DRILLING REPORT
FOR THE
POPLAR GROUPS 1 - 2

Omineca Mining Division
50 Kilometres southwest of Houston, B.C.

54°N 127°W

NTS 93 L/2

Owned by F. Onucki, C. Critchlow, M. Callaghan
and Utah Mines Ltd.

Operated by Utah Mines Ltd.

By

G.L. Holland, Geologist
Utah Mines Ltd.
1600 - 1050 West Pender Street
Vancouver, B.C.

February, 1982

Work performed between
28th October and 16th November, 1981

MINERAL RESOURCES BRANCH

10,298
part 1 of 2

TABLE OF CONTENTS

INTRODUCTION

A five (5) hole diamond drilling program was conducted on the Poplar Lake prospect between the 28th of October and the 16th of November, 1981. The claims upon which diamond drilling was specifically done include Poplar #5 and Poplar #13.

This report will claim as assessment work, the direct drilling costs, necessary camp costs, assay costs, geologic supervision charges related to the detailed logging of the core and the spotting of the drillholes.

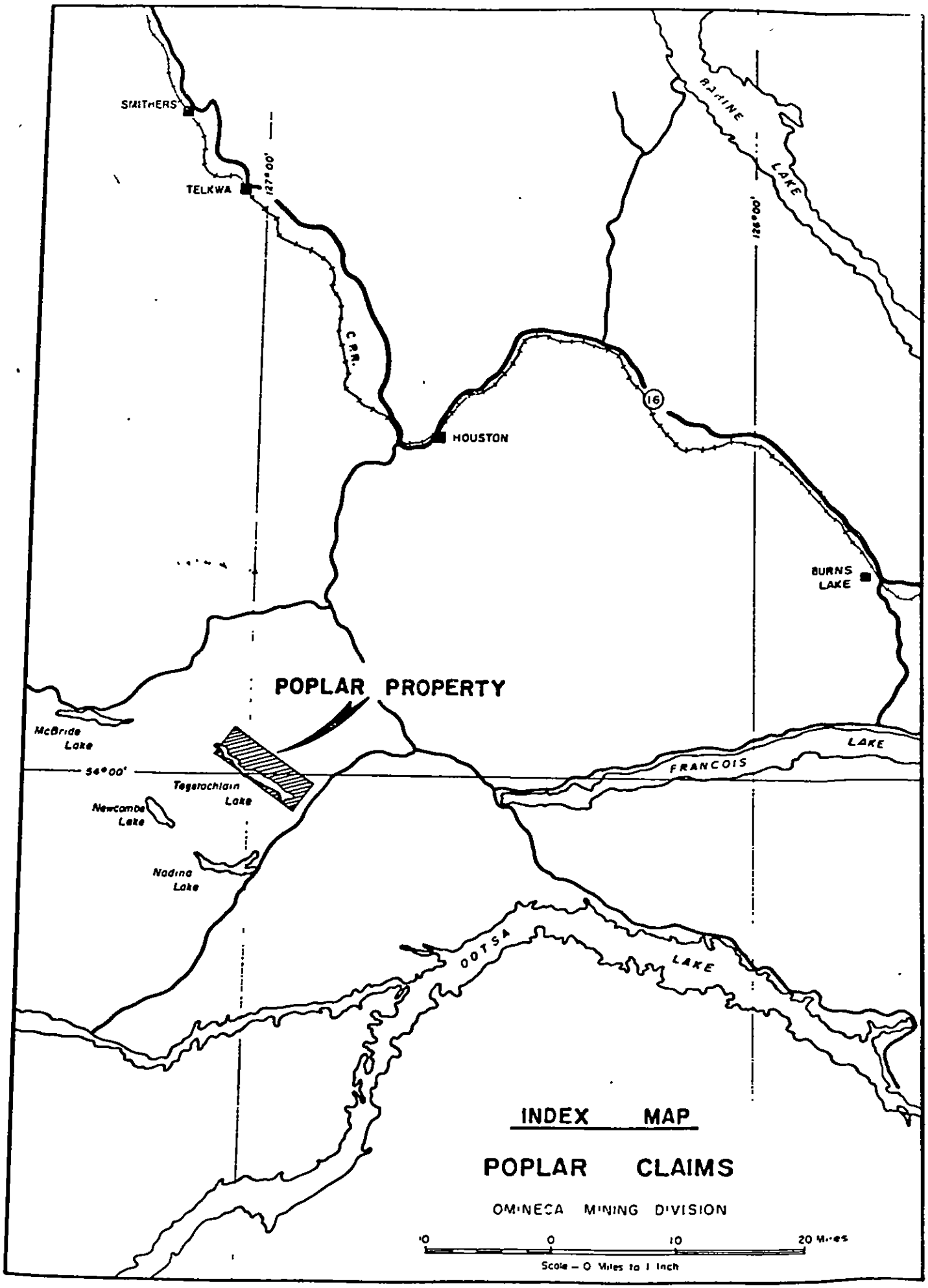
Location and Access

Tagetochlain Lake (local name Poplar) lies approximately fifty (50) kilometres southwest of Houston, British Columbia. Vehicle access from Houston is along the Morice River, Owen Lake, and Tahtsa Reach Forest Service access roads, a distance of sixty-three (63) kilometres. A rough road extends from the Tahtsa road along the north shore or Poplar Lake, through the Poplar groups of mineral claims, to the drill camp.

DIAMOND DRILLING PROGRAM

A contract was let to J.T. Thomas Drilling (1980) Ltd., in October 1981, to perform the required diamond drilling. One (1) unitized Longyear "44" drill was used, equiped to drill NQ size core. The move onto the property began the 28th of October with actual drilling commencing on the 30th of October. The drilling was concluded on the 14th of November and final movement of crews and camp out on the 16th of November, 1981. The camp facilities were constructed by J.T. Thomas personnel and the camp and cook were supplied by Utah Mines Ltd. The drill rig was moved during the job by a CASE 1450 tractor, owned and operated by J.T. Thomas Drilling (1980) Ltd., on prepared drill roads.

Core logging and supervision, provided by Utah Mines Ltd., included the following personnel: G.L. Holland, Geologist; D. Stonecipher, field assistant; R. Barnes, field assistant; A. Muirhead, field assistant. All core was logged in detail, by the staff geologist, then split in half, with one half of the core sent for analysis to Chemex Labs Ltd. in North Vancouver, B.C. The remaining half of the core, including core from previous programs, is presently stored in three sturdy plywood


SMITHERS
TELKWA
127°00'
C.N.R.
HOUSTON
16
RAINE LAKE
126°00'
BURNS LAKE
POPLAR PROPERTY
McBride Lake
54°00'
Tegetachlain Lake
Newcambe Lake
Nadina Lake
FRANCOIS LAKE
OOTSA LAKE
INDEX MAP
POPLAR CLAIMS
OMINECA MINING DIVISION
0 0 10 20 Miles
Scale – 0 Miles to 1 Inch

storage buildings located in the main camp area on the property. All core is stored in wooden core trays and all boxes clearly labelled with hole number and meterage contained.

Total meterage drilled from this program was 1499.6 meters. A total of five (5) holes were drilled and a summary is given on the following page. Note that all measurements are in meters including the grid co-ordinates.

Upon completion of this drilling program, each drillhole collar was surveyed by transit and this data is incorporated in the Diamond Drillhole Collar Location Map (Plate No. 1).

Data accompanying this drill report consists of complete diamond drill logs and assays (Appendices A and B) and a Diamond Drillhole Collar Location Plan (Plate No. 1). Statement of Qualifications and Statement of Costs are given in Appendices C and D respectively. Major invoices appear in Appendix E.

February 8, 1982

G.L. Holland, Geologist

DRILLHOLE SUMMARY

Hole No.	Co-ords (m) N.	E.	Elev. (m)	Date Start - Finish	Direction/ Angle	Hole Depth (m)	Claim Distribution
PC-69	6003.7	12001.2	917.3	Oct. 30 - Nov. 2	/-090°	337.1	100% Poplar #5
PC-70	5905.2	12001.8	903.7	Nov. 2 - Nov. 5	090°/-070°	306.7	100% Poplar #5
PC-71	6296.6	12398.8	923.5	Nov. 6 - Nov. 8	/-090°	218.2	100% Poplar #13
PC-72	6295.8	12399.2	923.6	Nov. 8 - Nov.11	090°/-060°	309.6	100% Poplar #13
PC-73	5996.5	12498.7	922.7	Nov. 11 - Nov.14	/-090°	328.0	100% Poplar #13

Total Drilling - 1499.6 meters

APPENDIX A

DRILL LOGS

COMPOSITE DRILL LOG

CORE SIZE : NQ wireline SCALE : 1:100 PROJECT : Poplar Lake HOLE No. : PC-69

CASING COLLAR ELEV.: 917.5m GROUND ELEV.: 917.3m DATE STARTED : october 30, 1981 PAGE No. 1 OF 23

COORDINATES : 6003.7 N. 12001.2 E. DATE FINISHED : November 2, 1981 REF. TO CLAIM CORNER :

INCLINATION : -090° AZIMUTH : TOTAL DEPTH : 337.11 m LOGGED BY : G.L. Holland

DEPTH (M)	ALTERATION: silica	sericite	clay	sec. bio.	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	ASSAYS % Mo
0								0-0.31 stick-up										
								0.31 - 27.4 OVERBURDEN										
5																		
10																		
15																		

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-69
CASING COLLAR ELEV. :
GROUND ELEV. :
DATE STARTED :

COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO.	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo		Oz/Ton Ag	Au
15							o.o.o	OVERBURDEN												
20																				
25																				
27.4	str - v str.	mod			v. str.	py - cpy		27.4 m 27.4 - 30.6 - FELDSPAR PORPHYRY - grnish-grey color - strongly altered - silicification - v. strongly frted - strong s/w - phenos have been heavily altered and obliterated - plag → sericite. - strong py unin... - no oxidation			4%	0.[redacted]	8500/C		27.4	[redacted]2			↑	880.1 ↑
30															30					887.5

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 3 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

Column headings: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/Ton Ag, Au

Depth: 30 – 45 m

Alteration (30.6 – 45 m): Silica – mod to strong; Sericite – moderate; Clay – weak

Fracturing: moderate

Minerals: PY-CPY

Comments (geology column):
- 10cm gouge zone
- 30cm gouge zone
- 1cm qtz vnlt.
- 1.5cm gouge zone
- 1cm qtz-py vnlt
- 1cm carb. vnlt
- 1cm py vnlt.
- 1cm gyp vnlt
- 1.8cm py vnlt.

DESCRIPTIVE GEOLOGY

30.6 m gouge contact @ 50° to C.A.

BIOTITE - FELDSPAR PORPHYRY

- pale green to grey color
- strong porphyritic texture - crowded
- composition
  - 30-40% phenos
    - 95% plag → ser + clay
    - 5% bio → sericite
  - groundmass - silica + sericite.
- strongly altered
- relic bio phenos remain
- qtz s/w moderate
- fracturing - moderate
- phenos up to 4mm in size

* Noted cpy decrease across contact @ 30.6m
- due to decrease in frting

- color alternates from light to dark grey.

PHYLLIC ALT'N

- traces of red hemetitic staining present in some plag phenos.

% Sulphides: 4 (30 – 30.6 m); 2-2½% (30.6 – 45 m)

% Estimated Cu: [redacted]

Sample No.	Sample Interval (m)	% Cu	% Mo	Oz/Ton Ag	Au
85002C	30 – 33	[redacted]			
85003C	33 – 36	[redacted]			
85004C	36 – 39	[redacted]		[redacted]	
85005C	39 – 42	[redacted]			875.5
8500GC	42 – 45	[redacted]			

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 4 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

Columns: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/Ton Ag, Au

Alteration (45–60 m):
- Silica: v. str. (45–46.5); moderate to strong (46.5–57.5); v. str. (57.5–60)
- Sericite: moderate
- Clay: v. wk (45–46.5); weak
- Fracturing: moderate
- Minerals: py - cpy

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPHYRY cont.

- → str qtz s/w
- → 1 cm gyp vnlt.
- - zones of strong qtz s/w mixed w̄ zones of weak s/w
- → 1 cm qtz vnlt
- - Numerous H/L py vnlts.
- → str qtz s/w
- → 2 cm carb ± gyp vnlt
- - numerous H/L gypsum vnlts ~12-15 per meter
- → 0.8 cm gyp vnlt
- Alt'n strong - phyllic phase
- - phenos distinct
- → 1 cm carb-py vnlt
- → 1 cm py vnlt.
- ** cpy is v. fine grained and it would not be hard to under estimate!
- → 3 cm qtz vnlt
- → 1.5 cm qtz vnlt
- * H/L frts ± py vnlts show some displacement of the qtz vnlts
- → 40 cm silicious zone
- → 1.5 cm py-carb vnlt cuts 1.5 cm qtz vnlt.

% Sulphides: 2-3%

Estimated % Cu: [redacted]

Sample No.	Sample Interval (M)	% Cu	% Mo	Ag	Au
85007C	45 – 48	[redacted]			
85008C	48 – 51	[redacted]			
85009C	51 – 54	[redacted]			
85010C	54 – 57	[redacted]		54	54.5
85011C	57 – 60	[redacted]			

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 5 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BID. | FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

DEPTH (M)

60

BIOTITE - FELDSPAR PORPHYRY cont

1cm gouge zone

Minor hematite staining of fspars

1.5cm carb vnlt.

0.5cm chl. vnlt

63.0 - decrease in frts, py vnlts

Rock takes on a darker grey tone - more silica

0.5cm py vnlt

65

Phyllic alt'n - very strong

1cm carb vnlt

1.2cm qtz vnlt.

str qtz s/w

69.0 - Increase in s/w and frting.

70

2cm qtz vnlt

1cm py vnlt.

1cm qtz vnlt

1cm py vnlt

1.5cm qtz vnlt

2cm gyp vnlt

75

ALTERATION: very strong | moderate | weak | mod to str. | weak | moderate

FRACTURING: mod | weak to mod | moderate

MINERALS: PY - CPY - (MoS2)

2-3%

85012C | 85013C | 85014C | 85015C | 85016C

851.5

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 6 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/Ton Ag, Oz/Ton Au

BIOTITE - FELDSPAR PORPHYRY

- 1.5cm qtz vnlt
- hematitic staining of altered
- 0.8cm py vnlt. fspar phenos common
- 2cm qtz vnlt. - Qtz s/w moderately developed
- Numerous H/L gyp vnlts
- 0.6cm py vnlt
- Phyllic alt'n.
- 1cm qtz vnlt

ALTERATION: strong silica; moderate sericite; weak clay

FRACTURING: moderate

MINERALS: py - cpy - MoS_2

SAMPLE No.: 85017C, 85018C, 85019C, 85020C, 85021C

DEPTH (M): 75, 80, 85, 90

ASSAYS: Oz/Ton Ag: 839.5; Oz/Ton Au: 828.5

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar		HOLE No. :	PC-69
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :		PAGE No. 7 OF 23	
COORDINATES : N. E.		DATE FINISHED :		REF. TO CLAIM CORNER :	
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m		LOGGED BY :	

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC-BIO.	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo		Oz/Ton Ag	Au
90–94.3	strong	moderate	v. weak		moderate	PY - CPY		BIOTITE - FELDSPAR PORPHYRY 90.4 - Qtz s/w decreases - Gypsum vning ~ 15-20/meter.				2%	[redacted]	85022C		90–93	[redacted]				
														85023C		93–94.3	[redacted]				
94.3–105	very weak				weak			→10° contact 94.3m sharp contact @ 10° to C.A. TRACHYTIC RHYODACITE BRECCIA DYKE (PMD) - dark brown color w̄ sections of bleached (pale green) rock. - trachytic texture strong - lathes not aligned or oriented - contains several H/L carbonate vnlts. - plag lathes -> sericite →2cm gouge zones - fragments are rounded to subrounded - brn - poss argillite - contains many calcite amygules →2cm gouge zones				< 0.5%	nil				Not sampled				

Depth marks: 90, 95, 100, 105

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 8 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH :	LOGGED BY :

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DEPTH (M): 105 – 120

105 – 109.3 m

TRACHYTIC RHYODACITE BRECCIA DYKE

- →3cm gouge zone
- →2cm gouge zone 109.3m Gouge Contact @ 80° to C.A

Alteration: Silica / Sericite – v weak; Fracturing – weak

% Sulphides: <0.5% — % Estimated Cu: nil

Not sampled

109.3 – 120 m

BIOTITE - FELDSPAR PORPHYRY

- →1cm gouge zone
- →5cm gouge zone
- →1cm py-gyp vnlt.
- →2cm gouge zone w̄ gypsum.
- →2cm qtz vnlt
- →1cm py vnlt
- →1cm qtz vnlt
- →1cm gyp vnlt.

