

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>1</u> of <u>35</u>	
PROJECT <u>Mousafou</u>					DRILL HOLE No. <u>MP80-154</u>					REF. EL. _____	
DATE <u>Aug 11/80</u>					CONTRACTOR <u>TTAOMA2</u>					BEDROCK EL. _____	
LOGGED BY <u>KJB</u>					CORE SIZE <u>NQ</u>					TOTAL LENGTH <u>1075</u>	
										ANGLE FROM HORIZ. <u>-25</u>	
										BEARING <u>225</u>	
										COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH (ft)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
10			↑ 90	↑ 20					2.5					Blocky core, numerous Jsf Most cracks @ 50° to c.o. w/ calc. inf. for sand in Jsf see 2nd.
20			↑ 100	↑ 30		INTRUSION BRECCIA			2.5			2000 2800		As above
30			↑ 100	↑ 50					1.8			1400		As above, but less broken.
40			↑ 100	↑ 30					1.8			400		Similar blocky core. Dyke rock altered to sand & ypr etc. Loose calc. inf. in ball on some sts in dyke rk.
50			↑ 100	↑ 30		Dyke rk			1.2			100		= 17 Jsf, most @ 45° to 55° to c.o. Some w/ loose calc. inf. & minor s.s. some clay inf. in clay @ 55°
60			↑ 100	↑ 70					1.2			200		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of	
PROJECT <u>Mr. P...</u>			DRILL HOLE No. <u>MP89-154</u>			REF. EL. _____			ANGLE FROM HORIZ. _____		
DATE <u>Aug 11/89</u>			CONTRACTOR _____			BEDROCK EL. _____			BEARING _____		
LOGGED BY <u>KJB</u>			CORE SIZE _____			TOTAL LENGTH _____			COORDINATES _____ N E		

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG R.O.F. DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							PARTICULAR	GENERAL
60			1	1										~ 30 J & F, Fe stn, ch. cal. 2 trace mal. in stn, 50 to 60% Fe co. - Blocky core.
69.5			100	25		INTRUSION BRECCIA			30	31	130	1100	r, pl	tr. mal, Fe stn F
70.0						- V. brn rock but J & F light & rounded, exposed Fe stn mostly opened by drilling				31	230		r	Fe stn F
70.0										35	52		r	— F
70.0										40	180		r	tr cal F
70.5										29	14		r, pl	Fe stn F
70.7										40	174		r	Fe stn F
71.0										42	202		r, pl	Fe stn, tr. mal F
71.1										35	241		r, w	Fe stn, tr. mal F
71.2										42	208		r, w	Fe stn, hem F

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CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 3 of

PROJECT _____ DRILL HOLE No. 154 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY KCB CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
71.3			1	1		oxidized Intrusive Breccia				53	235		S, P cal, hem Fe stn	J
74.5			95	15		- heavily veined & fractured - fractures isolated.			High	35	202		r cal, Fe stn	F
80			1	1									Brkn core w/ prominent Fe staining, tr. cal. infill.	
			100	45					High			400	Blocky core w/ numerous Fe stn & Fe, some cal, chl infill, occasional polished J & ex. (on 300 J.)	
90			1	1								400	Blocky core w/ numerous Fe stn w/ cal, chl infill, some Fe staining.	
			100	7								1100		
100			1	1									~ 5 J's F plus brkn zone cal, Fe stns	
104												600		
104.2										62	22		S, P tr. cal, chl s.l. Fe stn	J
104.3										72	91		sp l tr. cal, chl s.l. Fe stn	J

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG										PROJECT NO. <u>1621</u>	
															SHEET <u>4</u> of	

PROJECT _____	DRILL HOLE No. <u>154</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)		GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.			100	500				PARTICULAR	GENERAL
104.6											63	11		s,pl Fe str	J
104.8											65	5		s,pl,t —	J
105.4											41	141		r,pl Fe str, rd	F
105.5											60	12		r,pl Fe str	F
106.0			100	45							19	60		r,w chl	F
106.8											65	180		s,pl chl, cal	J
107.0											35	20		r,pl cal, chl	F
107.1											31	342		r,o Fe str	F
107.2											64	4		s,pl cal	J
108.5											56	182		r,pl cal, sl. Fe str	F

[illegible]

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG										PROJECT No. <u>1621</u>	
												SHEET <u>7</u> of	
PROJECT _____		DRILL HOLE No. <u>154</u>				REF. EL. _____				ANGLE FROM HORIZ. _____			
DATE _____		CONTRACTOR _____				BEDROCK EL. _____				BEARING _____			
LOGGED BY _____		CORE SIZE _____				TOTAL LENGTH _____				COORDINATES _____ N E			

DRILLING INFO.					LITHOLOGY					ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)		GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD & TEST VALUES		DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.			3 10 30 100 300	3 10 30 100 300					Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL									PARTICULAR	GENERAL
160.0			↑	↑							33	135			r	hem, Fe stain	F
162.6			↑	↑							32	175			r	hem	F
			↑	↑							50	232			r	chl, hem	F
			↑	↑		INTRUSION BRECCIA - heavily mottled & oxidized. - core bks often irregular					40	124			r, pl	hem	F
			98	55							25	06	300	r	chl, hem Fe stain, cal	F	
			↑	↑							31	04		s, pl	chl, hem Fe stain, cal ss	J	
			↑	↑							70	168		r, pl	chl, hem Fe stain, cal	J	
			↑	↑							60	115		r	"	F	
			↑	↑							12	24		r	"	F	
			↑	↑							65	269		s, pl	"	J	

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 10 of

PROJECT _____ DRILL HOLE No. 154 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE Aug 11/89 CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY KJB. CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
250.7			↑	↑							59	125		r, pl — F
251.0			↑	↑							52	282		r, pl sl cal F
251.3			95	30					High		17	350		r, pl cal J
251.5			↓	↓							46	188		s, pl cal J
252			↓	↓										blocky, broken core, many breaks drill induced in weak rock, hem, chl, cal
260			↓	↓					High					several breaks, most J: F @ 95° to 60° to c.a.
			100	45										w/ hem, chl, Fe stns. some rubble zones due to weak rock & shallow F
270			↑	↑										Few intact lengths of weak rock @ start.
			80	14					High					then rubble and sandy gravels - very broken core
280			↓	↓										Hem, chl w/ SX on shallow J!

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET // of	
PROJECT _____		DRILL HOLE No. <u>154</u>		REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____	
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (m)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
280			↑	↑					High					Rubble, some hem, minor cal.
290			↓	↓					High			500		Rubble : blocky core sx in dyke rk @ 20'to ca w/ 2m Hem.
300			↓	↓		296	Dyke Rk		High					Broken rubble : blocky core, clay gouge @ 301 and clay 2" thick @ 302' sx on "20" J w/ Hem infill & chl.
310			↓	↓		300			High				300	Broken rubble becoming blocky w/ depth. 1" clay @ 314', Hem on J : F + chl, cal.
320			↓	↓					High			700		~9 J : F, prom. Hem infill + sx on J @ 45'to ca.
330			↓	↓					~1.5 ft			900		

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 12 of

PROJECT _____ DRILL HOLE No. 154 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	K.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG & OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
PARTICULAR						GENERAL		PARTICULAR						GENERAL	
330			↑	↑					15				~15 jif, most @ 45° or 65° to c.a.		
			100	75			- good competent rk		Fr						
340			↓	↓								4100			
			↑	↑					12				~12 jif, most are r, pl, & one w/ Fe stns, most clean or ol. cal.		
			100	95					Fr						
350			↓	↓								5000			
			↑	↑					16				~16 jif, most r, pl, & one w/ 2m chl cal louse some gtz in fill on others.		
			100	85					Fr						
360			↓	↓								3000	~7 jif, two w/ 4 to 5mm cal in fill: chl		
369			100	94											
369.3										34	10		- r cal, Fe stn	F	
3700			↓	↓						29	208	2600	r Fe stn	F	

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 13 of

PROJECT _____ DRILL HOLE No. MP 89-154 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE Aug 11/89 CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY RJB CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)		GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.			50	100				150	200
			↑	↑											
371.5			↑	↑								54	216		r,pl cal,chl J
372.4			↑	↑								65	184		s,pl cal J
373.0			↑	↑								29	352		r,pl chl,cal,Festn J
373.2			100	91					1.1 81			48	65		s,pl,pol chl,cal,Festn J
374			↑	↑								20	145		r,pl cal,hem 1 to 2 mm J
375			↑	↑								48	75		s,pl,t cal,chl J
380			↓	↓											~ 5 more J: F S → R → W
380.1			↓	↓									347	3400	r,pl,o — F
			100	40			small zone of altered rk.								blocky core ~ 22 J: F several w/ gte tabs.
390			↓	↓											one sk w/ 1 mm hem @ 40° to ca.

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u>		SHEET <u>15</u> of <u> </u>	
PROJECT <u> </u>		DRILL HOLE No. <u>MP89-154</u>		REF. EL. <u> </u>		ANGLE FROM HORIZ. <u> </u>			
DATE <u> </u>		CONTRACTOR <u> </u>		BEDROCK EL. <u> </u>		BEARING <u> </u>			
LOGGED BY <u>KJB</u>		CORE SIZE <u> </u>		TOTAL LENGTH <u> </u>		COORDINATES <u> </u> N <u> </u> E			

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS								
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)		GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.	PARTICULAR		GENERAL	3 10 30 100 300				3000	Type, planarity, roughness, aperture, coatings, cement, strength	PARTICULAR
410.0			↑	↑							26	142	3000	r,pl	chl	J
412.0			↑	↑							47	18		r,pl	cal	F
413			↑	↑							90	-		r,pl	cal	J
413.5			100	93							38	110		r,pl	cal, Fe str	J
413.6			↑	↑							77	89		r,pl	cal	J
414.0			↑	↑							43	23		r,pl	Fe str	J
420			↓	↓									1400	6 more J's F w/ cal s/r Hem, chl, most @ 45°		
420.0			↑	↑							50	129		s,pl	Fe str, cal	J
421.0			↑	↑							29	321		r,pl	cal	F
421			↑	↑							36	118		r,pl	chl, cal	F

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG										PROJECT No. <u>1621</u> SHEET <u>16</u> of <u> </u>	
PROJECT <u> </u>			DRILL HOLE No. <u> </u>			REF. EL. <u> </u>			ANGLE FROM HORIZ. <u> </u>				
DATE <u> </u>			CONTRACTOR <u> </u>			BEDROCK EL. <u> </u>			BEARING <u> </u>				
LOGGED BY <u> </u>			CORE SIZE <u> </u>			TOTAL LENGTH <u> </u>			COORDINATES <u> </u> N E				

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS									
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)			GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	PARTICULAR		GENERAL	3	10				30	100	300
421.3			↑	↑								36	26		r, pl	cal	F
421.5												40	230		r, pl	cal	F
422.6												35	132		s, pl	cal	J
423.0												40	22		s, pl	—	J
425.			100	92								66	48		s, pl	—	J
426.												55	202		r	chl, cal, hem	F
427												50	246		s, pl	gtz, zco	J
428												26	132		s, pl	chl, Fe sta	J
429												30	38		vr	cal	F
429.3												53	39		s, p	cal	J

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>18</u> of <u> </u>	
PROJECT <u> </u>		DRILL HOLE No. <u>154</u>		REF. EL. <u> </u>		ANGLE FROM HORIZ. <u> </u>	
DATE <u> </u>		CONTRACTOR <u> </u>		BEDROCK EL. <u> </u>		BEARING <u> </u>	
LOGGED BY <u> </u>		CORE SIZE <u> </u>		TOTAL LENGTH <u> </u>		COORDINATES <u> </u> N <u> </u> E	

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL	
440.3							Syenodiorite				40	295		s,pl	cal,chl J
440.7			100	85			-hard, competent rk.				38	210		s,pl	cal,hem J
440.9											45	247		r	cal,hem F
450												2800		13 more J&F, one open w/ loose cal, @ 40° to c.a.	
451.1											47	334		r	cal,chl J
452.0											75	169		r	chl F
453.5											55	48		r	cal xtls F
454.8											38	55		r	cal F
456.0											46	279		s,pl,dk cal	J
457.2											52	181		s	- F

