370	.	3234
501.0	510.0	0.10	0.003	-0.001	0.024	0.010	0.390	.	2824
510.0	523.0	0.09	0.005	0.001	0.002	0.010	0.110	.	3235
523.0	527.0	0.45	0.003	0.001	6.560	0.020	6.870	.	2825
527.0	548.0	0.08	0.004	0.001	0.083	0.020	0.350	.	3236
540.0	550.0	0.10	0.003	-0.001	0.780	0.020	0.830	.	2826
550.0	557.0	0.08	0.004	0.001	0.049	0.010	0.260	.	3237
557.0	560.0	0.24	0.005	-0.001	0.600	0.020	2.530	.	2827
560.0	563.0	0.31	0.025	0.002	0.198	0.020	3.700	.	2828
563.0	568.0	0.76	0.018	-0.001	0.150	0.030	6.520	.	2829
568.0	570.0	0.19	0.005	-0.001	0.010	0.010	1.070	.	2830
570.0	576.0	0.19	0.005	-0.001	0.013	0.010	1.150	.	2831
576.0	580.0	0.83	0.009	-0.001	0.087	0.010	6.550	.	2832
580.0	584.0	0.94	0.004	-0.001	0.148	0.010	7.780	.	2833
584.0	590.0	0.22	0.007	-0.001	0.020	0.010	2.060	.	2834
590.0	595.0	0.12	0.050	-0.001	0.010	0.010	0.660	.	2835
595.0	600.0	0.12	0.008	-0.001	0.002	0.010	0.440	.	2836
600.0	610.0	0.11	0.013	0.001	0.056	0.010	0.300	.	3238
610.0	620.0	0.11	0.004	0.001	0.003	0.020	0.280	.	3239
620.0	630.0	0.12	0.004	0.001	0.002	0.030	0.400	.	3240
630.0	640.0	0.11	0.004	-0.001	0.001	.	.	.	2837
640.0	650.0	0.11	0.004	0.001	0.001	0.030	0.300	.	3241
653.0	663.0	0.05	0.001	0.000	0.000	.	.	.	1583

DIAMOND DRILL CORE ASSAYS

ROCK QUALITY DESIGNATION (R.Q.D.)

* Expansion hole → dia 4" only

HOLE #: E-65

DATE: 12/11/85

LOGGED BY: RDS

DEPTHS (FT)		INTERVAL		CORE	%	CUMUL. LENGTH OF PIECES (INCHES)			R. Q. D.			# of	FRA.
FROM	TO	INCHES	CUM. INCHES	REC. (IN)	REC. Y	≥ 2"	≥ 4"	≥ 8"	2"	4"*	8"	FAILS	INCH
31	40	108	420	10%	100		22				20		
40	50	120	600	120	100		8				7		
50	60	120	720	120	100		22				18		
60	70	120	840	120	100		24				20		
70	80	120	960	120	100		30				25		
80	90	120	1080	120	100		27				22.5		
90	100	120	1200	120	100		81				67.5		
100	110	120	1320	120	100		16				13		
110	120	120	1440	120	100		22				18		
120	130	120	1560	120	100		27				22.5		
130	140	120	1680	120	100		65				54		
140	150	120	1800	120	100		56				47		
150	160	120	1920	120	100		27				22.5		
160	170	120	2040	120	100		52				43		
170	180	120	2160	120	100		62				52		
180	190	120	2280	120	100		26				22		
190	200	120	2400	120	100		19				16		
200	210	120	2520	120	100		44				37		
210	220	120	2640	120	100		20				17		
220	230	120	2760	120	100		34				22		
230	240	120	2880	120	100		37				31		
240	250	120	3000	SAM	PLED	-----	-----	-----	-----	-----	-----		
250	260	120	3120	120	100		13				11		
260	270	120	3240	120	100		8				7		
270	280	120	3360	120	100		36				30		
280	290	120	3480	120	100		17				14		
290	300	120	3600	120	100		22				18		
300	310	120	3720	120	100		70				58		
310	320	120	3840	120	100		46				38		
320	330	120	3960	80	67		4				3		
330	340	120	4080	120	100		65				54		
340	350	120	4200	120	100		21				17.5		
350	360	120	4320	120	100		40				33		
360	370	120	4440	120	100		68				57		
370	380	120	4560	120	100		50				42		

ROCK QUALITY DESIGNATION (R.Q.D.)