- brownish grey colored
- crowded porphyritic texture
- comp
  - 30% phenos - 90% plag → sericite → ± clay
    - 5% bio → sericite.
  - 70% g.m. - silica, sericite, sec bio
- Qtz s/w weakly developed
- gypsum vning moderate.
- Alot of pink hem staining on fspars
- numerous h/l py vnlts.
- phenos completely altered but distinct
- Weak potassic phase

Alteration: Silica – moderate; Sericite – moderate to strong; Clay – v. weak (patchy); Sec. Bio. – weak (patchy); Fracturing – moderate to strong; Minerals – PY - CPY

% Sulphides: 2-3% — % Estimated Cu: 0

SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo		Ag oz/Ton	Au oz/Ton
85024C	109.3 – 111	[redacted]				808.2
85025C	111 – 114	[redacted]				
85026C	114 – 117	[redacted]			[redacted]	803.5
85027C	117 – 120	[redacted]				

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-69
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 9 OF 23
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.
FRACTURING
MINERALS
GEOLOGY
COMMENTS :
AVG. CORE REC'Y/HOLE
DESCRIPTIVE GEOLOGY
DEPTH (M)
DRILLING INTERVAL
% CORE RECOVERED
% SULPHIDES
% ESTIMATED Cu
SAMPLE No.
% SAMPLE RECOVERED
SAMPLE INTERVAL (M)
ASSAYS: % Cu | % Mo | oz/Ton Ag | oz/Ton Au

BIOTITE - FELDSPAR PORPHYRY cont.

- 120
- 1cm gouge zone
- 123.6 - Qtz s/w picks up - moderate.
- 125
- sulphides very fine grained - estimates probably low!
- str. qtz s/w.
- WK potassic alt'n
- 130
- 1.3cm qtz vnlt.
- s/w still increasing
- 1.5cm qtz vnlt.
- 1.2cm qtz-py vnlt
- 1.5cm qtz vnlt
- 135

ALTERATION: moderate | moderate to strong | weak (potsh) | weak
FRACTURING: moderate to strong
MINERALS: py - cpy - (Mass.)
% SULPHIDES: 2-3%
% ESTIMATED Cu: 1.5%
SAMPLE No.: 85028C | 85029C | 85030C | 85031C | 85032C
SAMPLE INTERVAL (M): 120 | 123 | 126 | 129 | 132 | 135
ASSAYS: 79/1.5

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 10 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | oz/ton Ag | oz/ton Au

BIOTITE - FELDSPAR PORPHYRY cont

0.8cm py vnlt.

- Qtz s/w moderate

1.5cm py-qtz vnlt

* Periodic zones of 0.30% Cu
Very small and not continuous
- corresponds to increase in s/w

1.2cm qtz vnlt

1cm qtz-carb vnlt.

Numerous H/L py vnlts

3x1cm qtz vnlts.

Visual Cu increasing

1cm gouge zone

0.8cm py vnlt

DEPTH (M): 135, 140, 145, 150

SULPHIDES: 2½ - 3 %

SAMPLE No.: 85033C, 85034C, 85035C, 85036C, 85037C

SAMPLE INTERVAL (M): 135, 138, 141, 144, 147, 150

Ag: 779.5

Au: 767.5

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 11 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO.	FRACTURING	MINERALS	COMMENTS / DESCRIPTIVE GEOLOGY
150–158	moderate	strong		v. weak	mod - strong	py - cpy	BIOTITE - FELDSPAR PORPH. cont.
							→ 2cm gyp w̄ py.
							WK potassic alt'n
155							→ 0.8cm py vnlt
							→ 2cm gouge zone
							→ 1cm qtz vnlt
158–159					wk		→ 1cm gouge zone 158.0 Gouge contact @ 30° to C.A.
							Q.F.B.P #2 DYKE
159–165	strong	very strong			strong	py-cpy	→ 1cm gouge zone 159.0 Gouge contact @ 25° to C.A
							BIOTITE - FELDSPAR PORPHYRY
160							→ 1cm gouge zone
							→ 1cm qtz vnlt. 159-169 - Rock is very strongly altered - phenos obliterated
							→ 2cm gouge zone - Qtz s/w strong
							→ 1cm qtz-carb vnlt - cpy contained within micro frts ; silicious patches
165							→ 2cm qtz vnlt

SAMPLE INTERVAL (M)	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% Cu	% Mo		Oz/ton Ag	Oz/ton Au
150–153	2½ %		85038C	[redacted]				
153–156	2½ %		85039C	[redacted]				
156–159	0.5		85040C	[redacted]				
159–162	2½ %		85041C	[redacted]				
162–165	2½ %	0	85042C	[redacted]				

Ag / Au: 755.5 (at 162)

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-69

CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 12 OF 23

COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :

INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo		Oz/Ton Ag	Au
165								BIOTITE - FELDSPAR PORPHYRY cont				165					
	strong	v. strong						→ 1cm gyp vnlt.									
								→ 1cm qtz vnlt. -starting to see cpy in the py vnlts			85043C		[redacted]				
								Qtz s/w -strong				168					
170	moderate	moderate to strong	weak (phenos)	traces	strong	PY - CPY - (MoS)		169.0 - Phenos become quite distinct again; → 1cm gouge zone			85044C		[redacted]				
								→ 3cm gouge-bxx zone; → 1cm py w cpy vnlt				171					
								Phyllic to v. weak potassic alt'n.	3%		85045C		[redacted]				
								→ 2cm qtz vnlt; Qtz s/w mod to strong									
								→ 1cm gouge zone				174				X	743.5
175								→ 1cm qtz vnlt			85046C		[redacted]				
								→ 0.7cm py-cpy vnlt.				177					
									0		85047C		[redacted]				
180								→ 1cm gouge zone				180					

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV. : | GROUND ELEV. : | DATE STARTED : | PAGE No. 13 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA — moderate; SERICITE — moderate to strong; CLAY — weak (phenos); SEC. BIO. — very weak

FRACTURING — moderate to strong

MINERALS — py - cpy - (MoS_2)

GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPHYRY cont.

Noting that a silicious envelope is developing around the frts + vnlts.

→ 0.5cm py vnlt

→ 1cm qtz vnlt

Gypsum vning weak

Qtz s/w mod developed

→ 1.5cm qtz vnlt w MoS_2

→ 3cm qtz-carb vnlt.

Upper phyllic to wk potassic alt'n phase

→ 1cm gouge zone

→ 1cm qtz vnlt

→ 2cm gouge zone

→ 1.5cm qtz vnH

DRILLING INTERVAL

% CORE RECOVERED

% SULPHIDES: 2½ %

% ESTIMATED Cu

SAMPLE No.: 85048C; 85049C; 85050C; 85051C; 85052C

% SAMPLE RECOVERED

SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

731.5

DEPTH (M): 180, 183, 185, 186, 189, 190, 192, 195

UTAH MINES LTD. — 85

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 14 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA (moderate), SERICITE (strong), CLAY (weak (phenos)), SEC. BIO. (periodic traces)

FRACTURING: strong

MINERALS: py-cpy-(Mos)

GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BIOTITE-FELDSPAR PORPHYRY cont

- 0.4cm cpy vnlt.
- 0.7cm gouge zone
- 2cm qtz vnlt
- 2cm gouge zone
- 1cm gouge zone
- 1cm gyp. vnlt

Qtz s/w mod-str. developed

- 1cm gyp vnlt

Upper phyllic to wk potassic altn.

- 1cm qtz vnlt
- 1cm qtz-py vnlt

Gyp vning weak

- 0.8cm py vnlt
- 2.5cm gouge zone
- 1cm qtz vnlt
- 2cm qtz vnlt

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES: 2½-3 % | % ESTIMATED Cu

SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)
85053C		195
85054C		198
85055C		201
85056C		204
85057C		207
		210

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

719.5

707.5

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-84

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 15 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

DEPTH (M)

210

BIOTITE-FELDSPAR PORPHYRY cont

→ 2cm qtz vnlt

→ 1cm qtz vnlt — Qtz s/w mod-str.

→ 1cm qtz vnlt

215

Upper phyllic alt'n.

3-9½ %

→ 1cm py-qtz vnlt — -cpy contained in micro siliceous vnlts ; sil. patches

→ 1cm py vnlt

220

→ 1cm qtz vnlt

→ 1.5cm qtz vnlt

→ 1cm gouge zone cut 1cm qtz vnlt

225

moderate to strong

v. strong

weak (phenos)

strong

py-cpy-(Mo-Sz)

SAMPLE No.	SAMPLE INTERVAL (M)
85058C	210
85059C	213
85060C	216
85061C	219
85062C	222
	225

1675.5

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-64
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 16 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

Column headings: DEPTH (M) | ALTERATION (SILICA, SERICITE, CLAY, SEC. BIO.) | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/Ton Ag, Au

Depth: 225 – 240 m

Alteration (225–240 m):
- Silica: strong to v. strong
- Sericite: strong to v. strong
- Sec. Bio.: mod (approx. 238–240 m)

Fracturing: v. strong to intense

Minerals: py-cpy-sph-gal

Geology notes (annotations):
- 1cm qtz-py-cpy vnlt.
- 1.5cm qtz vnlt
- 1.3cm carb vnlt w sph & gal.
- 1cm py-cpy-gyp-carb vnlt
- BFP
- intense s/w
- 1cm qtz vnlt.
- 1cm qtz vnlt
- 0.8cm py vnlt.
- 1cm qtz vnlt.
- 1cm qtz vnlt.
- BFP
- 1cm qtz vnlt.

Descriptive Geology:

BIOTITE FELDSPAR PORPHYRY cont

225.6m — vein contact @ 5° to C.A.

ARGILLITE

- contains many BFP sections as we are following the contact for awhile.
- tan to grey color
- very strong to intense frting
- intense alt'n - sericitization
  - silicification
- sulphides contained in frts & sil-ser zones.
- qtz s/w v strong
- cpy v. fine grained

% Sulphides: 3 (225–225.6 m); 3½ - 4 % (225.6–240 m)

Estimated % Cu: [redacted]

Sample No.	Sample Interval (M)	% Cu	% Mo	Ag (oz/ton)	Au (oz/ton)
85063C	225 – 228	[redacted]	[redacted]		
85064C	228 – 231	[redacted]	[redacted]	[redacted]	[redacted]
85065C	231 – 234	[redacted]	[redacted]		
85066C	234 – 237	[redacted]	[redacted]		
85067C	237 – 240	[redacted]	[redacted]		

Ag, Au: 225–233.5 ; 233.5 →

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-64

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 17 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Au/Ton Ag | Au

DEPTH (M)

240

- 1cm qtz vnlt — ARGILLITE cont.
- 1cm qtz vnlt
- 1cm qtz vnlt — Qtz s/w strongly developed

245

- 2cm qtz vnlt — Alt'n - wk potassic

250

- 0.5cm py vnlt
- 1cm py-carb vnlt.
- series of qtz-py vnlts
- 9cm gouge zone w/ qtz
- 1cm qtz vnlt

255

STRONG
VERY STRONG
MOD
VERY STRONG TO INTENSE PY-CPY

3¼ - 4%

SAMPLE No.: 850680 | 850690 | 850700 | 850710 | 850720

240 | 243 | 246 | 249 | 252 | 255

671.5

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 18 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/Ton Ag, Au

DEPTH (M): 255 – 270

Alteration:
- Silica: strong (255 – 268.5)
- Sericite: very strong (255 – 268.5)
- Sec. Bio.: weak (260.6 – 268.5)

Fracturing: V. str. to intense (255 – 260.6); intense (260.6 – 263); V. strong (263 – 268.5); weak (268.5 – 270)

Minerals: PY-CPY-gal

Geology annotations:
- → BFP
- → 1cm qtz vnlt.
- → 1cm gouge zone.
- → Dyke Bxx. w/ gal.
- QFP. Dyke.
- → 2cm qtz vnlt.
- → 2cm gouge zone
- → 5cm gouge zone.
- → PMD
- → 1.5cm qtz vnlt

Descriptive Geology:

ARGILLITE cont.

Qtz s/w very strong

260.6m

260.6 - 263.3 - Fault zone w/ small sections of dyke QFP-1

260.6 - 268.5 - BIOTITE - FELDSPAR PORPHYRY
- very strong alteration - phenos are mostly obliterated

265.3 - 265.7 - PMD - QFP-1 ~ 80° to C.A

Qtz s/w very strong

268.5m sharp contact @ 80° to C.A

PMD - Q.F.P. #2
- light green to dk b[ ] color, qtz phenos
- weakly frted.

% Sulphides: 3½ - 4 % (255 – 268.5); <0.5% (268.5 – 270)

Sample Interval (M)	Estimated % Cu	Sample No.	% Cu	% Mo	Ag	Au
255 – 258	[redacted]	85073C	[redacted]			
258 – 261	[redacted]	85074C	[redacted]			659.5
261 – 264	[redacted]	85075C	[redacted]		[redacted]	
264 – 267	[redacted]	85076C	[redacted]			
267 – 270	[redacted]	85077C	[redacted]			647.5

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar Lake	HOLE No. : PC-69
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 19 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

Column headings: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY | COMMENTS: / DESCRIPTIVE GEOLOGY | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/Ton Ag, Au

Depth: 270 – 285

Alteration (271.4–285):
- Silica: moderate
- Sericite: moderate to strong
- Clay: —
- Sec. Bio.: moderate to periodic strong

Fracturing: weak (270–271.4); strong (271.4–285)

Minerals: PY–CPY–(MoS$_2$)

Geology annotations:
- 2cm gouge.
- 1cm qtz vnlt
- 1.5cm gouge zone.
- 1cm qtz vnlt. (72°)
- Argillite
- 1cm qtz vnlt
- 1cm gouge @ qtz
- 2cm gouge zone
- 1cm py vnlt
- 3cm gouge zone
- 1cm qtz vnlt.
- 1cm vuggy qtz vnlt
- 1cm qtz vnlt.
- 1.5cm qtz vnlt

Descriptive Geology:

PMD – Quartz-Feldspar Porphyry cont

271.4m Gouge contact @ 70° to C.A.