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>19</u> of <u> </u>	
PROJECT <u> </u>		DRILL HOLE No. <u>154</u>		REF. EL. <u> </u>		ANGLE FROM HORIZ. <u> </u>	
DATE <u> </u>		CONTRACTOR <u> </u>		BEDROCK EL. <u> </u>		BEARING <u> </u>	
LOGGED BY <u> </u>		CORE SIZE <u> </u>		TOTAL LENGTH <u> </u>		COORDINATES <u> </u> N E	

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (mm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
458			↑	↑					65	109		r,pl,sx cal,chl	J
458.2			↑	↑					51	32		r,pl cal,gtz	F
458.4			100	90				11/ft	23	213		s,pl,sx cal,chl,hem	J
458.6			↑	↑					25	222		s,pl,sx hem	J
459.7			↑	↑					45	-		s,pl cal	J
			↑	↑				0.8 ft				8 3 1/2 F - 2 prom. j w/ hem in all @ 25% c.o.	
470			↓	↓									
470.1			↑	↑					28	41		s,pl,sx hem	J
470.3			↑	↑					50	172		r,pl cal	F
474.9			↑	↑					38	180		r,pl st,fcstr	F

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. 621

SHEET 20 of

PROJECT MT POLLEY

DRILL HOLE No. MP89-154

TOTAL DEPTH OF HOLE 1000'

DATE DRILLED Aug 11/89

LOCATION West Zone

ORIENTATION OF HOLE -55, 230

DATE LOGGED Aug 12/89

TYPE OF DRILL ACER

CORE SIZE NO

LOGGED BY KJP

DEPTH (ft. m (Circle one))	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
475.0	52	35	tr cal	r	F	Syenodiorite		↑		↑	- competent rk.
476.0	35	180	chl hem	r	F			↑		↑	
476.8	16	195	hem, chl	r, sx	J			87	1.0 ft	100	
477.0	50	139	hem, sd	s, pl	J			↑		↑	
477.2	50	165	hem Festn	s, pl	J			↑		↑	
477.5	40	160	hem	s, pl sx	J			↑		↑	- it opened by drilling, several others completely healed w/ calcite
479.0	43	186	chl	r, pl	J			↓		↓	
480.1	45	164	cal, chl	r, w	F			↑		↑	
483	58	185	cal, chl	r	F			↑		↑	
483.1	42	165	chl	r	F			↑		↑	
483.5	45	197	chl, hem	sx	J			↑		↑	
486.0	50	164	cal	s, pl, t	J			95	1.1 ft	100	
486.5	40	165	hem	sx	J			↑		↑	
488.6	58	220	cal, chl	s, pl	J			↑		↑	
489.0	53	215	chl	sx	J			↑		↑	
489.0	37	200	chl, hem	r	F			↑		↑	
489.1	42	135	cal	r, pl	F			↑		↑	
490	50	154	hem, chl	sx	J			↓		↓	

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 21 of _____

PROJECT _____ DRILL HOLE No. 154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
490	50	222	chl/hem	Sx	J	Syenodiorite - competent rk.					
	53	172	chl, cal	S, pl pst	J						
	49	172	chl, cal	r, pl, t	F						
	52	240	chl, cal	r, pl, t	F						
	34	243	—	r, pl, t	F						
	50	170	chl, hem,	S, pl	J						
	45	—	cal	r, pl	F						
	42	189	cal hem	S, pl Sx	J						
	33	220	cal	r, pl	F						
	48	187	cal	r, pl	F						
	56	160	cal, chl	r, pl	F						
500.0	31	128	cal	r, pl	F						
	48	157	cal, hem	r	F						
	40	180	hem, cal	r, pl Sx	J						
	24	241	cal, chl	r, pl	F						
	53	319	cal, chl	r, pl	F						
	60	147	hem, cal	r	F						
	49	19	cal	S, pl	F						

94

1.2
ft

100

~ 1 cm of brecciated,
heated rk.

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 22 of _____

PROJECT _____

DRILL HOLE No. MP89-154

TOTAL DEPTH OF HOLE _____

DATE DRILLED _____

LOCATION _____

ORIENTATION OF HOLE _____

DATE LOGGED _____

TYPE OF DRILL _____

CORE SIZE _____

LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
510	49	187	cul	s,pl	F	Syenodiorite		↑		↑	Most breaks drill induced along healed discontinuities.
	50	11	cul xtl	s,pl, O	F						
	51	182	cul	s,pl, t	F			96	$\frac{1.2}{ft}$	100	
	35	225	cul, chl	s,pl, t	F						
	43	24	Fe str	r	F						
513	30	280	cul, chl	s,pl	J	some & spar alteration ↓		↑		↑	7 more J & F, 3 J w/ hem intell. 4 F w/ cul healing.
	57	252	cul	r,pl	F			91	$\frac{1.0}{ft}$	100	
	56	230	cul Fe str	r,pl	F			↓		↓	
520								↓		↓	
530	14	J & F, mostly	E,pl, r			gradational etc to		↑		↑	
	w/ cul, some	Fe str.						92	$\frac{1.4}{ft}$	100	
	most @	45 to 55° to c.a.						↓		↓	
530.5	55	122	cul	r,pl	F	Intrusion Breccia		↓		↓	
	60	225	-	s,pl	F			100	$\frac{0.4}{ft}$	100	
	48	287	cul, chl	r,pl	F			↓		↓	
540.0	52	11	tr cul	r,pl	F			↓		↓	

KNIGHT AND MESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 23 of _____

PROJECT _____ DRILL HOLE No. 154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY _____

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS	
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY		
541.0	23	195	sl con	r	F			↑		↑		
	23	128	con, chl	r	F			98	0.7 ft	100		
	59	180	chl	r, t	F			↓		↓		
	30	90	to hem	r, t	F							
550	3 more F, hem, r, 245° to c.a.							↓		↓		
553.5	28	220	chl, Festn	r	F			↑				
	49	342	to chl	r	F			↓		↓		
	30	10	Festn	r	F			92	0.9 ft	100		
	39	10	Festn	r	F			↓		↓		
	51	210	chl	r, o	F							
	61	239	Festn	r	F			↓		↓		
	61	39	Festn	r	F							
	60	226	Festn	r	F			↓		↓		
	38	292	chl	r	F							
560	55	206	con	r	F							PLT @ 560 = 2400 psi
560.5	24	308	chl	r, w	F							
	55	190	gtz	r, o	F							
	53	200	to chl	r	2F							

PLT @ 560 = 2400 psi

KNIGHT AND MESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 24 of _____

PROJECT _____ DRILL HOLE No. 154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
564.5	44	208	hem	S, slx	J	Intrusion Breccia		↑		↑	Several closely spaced sub parallel joints
	45	200	cal, hem	r, pl	F						
	52	172	cal, hem	r, pl	J						
	59	165	hem cal, chl	r	F			87	1.3 ft	100	
	42	231	cal 1-2 mm	r	F						
	42	264	cal hem	r, o	F						
	32	267	cal	S, pl	F						
	25	286	cal chl	r	F						
570.0	53	226	hem cal	S, pl slx, o	J		↓		↓	PLT @ 575 = 2000 psi	
	11 F's most @ 50-60°						↑	1.1 ft	100		
	one Jt @ 580' @ 35° to c.a.						95				
	w/ hem & cal : slx						↓		↓		
580.0		4 J's F to 588' most @						↑		↑	PLT @ 586 = 3400 psi
	35° w/ some slx & hem.						↓		↓		
	etc @ ~60° to c.a.					Dyke Rk	82	0.8 ft	100		
	~4 J's F w/ cal headings										
590		in softer dyke Rk.						↓		↓	

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 25 of _____

PROJECT _____ DRILL HOLE No. MP89-154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 12/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
590						Dyke Rk.		↑		↑	
								25	High	100	
						598'		↓		↓	
600						Syenodiorite		↑		↑	PLT@600 = 3600 psi
604								100	0.1 ft	100	
606	31	185	cal, chl	r, pl, z	J			↓		↓	
610	32	45	cal, chl hem	r, t	F			↓		↓	
	49	130	cal, chl	r, pl	F	-mottled texture, gradational to Int. Breccia		↑		↑	PLT@612 = 1400 psi
	78	284	cul	r, pl	F			↓		↓	
	42	45	to cal chl, hem	r, w	2F			↓		↓	
	57	331	—	r	F			97	1.2 ft	100	
	15	—	—	r	F	Intrusion Breccia		↓		↓	
	41	70	cul, chl	r	F			↓		↓	
	52	270	cul, hem	s, pl	2J			↓		↓	
	60	210	cul	r, pl	F			↓		↓	
	62	323	cul, chl	r, pl	R	619		↓		↓	
620						dyke rk		↑		↑	PLT@620 = 1600 psi
						some drill breaks along		↓		↓	

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. 7-60

SHEET 26 of

PROJECT _____
DATE DRILLED Aug 11/89
DATE LOGGED Aug 12/89
LOGGED BY KJB

DRILL HOLE No. MP89-154

TOTAL DEPTH OF HOLE _____

LOCATION

ORIENTATION OF HOLE _____

TYPE OF DRILL _____

CORE SIZE _____

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
630	J & F w/ cal healing Various orientations					Dyke rk. 634 - - - - syenodiorite		95	~ 0.7 ft	100	PLT @ 630 = 900 psi
	c 9 J & F one w/ hem mhl							↑		↑	
	c ~40° S, pl, t, J, root are breaks along cal healed							90	0.9 ft	100	
640	J & F @ 15° to 60° to c.a.					softer, more altered rk.		↓		↓	PLT @ 640 = 3700 psi
	x 13 J & F w/ cal, chl							↑		↑	
	healing, several machine breaks.							92	1.3 ft	100	
650								↓		↓	PLT @ 650 = 1600 psi
	~ 9 J & F w/ cal, chl healing Various orientations							↑		↑	
	40° to 60° to c.a.										
656	21	212	cal	r	F			85	1.4 ft	100	
	24	183	hem cal, chl	r	F						
	39	125	hem, chl	s, sx	J						
	53	246	chl	r	R						
	57	223	cal	r	F						
660							↓		↓		

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CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No.

SHEET 27 of

PROJECT

DRILL HOLE No. MP89-154

TOTAL DEPTH OF HOLE _____

DATE DRILLED _____

LOCATION

ORIENTATION OF HOLE _____

DATE LOGGED _____

TYPE OF DRILL _____

CORE SIZE _____

LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		D.R.I. DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
660	= 13 J's F, one set sub parallel @ 55° to c.a. another @ ~30° to c.a. cal, chl infill on tight discontinuities					Syenodiorite		90	1.3 ft	100	PLT @ 665' = 1700 psi
670	40 205 cal, hem r F							↑		↑	
	48 338 cal, int. s.p F							↓		↓	
	14 295 cal, chl r. F							96	0.7 ft	100	Irregular fractures, healed w/ cal, chl & broken by drilling
	52 152 cal, hew. r F							↑		↑	
	27 288 cal, chl hem, sd v.o. F							↓		↓	
	2 msve F @ ~30°-50° to c.a.							↑		↑	
680	= 10 J's F, 2 Tw Hem cal, infill, one open, minor sx. Root are drill opened.							99	1.0 ft	100	PLT @ 680 = 1400 psi
								↓		↓	
690	dyke etc @ ~90° to c.a. w/ sx - dyke grading to Int. Breccia							↑		↑	PLT @ 689 = 3500 psi
	- 9 F along heated discont							↓		↓	
700								↑		↑	PLT @ 700 = 500 psi

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 23 of _____

PROJECT _____ DRILL HOLE No. MP89-154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS	
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY		
700								↑ 87	1.0 ft	↑ 100	PLT @ 710 = 100 psi	
								↓		↓		
	3 J w/ hem; sx @ ≈ 30° to c.a. ≈ 7 F on cut headed diam. plus random drill breaks										PLT @ 719' = 1500 psi	
710								↑ 80	1.3 ft	↑ 100		
								↓		↓	PLT @ 723' = 900 psi	
	2 J w/ pol. cal infill @ 35° to c.a. 11 F @ random orientations w/ minor chl., cal.											
720								↑ 30	≈ 2 ft	↑ 100	PLT @ 735' = 500 psi	
								↓		↓		
	Blocky and broken core w/ numerous drill induced F, minor infill.											
730								↑ 40	2 ft	↑ 100		
								↓		↓		
	~20 F; J; most w/ hematite coating; occasional cal											
	1 J w/ sx @ ≈ 25° to c.a.											
740								↓			↓	

