

DRILLING RECORD

AREA: PIEMAN	CO-ORDINATES:	E:	N:	HOLE No.
LOCATION: SOPHIA PRESSURE TUNNEL	ON LINE: FP10 / FP11	BEARING: 0° 00'	AT CH:	6638
GEOLOGICAL PLAN: SURVEY PLAN: 5368855 2/3	AT STN: FP10	BEARING: 180° 14'	DIST: 81'	FILE No.
DATES (a) DRILLED: 11-12-65 (b) WATER TABLE:	SURFACE	COLLAR	WATER TABLE	SHEET
METHOD: D.D. E 1000 DIAMETER: Nº 4 N.B.	995	995	35' down hole	1 OF 4 SHEETS
SITE REMARKS: At peg A100.	HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION	
	VERT/HOR/INC.	49°	209°	

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY %	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
0'										0'0" - 4'6" Driller reports sand and gravel. Talus.
1.4		up to 5"								4'6" - 11'0" Core shows fresh granitic rock with some weathered joints. The high core loss is attributed to weathering; (oxidation.)
3.3		up to 3" one 9"				5.0 at least				11'0" - 33'0" Partly sound granitic rock types "Murchison Granite", with weathered joints and irregular chlorite filled veins. Some pyrite and slickensides present. Core loss at 31' appears to be associated with a zone containing more abundant pyrite & slickensides, but the rock is not oxidised; possible fault zone.
		1" - 8"				2.8				
		1" - 8"				2.8				
		1" - 5"				3.0				
10.1		1" - 3"				4.0				33'0" - 47'0" Rock type as above, but joints and much of the intervening rock is weathered, (oxidised). Core loss attributed in part at least to this.
		3" - 9"				3.0 at least				At 39' Seismic Velocity 11,900 ft./sec. At 40' Seismic Velocity 11,700 ft./sec.
		1" - 6"				3.0				47'0" - 55'3" As for interval 11' - 33' above. At 50'9" vein containing 0.4" chlorite, & 0.6" quartz & limonite with open cavities. It appears that carbonate & pyrite have been leached out. This is the pattern for other thinner joints & veins.
14.3		1" - 5"				4.0 at least				(sericitized quartz porphyry) joints.
		1" - 5"				3.5				At 49' seismic Velocity 12,400 ft./sec. At 54' seismic Velocity 12,700 ft./sec.
16.8		3" - 9"				2.4				55'3" - 64'9" as for interval 33' - 47'.
		1" - 8"				3.8 at least				64'9" - 74'5" as for interval 11' - 33' but the joints are free from oxidation but contain chlorite & some slickensides & pyrite. Zone with core loss at 65' contains more abundant slickensides, chlorite & pyrite; possible fault zone.
19.7		1" - 5"				3.2				Also at 72', possible fault zone.
		2" - 7"				3.0 at least				
22.7		1" - 5"				3.4				
		1" - 5"				1.0				74'5" - 153'0" Mainly sound rock types as above, with thin joints some containing chlorite & some quartz & carbonate.
		8" - 10"				1.8				Down to 93'6" the colour is mottled white & dark green & below mottled pink & dark green. The dark green colour is due in part to the high chlorite content of the rock.
		2" - 8"				1.8				At 105' Seismic Velocity 17,800 / 17,400 ft./sec.
		2" - 5"				2.0				
		6" - 12"				1.2				

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AREA: PIEMAN	CO-ORDINATES:	E:	N:	HOLE No.
LOCATION: SOPHIA PRESSURE TUNNEL	ON LINE: FPO / FPH	BEARING: 0° 00'	AT CH:	6638
GEOLOGICAL PLAN: SURVEY PLAN: S368855 2/3	AT STN: FPI0	BEARING: 180° 14'	DIST: 81'	FILE No.
DATES (a) DRILLED: 11-12-65 (b) WATER TABLE:	SURFACE	COLLAR	WATER TABLE	SHEET
METHOD: D.D. E1000 DIAMETER: No. 4. N. B.	995	995	35' down hole.	2 OF 4 SHEETS
SITE REMARKS: At peg A100.	HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION	
	VERT./HOR./INC.	49°	209°	

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY %	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
100'										
105'		8"-20"			+	0.8				← TS 0521 (sericite chloritized granitic rock).
110'		33"			+	1.0				153'0" - 173'0" Partly broken mainly mottled white & dark green granitic rock type with slickensided joints, some with chlorite; pyrite & carbonate leached in part & quartz.
115'		6"-8"			+	2.4				Appears to be a fault boundary with the quartzite below 173'.
120'		30" 6"-2"			+	2.0				
125'					+	0.8				
130'		5"-21"			+	1.4				
135'		5"-16", 4m 2", 21"			+	2.0				
140'					+	1.0				
145'					+	1.2				
150'		1'-5" 2' - 10"			+	3.2				
155'		1'-2"			+	2.4				
160'					+	3.7 at least				
165'		one 9"			+	3.0 at least				
170'		1'-4"			+	4.0				173'0" - 357'11" Mainly sound hard grey & pink siliceous quartzite & conglomerate (Owen Formation.)
175'					+	6.0 at least				← TS 0977 Joints mainly fresh filled in part (micro quartzite) with quartz, carbonate, chlorite or pyrite. In some cases joints are open due in part to leaching of carbonate.
180'		1'-9"			+	3.0				At 173' Seismic Velocity 20,700 Ft./Sec.
185'					+	2.4				At 326' Seismic Velocity 18,700 Ft./Sec.
190'		2"-9"			+	2.8				
195'					+	2.0				
200'					+	1.8				

46.6

52.7

150 p.s.c.
0.8 gpm.