BIOTITE – FELDSPAR PORPHYRY

- contains periodic patches of altered argillite
- strongly altered – potassic phase – phenos often obscured
- qtz s/w strongly developed.
- 1st appearance of good sec. bio. (in quantity and persistence)
- pale green to dk brn color
- pheno size appears to be a bit smaller than before.
- comp – 40% phenos – 35% plag → ser
  - 5% bio → ser
  - → 2° bio
- 60% gm – sec. bio, silica, sericite

274.3 – 276.2 m – Argillite. – contains alot of faults

% Sulphides: <0.5% (270–271.4); 3 – 3½ % (271.4–285)

Estimated % Cu: [redacted]

Sample No.	Sample Interval (M)	% Cu	% Mo	Ag (Oz/Ton)	Au (Oz/Ton)
85078C	270 – 273	[redacted]			
85079C	273 – 276	[redacted]		[redacted]	
85080C	276 – 279	[redacted]			
85081C	279 – 282	[redacted]			
85082C	282 – 285	[redacted]			

Ag/Au intervals: 270 – 282 (arrows); 282 – ... ; 635.5 at 282

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV :	GROUND ELEV. :	DATE STARTED :	PAGE No. 20 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

DEPTH (M)

285

- 1cm gouge zone — BIOTITE - FELDSPAR PORPHYRY.
- 1.5cm qtz vnlt.
- 1cm qtz-py vnlt
- Gouge contact
- Andesite — 287 - 287.8 - Andesite Dyke
- sharp contact @ 45°

288

- 2cm qtz vnlt — 289 - 290 - sections of argillite present.
- 1cm qtz vnlt

290

- 1cm qtz vnlt
- 1.3cm gouge zone — Qtz s/w strong
- 1.5cm qtz vnlt

291

- 1cm gouge zone — 293 - 298.8 - Periodic sections
- Argillite. — of argillite contained within
- 1cm qtz-py vnlt.

294

- Argillite.

295

- Argillite

297

- 1cm qtz vnlt

- Argillite.
- 1.3cm gouge zone

300

ALTERATION: moderate to strong silica; moderate sericite; weak (phenos) clay; weak to moderate sec. bio

FRACTURING: strong py-cpy

3 - 3½ %

SAMPLE No.: 850833C | 850834C | 850835C | 850836C | 850837C

623.5

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 21 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

DEPTH (M)

300

- 1cm qtz vnlt. BIOTITE - FELDSPAR PORPHYRY cont
- Argillite.
- 1.3cm gouge zone * Are very near the arg - BFP contact.
- 1cm carbonate vnlt.
- 1.4cm qtz vnlt
- Qtz s/w strong
- 25cm gouge zone.

305

Alt'n strong - potassic

- 1.0cm qtz vnlt
- 1cm qtz vnlt

310

3110 - 312.1 - Argillite
- tan to dk brn color depending on the sec. bio content.

Argillite

Argillite

Argillite.

315

ALTERATION: moderate | moderate to strong | moderate

FRACTURING: strong to very strong

MINERALS: PY - CPY

% SULPHIDES: 3 - 3 1/2 %

SAMPLE No.: 85088C | 85089C | 85090C | 85091C | 85092C

SAMPLE INTERVAL (M): 300 | 303 | 306 | 309 | 312 | 315

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-69

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 22 OF 23

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

315

BIOTITE - FELDSPAR PORPHYRY cont

Argillite

- 13cm qtz vnlt.
- 10cm gouge zone
- 2cm gouge zone

* Contains sections of Argillite within.
- contacts very sharp and irregular.

320

- 0.5cm py vnlt.

Qtz s/w strong

- 1cm py vnlt
- 2x1cm qtz vnlts
- 1cm py-cpy vnlt
- 08cm gouge zone

Alt'n strong - potassic

- 1cm qtz vnlt

325

826.8 - 329.5 - Rock is very block due to the sec. bio.

- qtz masses

- 1.5cm qtz vnlt

330

moderate to strong | moderate | weak | weak to moderate | mod-str. | strong | py-cpy

3 - 3½

85093C | 85094C | 85095C | 85096C | 85097C

315 | 318 | 321 | 324 | 327 | 330

5925

5870

UTAH MINES LTD. — 85

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-69
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 23 OF 23
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

Alteration (330–337.11 m): silica – strong; sericite – moderate to strong; clay – mod to strong; sec. bio.

Fracturing: strong to very strong

Minerals: Py-cpy-(Mag)

DESCRIPTIVE GEOLOGY

DEPTH (M)	DESCRIPTIVE GEOLOGY
330	BIOTITE - FELDSPAR PORPHYRY cont
	→ 1.8 cm py vnlt.
	- Qtz s/w very strong
	→ 1.6 cm qtz vnlt. strong potassic alt'n.
335	→ 2 cm gouge zone.
	→ 1 cm qtz vnlt.
	337.11 m End of Hole

% SULPHIDES: 3 - 3½ %

ESTIMATED % Cu: [redacted]

SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	% Cu	% Mo		Oz/Ton Ag	Oz/Ton Au
85098C		330 – 333	[redacted]				[redacted]
85099C		333 – 336	[redacted]				
85100C		336 – 337.11	[redacted]				580.33

COMPOSITE DRILL LOG

CORE SIZE : NQ wireline
SCALE : 1:100
PROJECT : Poplar Lake
HOLE No. : PC-70
CASING COLLAR ELEV.: 909.9m
GROUND ELEV.: 903.7m
DATE STARTED : Nov. 2, 1981
PAGE No. 1 OF 21
COORDINATES : 5905.2 N. 12001.8 E.
DATE FINISHED : Nov. 5, 1981
REF. TO CLAIM CORNER :
INCLINATION : -70°
AZIMUTH : 090°
TOTAL DEPTH : 306.7 m
LOGGED BY : G.L. Holland

DEPTH (M)	ALTERATION	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	ESTIMATED	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
0					0. - 0.31 Stick-Up									
					0.31 - 20.73m Overburden									
5														
10														
15														

UTAH MINES LTD. — 65

COMPOSITE DRILL LOG

CORE SIZE :
CASING COLLAR ELEV :
COORDINATES : N. E.
INCLINATION :

SCALE :
GROUND ELEV. :
AZIMUTH :

PROJECT : Poplar
DATE STARTED :
DATE FINISHED :
TOTAL DEPTH : m

HOLE No. : PC-70

REF. TO CLAIM CORNER :
LOGGED BY :

Column headings: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO., LIMONITE | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

Depth scale: 15, 20, 25, 30

15 – 20.73 m

Overburden

20.73 m

BIDTITE - FELDSPAR PORPHYRY

- greenish-grey color
- very strongly altered - often phenos are completely obliterated.
- crowded porphyry - phenos range up to 4mm in size
- comp - 40% phenos - 37% plag → ser → clay
  - 3% bio → ser.
  - 60% g.m. - silica + sericite
- bio phenor relics are found only in short sections - mostly destroyed.

20.73 - 61.60 - Rock is very badly broken up.

- Qtz s/w weak
- very badly frt'ed

Comments: → large gouge zone; → Gouge zone. ; → Gouge zone ; → Gouge zone

Alteration (from 20.73 m): Silica: strong to v. strong; Sericite: strong; Clay: weak (phenos); Limonite: strong ↔ very weak
Fracturing: very strong
Minerals: Py (CPY) - lim

% Estimated Cu: 3 - 4 %

Sample No.	Sample Interval (M)	% Cu	% Mo
85101C	20.73 – 24	[redacted]	
85102C	24 – 27	[redacted]	
85103C	27 – 30	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar Lake | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 3 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu, % Mo

DEPTH (M)

30

BIOTITE - FELDSPAR PORPHYRY cont.

2cm gouge zone

Gouge zone

Alt'n very strong - phyllic.

35

Gouge zone.

0.7cm py vnlt.

2cm qtz vnlt * Rock very badly fractured

Gouge zone

40

45

strong

strong

weak (phenos)

very strong

py - (cpy)

3 - 3½ %

85104C

85105C

85106C

85107C

85108C

30

33

36

39

42

45

UTAH MINES LTD. - 83

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar Lake	HOLE No. : PC-70
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 4 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

Depth (m): 45 – 60

ALTERATION (45–60 m): SILICA strong; SERICITE strong; CLAY weak (phenos); SEC. BIO

FRACTURING: very strong

MINERALS: PY - (CPY) - (hem)

BIOTITE - FELDSPAR PORPHYRY cont

- 2cm gouge zone
- 0.6cm py unit
- Rock very shattered
- 1cm gouge zone
- 1cm gouge zone
- 0.80m qtz-py unit — Qtz s/w weak.
- Gouge zone
- Gouge zone

% SULPHIDES: 3 - 3½ %

% Cu ESTIMATED: [redacted] <

SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo
85109C	45 – 48	[redacted]	
85110C	48 – 51	[redacted]	
85111C	51 – 54	[redacted]	
85112C	54 – 57	[redacted]	
85113C	57 – 60	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-70
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 5 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

Column headings: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO | FRACTURING | MINERALS | GEOLOGY | COMMENTS: / DESCRIPTIVE GEOLOGY | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

Depth 60 – 63.1 m

- Alteration: Silica – strong; Sericite – strong; Clay – weak
- Fracturing: very strong
- Minerals: Py - Cpy
- % Sulphides: 3 - 3½%
- % Estimated Cu: [redacted]
- Sample No.: 85114C
- Sample interval: 60 – 63.1
- Assays: [redacted]

BIOTITE - FELDSPAR PORPHYRY cont

61.6 - End of shatter zone.

→ 1cm gouge zone

→ 10cm py unit

63.1m sharp - irregular contact.

Depth 63.1 – 75 m

- Alteration: Silica – weak (phenos)
- Fracturing: weak
- Minerals: hem.
- % Sulphides: <0.5%
- % Estimated Cu: nil
- Assays: Not sampled

TRACHYTIC RHYODACITE BRECCIA.

- trachytic texture is very strong on the edges of the dyke, disappears in the core.
- At edges - dark brn color
  - weak porphyritic texture
- In core - no trachytic texture
  - porphyritic texture - 10-15% - plag - 8%, qtz - 6%, bio - 1%
  - breccia frags more prominant
  - light grey color - minor hem staining.

65.8 - End of trach text

→ 20cm gouge zone.

- Qtz phenos increase in size & content towards the middle.
- Periodic lathes found in the core - same dyke.

→ 1.5cm carb. unit.

→ 1.5 cm gouge zone

Alot of bleaching around gouge zones

→ 1cm carb unit

→ 1cm gouge zone.

* Breccia texture very weak - could be a

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-70
CASING COLLAR ELEV :	GROUND ELEV. :	DATE STARTED :	PAGE No. 6 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC BIO — FRACTURING — MINERALS — GEOLOGY — COMMENTS: — AVG. CORE REC'Y/HOLE — DRILLING INTERVAL — % CORE RECOVERED — % SULPHIDES — % ESTIMATED Cu — SAMPLE No. — % SAMPLE RECOVERED — SAMPLE INTERVAL (M) — ASSAYS (% Cu, % Mo)

DESCRIPTIVE GEOLOGY

DEPTH (M)	Alteration	Fracturing	Minerals	Descriptive geology	% Sulphides	% Est. Cu	Sample No.	Sample interval (M)	% Cu	% Mo
75–76.7	sericite weak	weak		sharp contact @ 85° to C.A	<0.5	nil	—		Not sampled	
76.7				76.7m; >1cm gouge zone				76.7		
76.7–78	silica strong; sericite strong; clay very weak	strong	py-cpy	BIOTITE-FELDSPAR PORPH. - light grey color - very strong alteration - phenos mostly destroyed. - no relic bios noted, rock type based on texture. - strong silicious selvages devel. around frts - Qtz s/w weak - numerous py vnlts.	3-3½%		85115C	76.7–78	[redacted]	
78–81				1cm gouge zone; 0.5cm py vnlt			85116C	78–81	[redacted]	
81–84				1cm py vnlt - no gypsum Alt'n strong - phyllic phase.			85117C	81–84	[redacted]	
84–87				0.9cm py vnlt			85118C	84–87	[redacted]	
87–90				1.3cm py vnlt; 0.6cm py vnlt		<1%	85119C	87–90	[redacted]	

Depth marks: 75, 80, 85, 90

COMPOSITE DRILL LOG

CORE SIZE :
CASING COLLAR ELEV. :
COORDINATES : N. E.
INCLINATION :

SCALE :
GROUND ELEV. :
AZIMUTH :

PROJECT : Poplar
DATE STARTED :
DATE FINISHED :
TOTAL DEPTH : m

HOLE No. : PC-70
PAGE No. 7 OF 21
REF. TO CLAIM CORNER :
LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO — strong, strong, weak (phenos)

FRACTURING: strong

MINERALS: PY - CPY

COMMENTS :

AVG. CORE REC'Y/HOLE

DEPTH (M): 90, 95, 100, 105

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPHYRY

- → py vnlts
- → 1.5 cm py vnlts.
- → 0.7cm gyp. vnlt
- → 2x1.5cm py vnlts
- Qtz s/w weakly developed
- → 1.2cm py vnlt
- Alt'n very strong - phyllic
- → 0.5cm py vnlt.
- → Argillite
- → 1cm gyp. vnlt.
- → 0.8cm carb. vnlt.
- → 0.5cm gouge zone.

% SULPHIDES: 3 - 5%

% ESTIMATED Cu: [redacted]

SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo
85120C	90 – 93	[redacted]	
85121C	93 – 96	[redacted]	
85122C	96 – 99	[redacted]	
85123C	99 – /102	[redacted]	
85124C	/102 – /105	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 8 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA — strong; SERICITE — strong; CLAY — weak (phenos); SEC BIO

FRACTURING — strong; MINERALS — py - (cpy)

GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPHRY cont.

1cm gouge zone.

0.8cm py vnlt.

- Qtz s/w weakly developed

1cm py vnlt.

Alt'n strong - phyllic phase.

2cm py vnlt

1cm carb. vnlt

3cm qtz vnlt

2x1.5cm py vnlts

2cm carb. vnlt

DRILLING INTERVAL

% CORE RECOVERED

% SULPHIDES — 3 %

% ESTIMATED Cu

SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)
85125C		105 – 108
85126C		108 – 111
85127C		111 – 114
85128C		114 – 117
85129C		117 – 120

ASSAYS: % Cu; % Mo

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 9 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO.

DEPTH (M) | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPHYRY cont

0.8cm py vnlt.

Qtz s/w weakly developed

Numerous H/L py vnlts.

15cm gyp vnlt.

0.7cm py vnlt

Alt'n strong - phyllic
- phenos mostly destroyed

1.3cm py vnlt

very strong
strong
weak (phenos)
strong
strong

strong
PY - (CPY)

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

4-5 %

SAMPLE No.	SAMPLE INTERVAL (M)
85130C	120 – 123
85131C	123 – 126
85132C	126 – 129
85133C	129 – 132
85134C	132 – 135

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-70

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 10 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

135

→0.8cm py vnlt. BIOTITE - FELDSPAR PORPHYRY cont

→1cm py vnlt

Alt'n strong - phyllic.

Qtz s/w weak

140

→3cm carb. vnlt

145

→2cm gyp. vnlt.