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CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. 21

SHEET 29 of

PROJECT _____ DRILL HOLE No. MP89-154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED Aug 11 LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 12/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
740						-altered rk weak		↑		↑	↑ Sheared zone. PLT @ 745' = 500 psi
								30	High	90	
								↓		↓	
								↓		↓	
750						-altered rk weak		↑		↑	PLT @ 758' = ~0 psi
								20	High	85	
								↓		↓	
								↓		↓	
760						-altered rk weak		↑		↑	PLT @ 770' = ~0 psi
								25	V. High	~100	
								↓		↓	
								↓		↓	
770						-altered rk weak		↑		↑	badly weathered, altered rock & fault gouge
								10	V. High	≈ 95	
								↓		↓	
								↓		↓	
774	45	19	hem coat	r	F			↓		↓	
	45	335		r.o	F			↓		↓	

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BEDROCK DRILLING LOG

PROJECT No. _____
SHEET 30 of _____

PROJECT _____ DRILL HOLE No. MP89-154 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 12/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS	
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY		
780	Badly decompressed rock is rubble					Highly altered, weathered r.k. v. weak ↓		↓		↓	Sheared zone ↓ PLT @ 786' = 50 psi	
	Blocky is shattered core Hem coatings common, some sand, clay gravel gauge.							↑	18	V. High		100
								↓		↓		
790	Blocky is broken core becoming harder; more intact w/ depth chl, cal is hem coatings on broken surfaces.							↑	15	V. High	100	PLT @ 800' = 50 psi
								↓		↓		
								↑		↑		
800	Blocky core w/ sections of rubble, sx on one at surface w/ cal sand present on other fractures.							↑	34	High	100	PLT @ 815' = 300 psi
								↓		↓		
								↑		↑		
810	Broken core is rubble chl, hemical coating on F.							↑		High	100	PLT @ 820 = 0 psi (ex. if opened!)
								↓	23		↓	
								↓		↓		
820												

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BEDROCK DRILLING LOG

PROJECT No.

621

SHEET 31 of

PROJECT _____ DRILL HOLE No. MP89-154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED Aug 12/89 LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 12/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
820						Syenodiorite?		↑ 6	W/High	↑ ~100	PLT @ 820' = 150 psi
								↓		↓	
830'								↑ 40	High	↑ 100	PLT @ 840 = 600 psi
								↓		↓	
840'						grading to Intrusion Breccia		↑ 68	1.4 ft	↑ 100	PLT @ 856' = 1300 psi
								↓		↓	
850'								↑		↑	
								↓		↓	
860						- good calcopy vein 1/2" wide @ 851'		↑ 53	1.4 ft	↑ 100	
								↓		↓	
								↑		↑	
								↓		↓	

PROJECT _____	DRILL HOLE No. <u>MP89-154</u>	TOTAL DEPTH OF HOLE _____
DATE DRILLED _____	LOCATION _____	ORIENTATION OF HOLE _____
DATE LOGGED <u>Aug 12/89</u>	TYPE OF DRILL _____	CORE SIZE _____
LOGGED BY <u>KJB</u>		

[illegible]

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BEDROCK DRILLING LOG

PROJECT No.

SHEET 33 of

PROJECT _____	DRILL HOLE No. <u>MP 89-154</u>	TOTAL DEPTH OF HOLE _____
DATE DRILLED _____	LOCATION _____	ORIENTATION OF HOLE _____
DATE LOGGED <u>Aug 12/89</u>	TYPE OF DRILL _____	CORE SIZE _____
LOGGED BY <u>KJB</u>		

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS	
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY		
910 912.0	Hem infill w/ minus 2x on 5					Intrusion Breccia -occasional vugs w/ qtz & cal xths		100 ↓	0.4 ft	100 ↓	PLT @ 910 = 400 psi most fractures, tight & planar and opened by drilling on discontinuities	
	44	220	cal, chl coat	s, pl, t	F			↑		↑		
	35	270	—	s, pl, t	F			↑		↑		
	38	310	cal coat	s, pl, t	F			↑	0.7 ft	100		
	45	182	cal, hem	s, pl, t	F			97				
	44	185	chl, cal	r, pl, t	F			↓		↓		
	36	270	chl, cal	r, pl, t	F			↓		↓		
	920.0	30	90	chl, cal	vr, w		F		↓		↓	PLT @ 919 = 1200 psi
	921.5	37	92	chl	r, pl		F		↑		↑	
		45	270	chl	r, pl		F		↑		↑	
		46	212	chl	s, pl		F		↑	1.0 ft	100	
		5 to 23	0	hem	s, pl		3F		65		100	
	broken to rubble for 2 1/2 ft						↓		↓			
	along shallow F noted above						↓		↓			
	no more F - 5% 45° to cal						↓		↓			
930	4	rough	F, t							PLT @ 930 = 800 psi		
	2	1/2 sm, pl, s										

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BEDROCK DRILLING LOG

PROJECT No. 10SHEET 34 of

PROJECT _____ DRILL HOLE No. MP89-154 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
940		Fractures @ ~ 45°				some vugs w/ cal infill		↑ 100	0.6 ft	↑ 100	PLT @ 940' = 500 psi
		1J @ 50°, 1J @ 20°						↓		↓	
		~ 8 F & J, one F @ 0° to						↑		↑	
		c.a. & wavy. 2J w/						89	0.8 ft	100	
950		minor sx, hemi chl						↓		↓	PLT @ 950 = 1400 psi
		Most F w/ chl & cal.						↑		↑	
		~ 7 F from 50° to						↑	0.7 ft	↑	
		45° to c.a., chl &						98		100	
960		cal infill.						↓		↓	PLT @ 960 = 200 psi
								↑		↑	
								↑		↑	
								↑		↑	
960.0	50	188	cal, cal	s, pl, t	F			↑		↑	
960.0	35	323	chl, cal	s, pl, t	F			↑		↑	
	39	02	cal	r, pl, t	F			↑		↑	
	55	55	cal	r, pl, t	F			↑		↑	
	40	325	cal x tlls	r, pl, t	F			90	1.4 ft	100	
	25	108	cal, chl	r, pl, t	F			↑		↑	
		1J @ 965	w/ chl & sx					↓		↓	
970		28	more F					↓		↓	

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BEDROCK DRILLING LOG

PROJECT No. 10

SHEET 35 of 35

PROJECT MT. POLLEYDRILL HOLE No. MP89-154TOTAL DEPTH OF HOLE 1045DATE DRILLED Aug 12/89LOCATION WEST ZONEORIENTATION OF HOLE -52/225°DATE LOGGED Aug 13/89TYPE OF DRILL ACKERCORE SIZE NRLOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
970						Soft altered Intrusion Breccia		↑		↑	PLT @ 970 = 400 psi
								18	~1.5 ft	100	
								↓		↓	
980								↑		↑	PLT = 2000 psi
								70	~1.2 ft	100	
								↓		↓	
990								↑		↑	PLT @ 990' = 300 psi
								93	~1.6 ft	100	
								↓		↓	
1000								~15	High	100	PLT @ 1000' = 100 psi
						More competent rk for last 30'		↓		↓	
1015											Hole continued to 1045'
											to check continuity
											of sulphide bearing
											mat'l w/ depth. No
											core orientation
											attempted.
											PLT @ 1020' = 1100 psi
											PLT @ 1038' = 1500 psi
1045											EOH.

EOH

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

 PROJECT No. 221

 SHEET 1 of 1

 PROJECT Mount Pelee

 DRILL HOLE No. MP89-152

 TOTAL DEPTH OF HOLE 1000'

 DATE DRILLED Aug 3/89

 LOCATION WEST ZONE

 ORIENTATION OF HOLE - 270° -

 DATE LOGGED Aug 3/89

 TYPE OF DRILL ACKER

 CORE SIZE NQ

 LOGGED BY KJB/JEF

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
						Casing					
11'	33	—	Healed	S	1 J	Diorite	60	↑	2/Ft	100	PLT @ 11' = 3200 psi Numerous joints & fractured healed and partially weathered, occasionally vuggy
11.2	15	—	None	S	1 J						
12.9	50	—	cl	S	1 J						
13.0	40	—	healed	S	2 J						
13.2	50	—	—	r	1 f						
13.4	60	—	healed	r	1 f				4/Ft		
13.5	45	—	tr chl.	S	1 J						
14.0	35	—	tr chl	r	1 f						
14.2	39	—	tr chl	S	1 J						
14.3	59	—	—	r	1 f				2/Ft		
15.0	70	—	tr chl	S	1 J						
15.1	70	—	cl, hem	r, SX	1 J						- highly weathered & altered - highly weathered & altered - highly altered
15.1	67	—	cl, chl	r	1 J						
15.5	60	—	cl	S	J				7/Ft		
15.7	55	—	chl	r	J						
15.7	70	—	chl	r	J						
15.8	75	—	chl	r	J						
16.3	40	—	cl	S	J						
16.6	75	—	chl	S	J						
17.0	35	—	chl	S	2 J				2/Ft		
17.9	30	—	chl	r	J						
18.0	55	—	chl	r	J						
18.2	35	—	qtz	r	J						
18.3	30	—	cl	S	J						
18.3	40	—	cl, chl	S	J				5/Ft		
18.9	40	—	—	S	J						
19.8	45	—	—	r	F				2/Ft		PLT @ 20' = 3200 psi - broken for 5"
20.0	42	—	cal, chl	S	F						
21.5	43	—	—	S	J						
21.5	30	—	qtz	S	J				2/Ft		
21.8	28	—	—	r	J						
22	40	—	—	r	J						

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. 1

SHEET 2 of

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE 1000
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE 270/55
 DATE LOGGED _____ TYPE OF DRILL ACKER CORE SIZE NQ
 LOGGED BY KJB

DEPTH ft m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
22.3	19	—	hem, chl	W	10	Diorite	82	↑	9/ft	↑	- broken for 6"
22.5	30-40	—	—	r	3F						
23.0	30	—	—	S	J						
23-24.0	var	—	—	r	? F						
24.1	28°	115°	cal, chl	r	F		82	↑	1/ft	100	
24.3	46°	130°	gtz, chl	S	J						
26.6	43°	145°	—	r	F						
27.3	31	270	gtz, chl	r	F						
27.3	32	170	—	r	F		82	↑	1/ft	100	
29.2	40	260	cal, chl	r	F						
29.7	22	262	cal, chl	r	F						
30.1	30	—	chl, chl	S	F						
31.0	21	—	chl, cal	r	F		83	↑	1/ft	100	PLT @ 30 = 3500 psi
31.0	40	—	chl, cal	r	F						
31.3	40	—	gtz, chl, cal	r	F						
32.0	25	—	—	r	F						
32.5	57	—	cal, chl, hem	r	F		83	↑	1/ft	100	- broken for 8"
32.8	15	—	hem	r	F						
32.8-33.2	var	—	hem	r	F						
33.7	39	—	cal	S	J						
35.6	43	—	cal, 2mm	S	J		83	↑	1/ft	100	PLT @ 39' = 2900 psi
37.4	58	—	chl, cal	S	J						
39.1	35	—	chl, cal	S	J						
40-40.5	var	—	—	r	F						
40.5	32	150	cal, chl	S	J		↑	4/ft	↑	- broken for 6"	
42.5	39°	177	cal, chl	S	J						
42.6	35	130	cal, 2mm	S	J						

KNIGHT AND MESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. 121SHEET 3 of