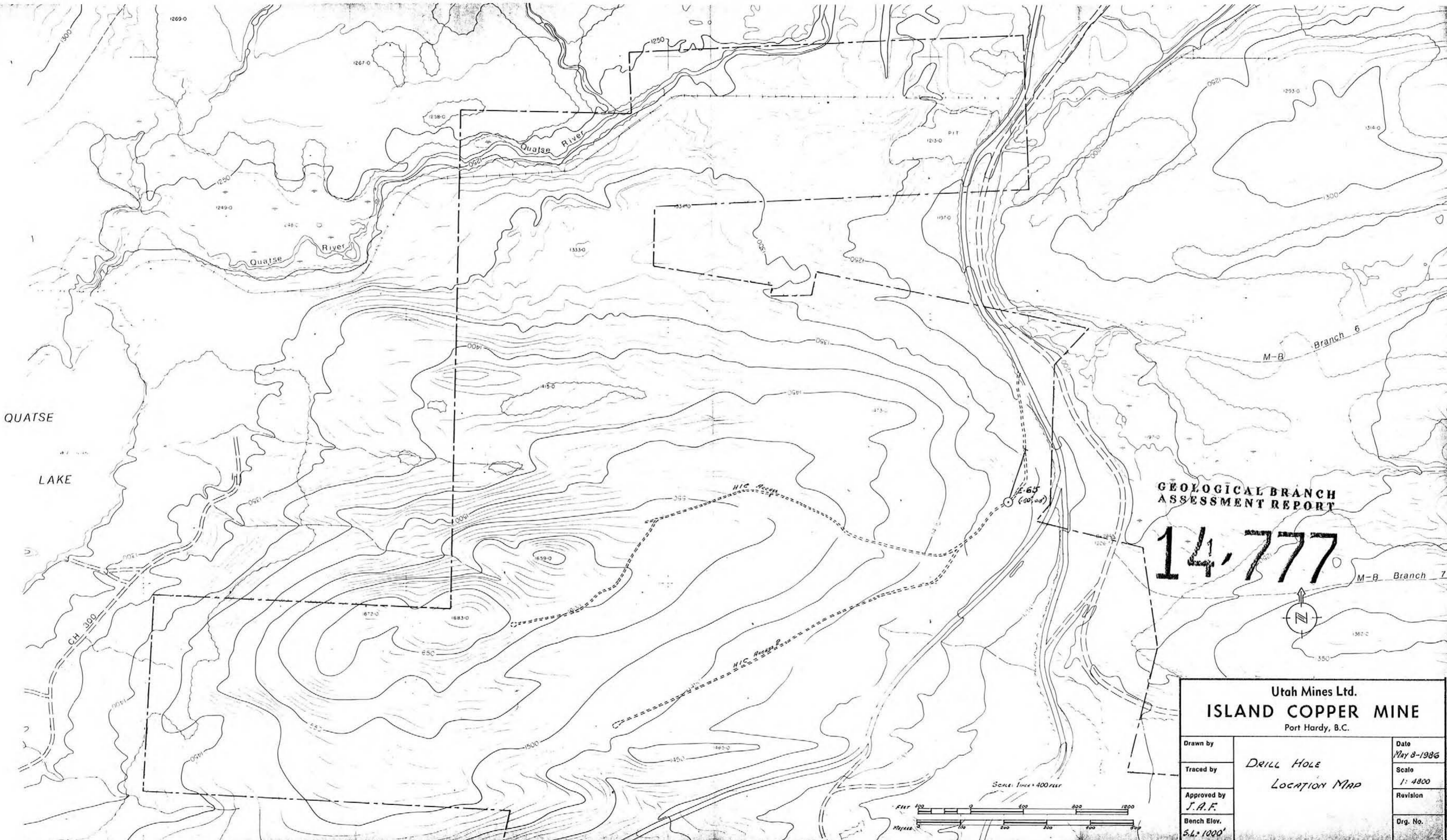
* Expansion hole → do 4" only!