146.1m Gouge contact @ 30° to C.A

TRACHYTIC F. RHYODACITE

- bleached, fspar lathes → sericite
- minor qtz ± fspar phenos

148.3m sharp contact @ 80° to C.A

wk breccia

→3cm qtz vnlt. BIOTITE - FELDSPAR PORPHYRY

as above

150

DEPTH (M)	SILICA	SERICITE	CLAY	SEC. BIO.	FRACTURING	MINERALS	GEOLOGY
135	strong	strong	weak (phenos)		strong	py ± cpy	
145	weak				weak		
150	strong	strong	weak		strong	py-(cpy)	LA A

DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
		5%		85135C		135		
				85136C		138		
				85137C		141		
		< 0.5%		85138C		144		
		5%		85139C		147		
						150		

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar Lake	HOLE No. : PC-70
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 11 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC BIO. | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu, % Mo | DEPTH (M)

DESCRIPTIVE GEOLOGY

150

BIOTITE - FELDSPAR PORPHYRY

→ 2x1cm qtz vnlts.

→ 0.5cm gouge zone

→ 0.5 cm cpy-py vnlt

153.5 - starting to get small patches of argillite in the B.F.P.

→ 2cm gouge zone

155

Discription -
- grey color
- very strongly altered
- phenos are rare, many ghosts still present
- very strong silicification ? sericitization
- Qtz s/w weak

→ 1cm gouge zone

→ Vuggy qtz vnlt

→ 2cm py vnlt w gyp

* cpy contained in several vnlts.
- probably if s/w was greater this would have alot more cpy
- cpy very fine

160

→ 1cm gouge zone

Alt'n very strong - phyllic

→ 1cm gouge zone

165

ALTERATION: very strong / strong / very weak

FRACTURING: strong

MINERALS: py - (cpy)

% SULPHIDES: 3 - 4 %

SAMPLE No.: 85140C, 85141C, 85142C, 85143C, 85144C

ASSAYS: 0.02, 0.02

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 12 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO

FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

SILICA: very strong | strong | very weak

SERICITE: strong

CLAY: very weak

FRACTURING: strong

MINERALS: py-cpy

BIOTITE - FELDSPAR PORPHYRY cont.

1.3cm gyp vn/t

1cm gouge zone.

1cm qtz-py vn/t.

1cm gouge zone

Alt'n very strong - phyllic.

0.9cm py-qtz vn/t

2cm gouge zone

Qtz s/w weakly devel.

1cm qtz-carb vn/t

Argillite

1cm qtz vn/t

1cm gouge zone

1cm gouge zone

2cm qtz vn/t.

1cm qtz vn/t

3 - 4 %

85145C

85146C

85147C

85148C

85149C

165 | 168 | 170 | 171 | 174 | 175 | 177 | 180

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 13 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC BIO | FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

180.3m Gouge contact @ 47° to CA

PMD - Q.F.P. #2

- pale green color
- 5% phenos in a silicious matrix
- 4% qtz
- 1% plag
- frting - weak

→ BFP @ 10° to CA

→ 1cm gouge zone

186.6m Gouge contact @ 80° to CA

BIOTITE - FELDSPAR PORPHYRY

- very strongly altered
- strong silicification & sericitization
- phenos are rare
- fracturing strong
- qtz s/w weak
- alt'n - phyllic phase
- numerous H/L py vnlts.

→ Gouge contact

→ 1cm qtz-py vnlt

→ 1cm qtz vnlt

→ 1cm qtz vnlt

→ 2cm gyp vnlt

→ 1.2cm qtz vnlt

→ 1cm gouge zone

→ 1cm gouge zone

→ 1cm gouge zone

FRACTURING: weak; strong; strong; strong py-cpy

<0.5%

3 1/2 %

nil

85150C

85151C

85152C

N.S. sampled

UTAH MINES LTD. — 85

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 14 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO. | FRACTURING | MINERALS | GEOLOGY

COMMENTS: | AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

195

BIOTITE - FELDSPAR PORPHYRY cont.

0.6cm py vnlt.

Qtz s/w weak.

198.5m sharp contact @ 20° to c.A.

Quartz - Feldspar - Biotite Porphyry Dyke (PMD)

- olive green, silicious, aphanite matrix
- 15% phenos - up to 5mm in size.
- 7% qtz
- 7% plag → sericite
- 1% bio → chlorite.
- frting weak

200

2cm gouge zone

205

1cm gouge zone

1cm gouge zone

206.0m Gouge contact @ 30° to c.A.

SILICIFIED ARGILLITE

2cm gouge zone

- tan to grey color
- very strong frting

208.8 - 209.3 - B.F.P

209.3m sharp contact @ 20° to c.A.

QB.F.P. Dyke cont

210

DEPTH (M)	SILICA	SERICITE	CLAY	SEC. BIO.	FRACTURING	MINERALS	GEOLOGY	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo
195	strong	strong			strong	py - (cpy)		5%		85153C	195		
	very weak (phenos)				weak						198.5		
200								< 0.05%	nil				
205	very strong	moderate			very strong	py - (cpy)		2%		85154C	206.0		
	wk				wk						209.3		
210													

Not Sampled

UTAH MINES LTD. — 85

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-70
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 15 OF 21
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

DEPTH (M)

DESCRIPTIVE GEOLOGY

210

Quartz-Feldspar-Biotite Porphyry

PMD - QFBP

sericite — very weak

weak

2x3cm gouge zones

2cm gouge zone

2cm gouge zone

10cm gouge zone

4cm gouge zone

215

220

225

< 0.5%

nil

Not Sampled

UTAH MINES LTD — #3

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar. | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 16 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M)	ALTERATION	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
225	sericite				PMD – Q.F.B.P. Dyke									
	very weak	weak			1cm gouge zone				<0.5%	nil				NOT Sampled
230														
235					1cm gouge zone									
240														

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-70
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 17 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

DEPTH (M)	ALTERATION: silica	sericite	clay	sec. bio	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED % Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo			
240 – 251.1		very weak			weak			PMD – Q.B.F.P. Dyke. → 1cm gouge zone → 1cm gouge zone				<0.5%	nil				Not Sampled				
251.1 – 255	moderate	moderate	weak		moderate	py-cpy		251.1m Gouge contact @ 80° to c.A BIOTITE – FELDSPAR PORPHYRY – lgt grey color – crowded porphyritic texture – alt'n moderate – comp – 40% phenos – 35% plag → ser → clay – 5% bio → 2cm gouge zone. matrix – silica ; sericite – qtz s/w ( )ak.				3-4%	[redacted]	8515SC		251.1 – 254	[redacted]				

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-70
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 18 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

ALTERATION: SILICA, sericite, clay | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo.

DEPTH (M)

DESCRIPTIVE GEOLOGY

255

BIOTITE-FELDSPAR PORPHYRY

259.9m sharp contact

SILICIFIED ARGILLITE

- tan color
- v. strong frting
- alot of py in frts.
- Qtz s/w weakly devel.

→ 1cm qtz unit.

Alteration (to 261.7m): silica strong; sericite moderate. Fracturing: very strong. Minerals: py - (cpy)

% Sulphides: 2%

Estimated % Cu: [redacted]

Sample No.	Sample Interval (M)	% Cu	% Mo.
85156C	to 257	[redacted]	
85157C	257 – 260	[redacted]	
85158C	260 – 261.7	[redacted]	

260

261.7m Brxx contact @ 80° to C.A

Qtz - Fsp - BIO Porph Dyke

→ 4cm gouge zone

same as before

→ 1cm gouge zone

→ 2cm gouge zone

Alteration: very weak; Fracturing: weak

% Sulphides: <0.5%

Estimated % Cu: nil

Not sampled

265

270

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-70
CASING COLLAR ELEV :	GROUND ELEV. :	DATE STARTED :	PAGE No. 19 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC BIO	FRACTURING	MINERALS	DESCRIPTIVE GEOLOGY	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
270		wk			wk		1cm gouge zone. PMD - Q.F.B.P. Dyke.					Not sampled	
	strong	strong			strong		270.7m sharp contact @ 30° to C.A; 1cm py vnlt; 5cm gouge zone; BIOTITE-FELDSPAR PORPH			85159C	270.7	[redacted]	
							272.6m irregular contact.						
	strong	moderate			very strong	Py-(cpy)-(MoS2)	Argillite - tan color - strong silicification; 2cm gouge zone. S/W weak	2½-3%		85160C	273	[redacted]	
							1cm gouge zone			85161C	276	[redacted]	
							279.0m Gouge contact @ 70° to C.A.				279		
280	weak				weak		PMD - Q.F.B.P. Dyke; 3cm gouge zone.	<0.5%	nil			Not sampled	
285													

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar. | HOLE No. : PC-70

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 20 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

DEPTH (M) | Sericite | DESCRIPTIVE GEOLOGY

285

PMD - Q.F.B.P. Dyke.

2cm gouge zone

290

1cm gouge

290.7m Gouge contact @ 40° to C.A

PMD - Trachytic-Feldspar-Biotite Rhyodacite Dyke.

- dk brn color
- trachytic texture comes and goes
- <5% qtz & fspar phenos.
- fcting weak

2cm gouge zone

295

Vuggy carbonate veins

300

FRACTURING: weak

FRACTURING: weak.

% SULPHIDES: <0.5%

% ESTIMATED Cu: nil

ASSAYS: Not Sampled

UTAH MINES LTD. — #5

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-70
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 21 OF 21
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: sericite	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
300		weak			PMD - T.F.B.R. Dyke.				<0.5%	nil			Not sampled	
					→ carb unlts									
305					→ carb unlts									
					306.7 End of Hole									

COMPOSITE DRILL LOG

CORE SIZE	: NQ wireline	SCALE	: 1:100	PROJECT	: Poplar
HOLE No.	: PC-71	CASING COLLAR ELEV.:	923.7m	GROUND ELEV.:	923.5m
DATE STARTED :	Nov 5, 1981	PAGE No.	1 OF 15	COORDINATES	: 6296.6 N. 12398.8 E.
DATE FINISHED :	Nov 7, 1981	REF. TO CLAIM CORNER :		INCLINATION	: -090°
AZIMUTH	: —	TOTAL DEPTH	: 218.24 m	LOGGED BY	: G. L. Holland

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO.	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
0								0 - 0.32 STICK-UP									
								0.32 - 9.14m - OVERBURDEN									
5																	
9.14								9.14m							9.14		
10	mod to strong	strong	weak		strong	PY-CPY		BIOTITE - FELDSPAR PORPHYRY - greenish grey color - alt'n strong - phenos often destroyed. - strong fr'ting - mod to strong silicification in envelopes. - Qtz s/w moderately developed.			3%	[redacted]	85162C			[redacted]	
12								- crowded porphyry - 30-35% phenos - 30% plag → ser → clay <5% bio → ser → 1.5 cm gouge zone → 2cm gouge zone. → 0.6cm py vnit				[redacted]	85163C		12	[redacted]	
15															15		

COMMENTS :

AVG. CORE REC'Y/HOLE

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 2 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC BIO. | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

15

3cm gouge zone BIOTITE-FELDSPAR PORPHYRY cont

0.7cm qtz vnlt.

- Numerous H/L py vnlts.

1cm py vnlt

1cm gouge zone Qtz s/w moderately developed.

* Siliceous envelopes up to 1cm wide are present around frts

20

2cm gouge zone

1.5cm py-qtz vnlt Minor hematite staining of fspars.

Alt'n strong - phyllic phase.

25

2cm gouge zone

1.5cm qtz vnlt

28.6 - presence of sec. bio - increase in cpy.

30

strong silica

strong sericite

weak (phenos) clay

mod sec bio.

strong py - (cpy) - (MoS2)

3%

SAMPLE No.	SAMPLE INTERVAL (M)
851646	15 – 18
851656	18 – 21
851666	21 – 24
851676	24 – 27
851686	27 – 30

LUCAS MINES LTD.

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 3 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA — moderate; SERICITE — moderate; CLAY — weak (phenos); SEC. BIO — moderate

FRACTURING: moderate to strong

MINERALS: PY - CPY

GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPHYRY cont

- 2cm gauge zone
- 1.3cm py qtz vn lt

Numerous H/L py vn lts

33.3 - 36.0 Rock badly broken up

Alt'n moderate - potassic phase

Qtz s/w moderate

- 6cm brxx zone
- 1cm carb-py vn lt

37 - 44.9 - Qtz s/w strong

- 1cm py vn lt
- 1cm py vn lt.
- 1.2cm qtz vn lt.
- 2x1cm gouge zone.
- 1cm qtz vn lt
- 1cm py-qtz vn lt
- 2cm qtz vn lt
- 1.5cm qtz vn lt
- 2cm qtz vn lt

44.90 Breccia contact

DEPTH (M)	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	ASSAYS % Mo
30							30		
					85169C				
33							33		
			2½ - 3½%		85170C				
36							36		
					85171C				
39							39		
					85172C				
42							42		
					85173C				
45							45		

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-'1.

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 4 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO | FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

DEPTH (M)

45

TRACHYTIC FELDSPAR (BIOTITE) RHYODACITE DYKE

1.3cm carb vnlt

- light green to dk brn color
- bleaching at contacts and around frts.

- strong trachytic texture. - no visible alignment
- 15% phenos - 13% plag
  1% bio
  1% qtz
- plag phenos weakly altered ser.

3cm gouge zone

- fracturing weak
- phenos range up to 1cm in size in some places.

50

* Relieve contact is somewhat around 30 to 50° to c.A

55

contacts @ 90° 56.0 - 56.7 - B.F.P.

BFP

contact @ 30° to c A

maze of carb vnlts

Periodic Bxx frags found within the unit - frags up to 20cm in size

60

very weak (phenos)

weak

< 0.10%

Nil.

Not sampled

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-71
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 5 OF 15
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.
FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DEPTH (M) | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu | % Mo

60 → frag-unknown. T.F.B.R. Dyke cont.

Minor hemetitic staining of the plag phenos

65 → 3cm gouge zone.

→ B.F.P frag

70

75

weak (phenos)

weak

< 0.10%

nil

Not sampled

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-11
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 6 OF 15
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
75–83.7		weak		weak			T.F.B.R. Dyke cont.				<0.1%	nil				Not sampled	
80							→B.F.P frag										
83.7							83.7m sharp contact @15° to C.A.								83.7		
83.7–87	moderate	strong		strong	Py-Cpy		83.7–91.1m – BIO-Fsp. Porphyry and Argillite Inter Phase – mostly argillite ̄c small sections of B.F.P. – Qtz s/w weakly developed →1cm qtz vnlt. →2cm py-carb vnlt				2%	[redacted]	85174C			[redacted]	
87–90							→1.5cm qtz vnlt. →2x0.5cm gouge zones					[redacted]	85175C		87	[redacted]	
90															90		

Depth scale: 75, 80, 85, 90

COMPOSITE DRILL LOG

CORE SIZE :
CASING COLLAR ELEV. :
COORDINATES : N. E.
INCLINATION :
SCALE :
GROUND ELEV. :
AZIMUTH :
PROJECT : Poplar
DATE STARTED :
DATE FINISHED :
TOTAL DEPTH : m
HOLE No. : PC-71
PAGE No. 7 OF 15
REF. TO CLAIM CORNER :
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
90	mod	str		str	PY-CPY	Bxx zone	Argillite; Brxx contact; 91.1m			2	<0.10	85176		90–91.1	0.16	0.003
91.1–101.7	weak	weak to intense		weak to intense		1cm gouge zone; 1cm gouge zone; 10 cm gouge zone w bxx frags; Bxx zone w PMD & BFP frags	PMD – Q.F.P. #1 – olive green aphanitic matrix – 7% qtz phenos 4% plag phenos – alot of vugs where probably plag phenos used to be. – frting weak except in fault zones – traces of altered bio phenos. 100.6 - 101.7 – Fault zone. 101.7m			<0.10%	nil	Not sampled				
101.7–105	weak			weak		1cm gouge.	P.MD. – T.F.B.R. Dyke as before (page 6) this dyke is post above dyke									

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 8 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, chlorite

DEPTH (M) | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

105

T.F.B.R. Dyke cont

105.5m

Q.B.F.P. #2 or #1 Dyke.