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY _____

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
43-44	var	—	—	S-r	J→F	Diorite					- rubble, soft rock PLT @ 45' = 3500 psi
44.5	59	—	cal, 2m	S	J						
45.0	32	—	qtz	r	F			68		100	
45.4	37	—	cal, chl	S	J				1.5/ft		
46.4	52	—	qtz, chl	S	J						PLT @ 55' = 2800 psi
46.6	22	—	—	r	F						
47.8	39	—	—	S	F						
48.3	34	—	—	W	F						
49.6	35	—	—	r	F		50'				
50.6	34	—	—	r	F						
51.5	26	—	qtz	r	2J				1/ft		
53.2	70°	—	—	r	F						
54.4	35	—	chl	S	J						
54.6	37	—	qtz	S	J				55		
56.0	26	—	qtz	S	J						
56.1	49	—	qtz	S	J						
56.2	43	—	cl	r	F					100	
56.6	36	—	ep, hem	S	J			95			
59	38	0°	hem	r	F				1.2/ft		
59.5	37	180°	cul, hem	r	F						
59.5	61	0	—	r	F						PLT @ 61' = 600-1000 psi
60.4	50	180	cal	r	F		60				
60.8	28	—	hem	S	J						
61.4	70	—	qtz	r	F						
61.5	10	—	—	r	F						- 7 mm qtz infill
62.2	34	—	cal	S	J				2/ft		
62.5	67	—	cl, hem	r	F						
62.7	45	—	hem	r	F						
63.3	10	—	hem, qtz	S	J						
64.3	17	—	cl	r	F						
64.3	17	—	cl	r	F						

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 4 of _____

PROJECT _____ DRILL HOLE No. _____ TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY _____

DEPTH ft m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
65.5	12	-	cl	r	F	Diorite		↑		↓	- numerous joints completely healed w/ gte : calcite - many fractures ; joints rec'd are along healed discontinuities PLT @ 70' = 2000 - 4000' (weaker value along veinlet) PLT @ 80' = 2900
65.8	60	-	Festn	r	F			80	2/ft	100	
66.1	50	-	cal	r	F						
66.7	50	-	cal/festn	r	F						
66.8	45	-	chl	r	F						
67.4	65	-	gte	r	F						
67.8	30	-	Hem	r	F						
68.1	25	-	chl/cal	r	F						
69.5	5	-	cl	r	F		70	↓		↑	
70.9	65	-	cal	s	J			↑		↑	
71.1	42	-	cal, chl	s	J						
71.8	32	-	cal	r	F						
72.5	60	-	sand	r	F						
76.5	37	225	cal	r	F			88	1/ft	100	
77.3	30	260	cal	r	F						
77.8	37	110	chl/hem	s	J						
79.0	24	355	-	s	J						
79.3	59	70	chl	r	F						
80.0	36	05	cal, cal	r	F		80	↓		↓	
80.6	75	30	chl	r	F						
81.8	37	110	cal	s	J						
81.9	60	155	cal	s	J						
82.5	36	0	cal	r	J						
82.7	37	0	cal	r	F						

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No.

SHEET  of

PROJECT _____ DRILL HOLE No. _____ TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED _____ TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY _____

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
82.8	65	220	cal	S	J	Diorite	90	93	1.5/ ft	100	PLT @ 90' = 2000psi
82.9	56	085	cal, chl	r	F						
83.6	46	130	cal	r	J						
83.8	65	162	cal	r	J						
84.0	55	—	cal	S	J						
84.2	28	—	cal, chl	r	F						
84.3	32	—	—	r	F						
86	40	—	cal, chl	S	J						
88.2	35	—	—	S	J						
89.4	60	—	cal	S	J						
90.3	35	—	cal	S	J						
90.7	45	—	cal	S	J						
91.1	45	—	cal	S	J						
91.6	17	—	—	S	J						
91.8	35	—	cal	S	J						
92.0	35	—	cal	S	J						
92.2	45	—	cal, chl	T	J						
92.6	60	—	—	T	J						
93.0	50	—	cal	S	J						
94.0	90	—	cal, phen	T	J						
94.6	25	—	cal	S	J						
95.0	20	—	cal	T	J						
95.8	35	—	Fe str	T	J						
96.2	35	—	—	T	J						
96.6	65	—	cal	S	J						
96.6	35	—	cal	S	J						
96.8	50	—	—	T	J						
97.6	30	—	cal	r	J						
98.0	60	—	cl	S	J						
98.0	10	—	cal cl	S	J						
98.3	15	—	cal	S	J						
98.3	65	—	—	T	J						

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BEDROCK DRILLING LOG

PROJECT No. D621SHEET 6 of

PROJECT _____ DRILL HOLE No. MP89 - 152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 4/8 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY RJB

DEPTH (ft.) m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
98.8	45	-	cal	S	J						
99.6	60	-	-	r	F						
100.8	68	152	zeo	r	F						
101.2	55	270	zeo	r	F						
101.4	29	0	zeo, hem	S	J						
102.9	43	278	zeo, hem	r	F						
104.8	36	275	-	r	F						
105.6	60	-	cal, hem	S	J						
107.4	50	-	cal, chl	r	F						
107.5	35	-	cal, chl	r	F						
109.0	35	-	cal	S	J						
109.1	45	-	cal	S	J						
109.6	40	-	cal	S	J						
110.5	40	-	chl	S	J						
112.0	60	-	cal, chl	F	F						
112.2	35	-	"	S	J						
112.8	49	-	chl	S	J						
113.3	47	-	chl	S	J						
113.7	30	-	chl	S	J						
114.8	77	180	Fe str	r	F						
115.2	32	335	cal	r	F						
116.1	34	102	cal, hem	r	F						
116.6	25	229	cal	r w	F						
120.0	60	220	cal	r	F						
120.3	39	023	chl	S	J						

100

110

120

93

100

1/ft

100

1.2
ft

100

PLT@ 103' = 1000 psi

{ orthogonal
intersecting

PLT@ 117 = 2200 psi

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 8 of _____

PROJECT _____ DRILL HOLE No. 152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 5 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
145.5	49	05	cal, chl	r	F			↑ 80	1.2/ft	↑ 90	PLT @ 145 = 3000 psi
146.8	29	175	cl, cal	r	F			↓	5/ft	↓	- competent pieces, loose calcite-clay infill.
145.8 ↓ 150.0	broken		chl, cal cl.	r s	7F 12		150				
↓ 151	48	—	—	r	2F				2/ft		- weak broken rock, highly altered along joint with loose calcite up to 1-2 mm thick
↓ 153	30	—	chl, cal, cl.	s r	32 5F				5/ft		
153.0	35	90	—	r	F						
153.5	35	27	—	r	F						
154.0	35	280	cal, chl	s	J			75		100	PLT @ 158' = 3000 psi T hard, durable rock clean, planar, joints
155.3	45	25	—	r	F				1.3/ft		
156.1	75	60	—	r	F						
156.5	55	329	cal, hen	r	J						
156.8	45	337	cal, hen	r	J						
157.1	20	28	—	s	J						
159.0	50	242	—	s	J						
159.5	37	338	—	s	J						
159.8	36	132	—	s	J		160				
161.4	48	211	cal, hen	r	F						
162	62	149	cal, chl	r	F						

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No.

SHEET 9 of

PROJECT _____ DRILL HOLE No. 152 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 5 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
162.3	53	150	cal, Festn	S	J						- Joints tight, opened by drilling, often healed with calcite in very thin infill.
162.6	50	130	chl, hem	S	J						
163.0	52	130	cal, chl	r	J						
164.1	53	225	—	S	F						
164.5	28	112	—	r	F						
165.1	30	114	mag.	r	F						
166.5	70	82	—	S	J						
166.5	45	220	—	S	F						P2T @ 167' = 1900psi
167.1	70	82	cal, chl	S	J						
167.3	35	05	cal, chl	S	J						
167.8	32	180	cal	S	J						
168.0	35	310	chl, cal	S	F						
168.0	32	182	" "	S	F						
169.9	28	05	cal	S	F						
170.6	30	142	cal, chl	r	J						- tight jts healed with thin calcite, up to 2 mm thick.
↓ 171	30-45°	—	cal, chl	S	65						
171.2	29	262	cal	r	F						
171.4	38	111	cal	S	J						

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET / 0 of _____

PROJECT _____ DRILL HOLE No. _____ TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 5/89. TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
171.5	50	288	cal	r	F	-brkn thru 1cm thick cal. infill	75	1.7/ ft	100	100	- breaks are planar, with slight infill of calcite and green chlorite (?) PLT @ 176 = 2600 psi
173.8	34	132	cal, chl	r	J						
173.9	57	75	chl	r	J						
175.4	35	21	cal	r	F						
177.3	30	05	cal, hen	s	J						
177.4	55	15	cal, chl	r	F						
177.9	34	115	chl	s	J						
178.0	62	105	chl	r	F						
178.3	50	93	chl	r	F						
178.8	33	139	chl, cal	s	J						
179.5	32	142	chl, cal	r	F						
179.6	34	135	chl, cal	r	F						
180.0	60	182	-cal	r	F						
180.8	64	200	cal	r	F						
181.1	33	131	cal, chl	r	F						
183	25-30	-	cal, chl	r	2J	185	80			160	PLT @ 187(?) = 400 psi ?? - Broken black rk
185	60-65	-	"	r	2F						
188	30	-	cal, chl	s	1J						
188	45	-	"	r	2F						
189	-	-	machine breaks	-	-						

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET // of

PROJECT _____ DRILL HOLE No. _____ TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 5/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY RJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
189 190 ↓		machine breaks				- altered rock	190	↓?	high	↓?	numerous breaks, gts & weathered rubble for 7' (possibly missed 10' marker block in core?) - next 12" is sandy gravel
200 ↑		Numerous rubble & gravel zones with occasional 6 to 8" pieces.				altered, weathered rk.	200'	↑ 20	high	↑ 95	
201 ↓						Black dyke Aug. Porphyry		↑		↑	
205 ↓		Many drill induced breaks mostly intact rock.				altered, vuggy		↑ 40	high	↑ 95	- some gta xstals in fractures & vugs. PLT @ 205 = 1800 psi
210 ↓		Some ss above but more rubble & broken.				Syenodiorite	210'	↓		↓	
220 ↓		Largely broken core: rubble & joint with rock clast. Int. parallel to core axis for bottom 3-5'					220'	↑ 20	v. high	↑ 85	- weak, decomposed rk.
222 ↓		gouge - sand, clay, rk.						↑		↓	- muddy mat'l. PLT @ 222 = 400 psi
223.8 ↓		intact rock						↑ 40	high	↑ 95	
225 ↓		gouge & rubble						↓		↓	- muddy material
230 ↓		altered broken rock some intact sections					230	↓		↓	- several machine breaks
		several gts: fractures 25° - 60° to c.a.				weak rock.		↑ 60	2 to 3 ft	↑ 100	- some joints completely healed to partially healed with cal/gta. some gta xstals in vugs/fractures PLT @ 238 = 1500 psi
240 ↓		rem. chl?, cal infill					240	↓		↓	
		several gts: fractures 10-30° to 45°-60°						↑	~3/14	↓	PLT @ 245' = 1000 psi
		rubble at 240' & @ 250' chl, cal, hem, some Fe stas						↑ 35		↑ 95	
250 ↓							250	↓		↓	

KNIGHT AND MESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET /2 of _____

PROJECT _____ DRILL HOLE No. _____ TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 5/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
250						Syensite - heavily altered		↑	high	↑	PLT @ 265 = 200 psi
255							260	↓		↓	
266								↑	high	↑	
267								35		100	
267.0	43	17%	hem sx	r	F			↓	41/A	↓	
269.5	0	?	hem sx	wavy	F	very weak rk	270	↓		↓	PLT @ 275' = 200 psi - cal, hem infill - weak rk.
270								↑		↑	
271								25	high	95	
280							280	↓		↓	
290								10	high	90	
290							290	↓		↓	PLT @ 282 = 900 psi (only intact piece in core)
295								↑		↑	
295								7		85	
300								↓		↓	
300								↓		↓	