HOLE # : **E-65**

DATE : **12/12/85**

LOGGED BY : **BDF**

FOOTAGES (FT)		INTERVAL		CORC	% RECY	CUMUL LENGTHS (INCHES)			R. Q. D			# of FRACT'S	FRAC. INTENS.
FROM	TO	INCHES	CUM INCHES			REC # (IN)	≥ 2"	≥ 4"	≥ 8"	2"	4"*		
380	390	120	4680	120	100		51			42.5			
390	400	120	4800	120	"		22			18			
400	410	120	4920	120	"		24			20			
410	420	120	5040	120	"		53			44			
420	430	120	5160	~90	75		10			8		MAYBE MISMATCH	
430	440	120	5280	120	100		29			24			
440	450	120	5400	120	100		56			47			
450	460	120	5520	120	100		96			80			
460	470	120	5640	120	100		102			85			
470	480	120	5760	120	100		76			63			
480	490	120	5880	120	100		73			61			
490	500	120	6000	120	100		56			47			
500	510	120	6120	120	100		64			53			
510	520	120	6240	120	100		77			64			
520	530	120	6360	120	100		90			75			
530	540	120	6480	120	100		42			35			
540	550	120	6600	120	100		82			68			
550	560	120	6720	120	100		68			57			
560	570	120	6840	120	100		48			40			
570	580	120	6960	120	100		46			38			
580	590	120	7080	120	100		47			39			
590	600	120	7200	120	100		65			54			
600	610	120	7320	120	100		71			64			
610	620	120	7440	120	100		84			70			
620	630	120	7560	120	100		51			42.5			
630	640	120	7680	120	100		91			76			
640	650	120	7800	120	100		88			73			
650	660	120	7920	--- SAMPLED ---									
660	663	36	7956	36	100		0			0			
				END OF HOLE									

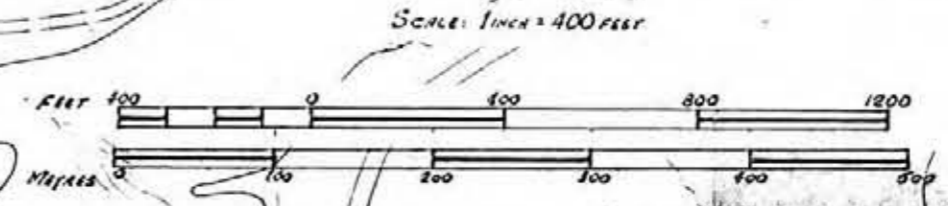


GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,777



Utah Mines Ltd. ISLAND COPPER MINE Port Hardy, B.C.		
Drawn by	<i>DRILL HOLE LOCATION MAP</i>	Date <i>May 8-1986</i>
Traced by		Scale 1: 4800
Approved by <i>J.A.F.</i>		Revision
Bench Elev. <i>S.L. 1000'</i>		Org. No.



QUATSE LAKE

MIMAS (12 UNITS)
#1225 (1982)
JULY 2

CHINA (15 UNITS)
#3112 (1985)
JULY 2

LAKE (16 UNITS)
#15 (1975)
JUNE 13
4N x 4W

JOE'S LAKE

FRANCES LAKE

RUPERT INLET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,777

Utah Mines Ltd.
ISLAND COPPER MINE
Port Hardy, B.C.

Drawn by	A. D. F.	Date	May 8-1986
Traced by	J.A.R.	Scale	1:12,000
Approved by	J.A.R.	Revision	
Bench Elev.	S.L. 1000'	Dwg. No.	