- no trachytic texture
- 15% phenos - 10% plag
  - 4% qtz
  - 1% bio.
- bio phenos small and chloritically altered

≈1cm gouge zone

110

113.8 - 120.6 - Breccia - containg frags of - Q.F.P. #1
- Q.B.F.P. #1

115

120

weak

weak

strong

<0.10%

nil

Not sampled

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 9 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY | FRACTURING | MINERALS | GEOLOGY

COMMENTS: | AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

DEPTH (M)

120

Fault contact

120.7m

Q.F.P. #1

3cm gouge zone -as before

5cm gouge zone

125

5cm gouge zone.

60cm bxx zone

2cm gouge zone

weak

130

30cm bxx zone.

134 - 134.8 - Bxx Zone

135

% SULPHIDES: 0.10%

% ESTIMATED Cu: nil

Not sampled

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-71

CASING COLLAR ELEV. :
GROUND ELEV. :
DATE STARTED :
PAGE No. 10 OF 15

COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :

INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
135				weak (135–150)			Q.F.P. #1 Dyke.				<0.10%	nil				Not Sampled
						Δ Δ	Bxx									
							1cm gouge zone									
140							In bxx zone - Frags are Q.F.P #1									
						Δ Δ	1m bxx zone									
145																
150																

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-71
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 11 OF 15
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY
FRACTURING
MINERALS
GEOLOGY
COMMENTS:
AVG. CORE REC'Y/HOLE
DESCRIPTIVE GEOLOGY
DEPTH (M)
DRILLING INTERVAL
% CORE RECOVERED
% SULPHIDES
% ESTIMATED Cu
SAMPLE No.
% SAMPLE RECOVERED
SAMPLE INTERVAL (M)
ASSAYS

150
Q.F.P #1 Dyke
Bxx
155
1.3m Fault zone
weak
< 0.01%
nil
160
1cm gouge zone
165
Nox Sampled

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 12 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

DEPTH (M)

165

Q.F.P. #1 Dyke. cont.

1cm gouge

1cm gouge.

170

15cm gouge

10cm brx

175

1cm gouge

15cm gouge

1cm gouge

180

weak.

< 0.10%

nil

Not Sampled

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 13 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

DEPTH (M)

180

Q.F.P. #1 Dyke cont

10cm gouge

10cm gouge.

185

15cm gouge

1cm gouge zone

< 0.10%

nil.

190

10cm gouge zone

2cm gouge zone

wk bxx

bxx

Not sampled

195

FRACTURING: weak.

UTAH MINES LTD. — 85

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-11

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 14 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M) | ALTERATION | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

195

Q.F.P. #1 Dyke cont.

weakly bxx'd.

200

weak

1cm gouge zone.

1cm gouge zone

204.5 - 206.3 m - Bxx zone

<20-10%

nil

1/0 X sampled

205

210

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-71

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 15 OF 15

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M)	ALTERATION	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
210		weak			Q.F.P. #1 dyke cont				<0.10%	nil			Not Sampled	
					212.6 - E.O.H - Brxx with Q.F.P #1 & Q.F.P #2 frags									
215					218.24m E.O.H									
220														

COMPOSITE DRILL LOG

CORE SIZE : NQ wireline.	SCALE : 1:100	PROJECT : Poplar	HOLE No. : PC-72
CASING COLLAR ELEV : 923.8m	GROUND ELEV. : 923.6m	DATE STARTED : Nov. 7, 1981	PAGE No. 1 OF 21
COORDINATES : 6295.8 N. 12399.2 E.		DATE FINISHED : Nov. 11, 1981	REF. TO CLAIM CORNER :
INCLINATION : -60°	AZIMUTH : 090°	TOTAL DEPTH : 309.6 m	LOGGED BY : G.L. Holland

Column headings: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO, limonite | FRACTURING | MINERALS | GEOLOGY | COMMENTS: / DESCRIPTIVE GEOLOGY | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo, Oz/T Ag, Au

Depth 0

0-0.31 STICK-UP

0.31 - 9.14 OVERBURDEN

9.14m

Depth 10

9.14 - 22.8 BIOTITE - FELDSPAR PORPH.

- alt'n strong - most sections phenos completely destroyed
- greenish - grey color.
- a lot of H/L py vnlt
- strong sil salvages around f-ts & vnlts
- Qtz s/w mod

→ 15cm gouge — comp - 40% phenos - 37% plag → ser ± clay; 3% bio → ser.

→ 1cm gouge — matrix - sil / ÷ ...

Alteration (9.14–15 m): SILICA mod to strong; SERICITE strong; CLAY weak; SEC. BIO weak

Fracturing: strong

Minerals: PY-CPY

% Sulphides: 2 1/2 - 3%

Sample No.	Estimated % Cu	Sample interval (m)	% Cu	% Mo	Ag	Au
85177C	[redacted]	9.14–12	0[redacted]		[redacted]	
85178C	[redacted]	12–15	0.1[redacted]			

Sample interval marks: 9/5.9, 12, 15

Depth 15

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-72
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 2 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS:

AVG. CORE REC'Y/HOLE

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC BIO.	CHLORITE	FRACTURING	MINERALS	DESCRIPTIVE GEOLOGY	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
15–22.8	strong	strong	v. weak			strong	Py-cPy	→2x3cm gouge BIOTITE – FELDSPAR PORPHYRY →2cm qtz vnlt Qtz s/w moderate →1cm py vnlt →1cm qtz vnlt 19-21 - Alot of hemetite staining →5cm gouge zone →1cm gouge zone Alt'n strong →phyllic phase →10cm gouge.	3%	[redacted]	85179C	15–18	[redacted]	
										[redacted]	85180C	18–21	[redacted]	
										[redacted]	85181C	21–22.8	[redacted]	22.8 → 224.1
22.8–30	weak			weak		weak	hem	22.8m sharp contact @ 45° to C.A →1cm carb vnlt TRACHYTIC FELDSPAR - BIOTITE RHYODACITE DYKE (T.F.B.R.) -color varies from reddish brn to cream -cream reflect bleaching - frting weak. - trachytic texture mod to str. -no alignment - porphyritic texture -15% phenos -13% plag -2% bio. - bio phenos weakly altered (chlorite) to fresh. - minor diss hem or magnetite. - minor bxx frags present.	<0.1%	nil			Not sampled	

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 3 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: sericite, chlorite | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

30

T.F.B.R. Dyke cont.

→ 20cm gouge

32.5 - 33.9 - Brxx - containing B.F.P #1 and B.F.P frags in a gouge matrix

brx

→ 1cm gouge

→ 1cm carb vnlt

35

Periodic frags present - up to 15cm in size

40

→ 1cm carbvnlt →

→ F.P. frag

45

weak sericite

weak chlorite

weak hem.

< 0.10%

nil

Not sampled

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 4 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: sericite (weak), chlorite (weak) | FRACTURING: weak | MINERALS: hem | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

T.F.B.R. Dyke cont

20cm gouge 47.35m Gouge contact @ 80° to c.A

Quartz-Feldspar Porphyry #1

Bxx.

47.3 - 49.2 - bxx - ~ @ FP #1 frags

- olive green color aphanitic matrix
- 20% phenos - 10% qtz - 10% plag
- plag phenos often plucked out
- frting generally weak.

1cm gouge zone

Bxx zone ~20 cm

7cm gouge zone

1cm gouge

1cm gouge

7cm bxx zone.

DEPTH (M)	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
45								
50			<0.10 %	nil				Not Sampled
55								
60								

COMPOSITE DRILL LOG

CORE SIZE :
SCALE : 5"
PROJECT : Poplar
HOLE No. : PC-72
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 5 OF 21
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION | DEPTH (M) | sericite | chlorite | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

60

Q.F.P. #1 Dyke

65

weak

2m Fault zone

<0.00%

nil

Not Sampled

70

2cm gouge zone

wk brxx zone

75

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 6 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M)	ALTERATION: sericite	ALTERATION: chlorite	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
75						Q.F.P. #1 Dyke									
						→ 2cm gouge									
80			weak							< 0.10%	nil				
						→ 20cm gouge zone									
85						→ 1cm gouge zone									
						→ 1cm gouge zone									
90														Not sampled	

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 7 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M)	ALTERATION: sericite	ALTERATION: chlorite	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
90						Q.F.P. #1 DYKE cont									
95			weak			1cm gouge zone 97.8 - 98.8 - Fault zone 1m Fault zone				<0.10%	nil				Not Sampled
100						10cm gouge zone									
105						104.5 - 105.4 - Fault zone 90cm Fault zone										

COMPOSITE DRILL LOG

CORE SIZE : NQ | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 8 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M)	ALTERATION	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
105	sericite	weak			Fault zone Q.F.P. #1 DYKE cont									
					20cm gouge zone									
					30cm gouge zone									
110					30cm gouge zone				< 0.10%	nil				Not Sampled
					10cm gouge zone									
115					Bxx zone									
120														

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 9 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

DEPTH (M)

DESCRIPTIVE GEOLOGY

120

1cm gouge. Q.F.P. #1 Dyke cont

5cm gouge zone

- There is no distinct contact

123.0 - Breccia Zone

- contains fragments of B.F.P, Q.F.P #1, Q.B.F.P #1

- at the upper contact 90% of the frags are Q.F.P #1 w minor B.F.P ; Q.B.F.P #1

1cm gouge - strongly cemented silicious matrix

125

1cm gouge

1cm gouge

130

131 - fragments are 50% Q.F.P #1 50% B.Q.F.P #1 w minor B.F.P

2cm gouge

135

weak

<0.10%

nil

Not sampled

UTAH MINES LTD. — 65

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 10 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

DEPTH (M) | ALTERATION | FRACTURING | MINERALS | GEOLOGY | COMMENTS : | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS

135

BRECCIA cont

136 - fragments - 70% QBFP #1
↓ - 30% Q.F.P

2cm gouge zone

140

140.0 - fragments - 50% Q.F.P. #1
↓ - 50% Q.B.F.P #1

144.0 - fragments - 95% Q.F.P #1
↓ 5% QBFP #1

1cm gouge zone

145

145.0 - Q.F.P. #1 Dyke
- occassional small B.F.P & QBFP #1 frags present.

1cm gouge zone

147.0 - weakly brecciated - mostly just rotation of the Q.F.P frags

2cm gouge zone

150

FRACTURING: weak

< 0.10 %

nil

No Sampled

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-72
CASING COLLAR ELEV :
GROUND ELEV. :
DATE STARTED :
PAGE No. 11 OF 21
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. B/O	FRACTURING	MINERALS	GEOLOGY / COMMENTS	DESCRIPTIVE GEOLOGY	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo	oz/Ton Ag	oz/Ton Au
150–156.3					weak		15cm gouge zone; 5cm gouge zone; 1cm gouge zone; 1cm gouge	Q.F.B.P.#1 Dyke cont	<0.10%	nil		Not sampled				
156.3	very strong	very strong	weak		very strong	Py - Cpy	1cm qtz vnlt.; 20cm gouge zone; 1cm qtz vnlt	156.3m Gouge contact @ 45° to c.A. BIOTITE - FELDSPAR PORPHYRY - alt'n very strong - rare phenos noted - pale green color. - qtz s/w strong - large vnlts - minor hemetitic staining		[redacted]	85182C	156.3–159	[redacted]			788.9
159							2x1cm qtz vnlts; 1cm gouge zone; 1cm qtz vnlt.	-alt'n - wk potassic to upper phyllic phase.	2 1/2%	[redacted]	85183C	159–162	[redacted]		[redacted]	
162	strong	strong	very weak				1cm qtz vnlt	162.0 - Alt'n not as strong as before - more phenos present		[redacted]	85184C	162–165	[redacted]			789.9
165																

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-72

CASING COLLAR ELEV :
GROUND ELEV. :
DATE STARTED :
PAGE No. 12 OF 21

COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :

INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	% Cu	% Mo		Oz/Ton Ag	Oz/Ton Au
165	strong	st; moderate	wk	strong	strong	py - cpy		BIOTITE - FELDSPAR PORPHYRY cont			2½ - 3%	[redacted]	85185C		165 - 168	[redacted]				
								165.5 - 169 - Rock takes on a black color due to the sec bio.												
								→ 0.7cm qtz vnlt												
								→ 1cm qtz vnlt												
168								→ 1.3cm qtz-py vnlt.				[redacted]	85186C		168 - 171	[redacted]				
170								Qtz s/w moderately developed. → 1cm gyp vnlt												
171		strong						→ 1cm py-cpy vnlt.				[redacted]	85187C		171 - 174	[redacted]			[redacted]	
								Alt'n mod to str - phyllic phase. → 1cm qtz vnlt												
174												[redacted]	85188C		174 - 177	[redacted]				
175								→ 2cm gouge zone												
								→ 1.3cm qtz vnlt.												
177								→ 1cm qtz vnlt				[redacted]	85189C		177 - 180	[redacted]				
180								→ 0.8cm py vnlt.												

7679

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 13 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M)

ASSAYS: % Cu | % Mo | Oz/Ton Ag | Oz/Ton Au

DEPTH (M)

180

BIOTITE - FELDSPAR PORPHYRY cont

→ 1cm py vnlt 180.0 - Alt'n intensity decreases.

Gypsum vnlts becoming more prominant

→ 1cm py vnlt

Alt'n moderate.

- weak potassic phase.

185

→ 2cm qtz vnlt.

Qtz s/w moderate to strong in sections

→ 3cm gyp vnlt

190

→ 1cm qtz vnlt.

→ 1cm gouge zone

195

moderate | moderate | weak | moderate | Py - cpy - MoS_2

2½ - 3 %

SAMPLE No.	SAMPLE INTERVAL (M)
85190C	180 – 183
85191C	183 – 186
85192C	186 – 189
85193C	189 – 192
85194C	192 – 195

754.9

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 14 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC BID | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu, % Mo

DEPTH (M)

195

→ 1cm qtz vnlt — BIOTITE - FELDSPAR PORPHYRY cont

→ 1.5 cm qtz vnlt.

→ 2cm qtz vnlt.

→ 1cm gouge zone — Qtz s/w moderately devel.

200

→ 1cm carb vnlt.

Alt'n mod - potassic

→ 1cm gouge zone.

204 - Alt'n strong - potassic

205

→ 1cm qtz-py vnlt

→ 1.5 cm py-cpy vnlt

Numerous H/L py vnlts.

→ 0.5cm qtz vnlt

→ 3cm gouge zone

→ 1cm qtz vnlt

210

ALTERATION: mod to strong | moderate | weak | moderate | weak | moderate

FRACTURING: moderate to strong

MINERALS: Py - cpy - MoS_2

% SULPHIDES: 2½ - 3 %

SAMPLE No.	SAMPLE INTERVAL (M)
85195C	195 – 198
85196C	198 – 201
85197C	201 – 204
85198C	204 – 207
85199C	207 – 210

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 15 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

DEPTH (M)

210

BIOTITE - FELDSPAR PORPHYRY cont

SILICA: str

SERICITE: moderate

CLAY: moderate

SEC. BIO.: mod

FRACTURING: moderate

MINERALS: Py - cPy - (MoS2)

1cm qtz vnlt

1cm qtz vnlt

- Qtz s/w weak to moderate

0.7cm carb vnlt

- Numerous H/L py vnlts.