KNIGHT AND MESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 13 of _____

PROJECT _____ DRILL HOLE No. MP 89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 5/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH (ft. m) (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
300						Heavily altered, weak rock. ↓		↑ 5	high	↑ 50	← core made in core markers? PLT @ 315' = 700 psi (on intact piece)
							310	↓		↓	
310								↑ 3	high	↑ 50	
								↓		↓	
320						↓ competent rk	320	↑		↑	PLT @ 333' = 700 psi
								↓		↓	
								0	high	80	
								↓		↓	
330						↓ competent rk	330	↑		↑	PLT @ 343' = 600 psi = 800 psi
								↓		↓	
								15	high	80	
								↓		↓	
340						↓ competent rk	340	↑		↑	PLT @ 351' = 1700 psi = 2200 psi
								↓		↓	
349						?					
350.0	52	270	—	S	F						
350.1	50	159	chl	S	J						
351.0	35	45	—	r	F						
351.1	55	274	—	r	F	?					
352.0	64	14	—	SX	J						

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 14 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 5/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
352.6	23	39	—	S	J			↑		↑	
352.8	50	240	SX	r	J			↑		↑	
352.9	55	26	—	r	F			↑		↑	
353.6	70	350	sl. cal	r	F			↑		↑	
354.0	5	180	chl	w	F			85	1.8/ ft	100	
355.5	50	155	gte chl	S	J			↑		↑	
355.6	54	142	gte	S	J			↑		↑	
355.9	51	145	gte	S	J			↑		↑	
356.0	35	359	—	r	F		356	↑		↑	
357.5	45	178	cal. Festa	S	J			↑		↑	
358.2	22	08	—	r	F			↑		↑	
358.4	44	285	Festa	S	F			↑		↑	
360.0	20	289	—	S	J		360	↑		↑	
361.0	65	45	—	S	J			↑		↑	
361.3	45	—	chl, cal. mal, Fe	r	F			99	0.7/ ft	100	
365.7	67	—	—	r	F			↑		↑	
367.0	55	—	—	S	J			↑		↑	
368.5	45	—	Festa	r	F			↑		↑	
369.5	45	—	—	r	J		370	↑		↑	
370.0	35	—	—	r	F			↑		↑	
371.3	45	—	Festa	r	3F			↑		↑	

PLT @ 361' = 1100 psi

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 17 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 6/39 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY DOB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
402.6	68	138	chl Festm	S	J	weaker, altered rock			1/ft		
403.3	46	225	cal	S	J						
403.7	42	116	cal	S	J						
404.9	30	103	qtz hem	SX, S	J			80		100	
407.5	27	312	chl	r	F						
408.5	~30°	—	chl, hem		20						
409.1	broken to rubble				XXX				High		
410.0	15°-45°	—	chl, cal hem	S, r	10 J, S, F						
410.0	55	230	chl	r	F			80	3.3 ft	100	
411.0	45	118	chl qtz	r	F						
412.0	25-50°	—	chl, cal	S-r	21 J, F						
420.0	15°-50°	—	chl	S-r	23 J, F			65	3.3 ft	100	
427.0	10°-55°	—	chl, Festm	S-r	10 J, F						
430.0	10°-55°	—	chl, Festm	S-r	29 J, F			70	3/ft	100	
440.0											

- ~ 3' of core extra?
 PLT @ 410 = 1800 psi;
 2600 psi

PLT @ 425' = 1200 psi

PLT @ 437 = 700 psi;
 1200 psi

KNIGHT A. ESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 18 of _____

PROJECT _____ DRILL HOLE No. MP 39-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 6/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
440			rock broken to 2" pieces		X-X	- altered rk.		↑		↑	PLT @ 450' = 1200 psi
444			rubble		XXX			15	High	100	
450			rubble, cal, Fe stns					↓		↓	
451.1	13	05	—	r	F			↑		↑	
451.6	65	163	chl	s	J						
451.8	55	170	chl	s	J						
452.0	37	12	chl, cal, hem	r	J						
454.0	35	180	cal, hem	s	J						
455.5	19	320	qtz	r	F			83		100	
455.6	55	185	cal	s	J				1.7/ft		
456.2	53	140	chl	r	J						
456.5	30	332	qtz xtals	r	F						
456.9	45	180	cal	r	F						
457	53	196	chl	s	J						
457.3	45	305	—	r	F						
457.9	46	242	chl	r	F						PLT @ 458' = 1000 psi
458.1	55	180	qtz	r	F						
460	25-50°	—	chl	r	3 F						

KNIGHT AIRCRAFT RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No.

SHEET 19 of

PROJECT _____ DRILL HOLE No. _____ TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 6/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
460.0	23	349	hem	S, SX polished	J	*		↑		↑	* very planar jt.
461.6	60	140	chl	S, pl	J						tight, healed, jts.
462	48	172	qtz, hem	r	J						
462.5	68	220	hem	r	J						
462.9	50	308	hem, chl	r	J		94		1.4 ft	100	good competent rock
463.5	45	85	chl	r	F						
464.0	25	33	hem, carb, sand	S, SX polished	J	*					
465.2	30	238	hem, Fe str	S	J						
465.4	32	352	qtz	r	F						
466	31	32	chl	r	F						PLT @ 467' = 1600 psi
↓ 470	10-60°	—	chl, hem	r	4 J & F		↓			↓	
470	40	0	2.5 cm qtz w/ Fe	S	J		↑			↑	- completely healed w/ qtz: c/w qtz xstals.
↓			few jts in good rk		9 J & F		90	1/ft		100	
↓			1 j. has significant residual staining				↓			↓	
480			few tight joints & fractures, some w/ carb concretion			weaker rk	↓			↓	
↓			- ~6" rubble @ 490'				85	1.1/ft		100	
↓ 490			- qtz healing, c/w xstals.								PLT @ 485' = 2800 psi (intact rk) 400 psi (thru jts)

KNIGHT AL. RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 21 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 6/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
534.0	3°	355	Hem	W, sk	J			↑		↑	
534.5	31	355	chl	r	F			75	0.8/ft.	100	
537	55	231	—	s	J			↓		↓	
537.5	53	270	—	r	F			↓		↓	
540.0	39	104	cal	s	J			↓		↓	
540.3	43	241	chl cal	s	J			↑		↑	
↓	several jts opened by drilling							85	~0.8/ft	100	PLT @ 542 ~ 700 psi 1200 psi
↓	1 prominent jt @ ~25° to ca.							↓		↓	
550	4 fractures, tight, opened by drill							↓		↓	
552	several jts; fractures 30°-50° to e.w.							45	High.	90	PLT @ 555 ~ 900 psi
↓	blocky for last 4'							↓		↓	
560	blocky core & rubble							↓		↓	
↓	with few intact pieces.							45	High	100	PLT @ 563 ~ 600 psi
↓	one joint open with a 2 mm cal, hem, chl infill							↓		↓	
570	blocky core & rubble							↑		↑	
↓	w/ few intact pieces							↓		↓	
↓	cal, chl infill, some							35	High	90	PLT @ 570' = 400 psi, 600 psi
↓	jts open							↓		↓	
580								↓		↓	

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CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 22 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 6/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
580		blocky core & rubble						↑ 30	High	↑ 95	PLT@ 584 = 2800
		some intact pieces in first 5'									
590		rubble & blocky						↑ 15	High	↑ 95	PLT@ 595 = 700 psi 1500 psi
		core w/ few intact									
		pieces. chl, hem, cal									
600		infill on joints						↑		↑	
		some fr. parallel to ca.									
		~4 jts along planes						↑	0.4 ft	↑	- competent rk. few jts.
		of weakness. opened by drilling						92		100	PLT@ 608 = 2100 psi
610								↑		↑	
		Few tight joints						↑	0.5 ft	↑	no core orientation possible due to core breaking off flush with bottom of hole!
		~45° to 60° w/ ca.						98		100	PLT@ 6'19 = 1900 psi
620		one open jt @ ~20°						↑		↑	
		to c.a. w/ gtz xtl's.						↑		↑	
		~1/6 fractures & joints						↑	1.6 ft.	↑	
630		5 @ 0 to 30° w/ ca.						73		100	
		gtz, calco xtal @ 625'						↑		↑	

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BEDROCK DRILLING LOG

PROJECT No. 611SHEET 23 of

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug. 6/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
630		~10 joints and fractures - @ 5' to 10' ca w/ loose calcite infill. mostly light w/ ch. infill				- sulphides in rock.		↑ 92	1.0/ ft	↑ 100	PLT @ 631 = 2000 psi
637								↓		↓	
639.0	47	197	ch/cal	s-r	2 F	dyke		↓		↓	PLT @ 640 = 800 psi
640		5 jts, smooth, pl., w/ ch.						↑		↑	
645								↓	0.8/ ft.	↓	
645		~3 jts				altered rk		92		100	PLT @ 648' = 300 psi
645		core broken to 4 pieces						↓		↓	
650		~7 jts @ 50' to ca						↓		↓	
654		ch, cal						↓	1.2/ ft.	↓	
654		2 major rubble zones @ 654 & 658. Gravelly						35		95	
660		sand gouge cal. hem. on 10' jts to c.a.						↓		↓	PLT @ 662 = 200 (jt) = 900 (intact rk)
661.5	40°	180°	ep	r	F	- sulphides		↑		↑	
662.5	38	337	cal	s	J	?		↓	0.5/ ft	↓	
663.3	50	145	ch cal	s	J	?		98		100	
664.2	49	152	-	r	F	?		↓		↓	
668.0	37	192	-	s	J	?		↓		↓	PLT @ 670' = 1700, 1600 psi
670		3 healed jts w/ ch									
674		opened by drilling									

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CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 24 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 6/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH (ft. m) (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
674.9	38	123	ch. bep? 2mm	S	J	Intrusion Breccia -mineralized		↑ 95	0.8/ ft.	↑ 100	PLT @ 680' = 400, 1000, 1000
675.1	60	49	—	S	J			↓		↓	
677	rk broken into 3" segments by drill							↑	0.7/ ft.	↑	
680	few tight planar jts							95		100	
	fractures, mostly healed w/ epidote										
690	few jts & fractures mostly drill induced jts are tight & healed w/ ch/or epidote?					dyke rock -black -v. fig.		↓	1.3/ ft	↓	PLT @ 690' = 3000, 2000, 1700 psi - mostly competent rock. - no core orientation
								87		100	
699	4 cm shear zone of highly broken altered rock							↓		↓	
702	- rock broken 699 to 700 due to shallow dip jt.							↓		↓	
	7 tight planar jts, healed w/ cal							95	1.2/ ft	100	
705	5 tight planar subparallel jts @ 45° to c.a. - cal infill					dyke rock		↓		↓	PLT @ 709' = 1000 psi PLT @ 711' = 2800 psi
710	5 tight subparallel jts @ 55° to c.a.							↓	0.6/ ft	↓	
	1 jt @ 20° to c.a. cal infill							100		100	
720								↓		↓	

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BEDROCK DRILLING LOG

PROJECT No. --

SHEET 26 of

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 7/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

[illegible]

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BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 27 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED Aug 6/89 LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 7/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KDB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
810	~ 6	shallow jts @						↑		↑	- competent rock
		~ 25-30° to c.w.						92	0.9/ ft	100	PLT @ 815' = 1100, 3200 psi
		~ 3 jts @ 45-55° to c.w.						*		*	
820		all are tight, rough.						*		*	
	~ 11	jts 20 to 60°						87	1.1/ ft	100	PLT @ 822' = 2500 psi
		smooth to rough to cal in All, some chl, epidote						↓		↓	
830	~ 7	jts + fractures, most @ ~ 15° to 25° to c.w.						↑	1.1/ ft	↑	PLT @ 835' = 900, 2100 psi
835								80		100	- short section of oriented core, but no jts!
835.0	~ 4	jts 25° to 50°						↓		↓	
840								↓		↓	
	First 7	is mostly badly broken core along shallow fractures.						50	High	100	PLT @ 845' = 600, 1650 psi
		cal, chl on fractures.						↓		↓	
850	2	fractures @ 15° to 20° to c.w.						↑		↑	
851		rough, wavy.									
851.0	27	52	Hem chl	S, SX	J						
854.2	52	108	chl, ep	S	J						
854.3	19	52	-	r	F						PLT @ 855' = 2300 psi