DRILLING RECORD

AREA: PIEMAN	POSITION	CO-ORDINATES:	E:	N:	HOLE No.
LOCATION: SOPHA PRESSURE TUNNEL		ON LINE: FP10 FP11	BEARING: 0° 00'	AT CH.	6638
GEOLOGICAL PLAN: SURVEY PLAN: 5368855 2/3	LEVEL	AT STN: FP10	BEARING: 180° 14'	DIST: 81'	FILE No.
DATES (a) DRILLED: 11-12-65 (b) WATER TABLE:		SURFACE	COLLAR	WATER TABLE	
METHOD: D.D.E 1000 DIAMETER: N^o 4. N.B.	INCL.	995	995	35' down hole.	SHEET
SITE REMARKS: At pag A100.		HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION	3 OF 4 SHEETS
		49°	209°		

66.9

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	ch - chlorite O - open Py - Pyrite	REMARKS
200'			Bx				GREY				
205'		one 10"				1.6					
210'		3" - 12"				2.4					
215'		3" - 9"				4.0					
220'						3.4					At 219'6" Lost water return. Water table at 35'.
225'						2.6					
230'						2.4					
235'					o o o o	3.2				pebbles up to 0.3"	
240'		1" - 10"			o o o o	2.6				Py = up to 0.3" up to 0.5"	
245'						3.6				up to 0.5"	
250'					o o o	2.6				up to 0.5"	
255'					o o	3.0				up to 3.0"	
260'		3" - 16"			o o	2.4					
265'					o o	2.0				up to 0.3"	
270'		1" - 7"			o o	3.2				Core ground, accounts for part of core loss at least.	
275'		1" - 14"				3.0 at least					
280'		one 7"				2.0					
285'		1" - 5"			o o	3.0				Py Ch	Core ground, accounts for part of core loss at least.
290'		1" - 20"			o o	2.4				up to 0.3"	
295'		2" - 13"			o o	2.0				up to 0.5" up to 1.0"	
300'					o o	2.0					

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LOCATION: SOPHIA PRESSURE TUNNEL.	ON LINE: FP10 / FP11	BEARING: 0° 00'	AT CH:	6638
GEOLOGICAL PLAN: SURVEY PLAN: 5368855 2/3	AT STN: FP10	BEARING: 180° 14'	DIST: 81'	FILE No.
DATES (a) DRILLED: 24-2-66 (b) WATER TABLE:	SURFACE	COLLAR	WATER TABLE	SHEET 4 OF 4 SHEETS
METHOD: D.D. E 1000. DIAMETER: Nº 4. N. B.	995	995	35' down hole.	
SITE REMARKS: At peg A100	HOLE DRILLED	ANGLE FROM HORIZONTAL	DIRECTION	
	VERT/HOR/INC.	49°	209°	

DEPTH	CORE DRAWN	CORE LENGTH	CASING	RECOVERY	GRAPHIC LOG	JOINTS No. Per Foot.	FLUID RETURN	GROUND WATER	WATER PRESSURE TESTS LEAKAGE	REMARKS
300			BX		0					Pebbles up to 1'0"
305					0	2.0			100 p.s.i. 1 gpm	
310		1" - 9"			0	3.0				
315		1.6"			0	3.0			100 p.s.i. 1.8 gpm	up to 1'0"
320		1" - 3"			0	3.0				
325		1.9"			0	4.0				up to 1'0"
330		3" - 12" 1.9"			0	2.0			100 p.s.i. 1.6 gpm	
335		1" - 7"			0	2.0				up to 1'0"
340		1" - 4"			0	3.0				
345		1.5" 2.9"			0	4.0			100 p.s.i. 1 gpm	up to 1'5"
350					0	2.6				
355		3" - 10"			0	2.0			100 p.s.i. 1.4 gpm	up to 1'5"
360					0	2.0				up to 2'0"
365					+	0.7			100 p.s.i. 1 gpm	The rock shows no break at the contact. The granite moulds around the Owen pebbles & appears to be impregnated with pyrite. \angle of contact 50° From regional mapping this contact is considered to be an unconformity.
370		generally 12" - 24"			+	0.5			100 p.s.i. 1 gpm	
375					+	1.4			100 p.s.i. 1.3 gpm	
380					+	0.5				357'11" - 402'0" Mainly sand granitic rock (Murchison Granite) with generally fresh joints, a few showing slight weathering, chlorite films and slickensides.
385					+	1.0			100 p.s.i. 1.4 gpm	
390		3" - 33" at least			+	1.2			100 p.s.i. 1.6 gpm	
395					+	2.0				
400					+	2.0			100 p.s.i. 1.4 gpm	
402					+	0.6			100 p.s.i. 1.4 gpm	TS 1073 (Quartz feldspar porphyry). Hole completed at 402'0" Logged by R.P. MATHER.

109.1

122.5