1cm gouge zone

2cm carb vnlt

2cm gouge zone. Alt'n mod - potassic phase.

1.5cm py vnlt.

215

220

1cm carb vnlt.

225

2½ - 3 %

SAMPLE No.	SAMPLE INTERVAL (M)
85200C	210
85201C	213
85202C	216
85203C	219
85204C	222
	225

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-72

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 16 OF 21

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu | % Mo

DEPTH (M)

225

BIOTITE-FELDSPAR PORPHYRY cont

3cm gouge zone

0.5cm py vnlt

irregular contact

228.2m

1cm gouge zone

ARGILLITE

1cm gouge zone

- tan color
- mod silicification around frts and vnlts.
- frting strong

5cm gouge zone

- Alt'n moderate - phyllic phase.

4cm gouge

1cm gouge

wk brx contact @ 80° to CA

238.3m

2x1cm gyp vnlts.

TRACHYTIC FELDSPAR BIO Rhyodacite Dyke.

DEPTH (M)	SILICA	SERICITE	CLAY	SEC. BIO	FRACTURING	MINERALS	GEOLOGY
225	moderate	moderate	weak	weak	moderate	PY-cPy	
230	moderate	weak to moderate			strong	PY-(cPy)	
235	moderate	weak			weak		
240							

SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	% SULPHIDES	ESTIMATED
852066		225	3%	
852066		228		
852067		231	1½%	
852068		234		
852069		237		
		2383	<0.10%	nil

Not Sampled

COMPOSITE DRILL LOG

CORE SIZE :
CASING COLLAR ELEV. :
COORDINATES : N. E.
INCLINATION :
SCALE :
GROUND ELEV. :
AZIMUTH :
PROJECT : Poplar
DATE STARTED :
DATE FINISHED :
TOTAL DEPTH : m
HOLE No. : PC-72
PAGE No. 17 OF 21
REF. TO CLAIM CORNER :
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO	FRACTURING	MINERALS	DESCRIPTIVE GEOLOGY	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
240–246.6		weak			weak		T.F.B.R. Dyke cont. -green to brown color - strong trachytic texture -unaligned - 15% phenos - 13% plag → ser 2% bio → ser →15cm gouge. 246.6m Gouge contact	<0.10%	nil		246.6	Not sampled	
246.6–250.5	strong	strong			intense	PY-CPY	MIXTURE OF ARGILLITE AND FELDSPAR PORPHYRY →3cm gouge zone. →10cm gouge zone →10cm gouge zone →20cm gouge zone 250.5m Gouge contact	2%	[redacted]	85210C		[redacted]	
250.5–252.9		wk			weak		→1cm gouge zone T.F.B.R. Dyke →1cm gouge zone 252.9m Gouge contact @65°	<0.10%	[redacted]		252.9	Not sampled	
252.9–255	str.	str.			str.	PY-CPY	→1cm carb. vnlt BIOTITE-FELDSPAR PORPHYRY. →1.6cm qtz vnlt	2½%	[redacted]	85211C	255	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-72
CASING COLLAR ELEV :	GROUND ELEV. :	DATE STARTED :	PAGE No. 18 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

Depth (m): 255 – 270

BIOTITE - FELDSPAR PORPHYRY cont

Alteration:
- Silica: strong (255–264); weak to moderate (264–270)
- Sericite: strong (255–264); weak to moderate (264–270)
- Sec. Bio: moderate (264–270)
- Fracturing: strong
- Minerals: Py - Cpy

Structures (annotated):
- 3cm gouge zone
- 1cm qtz vnlt
- 1.3cm qtz vnlt
- 1cm qtz-py vnlt
- 1.5cm carb vnlt
- 18cm gouge zone
- 1cm qtz vnlt
- 1cm gouge zone
- 2cm qtz vnlt
- 0.5m Fault zone
- 2cm carb vnlt
- 1cm qtz vnlt

Qtz s/w moderate.

Alt'n strong - phyllic

264 - Major Fault zone
- probably movement (alteration)
- rock turns from greenish to black across fault.

Alt'n strong - potassic

Qtz s/w weak

% Sulphides: 2-4%

Sample Interval (m)	% Cu Estimated	Sample No.	Assay % Cu	Assay % Mo
255–258	[redacted]	85212C	[redacted]	
258–261	[redacted]	85213C	[redacted]	
261–264	[redacted]	85214C	[redacted]	
264–267	[redacted]	85215C	[redacted]	
267–270	[redacted]	85216C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-72
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 19 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

ALTERATION (SILICA, SERICITE, CLAY, SEC BIO) | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS (% Cu, % Mo)

DEPTH (M): 270 – 285

Alteration (270–285): Silica strong; Sericite moderate; Sec Bio mod (270–~273.5), strong (~273.5–285)

Fracturing: strong

Minerals: PY-CPY

BIOTITE-FELDSPAR PORPHYRY cont

- 2cm qtz vnlt.
- 1.5cm carb vnlt
- 1cm carb vnlt

* Strong envelopes around frts - sil & sec

- Qtz s/w starting to pick-up weak to moderate.

- 2cm qtz vnlt

Alt'n strong - potassic

- 1cm carb vnlt
- 1cm carb vnlt.

% Sulphides: 2½ - 3%

Sample Interval (m)	Estimated % Cu	Sample No.	% Cu	% Mo
270–273	[redacted]	85217C	[redacted]	
273–276	[redacted]	85218C	[redacted]	
276–279	[redacted]	85219C	[redacted]	
279–282	[redacted]	85220C	[redacted]	
282–285	[redacted]	85221C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-72
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 20 OF 21
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

ALTERATION (DEPTH 285–300 m)

Interval (m)	SILICA	SERICITE	CLAY	SEC. BIO
285 – ~286	strong	*Mod		str.
~286 – ~291	strong	strong		moderate
~291 – 300	strong	moderate to strong		strong

FRACTURING: strong (285–300)

MINERALS: PY-CPY

DESCRIPTIVE GEOLOGY

BIOTITE-FELDSPAR PORPHYRY cont.

- → 1cm qtz vnlt w py + cpy.
- → 1.6cm qtz vnlt
- → 1cm gouge w carb.

* sil + ser envelopes well developed along frts.

- → carb vnlt cuts qtz vnlt.
- → 1cm qtz vnlt.

Alt'n strong -potassic

- → 1cm qtz vnlt
- → 1cm qtz vnlt.

Qtz s/w weak to moderate

- → 5cm carb vnlt w qtz.

SAMPLE INTERVAL (M)	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	ASSAYS % Cu	ASSAYS % Mo
285 – 288	2½ - 3%	[redacted]	85222C	[redacted]	
288 – 291		[redacted]	85223C	[redacted]	
291 – 294		[redacted]	85224C	[redacted]	
294 – 297		[redacted]	85225C	[redacted]	
297 – 300		[redacted]	85226C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-72
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 21 OF 21
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO
FRACTURING
MINERALS
GEOLOGY
COMMENTS:
AVG. CORE REC'Y/HOLE
DESCRIPTIVE GEOLOGY
DRILLING INTERVAL
% CORE RECOVERED
% SULPHIDES
% ESTIMATED Cu
SAMPLE No.
% SAMPLE RECOVERED
SAMPLE INTERVAL (M)
ASSAYS: % Cu, % Mo

DEPTH (M)

300

BIOTITE - FELDSPAR PORPHYRY

SILICA: strong
SERICITE: mod-str
CLAY: strong
SEC. BIO: strong
FRACTURING: strong
MINERALS: Py-cpy

→ 1cm qtz vn lt.
→ 1cm qtz-carb vn lt
Alt'n strong - potassic
→ 2x1-2 cm gauge zones @ carbonate.
Qtz s/w weak to mod
→ 1cm qtz-carb vn lt

305

SILICA: mod-str
SERICITE: strong
CLAY: moderate
SEC. BIO: strong
FRACTURING: strong
MINERALS: Py-cpy

2½-3%

SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo
85227C	300		
85228C	303		
85229C	306		
	309.6		

309.6 E.O.H.

310

COMPOSITE DRILL LOG

CORE SIZE : NQ wireline	SCALE : 1:100	PROJECT : Poplar		HOLE No. : PC-73	
CASING COLLAR ELEV.: 922.7m	GROUND ELEV.: 922.7m	DATE STARTED : November 11, 1981		PAGE No. 1 OF 22	
COORDINATES : 5996.5 N. 12,498.7 E.		DATE FINISHED : November 14, 1981		REF. TO CLAIM CORNER :	
INCLINATION : -090°	AZIMUTH : —	TOTAL DEPTH : 327.97 m		LOGGED BY : G. L. Holland	

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

DESCRIPTIVE GEOLOGY

0-0.31 Stick-up

0.31 - 9.14 OVERBURDEN

9.14m

MIXED SECTIONS OF ARGILLITE AND BIOTITE-FELDSPAR PORPH.

9.1 - 13.3 - B.F.P

→ 1.3cm qtz vnlt

→ 1cm qtz vnlt

→ 0.8cm py vnlt

3-5%

13.3 - 14.5 - Argillite

14.5 - 15.7 - B.F.P

→ 1cm gouge

→ 1cm gouge

strong

strong

strong

py-cpy-1cm

85230C

85231C

DEPTH (M): 0, 5, 10, 15

9.14

12

15

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-73

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 2 OF 22

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH . m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

B.F.P - Argillite Interphase

15.7m

Argillite

- tan color
- strong to very strong frting
- strong sil; ser. envelopes on frts
- Qtz s/w weak
- minor H/L py volts.

0.8cm pyvolt

1cm gouge

1cm gouge

0.6cm qtz volt

0.8cm carb volt

2cm gouge zone.

1cm gouge zone

0.8cm carb. volt

10cm Gouge zone.

Gouge contact

27.6m

BIOTITE - FELDSPAR PORPHYRY

- greenish-grey color
- crowded porphyritic texture.
- Qtz s/w w

0.8cm carb volt

SILICA: moderate - strong; moderate to strong; str. mod weak

FRACTURING: strong to v. strong; mod

MINERALS: py - cpy; py - cpy - bm

% SULPHIDES: 2½ - 3%; 3%

SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)
85232C		15 – 18
85233C		18 – 21
85234C		21 – 24
85235C		24 – 27
85236C		27 – 30

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-73
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 3 OF 22
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO	FRACTURING	MINERALS	DESCRIPTIVE GEOLOGY
30–35.1	strong	moderate	weak		moderate	PY-(CPY)	BIOTITE- FELDSPAR PORPHYRY cont -composition - 45% phenos - 40% plag → ser → clay - 5% bio → ser. - matrix - silica + sericite - bio phenos are relics - alt'n: moderate but complete - groundmass completely altered - phenos completely altered but distinct → 0.8cm carb. vnlt → 2cm carb vnlt
35.1–39.2	moderate	moderate			strong	PY-(CPY)	35.1m sharp irregular contact. - frting weak to moderate - Qtz s/w weak Argillite. 2m Fault zone
39.2–42.3	strong	moderate	weak		moderate	PY-(CPY)	39.2m sharp contact @ 30° to C.A. BIOTITE-FELDSPAR PORPHYRY → 1cm carb. vnlt as before → 2x1cm carb vnlts
42.3–45	moderate	moderate			strong	PY-(CPY)	→ 2cm gouge zone. 42.3m irregular contact ARGILLITE as before → 3cm gouge zone

SAMPLE INTERVAL (M)	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	ASSAYS % Cu	% Mo
30–33	3%	[redacted]	85237C	[redacted]	
33–36		[redacted]	85238C	[redacted]	
36–39	2½-3%	[redacted]	85239C	[redacted]	
39–42	3%	[redacted]	85240C	[redacted]	
42–45	2½ %	[redacted]	85241C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :
CASING COLLAR ELEV :
COORDINATES : N. E.
INCLINATION :

SCALE :
GROUND ELEV. :
AZIMUTH :

PROJECT : Poplar
DATE STARTED :
DATE FINISHED :
TOTAL DEPTH : m

HOLE No. : PC-73
PAGE No. 4 OF 22
REF. TO CLAIM CORNER :
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC BIO	FRACTURING	MINERALS	COMMENTS	DESCRIPTIVE GEOLOGY	% SULPHIDES	% Cu ESTIMATED	SAMPLE No.	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
45 – 48.0	moderate	moderate			strong	py-(cpy)	2cm gouge zone; 1cm gouge zone; 1.5cm py-hem vnlt; 2.5cm py-hem vnlt; 1cm py-hem vnlt; 1cm gouge zone.	ARGILLITE cont.	2%	[redacted]	85242C	45 – 48	[redacted]	
48.0 – 49.1					wk		1cm gouge zone; 3cm gouge zone.	48.0 – 49.1 – P.M.D – QFB.P. #1	<0.1%	[redacted]	85243C	48 – 51	[redacted]	
49.1 – 54.2	strong	moderate	weak		moderate	py-(cpy)	2cm gouge zone; 1cm py vnlt.; 10cm gouge zone	49.1m BIOTITE - FELDSPAR PORPH as before. Qtz s/w weak. Phyllic alt'n. Gouge contact @ 20° to C.A	2½-3%	[redacted]	85244C	51 – 54.2	[redacted]	
54.2 – 57.7					weak		Carb. vnlts; 1cm carb vnlt.	54.2 m Q.F.B.P. #1 Dyke. Gouge contact @ 20° to C.A	<0.10%	nil		54.2 – 57.8	Not sampled	
57.7 – 60	strong	mod	weak		mod.	py-(cpy)	2cm gouge zone; 0.8cm qtz vnlt	57.7m BIOTITE-FELDSPAR PORPHYRY as before	3%	<[redacted]	85245C	57.8 –	[redacted]	

AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SAMPLE RECOVERED

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-73
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 5 OF 22
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

Column headings: DEPTH (M) · ALTERATION (SILICA, SERICITE, CLAY, SEC BIO) · FRACTURING · MINERALS · GEOLOGY · COMMENTS: / DESCRIPTIVE GEOLOGY · AVG. CORE REC'Y/HOLE · DRILLING INTERVAL · % CORE RECOVERED · % SULPHIDES · ESTIMATED % Cu · SAMPLE No. · % SAMPLE RECOVERED · SAMPLE INTERVAL (M) · ASSAYS (% Cu, % Mo)

Alteration, 60 – 71.1 m: Silica strong; Sericite moderate to strong; Clay weak. Fracturing moderate. Minerals py-hem-(cpy).

Alteration, 71.1 – 74.4 m: Silica mod; Sericite mod. Fracturing strong. Minerals py-cpy.