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BEDROCK DRILLING LOG

PROJECT No. 2SHEET 28 of

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 7/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
855.0	30	352	chl	r, sx	3 F						PLT @ 859' = 1500 psi
855.4	35	308	chl/hem	r, sx	F						
855.8	53	130	cal	r	J			90	1.1 ft	100	
856	50	140	chl	r	F						
856 ↓	2 joints @ 20° to ca										
860			chl	s, sx	2J.						
	9 jts @ 55 to 60° - sub parallel										
	2 jts @ ~5° to ca.										
870	blocky core & rubble.										
	2 sx joints w/ hematite										
	@ 23° to ca.										
872.	hem clay infill on one jt @ 60 to ca.									PLT @ 869' = 1100 psi	
877.0	41	210	chl, hem	S	J						
877.5	39	216	chl, hem	S	J						
878.	29	185	cat, chl hem, Fe. sin	S	J						
878.5	34	214	chl, hem	r	F						
879	40	218	chl	S	F						
879.1	47	169	chl, op hem	r	2F						
879.7	46	178	chl, cal	r	F						
											PLT @ 877' = 800 psi

PLT @ 859' = 1500 psi

PLT @ 869' = 1100 psi

PLT @ 877' = 800 psi

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BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 29 of _____

PROJECT _____ DRILL HOLE No. MP89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 7/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
880			5 jts in brecciated (cherted w/ calcite) matld.			T altered rk		↑ 96		↑ 100	PLT @ 883' = 200, 500 psc
			jts @ 45 to 60° to ca.								
890								↓		↓	
			3 jts, open, chl, gtr, cal			898 dyke 899.5		↑		↑	PLT @ 891 = 300 psc
			≈ 50 to 60 to ca.								
898			6" gouge @ 895					94	0.7 ft	100	
			4 jts: fractures								
899			~ 60° to ca.								
900	45	60	chl	S	J			↓		↓	
901.5	20	355	cal	r	F			↑		↑	- crosscut by rough partial fracture w/ drusy gtr. & tubs.
903	39	202	cal	r	F						PLT @ 901 = 800 psc
903.6	35	35	tr cal	r	F						
905.5	55	248	chl, cal	S	J						
906	28	0	chl, hem	r	F	*		90	1.7 ft	100	- 2" gouge
906.1	40	140°	chl gouge	r	J						
			≈ 10 joints @ 47° to 60° w								
			chl & up to 2 mm SX Hem								
910											PLT @ 909' = 300 psc (crumbly)

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BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 3/ of _____

PROJECT _____ DRILL HOLE No. MP 89-152 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 7/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
964.4	47	250	cwl	S	J	competent - k.					PLT @ 964' = 1500 psi
964.6	58	185	cwl	S	J						
965.0	22	265	cwl	r	F			90	1.5 ft	100	
966.0	40	122	cal, chl	S	J						
967.0	40	115	cal, chl	r	J						PLT @ 970' = 2500 psi
967.5	45	152	cwl	r	F						
967.8	45	109	chl, cal	S	J						
968.2	35	97	chl, hem	SX	J						
969.1	48	130	chl.	r	F						
970.	48	123	chl	S	J						
970.3	58	163	chl	S, pl	J						
971.3	47	123	chl, Fe ₂ O ₃	S, pl	J						
972.3	55	142	chl	r, pl	J						
973.8	35	238	to chl	r	F			93	1.4/ ft	100	
974.	62	262	—	pl	F						
975	42	101	hem	S, pl	J						
975.4	52	288	chl, hem. cl	r, SX	J						
976	67	110	chl	S, SX	J						

KNIGHT AND MESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No.

SHEET 32 of

PROJECT _____	DRILL HOLE No. _____	TOTAL DEPTH OF HOLE _____
DATE DRILLED <u>Aug 7/89</u>	LOCATION _____	ORIENTATION OF HOLE _____
DATE LOGGED <u>Aug 7/89</u>	TYPE OF DRILL _____	CORE SIZE _____
LOGGED BY <u>KJB</u>		

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS	
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY		
976.7	40	218	ch, cl	r	J	- altered rk					PLT @ 979' = 200 psi - 1 cm clay infill	
977	36	180	ch, ep.	w, sx	J							
977.3	25	190	ch, ep.	w, sx	J							
↓	3 Jts @ $\pm 40^\circ$ to c.a.											
980	one has 1 cm clay infill											
	± 7 Jts, some with clayey											
	infill, epidote, g.w movement.											
982.5	6 Jts, 45° - 55° to c.a.											} competent rk.
	tight, pl.							85	$\frac{1.3}{ft}$	100		
990												
	broken blocky core											
	to 996'. most breaks											
	drill induced along											
	shallow fractures.							$\sim \frac{1.5}{ft}$	100		PLT @ 997' = 2300 psi	
1000												
EOLH								EOLH				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>7</u>	
PROJECT <u>MOUNT POLLEY</u>		DRILL HOLE No. <u>MP-88-151</u>		REF. EL. _____		ANGLE FROM HORIZ. <u>-90°</u>	
DATE <u>AUG 2</u>		CONTRACTOR <u>J. T. THOMAS</u>		BEDROCK EL. _____		BEARING _____	
LOGGED BY <u>REN MCNAUGH</u> TON		CORE SIZE <u>NQ</u>		TOTAL LENGTH <u>700</u>		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.	PARTICULAR						GENERAL	PARTICULAR
10						CASING.								
20			70 0			BROKEN INTO GRAVEL								R, P, Q D. → 2MM CLAY + LIM
30			85 50			MONZ POR				//	60 55	20		
40			100 35			- R - 2000				//	80 60 85 75 70 80 85	20		
50			95 55			_____				//	80 85 75 70 80 85	20		
60			100 80			SYENO. ALI.				//	60 60 60 60			
70			80 70			- R - 1800 → 2100				//	60 55	5		R, TSP THIN FE STAIN + CAL MINOR SX
80			40 0			BROKEN TO GRAVEL								
90			40 0			5-15% GRAVEL								
100			50 0			5-15% GRAVEL								

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>3</u> of <u>7</u>	
PROJECT _____		DRILL HOLE No. <u>151</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL							PARTICULAR	GENERAL
210			100	90					30	100	60		R, PT, THIN CLAY, CHLTER!		
220			100	50		- <u>P</u> 1800-3000			30	100	60				
230			100	75					30	100	70				
240			90	55					30	100	65				
250			100	80					30	100	60	30			
260			100	95					30	100	70				
270			100	90					30	100	80				
280			100	88		- <u>P</u> 1000 → 4000			30	100	85				
290			100	70					30	100	85				
300			100	70					30	100	75	45			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>7</u>	
PROJECT _____			DRILL HOLE No. <u>151</u>			REF. EL. _____			ANGLE FROM HORIZ. _____		
DATE _____			CONTRACTOR _____			BEDROCK EL. _____			BEARING _____		
LOGGED BY _____			CORE SIZE _____			TOTAL LENGTH _____			COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							PARTICULAR	GENERAL
310			100	85							45			T ₅ R ₅ S ₅ THIN CALICHE FILL
320			100	40							45			
330			100	70							40			
340			100	80										
350			100	75							20			
360			100	100							30			
370			100	100							70 45			
380			100	100							70 45			
390			100	95							70 40			
400			100	93							70 70 45 40			

JOINTING 65° TO 85° TO C.A.
 SYENITE - 3500
 MONZ - 1400 TO 2200

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>5</u> of <u>7</u>	
PROJECT _____		DRILL HOLE No. <u>151</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
410			100	85							60 60 60		T ₅ R ₁ P CHL + CAL	
420			100	75							80 70			
430			100	65							70 75			
440			100	75		- P - 2400					70			
450			100	100							80 75			
460			100	100							70 70 20			
470			100	100							75 60			
480			100	100							70 75			
490			100	100							80 90			
500			100	100							90			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>7</u> of <u>7</u>
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PROJECT _____	DRILL HOLE No. <u>151</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
PARTICULAR						GENERAL		PARTICULAR						GENERAL	
610			100	80									R ₃ P ₃ T ₁ THIN CAL+CHL FILL		
620			100	60			- P 1800 → 2400								
630			100	70											
640			100	40											
650			100	55											
660			100	75											
670			100	60											
680			100	70											
690			100	98			- R - 2000								
700			100	87											

STRONG JOINTING
 50 $\rightarrow$ 65° TO CHA
 MINOR LOW ANGLE
 0 $\rightarrow$ 10°

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u> </u>
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PROJECT <u>MT POLLEY</u>	DRILL HOLE No. <u>MP89-155</u>	REF. EL. <u> </u>	ANGLE FROM HORIZ. <u>-90</u>
DATE <u>Aug 13/89</u>	CONTRACTOR <u>J.T. Thomas</u>	BEDROCK EL. <u> </u>	BEARING <u> </u>
LOGGED BY <u>KJB</u>	CORE SIZE <u>110</u>	TOTAL LENGTH <u>750'</u>	COORDINATES <u> </u> N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
0						Casing							
10													
20			50	10		INTRUSION BRECCIA	FS			60		rubble	
30			100	90		- soft rk, altered & oxidized	FS			70 80 60		F.pl.r.t	
40			100	90						45		F.pl.s.r.t. cul coating	
50			100	80						70 60 30 10		Frac.pl.s.r.t. cul, Fe stain, hem, chl Wavy.	
60			100	40		BROKEN TO PEA GRAVEL				50 85		blocky core, numerous breaks	
70			100	55						50 85		T ₂ R ₁ R THIN CAL + HAL, FE STAIN	
80			100	45						60 80			
90			100	40						60 90 60			
100			100	90						75 70 75			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of	
PROJECT _____			DRILL HOLE No. <u>155</u>		REF. EL. _____			ANGLE FROM HORIZ. _____			
DATE _____			CONTRACTOR _____		BEDROCK EL. _____			BEARING _____			
LOGGED BY _____			CORE SIZE _____		TOTAL LENGTH _____			COORDINATES _____ N E			

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Particular	General
110			100	35						XIX	75 80		T ₅ R ₃ P - 0 - 2mm CAL FILL	
120			100	55						XIX	70 80 85			
130			100	90			- P 1000-1500			XIX	80 85			
140			100	40						XIX	45 80 85			
150			100	40						XIX	80 85			
160			100	15						XIX	30 80 85			
170			100	40						XIX	35 80 85			
180			100	35						XIX	60 80 85			
190			100	90			MONZ POR INT. BRECCIA			XIX	60 80 85			
200			100	100						XIX	60 80 85			

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 4 of

PROJECT _____ DRILL HOLE No. 155 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		30 100 300				PARTICULAR	GENERAL
						PARTICULAR	GENERAL						
310			100	35					+	25 75 25		T ₃ R ₃ P	
320			100	40					+	65 25 75			
330			100	35		— $\Phi = 1800$			+	65 10 75			
340			100	20					#	5 45 75		CLAY FILL	
350			100	70						60 55 5		T ₃ R ₃ P	
360			100	70						75 20 85		1600	
370			100	20		INTRUSION BRECCIA BROKEN TO GRAVEL			+	75			
380			100	15		— $\Phi = 500$				60			
390			100	40						75 30 60 20 75			
400			100	50									

INTRUSION BRECCIA
BROKEN TO GRAVEL

$\Phi = 500$

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 5 of

PROJECT _____ DRILL HOLE No. 155 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		0 30 60 90 120 150 180 210 240 270 300 330				Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
410			100	85					X	60		T ₅ R, 1-3mm CAL FIL	
420			100	100					-	85			
430			100	100		1800-2400			-	60			
440			100	100					-	85			
450			100	100					-	65			
460			100	80					-	60			
470			100	40					-	85			
480			100	80					-	80			
490			100	60					-	60			
500			100	40					-	30			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>7</u> of <u>7</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>155</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULARGENERAL		3 10 30 100 300				PARTICULARGENERAL	
610			100	60						80 80 70 80		T ₃ R, W, THIN CHL + CL	
620			100	90						60 80			
630			100	100						60 60			
640			100	80						45 45			
650			100	95						60			
660			100	92						45 60			
670			100	90						60 45			
680			100	85						45 15 60			
690			100	80						60 45			
700			100	95						60 45			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>6</u>								
PROJECT _____ DATE _____ LOGGED BY _____		DRILL HOLE No. <u>MP-89-156</u> CONTRACTOR _____ CORE SIZE _____		REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____		ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E								
DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH (m)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			150	98						60			T, R, W, 0 → 3mm CAL + CHL	
120			100	100						60				
130			100	100						60				
140			100	100						60 40				
150			100	100						60 30				
160			100	100						60				
170			100	100						45 60				
180			100	100						60 30				
190			100	100						70 30				
200			100	100						70 70				

INT. BRECCIA

MONTE POR INT. BRECCIA

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>3</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>MP-89-156</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH (m)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL							PARTICULAR	GENERAL
210			100	95						/	80°		TSR, P D → 2MM CAL + CML		
220			100	95						/	85°				
230			100	96						/	75°				
240			100	80						/	30°				
250			100	40						/	85°				
260			100	80						/	30°/20°				
270			100	85						/	70°				
280			100	100						/	60°				
290			100	100						/	80°				
300			100	100						/	60°				

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 4 of 6

PROJECT _____ DRILL HOLE No. HP-89-156 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH (m)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL							PARTICULAR	GENERAL
310			100	100						—	44		T ₃ R ₃ P 0 → 5mm LAL + CHL		
320			100	75							70 60				
330			100	100						—	60 70				
340			100	95						—	30 60				
350			100	100						—	40 60				
360			100	100						—	60 30 50				
370			100	100						—	40				
380			100	10						—	60				
390			80	15											
400			100	60							40 40				

BROKEN TO

GRAVEL

30° - 45° to LAL

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>5</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. ^{MP-BP-} <u>156</u>		REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____	
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH (m)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
410			100	85						25 10 80			T ₂ R, CLAY. FILL	
420			100	60										
430			100	50										
440			100	20										
450			100	30										
460			50	40										
470			100	80										
480			100	20										
490			00	100						50 50	90			
500			100	100						50	90			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>6</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>MP-89-156</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH (m)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL		100 300 1000 3000				PARTICULAR	GENERAL	
50			100	95							50			T ₃ R ₃ P THIN CLAY + CAL + CHL	
520			100	95							80				
520			100	90							80				
540			100	20											
550			100	20							80°				
560			100	70							80°				
570			100	50							30-45°				
580			100	70							25-50°				
590			100	90							30°				
600			100	60							60°				
											80°				
											80°				
											30				
											45°				

KNIGHT AND RESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. 21

SHEET 1 of 1

PROJECT MT. Pulley

DRILL HOLE No. MP89-153

TOTAL DEPTH OF HOLE 750'

DATE DRILLED Aug 7/89

LOCATION central zone

ORIENTATION OF HOLE 240/-55°

DATE LOGGED Aug 8/89

TYPE OF DRILL Acker

CORE SIZE N/A

LOGGED BY KJB

DEPTH (ft) m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
30								↑ 25	High	↑ 100	- prominent iron staining, - no core orientation possible PLT @ 36' = 1000
40								↑ 15	High	↑ 100	
50								↑ 35	High	↑ 95	PLT @ 55' = 500psi
60								↑ 70	1.0/ R _f	↑ 90	
70								↑		↑	PLT @ 69' = 1000psi

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 8/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

[illegible]

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 3 of _____

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 8/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
93'						Intrusion Breccia		↑	↑	↑	PLT @ 98' = 800psi Weak, broken rock throughout. Breccia has many jts! fractures completely healed w/ cal.
								35	High	80	
								↓	↓	↓	
100'								↓	↓	↓	
								18	~ 3/ ft	100	
								↓	↓	↓	
110'								↓	↓	↓	
								50	~ 2.2 ft	100	
								↓	↓	↓	
120'								↓	↓	↓	
								15	~ 2.5 ft	95	
								↓	↓	↓	PLT @ 122' = 1700psi
130'								↓	↓	↓	

KNIGHT AND SONS LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET 4 of _____

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
 DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
 DATE LOGGED Aug 8/89 TYPE OF DRILL _____ CORE SIZE _____
 LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
130								↑ 12	$>4/f$	↑ 100	PLT @ 133' = 1200psi
140						- altered zone		↑		↑	
								↑		↑	
								95	$1.1/f$	100	PLT @ 142' = 400psi
150						?		↓		↓	
150.5	50	280°	chl, cal	r	F			↓		↓	PLT @ 151' = 1300psi
151.2	28	130	cal	s	J						- healed jt, 1mm cal.
151.8	38	310	gtc xtals	r	F						
153.4	70	335	cal	r	F						
154.0	69	320	—	s, t	J			95	$0.9/f$	100	
154.3	50	235	fr cal	s, t	J.						
155.1	36	340	cal	r	F						
156.0	49	288	cal	r	F						
157.0	30	122	cal, horn	s	J		160	↓		↓	

KNIGHT AND SIESOLD LTD.
CONSULTING ENGINEERS

BEDROCK DRILLING LOG

PROJECT No. _____
SHEET 5 of _____

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 3/39 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH <u>(ft)</u> m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
160.0	31	278	cal, chl	r	F			↑		↑	PLT @ 160' = 2000 psi good rock
165.0	36	82	cal, chl	r	F			↑		↑	
167.0	50	130	cal	s, pl	J			↑		↑	
167.5	53	25	cal	s, pl	J			↑		↑	
168	45	232	—	s, pl	J			↑		↑	
168.5	40	90	cal, chl	s	J			↑		↑	
168.7	36	89	cal, chl	s	F			↑		↑	PLT @ 171' = 1200 psi
169.4	55	172	cal, ep	s, pl	J			↑		↑	
169.7	59	42	cal	r	F			↑		↑	
169.9	40	245	cal, ep	s	J			↑		↑	
170	19 joints & fractures, E. cal infill. most @ 30 to 50° to c.a.							↑		↑	
177	44	132	cal	s, pl	J	?		↑		↑	
177.5	45	80	cal	r, w	F	?		↑		↑	PLT @ 181' = 100 psi
178.5	12	193	cal	r, w	F	?		↑		↑	
180	4 more joints, 40°-50° & 25° w/ cal							↑		↑	
180.0	43	140	cal	r	F			↑		↑	
180.1	40	160	cal, chl	r	F			↑		↑	

PROJECT _____ DRILL HOLE No. MP 89-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 8/9, 89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
183.0	49	288	tr cal	R	F	?		↑		↑	
183.2	2"	soft, pebbly clay gouge				- altered r.k.		65	2.4 ft	100	
		≈ 20 joints + 6" rubble						↓		↓	
190'		cal. infill, 25° to 60°						↑		↑	
	213	joints and fractures						87	1.3 ft	100	
		main set @ ~60 to c.a.						↓		↓	
	3-							↓		↓	
200	64	343	—	r	F			↑		↑	
200.5	57	09	tr cal	r	F	?		↑		↑	
204	44	240	hem	s	J			↑	0.8 ft	↑	
205.0	63	123	—	s	F	?		99		100	
206.5	53	20	cal	r	F			↑		↑	
207.5	43	29	tr cal	r	F			↑		↑	
207.5	54	226	hem	r	F			↑		↑	
209	75	344	cal	s	J			↓		↓	
212.0	55	102	ch, cal	vr.	F			↑		↑	
212.6	50	002	ch, cal	r	F			↑		↑	
213.5	55	230	—	s	F	?		↑		↑	

PLT @ 189' = 100,
300 psi
(along weak
planes.)

PLT @ 197' = 2700 psi

good competent r.k.,
tight joints and fractures
w/ minor cal infill,
opened during drilling,

PLT @ 207' = 3600 psi

BEDROCK DRILLING LOG

PROJECT _____ DRILL HOLE No. MPB9-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED Aug 8 LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 9/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
215.2	63	310	cal	r	F		94	1.2 ft	100	PLT @ 215' = 1800, 2500 psi	
215.3	40	307	cal	r	F						
217.6	57	304	ir cal	s	F						
218.6	43	124	200 hem	r, pl	F						
218.7	47	55	hem	r	F						
218.8	46	42	chl, cal, cl	s	J						
219.6	66	110	chl	s	F					Eight joints, healed, opened by drilling.	
219.8	73	268	—	s	F						
220.0	59	250	ir cal	s	F					PLT @ 220' = 3800 psi - good quality rock	
222.0	21	212	cal	s	F						
225.4	64	180	chl	s	2 J						
226.5	30	172	chl	r	F						
226.5	60	245	chl	r	F		97	0.7/ft	100		
227	48	39	—	s	J						
229.6	36	153	cal, chl	r	F		PLT @ 230' = 2900 psi				
230.0	50	180	chl	s	F						
230.3	57	186	chl	s	J						
231.6	30	158	cal	s	J						

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 9/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

[illegible]

BEDROCK DRILLING LOG

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED Aug 8/89 LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 9/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
289	12	units	@ 0°	15, 45°	60°	dyke rk		↑		↑	PLT @ 282' ~ 2600psi
		45° set is most freq.						80	1.2 ft	100	
	289'-286' is dyke rk w/ epidote, chl, & joint w/ 1/2 cm gouges.							↓		↓	
290								↑		↑	PLT @ 297' ~ 1700psi
292.8	41	303	chl	r	F						
295.6	57	117	cul	r	F						
297.5	58	345	—	r	F			96	0.7 ft	100	
298	54	353	chl	s	J						
299	55	35	chl	S, SX	J						
	broken core for ~ 8".					Intrusion Breccia		↓		↓	PLT @ 305' ~ 1400psi
300	11 joints w/ chl & cul infill most @ 40 to 50° to c.a.							89	1.1 ft	90	
								↓		↓	
310	9 joints & fractures, mostly rough, clean, tight @ 40 to 50° to c.a.							96	0.9 ft	100	PLT @ 315' ~ 2400psi
								↓		↓	
320	~ 4 sts & fractures							↑		↑	PLT @ 323' ~ 1300psi
	clean to chl & cul infill 25° to 60° to c.a.										
324											

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 9/89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY KJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
330			blocky core with most jts @ ≈ 50 to 60° to c.a. s, pl, t. w/ cal. & chl infill			Dark dyke rock, softer etc @ 55° to c.a.		50	$\approx \frac{2.7}{ft}$	100	PLT @ 330' = 600, 400 psi
335			blocky dyke rock for 3' than more competent with few jts.					80	$\frac{1.2}{ft}$	100	
340			~5 jts, s, t, pl, br. cal			335' Intrusion Breccia					PLT @ 341' = 2200 psi
			~10 jts, most are subparallel @ 55° to c.a. w/ chl, cal.					83	$\frac{1.0}{ft}$	100	
350											
354.0	50	246	chl	r	F						Tormented core, no jts.
354.0	54	50	—	r	F						PLT @ 353' = 1500 psi
355.3	35	272	chl, cal	r	F			98	$\frac{0.6}{ft}$	100	
355.5	40	257	chl, cal	r	F						
366.0	29	322	chl, cal	s, pl	J						
360.0	46	286	chl, cal	r, pl	J						
			~6 joints tight, pl. opened by drilling								
			1 jt @ $\approx 40^\circ$ with 1mm cal								
370			infill					100	$\frac{0.6}{ft}$	100	PLT @ 362' = 1400 psi

BEDROCK DRILLING LOG

PROJECT No. _____

SHEET // of

PROJECT _____ DRILL HOLE No. MP89-153 TOTAL DEPTH OF HOLE _____
DATE DRILLED _____ LOCATION _____ ORIENTATION OF HOLE _____
DATE LOGGED Aug 9, 89 TYPE OF DRILL _____ CORE SIZE _____
LOGGED BY RJB

DEPTH ft. m (Circle one)	JOINTING INFORMATION					GEOLOGICAL UNIT	GEOTECHNICAL PARAMETERS				COMMENTS
	α	β	INFILLING	ROUGHNESS	No.		DRILL RUN DEPTHS	R.Q.D.	FRACTURE INDEX	RECOVERY	
370			16 joints, 1 at 20° to c.a. w/ cal, chl, Fe str.					80	1.6/ft.	100	PLT @ 371' = 1000 psi
			1 @ 50°, open w/ cal & tils.								
			rot @ 35 to 60° w/ minor chl, cal infill, tight.								
380			4 its 15° to 40°, r, t.					100	0.4/ft.	100	good, competent rock PLT @ 380' = 1600 psi
			sl. cal, chl infill.								
390			9 its & traces, 2, trace					98	0.9/ft.	100	PLT @ 390' = 2200 psi
			cal., most @ ~45° to c.a.								
400											
406.5	16°	—	chl, cal, Fe str	r	F						PLT @ 401' = 2000 psi
402.2	24°	180°	cal, Fe str	r	F			100	0.3/ft.	100	
409.0	52	245	cal	s, pl	J						
412.0	46	295	—	r, pl	F						
413.6	51	242	—	r, pl	F						
414.0	57	28	cal mud	r, pl	F			100	0.5/ft.	100	
414.8	57	250	tr chl	s, pl	J						
416.0	46	235	tr cal								