Depth (m)	Descriptive Geology
60	→ 1cm carb vnlt — BIOTITE-FELDSPAR PORPHYRY cont.
	→ 1cm qtz vnlt.
	→ 2cm qtz-py vnlt
	* minor H/L hemetite vnlts
	→ 1cm qtz vnlt.
65	→ 1cm qtz vnlt — Qtz s/w weak
	→ 2cm py vnlt — Alt'n strong - phyllic.
	→ 1cm gouge zone
70	→ 2cm qtz-py vnlt
	→ 2cm qtz-py-vnlt — irregular contact
	71.1m Argillite
	-tan color
	-strong frting - envelopes around frts.
	74.4m irregular contact
75	B.F.P. cont

Sample Interval (m)	% Sulphides	Estimated % Cu	Sample No.	% Cu	% Mo
60 – 63	2½-3%	[redacted]	85246C	[redacted]	
63 – 66	2½-3%	[redacted]	85247C	[redacted]	
66 – 69	2½-3%	[redacted]	85248C	[redacted]	
69 – 72	2½-3%	[redacted]	85249C	[redacted]	
72 – 75	1½%	[redacted]	85250C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73

CASING COLLAR ELEV. :
GROUND ELEV. :
DATE STARTED :
PAGE No. 6 OF 22

COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :

INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

COMMENTS:

AVG. CORE REC'Y/HOLE

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC BIO	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
75	strong	strong			strong	py-hem-(cpy)		BIOTITE-FELDSPAR PORPH. cont.			2 1/2 - 3 %				75		
		mod-str	weak					→1cm gouge zone				[redacted]	85251C			[redacted]	
								→2cm gouge zone									
								Qtz s/w beginning to increase							78		
								→2cm qtz-py vnlt 178.5 - some zones of very strong sericitic ; silicious alt'n. - masks phenos.				[redacted]	85252C			[redacted]	
80								→0.6cm qtz vnlt. →1cm hem-qtz vnlt Alt'n strong - phyllic.							81		
								→1cm qtz vnlt. * Alot of H/L hemetite vnlts. - Up to 1% diss. hem				[redacted]	85253C			[redacted]	
															84		
85								Qtz s/w moderate				[redacted]	85254C			[redacted]	
								→1cm qtz vnlt.							87		
								→2cm qtz vnlt.				[redacted]	85255C			[redacted]	
90								→1cm gyp vnlt.							90		

COMPOSITE DRILL LOG

CORE SIZE :
CASING COLLAR ELEV. :
COORDINATES : N. E.
INCLINATION :

SCALE :
GROUND ELEV. :
AZIMUTH :

PROJECT : Poplar
DATE STARTED :
DATE FINISHED :
TOTAL DEPTH : m

HOLE No. : PC-73

REF. TO CLAIM CORNER :
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO	FRACTURING	MINERALS
90 – 98.5	strong	strong			strong	Py-hem-(cpy)
98.5 – 105	mod to strong	strong			strong to v strong	Py-hem-(cpy)

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BIOTITE - FELDSPAR PORPH cont.

- → 1cm hem-qtz vnlt
- → 1cm qtz vnlt

Qtz s/w moderate.

- → 0.8cm py vnlt
- → 1cm gyp vnlt.

Alt'n strong - phyllic

- → 1cm gyp vnlt
- → 1cm carb vnlt
- → 1cm gouge zone
- → 1cm gouge zone
- → 2cm gouge zone
- → 10cm gouge zone

98.5m Gouge contact @ 35° to C.A

ARGILLITE

- → 1cm gouge.

-greenish color

- → 0.8cm py. vnlt

-frting strong to v. strong

- → 1cm gouge zone

-Alt'n strong - phyllic

-Qtz s/w weak

- → 1cm gouge zone
- → 1cm py vnlt
- → 2cm qtz vnlt

DEPTH (M)	% SULPHIDES	% Cu ESTIMATED	SAMPLE No.	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
90 – 93	2 1/2 - 3%	[redacted]	85256C	90 – 93	[redacted]	
93 – 96	2 1/2 - 3%	[redacted]	85257C	93 – 96	[redacted]	
96 – 99	2 1/2 - 3% / 3 - 4%	[redacted]	85258C	96 – 99	[redacted]	
99 – 102	3 - 4%	[redacted]	85259C	99 – 102	[redacted]	
102 – 105	3 - 4%	[redacted]	85260C	102 – 105	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73
CASING COLLAR ELEV. :
GROUND ELEV. :
DATE STARTED :

COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

Depth 105–108.1 m

Alteration: Silica – mod-str.; Sericite – strong
Fracturing: intense
Minerals: py-hem-cpy

- → 2cm qtz vnlt.
- ARGILLITE cont.
- 106 – 108.1 – Fault zone
- Fault zone

108.1m

Depth 108.1–120 m

Alteration: Silica – moderate; Sericite – moderate to strong; weak
Fracturing: strong
Minerals: py-hem ± cpy

- → 2cm qtz vnlt
- BIOTITE – FELDSPAR PORPHYRY
- – pale green – white color
- – crowded porphyry
- → 1.3cm carb vnlt
- → 1cm qtz vnlt
- – comp – 50% phenos – 45% plag → ser → clay; 5% bio → ser
- matrix – sil / ser
- → 1cm qtz vnlt
- → 6cm carb vnlt
- → 4cm qtz-hem vnlt.
- Salvages developed around fractures.
- → 1cm qtz vnlt.
- → 1cm py-qtz vnlt
- → 0.5cm hem vnlt
- → 1cm carb vnlt
- → 3cm qtz vnlt w/ py.

SAMPLE INTERVAL (M)	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	ASSAYS % Cu	ASSAYS % Mo
105–108	3-4%	[redacted]	852G1C	[redacted]	
108–111	2 1/2 %	[redacted]	852G2C	[redacted]	
111–114	2 1/2 %	[redacted]	852G3C	[redacted]	
114–117	2 1/2 %	[redacted]	852G4C	[redacted]	
117–120		< [redacted]	852G5C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73
CASING COLLAR ELEV :
GROUND ELEV. :
DATE STARTED :
PAGE No. 9 OF 22
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO. | FRACTURING | MINERALS | GEOLOGY | COMMENTS: | AVG. CORE REC'Y/HOLE | DESCRIPTIVE GEOLOGY | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED % Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

Depth 120–135 m

Alteration (120–135): Silica — moderate; Sericite — moderate to strong; Clay — weak

Fracturing (120–135): strong

Minerals: py - hem - (cpy)

Geology comments:
- 0.7cm carb
- 1cm qtz-hem vnlt
- 0.7cm carb vnlt.
- 2x2cm py vnlts
- 1.8cm qtz vnlt w hem.
- 1cm carb vnlt.
- 1.3 cm carb vnlt.
- 0.7cm qtz vnlt

Descriptive geology:

BIOTITE - FELDSPAR PORPHYRY cont

Strong salvages developed around frts - up to 1cm

Numerous hem vnlts

Qtz s/w weak to moderate.

Alt'n moderate - phyllic.

% Sulphides: 2½ - 3%

Sample Interval (m)	Estimated % Cu	Sample No.	% Cu	% Mo
120 – 123	[redacted]	85266C	[redacted]	[redacted]
123 – 126	[redacted]	85267C	[redacted]	[redacted]
126 – 129	[redacted]	85268C	[redacted]	[redacted]
129 – 132	[redacted]	85269C	[redacted]	[redacted]
132 – 135	[redacted]	85270C	[redacted]	[redacted]

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-73

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 10 OF 22

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC. BIO.

FRACTURING | MINERALS | GEOLOGY

COMMENTS:

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

DEPTH (M)

135

BIOTITE-FELDSPAR PORPH. cont

1cm hem vnlt.

1.5cm qtz-py vnlt.

Qtz s/w weak to moderate

20cm gouge zone

2cm qtz vnlt

140

4cm gouge zone

0.7cm carb. vnlt.

2cm qtz vnlt

Alt'n moderate - phyllic

1cm gyp vnlt

145

1cm qtz vnlt

0.7cm py vnlt

20cm qtz vnlt.

10cm gouge zone

4cm gouge zone

150

moderate

moderate to strong

weak

strong

py-hem-(cpy)

2½ - 3%

85271C | 85272C | 85273C | 85274C | 85275C

135 | 138 | 141 | 144 | 147 | 150

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-73

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 11 OF 22

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO., CHLORITE | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

150

1cm gougezone BIOTITE-FELDSPAR PORPHYRY cont

1cm qtz vnlt

Qtz s/w weak

1cm gougezone.

Alt'n mod - phyllic

155

156.0m sharp contact @ 30° to C.A

TRACHYTIC FELDSPAR BIOTITE PORPHYRY DYKE

- pale green color.
- strong trachytic texture
- 20% phenos - 15% plag → ser.
  5% bio → chl.
- minor frags present
- minor hematite staining of fspars.

160

165

DEPTH (M): 150, 155, 160, 165

ALTERATION: SILICA: moderate; SERICITE: strong; CLAY: weak; SEC. BIO.: weak; CHLORITE: weak

FRACTURING: strong

MINERALS: PY-1cm-CPY

GEOLOGY: weak

% SULPHIDES: 2½-3%; <0.10%

% ESTIMATED Cu: nil

SAMPLE No.: 852766C; 852777C

SAMPLE INTERVAL (M): 150, 153, 156

ASSAYS: % Cu, % Mo

No X Sampled

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 12 OF 22
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: sericite	ALTERATION: chlorite	FRACTURING	MINERALS	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS
165	weak (plag phenos)	weak (bio phenos)	weak			1cm gauge P.M.D. T.F.B.R. Dyke cont.				<0.10%	nil			Not Sampled	
						1cm gauge zone									
170															
175						1cm gauge zone									
180															

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-173
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 13 OF 22
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

ALTERATION: sericite — weak; chlorite — weak
FRACTURING — weak
MINERALS
GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

P.M.D. - T.F.B.R. Dyke cont.

180
185
190
195

≥1cm gouge zone.
≥10cm gouge zone.
← Bnx zone.
≥1cm qtz vnlt
≥1cm gouge zone.

DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	ASSAYS % Mo
		<0.10%	nil				not sampled	

UTAH MINES LTD. - 48

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-73

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 19 OF 22

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC. BIO., CHLORITE | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

DEPTH (M)

195

PMD - T.F.B.R. Dyke cont

10cm gouge zone

50cm gouge - bxx zone

TFBR has a lot of very similar characteristics as the Q.F.B.P. - probably is a variation

1cm gouge zone

1cm gouge zone

bxx - gouge zone

200

199.0 Q.F.B.P #1

10cm gouge zone

2cm gouge zone

% SULPHIDES: <0.10%

% ESTIMATED Cu: nil

Not sampled.

205

10cm gouge zone.

10cm gouge zone

40cm bxx zone

210

UTAH MINES LTD. — 85

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73
CASING COLLAR ELEV. :
GROUND ELEV. :
DATE STARTED :
PAGE No. 15 OF 22
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC. BIO	CHLORITE	FRACTURING	MINERALS	GEOLOGY	COMMENTS / DESCRIPTIVE GEOLOGY	AVG. CORE REC'Y/HOLE	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo			
210–221.5		weak (phenos)		weak (phenos)		weak			PMD - ~~F.F.B.R.~~ Dyke cont. Q.F.B.P. #1 → 1cm gouge zone. → 1cm gouge zone.				<0.10%	[redacted]				Not sampled				
221.5–225	moderate	moderate	weak			moderate	py-cpy-hem		221.5m sharp contact @30° to CA BIOTITE-FELDSPAR PORPH. → 1cm qtz vn/t → 1.5 cm qtz vn/t → 1cm gyp. vn/t - crowded porphyry - comp - 50% phenos - 45% plag → ser - 5% bio → ser & sec. bio - matrix - sil & ser. - qtz s/w moderately developed - minor H/L hem vn/ts. - alt'n mod. potassic				2½%	[redacted]	25278C		221.5–225	[redacted]				

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-73
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 16 OF 22
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

Alteration / Fracturing / Minerals (Depth in m)

Depth (m)	Silica	Sericite	Clay	Sec. Bio	Chlorite	Fracturing	Minerals
225–232.9	moderate	moderate	weak to moderate			moderate	cpy-hem-py
232.9–235.2		weak		weak		weak	
235.2–240	mod to strong	moderate	moderate			mod to strong	hem-cpy-py

Descriptive Geology

225 – 2x1.5cm qtz vnlt. BIOTITE - FELDSPAR PORPHYRY cont

→ Bxx

225.8 - 226.3 - Bxx zone w̄ Q.F.P #1 and B.F.P frags in a green sil matrix

→ 1cm gouge zone.

→ 1cm gyp vnlt.

Bxx zone 229 - 230.1 - Bxx zone - as above.

→ 1cm gouge zone

→ 10cm qtz vnlt w̄ cpy + hem

→ 3x2cm qtz vnlt

Qtz s/w moderate.

232.9m contact @ 70° to C.A.

PMD - T.B.F.P Dyke

- strong trachytic texture.
- purple grn color
- 15% phenos - 12% plag - 3% bio.

235.2m bxx contact @ 40° to CA.

→ 1cm gouge BIOTITE - FELDSPAR PORPHYRY

as before.

→ 1cm qtz vnlt. Qtz s/w moderate.

→ 10cm bxx zone.

Sulphides / Samples / Assays

Sample Interval (m)	% Sulphides	Estimated % Cu	Sample No.	% Cu	% Mo
225–228	2-2½	[redacted]	25279C	[redacted]	
228–231	2-2½	[redacted]	25280C	[redacted]	
231–234	2-2½ / <0.10%	[redacted]	25281C	[redacted]	
234–237	<0.10% / 1½-2%	[redacted]	25282C	[redacted]	
237–240	1½-2%	[redacted]	25283C	[redacted]	

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-73

CASING COLLAR ELEV : | GROUND ELEV. : | DATE STARTED : | PAGE No. 17 OF 22

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA | SERICITE | CLAY | SEC B/D | CHLORITE | Fine Kspar | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS % Cu | % Mo

240

BIOTITE - FELDSPAR PORPHYRY cont.

- 2-5cm qtz vnlt.
- 1cm qtz-hem vnlt. Numerous H/L hem vnlts
- up to 2% hem in rock.
- 0.8cm qtz-hem vnlt
- 2cm hem-qtz vnlt
- Qtz s/w moderate
- 1cm gouge zone
- Alt'n strong - inner potassic
- 1cm cpy vnlt @ qtz / hem
- 1cm gouge zone
- 1cm gouge zone
- 1cm qtz vnlt.
- 10cm gouge zone
- 1cm qtz vnlt
- 1cm gouge zone.

245

250

251.1 - 251.8 Brxx zone

Brxx zone.

251.8 - 252.3 - T.F.B.R Dyke.

Dyke @ 45° to c.A

254.8m

255

moderate to strong | moderate | moderate | weak to moderate | strong | hem-cpy-py

2½ - 3%

SAMPLE No.	SAMPLE INTERVAL (M)
85284C	240 – 243
85285C	243 – 246
85286C	246 – 249
85287C	249 – 252
85288C	252 – 254.8

UTAH MINES LTD -- 85

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73
CASING COLLAR ELEV.:
GROUND ELEV.:
DATE STARTED :
PAGE No. 18 OF 22
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

PMD - T.F.B.R. Dyke
- dk brn color
- 1cm gouge zone
- strong trachytic texture.
- 15% phenos - 13% plag
2% bio

259 - 261.6m - Fault zone
at 45° to C.A

Fault zone

1cm gouge zone

gouge contact.

10cm gouge 267.8m

BIOTITE-FELDSPAR PORPHYRY

as before

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC BIO	SEC KSPAR	FRACTURING	MINERALS	GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	% ESTIMATED Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS: % Cu	ASSAYS: % Mo
255						weak → intense → weak											
260											< 0.10%	nil				Not sampled	
265																	
267.8															267.8		
270	mod → strong	strong →	weak →			strong →	hem-py-(cpy)				2%	[redacted]	85289C			[redacted]	

COMPOSITE DRILL LOG

CORE SIZE : | SCALE : | PROJECT : Poplar | HOLE No. : PC-73

CASING COLLAR ELEV.: | GROUND ELEV.: | DATE STARTED : | PAGE No. 19 OF 22

COORDINATES : N. E. | DATE FINISHED : | REF. TO CLAIM CORNER :

INCLINATION : | AZIMUTH : | TOTAL DEPTH : m | LOGGED BY :

ALTERATION: SILICA, SERICITE, CLAY, SEC BIO, SEC KSPAR | FRACTURING | MINERALS | GEOLOGY

COMMENTS :

AVG. CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | % ESTIMATED Cu | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

270

BIOTITE - FELDSPAR PORPHYRY cont

→ 1cm qtz vnlt

→ 1cm qtz vnlt

→ 1cm gauge zone.

27310 - 275.54 - Core ground - core springs failed and could not retrieve core.

Core lost.

275

- Up to 2% hem present

→ 2cm qtz vnlt.

→ 10cm bxx zone

Alt'n strong - inner potassic

→ 4cm qtz vnlt

→ 8cm qtz-hem vnlt

→ 1cm py vnlt

→ 1cm gyp vnlt

→ 1cm qtz vnlt

→ 1cm qtz vnlt

Qtz s/w moderate.

→ 6cm qtz vnlt

→ 0.9cm qtz vnlt

→ 1cm py-qtz vnlt.

280

285

strong silica, weak sericite, weak to moderate clay, weak to moderate sec bio, strong sec kspar

strong hem-cpy-py

2½-3%

0.1

85290C | 85291C | 85292C | 85293C | 85294C

270 | 273 | 276 | 279 | 282 | 285

UTAH MINES LTD. – 88

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-73
CASING COLLAR ELEV.:	GROUND ELEV.:	DATE STARTED :	PAGE No. 20 OF 22
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

Column headings: DEPTH (M) | ALTERATION: SILICA, SERICITE, CLAY, SEC BIO, SEC. KSPAR | FRACTURING | MINERALS | GEOLOGY | COMMENTS: / DESCRIPTIVE GEOLOGY | AVG. CORE REC'Y/HOLE | DRILLING INTERVAL | % CORE RECOVERED | % SULPHIDES | ESTIMATED | SAMPLE No. | % SAMPLE RECOVERED | SAMPLE INTERVAL (M) | ASSAYS: % Cu, % Mo

Alteration (285–293.6 m): Silica: strong; Sericite: weak; Sec Bio: weak to moderate; Sec. Kspar: moderate; Fracturing: strong; Minerals: hem - cpy - py.

Alteration (293.6–300 m): Silica/Sericite: weak (phenos); Fracturing: weak.

Descriptive geology:

- 285 — → 1cm qtz-hem vnlt — BIOTITE - FELDSPAR PORPHYRY cont
- → 2cm qtz vnlt
- → 1.2cm qtz vnlt. — Qtz s/w moderately devel
- → 0.5cm py vnlt
- → 1cm qtz vnlt
- Alt'n strong - inner potassic
- → 10cm bxx zone.
- → 1cm qtz vnlt.
- 290
- → Bxx — 290.8 - 291.1 - Breccia
- → 1cm qtz vnlt
- → 1cm gouge zone.
- → 1cm gouge zone. 293.6m Gouge contact @ 35° to C.A
- Quartz - Feldspar Porphyry #1
- 295
- -olive green color
- - 15% phenos - 8% qtz
- - 7% plag → ser.
- - aphanitic matrix
- → 10 cm gouge zone.
- 300 — → 10cm gouge zone.

Sulphides / samples / assays:

Interval (m)	% Sulphides	Estimated	Sample No.	% Cu	% Mo
285–288	2½-3%	[redacted]	85295C	[redacted]	
288–291	2½-3%	[redacted]	85296C	[redacted]	
291–293.6	2½-3%	[redacted]	85297C	[redacted]	
293.6–300	<0.10%	nil		Not sampled	

COMPOSITE DRILL LOG

CORE SIZE :
SCALE :
PROJECT : Poplar
HOLE No. : PC-73
CASING COLLAR ELEV. :
GROUND ELEV. :
DATE STARTED :
PAGE No. 21 OF 22
COORDINATES : N. E.
DATE FINISHED :
REF. TO CLAIM CORNER :
INCLINATION :
AZIMUTH :
TOTAL DEPTH : m
LOGGED BY :

COMMENTS :

AVG. CORE REC'Y/HOLE

DEPTH (M)	ALTERATION: SILICA	SERICITE	CLAY	SEC BIO	SEC KSPAR	FRACTURING	MINERALS	GEOLOGY	DESCRIPTIVE GEOLOGY	DRILLING INTERVAL	% CORE RECOVERED	% SULPHIDES	ESTIMATED % Cu	SAMPLE No.	% SAMPLE RECOVERED	SAMPLE INTERVAL (M)	ASSAYS % Cu	% Mo
300–304.7		weak				weak		3cm gouge zone	P.M.D. - Q.F.P. #1 Dyke			<0.10%	[redacted]				Not sampled	
304.7									304.7m sharp contact @ 70° to C.A.							304.7		
304.7–310.6	strong	weak	moderate	moderate		strong	hem-py-cpy	QFP frags; 1cm qtz vnlt; 1cm qtz vnlt; 1.5cm qtz vnlt	BIOTITE-FELDSPAR PORPHYRY - crowded porphyry - 50% phenos - 42% plag → ser 8% bio → sec. bio → ser. - matrix - silica + sec. Kspar. Alt'n strong - inner potassic			2-2½%	[redacted]	85298C		304.7–308	[redacted]	
308–311													[redacted]	85299C		308–311	[redacted]	
310.6–315	moderate	strong	weak					1cm qtz vnlt; Bxx.; 1cm gouge; 2cm qtz-py vnlt	310.6 - Alt'n decrease Alt'n mod - potassic 311.7-312 - Bxx - Q.F.P #1, B.F.P. & QBFP frags 314.1 - Alt'n strong - inner potassic.				[redacted]	85300C		311–314	[redacted]	
314.1–315	str	wk	mod	d												314		

COMPOSITE DRILL LOG

CORE SIZE :	SCALE :	PROJECT : Poplar	HOLE No. : PC-73
CASING COLLAR ELEV. :	GROUND ELEV. :	DATE STARTED :	PAGE No. 22 OF 22
COORDINATES : N. E.		DATE FINISHED :	REF. TO CLAIM CORNER :
INCLINATION :	AZIMUTH :	TOTAL DEPTH : m	LOGGED BY :

DEPTH (M): 315 – 330

ALTERATION (SILICA / SERICITE / CLAY / SEC BIO / SEC KSPAR):
- SILICA: very strong (315 – 327.97)
- SERICITE: weak (315 – 327.97)
- SEC BIO: moderate; SEC KSPAR: moderate (315 – ~321.5)
- CLAY / SEC BIO: strong; SEC KSPAR: weak (~321.5 – ~327)
- mod; mod (~327 – 327.97)

FRACTURING: Strong

MINERALS: hem-cpy-py

COMMENTS / DESCRIPTIVE GEOLOGY:

BIOTITE - FELDSPAR PORPHYRY cont

- → 1.5cm qtz-py vnlt.
- Alt'n very strong – inner potassic
- → 2cm qtz vnlt
- Qtz s/w strong.
- → 2cm qtz vnlt
- → 1cm qtz vnlt.
- → 1cm qtz vnlt
- → 2cm qtz vnlt
- → 1cm gyp vnlt.
- → 2cm qtz-hem vnlt
- → 1cm py vnlt.
- → 1cm qtz

327.97m End of Hole.

% SULPHIDES: 2 - 2½ %

% Cu (estimated)	SAMPLE No.	SAMPLE INTERVAL (M)	% Cu	% Mo
[redacted]	85301C	315 – 317	[redacted]	
[redacted]	85302C	317 – 320	[redacted]	
[redacted]	85303C	320 – 323	[redacted]	
[redacted]	85304C	323 – 326	[redacted]	
[redacted]	85305C	326 –	[redacted]	

APPENDIX B

DRILL ASSAYS

- contained in separate sealed folio. To be held in confidence for 5 year period commencing February, 1982.

APPENDIX C

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

The field work for the report was done by the following person, whose qualifications are outlined below:

G.L. Holland, Geologist for Utah Mines Ltd., Vancouver, British Columbia. Completed B.Sc. (Geology) at the University of British Columbia in 1978; employed as a temporary Geological Assistant during the 1973 to 1977 field seasons by Noranda Exploration Ltd. and Utah Mines Ltd.; employed as a Geologist by Utah Mines Ltd. from May 1978 to date.

APPENDIX D

STATEMENT OF COSTS

STATEMENT OF COSTS

Salaries:

G.L. Holland	25 days @ $92.40/day	- $2,310.00	
D. Stonecipher	13 days @ $70.00/day	- $ 910.00	
R. Barnes	19 days @ $50.00/day	- $ 950.00	
A. Muirhead	19 days @ $50.00/day	- $ 950.00	
J. Jones	19 days @ $60.00/day	- $1,140.00	
		$6,260.00	$ 6,260.00

Diamond Drilling:

J.T. Thomas Drilling (1980) Ltd. 94,943.00

Freight:

Total Cost 1,000.00

Assay Costs:

Chemex Labs - 310 samples @ $10.00/sample 3,100.00

Report Costs:

Total Costs 300.00

Survey Costs:

McWilliam-Whyte & Associates 737.50

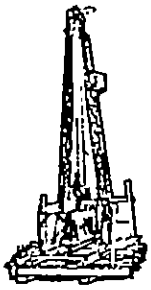
Field Equipment Costs:

Total Cost 800.00

Total Drilling Costs $107,140.50

APPENDIX E

MAJOR INVOICES



J. T. THOMAS

DIAMOND DRILLING (1980) LTD.

SMITHERS, B.C.

PH. 847-3531
P.O. BOX 394
V0J 2N0

RECEIVED
NOV 16 1981
UTAH MINES LTD.
EXPLORATION DEPT.

To: Utah Mines Ltd.
Suite 1600 - 1050 W. Pender Street
Vancouver, B.C.
V6E 3S7

Invoice No. 81-4
Invoice Date: Nov. 17, 1981
Property: Houston

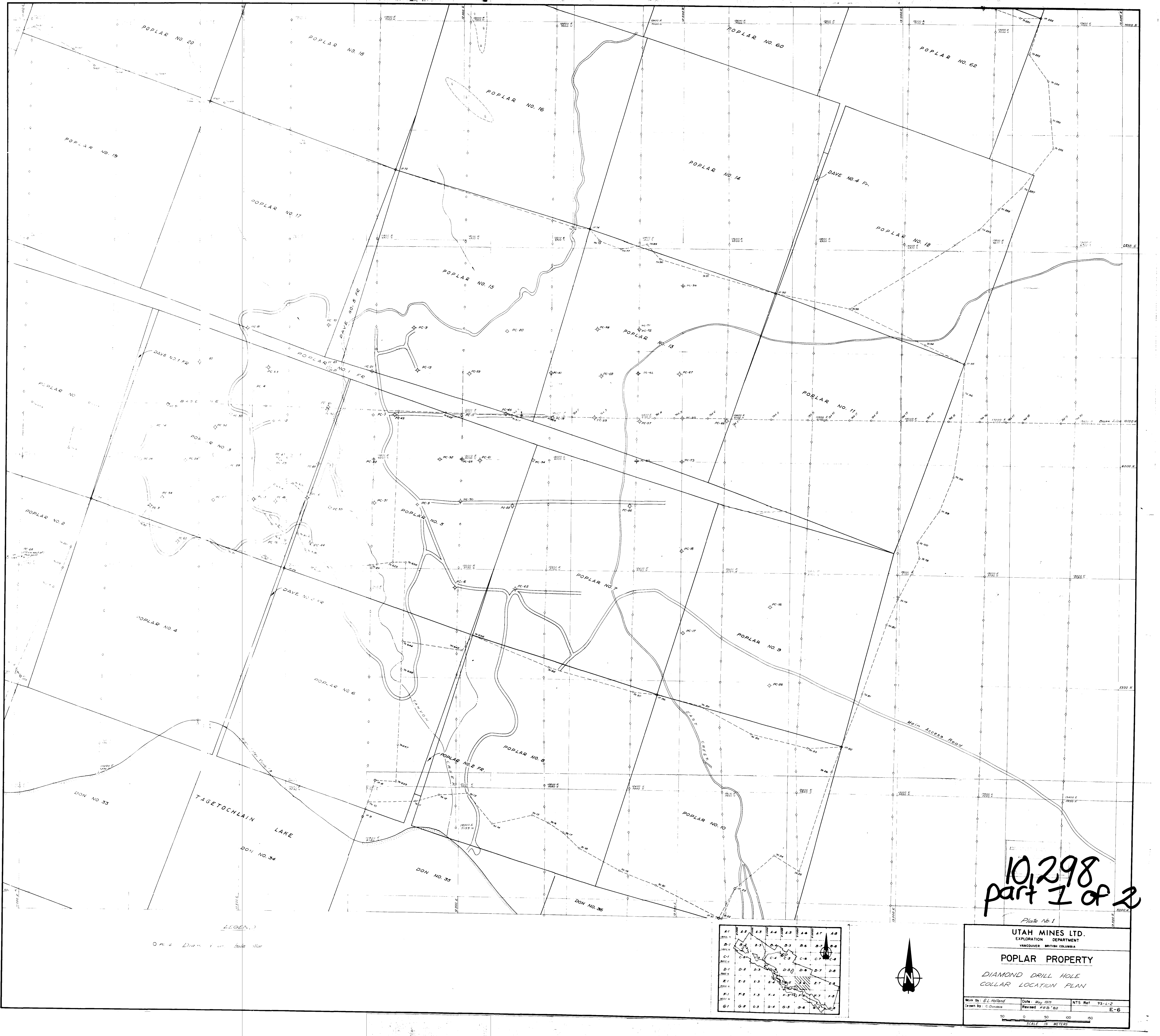
This is our invoice for diamond drilling on the above property as per contract.

Diamond Drilling: Total Footage: 4,920' See attached page 2.	82,833.00
Materials & Supplies: See attached page 3.	8,920.00
Tractor Rental: 62 hours @ $45.00/hour	2,790.00
J.T. Thomas 6 x 6: Re hauling fuel to jobsite. (2 trips) 10 hours x $40.00/hour	400.00
INVOICE TOTAL:	94,943.00

The above calculations are agreed to by:

Company Representative

J.T. Thomas Diamond Drilling Ltd.


POPLAR NO. 20
POPLAR NO. 18
POPLAR NO. 16
POPLAR NO. 60
POPLAR NO. 62
POPLAR NO. 19
POPLAR NO. 17
POPLAR NO. 14
DAVE NO. 4 Fr.
POPLAR NO. 12
POPLAR NO. 15
DAVE NO. 5 FR.
POPLAR NO. 13
POPLAR NO. 1 FR.
POPLAR NO. 11
POPLAR NO. 5
POPLAR NO. 2
POPLAR NO. 7
POPLAR NO. 4
POPLAR NO. 9
POPLAR NO. 6
CANYON
EAST CREEK
Main Access Road
POPLAR NO. 8 FR.
POPLAR NO. 8
DON NO. 33
TAGETOCHLAIN LAKE
DON NO. 34
POPLAR NO. 10
DON NO. 35
DON NO. 36
5000 N
13.500 E
10,298
part 1 of 2
Plate No. 1
UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA
POPLAR PROPERTY
DIAMOND DRILL HOLE
COLLAR LOCATION PLAN
Work by: G.L. Holland
Drawn by: C. Donders
Date: May 1975
Revised FEB '82
NTS Ref 93-L-2
E-6
50 0 50 100 150
SCALE IN METERS