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 15 of

PROJECT _____ DRILL HOLE No. MP89-153 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE Aug 10/89 CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY KJB CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)		GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.			30	100				300	PARTICULAR
520			↑ 100	↑ 98						0.7 15			1500	2 F w/ cal vits @ ~45° to c.a. 5 F w minor cal, tight.	
520			↓ ↑ 100	↓ ↑ 97						0.7 15			3000	7 S & F w/ cal, chl in fill mostly @ 55-60° to c.a. tight, pl., S.	
530			↓ ↑ 100	↓ ↑ 90						0.8 15			2200	8 F & J, 1 open w/ gtz vts, 1 w/ cal, hem others s, pl. breakers. 1 @ 0° to c.a. w/ sl chl, opened by drilling.	
540			↓ ↑ 100	↓ ↑ 100						0.3 15			2200	3 F & J 1 @ 40° to c.a. w/ chl, tight. 2 @ 60° to c.a. clean, tight	
550			↓ ↓	↓ ↓											
						↓ core orientated.									
553.3											46	49		r, pl, clean	F
555.8											64	165	2300	r, pl cal, 1mm	J

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u>	
						SHEET <u>17</u> of	
PROJECT _____		DRILL HOLE No. <u>MP89-153</u>		REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____	
LOGGED BY <u>KJB</u>		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							PARTICULAR	GENERAL
580			↑ 100	↑ 20					22 ft			500	Blocky & broken core numerous jts, generally tight and healed w/ cal but opened by drilling.	
590			↓ 95	↓ 75					1.5 ft			2800	≈ 15 joints & fract., some rubble @ 600'	
600			↓ 100	↓ 40					3.0 ft			1100 50	most joints tight, some healed w/ cal. most broken by drilling	
610			↓ 100	↓ 82								100 800	≈ 30 J & F, blocky core cal & chl healing on discontinuities. Various orientations 0°-20°.	
620			↓	↓								1000	≈ 13 J & F, blocky sections many F are clean, tight, drill induced along discontinuities some w/ cal, chl infill	
620						↓ core orientz				60	130		S, pl chl J	
623.5										48	135		S, pl tr. chl J	

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CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 18 of

PROJECT _____ DRILL HOLE No. MP89-153 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY KJB CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS									
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		WEATHERING	DEFECT SPACING (cm)			GRAPHIC LOG % OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL		10	30	100	300				PARTICULAR	GENERAL
623.5			↑	↑									75	50		S,pl br chl	J
623.6			↑	↑									48	227		spl. br chl	J
623.7			100	97					0.6 ft				18	0		r,w br chl	F
629.0			↑	↑									55	226		r,w br chl	F
627.3			↑	↑									27	200		S,pl —	F
630			↑	↑											2400		
640			100	95													
			↓	↓			core orientat										
			↑	↑													
			↑	↑											2000		
			↑	↑													
			100	80													
650			↓	↓													
			↑	↑													
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638-640 - 3 F w/ sl chl
rough, tight

12 J & F minor chl. intell.
one w/ sx
most @ 45° to ea.
sub parallel

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 19 of

PROJECT _____ DRILL HOLE No. MP 89-153 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE Aug 10/89 CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY KJB CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL	10 30 100 300		B		PARTICULAR	GENERAL
650.5			↑	↑						36	190	S,pl zco	F
651.5			↑	↑				0.3 pt		30	63	S,pl zco	F
653.1			100	100						61	185	S,pl cal, gtx, xls vuggy	J
660			↓	↓		↑ core oriented						good solid core, no J or F, few drill brks.	
666.5			↓	↓		good competent rk				53	276	S,pl zco	J
670			↓	↓		↑ core oriented						no more J or F.	
			↑	↑							700	4 F, one wavy w/ chl @ 15° to ca	
			100	98								rot @ 65° to ca.	
681			↓	↓							700 100 700		
680.7										65	240	V.F. minor hem	F
681.9										41	192	S,pl chl	J

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 20 of

PROJECT _____ DRILL HOLE No. MP89-153 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE Aug 10/89 CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY KJB CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS								
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)		GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.			0 50 100 150					0 50 100 150		PARTICULAR
684.9			↑	↑							37	343		r,pl	chl	J
685.0			↑	↑							30	30		r,pl	zeo?	F
685.1			↑	↑			Intrusion Breccia.				17	180		r	-	F
686.4			↑	↑						1.1	63	280		s,pl	-	J
686			100	95						1.1	39	73		r,pl	tr chl	2F
686.3			↑	↑							42	18		r,pl	cal	F
687			↑	↑							48	85		r,w	cal	F
688			↑	↑							50	39		r	tr chl	F
689			↑	↑			- altered r/c for 16"						1000			
			↑	↑						0.8				8 J F	s,pl, & @ 50° to c.o.	
700			100	96						1.1						

[illegible]

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 22 of

PROJECT _____ DRILL HOLE No. _____ REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL	3 10 30 100 300				PARTICULAR	GENERAL	
730			↑	↑									~ 8 JIF, some w/ chl, Fe stains	
			90	75							500		- shallow & jts cause rubble zones.	
740			↓	↓									~ 14 JIF w/ chl, cal, Fe stains	
746			↑	↑									SX @ 745.9'	
746.0			100	97				1.7 2.4	60	102		s,pl chl, sx	J	
747.0									55	180		r,pl chl	F	
748.0			↓	↓					63	170		s,pl cal,chl	J	
752.5									65	180		r chl	F	
753.2			100	95					68	175		s,pl chl,hem	F	
753.7									57	236		s,pl	F	
754.1 755			↓ EQH	↓ V					31	175		s,pl hem,cl faint sx	J	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>7</u>
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PROJECT MOONT PALLET DRILL HOLE No. MP-89-150 REF. EL. _____ ANGLE FROM HORIZ. -90°
 DATE JULY 31 / 89 CONTRACTOR J.T. THOMAS BEDROCK EL. _____ BEARING _____
 LOGGED BY KEN MCNAUL CORE SIZE N.O. TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm) 3 10 30 100 300	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coalings, cement, strength.	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
10						CASING.							
20			80	20		PEA GRAVEL						R.O 0 → 5MM	
30			100	35		60 → 80° TO CA 5 → 25° TO CA						CLAY, CAL, FE, CHL FILL	
40			100	60		SYENODIORITE				5			
50			100	45		INTRUSION BRECCIA				60			
60			100	55						70			
70			100	65		R.L 2200 PSI				60			
80			95	55						60			
90			100	100		SYENODIORITE				55		T.P.R, THIN CALCAL	
100			100	90						50			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>7</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>150</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL							PARTICULAR	GENERAL
110			100	70		P = 4500					60 65 85			T ₃ R, THIN CAL + FE STAIN	
120			90	85							60 65 50, 10				
130			100	75		INTRUSION BRECCIA					60 60 30				
140			100	65							65				
150			100	85		P = 1900 → 2200					60 80				
160			100	100							45 60				
170			100	65							80 80 60				
180			100	70							45 80 60				
190			100	85							50 50 50	5			
200			100	90							50				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>7</u>
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PROJECT _____	DRILL HOLE No. <u>150</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
210			100	100						60		R, Q 0.75m	
										60		CAL + LIM FILL	
220			100	55						60			
										60			
230			100	45						40			
										60			
240			80	45						40			
										60			
250			100	98						30			
										70			
260			100	85					X	60		R, T, P, THIN CAL + CIL	
									X	45			
270			100	95					X	60			
									X	40			
280			100	90					X	80			
									X	50			
290			100	95					X	95			
									X	70			
300			100	91					X	40			
									X	85			
									X	70			
									X	45			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u>
		SHEET <u>5</u> of <u>7</u>

PROJECT _____	DRILL HOLE No. <u>150</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength
					PARTICULAR	GENERAL						
					PARTICULAR	GENERAL						
410			100	35		- P 500-900		30	7	80	10	T, R, THIN, CAL + FE. STAIN
420			100	55				30	7	80	30	+ CHL
430			100	55				30	7	80	40	
440			100	45				30	7	80	10	
450			100	40				30	7	80	10	
460			90	85		- NON + SYEA P 3500-4000		30	7	80		
470			95	92		ALT. 500 → 1800		30	7	80		
480			100	100				30	7	80		
490			100	100				30	7	80		
500			100	100				30	7	80		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>7</u> of <u>7</u>
PROJECT _____ DRILL HOLE No. <u>150</u> REF. EL. _____ ANGLE FROM HORIZ. _____ DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____ LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
610			100	80						60		R, P, Ø 0. → 2MM	
										60		CHL + CAL	
620			100	100		- P = 3500				70			
										75			
630			100	100						80			
										80			
640			100	90						80		R, P, T, THIN CAL + CHL	
										80			
650			100	90						30			
										60			
660			100	75						60			
										30			
670			100	65						65			
										90			
680			100	65						80			
										30			
690			100	100		P 3200				85			
										85			
700			100	98						30			
										60			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>4</u>
PROJECT <u>MOUNT POLLEY</u> DRILL HOLE No. <u>MP-89-149</u> REF. EL. _____ ANGLE FROM HORIZ. <u>-90</u> DATE <u>JULY 30</u> CONTRACTOR <u>J.T. THOMAS</u> BEDROCK EL. _____ BEARING _____ LOGGED BY <u>KEN McNAUGHTON</u> CORE SIZE <u>N.Q.</u> TOTAL LENGTH _____ COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength.	
						PARTICULAR	GENERAL		30	100	300		PARTICULAR	GENERAL
10			60	0										
20						CASING								
30			60	0									R.P.Q. 0.1 → 5MM	
40			80	0		BROKEN INTO ANGULAR GRAVEL							CLAY + CAL FILL	
50			90	0										
60			85	10										
70			95	45										
80			1	0		HEAVILY BROKEN								
90			1	0		BLOCKS MIXED UP								
100			1	0		10' OF CORE MISSING								

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>4</u>
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PROJECT _____	DRILL HOLE No. <u>149</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
210			80	10		100% Gouge. 				65		T.R.P. THIN CAL+LIM STAIN	
220			85	70						70 65			
230			100	75						70 70 65			
240			100	30						75 30 20			
250			100	15						75 30 20 20			
260			100	15						80 30 35			
270			100	35						80 35 5			
280			100	35						85 80 10			
290			100	45						85 80 5			
300			100	55						85 80 5			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>4</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>149</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
310			100	45									
320			100	85									
330			100	70									
340			100	65									
350			100	95									
360			100	85									
370			100	90									
380			100	75									
390													
400						O H 375							

OH 375

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u>
		SHEET <u>1</u> of <u>1</u>

PROJECT MOUNT POLLEY DRILL HOLE No. MP-89-148 REF. EL. _____ ANGLE FROM HORIZ. -90°
DATE JULY 29 CONTRACTOR J.T. THOMAS BEDROCK EL. _____ BEARING _____
LOGGED BY KEN McNAUGHTON CORE SIZE NQ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm) 30 100 300	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength
					PARTICULAR	GENERAL	PARTICULAR GENERAL					
10						CASING						
20			50	10		JOINTS @ 70-85° TO CA 6-10° TO SA						R, P, & 0-5mm POROUS TEXTURE IN Rock
30			85	0								
40			90	25								
50			90	10								
60			95	20						15 70		R, P, T SOME JOINTS OPEN 0-2mm. POROUS TEXTURE
70			95	45						15 70		
80			90	20						70		
90			90	30		JOINTS @ 60-85° 40-95°						
100			95	25								

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of	
PROJECT _____		DRILL HOLE No. <u>148</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS						
DEPTH (')	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
110			100	15		JOINTS @ 60 → 75° 30 → 40°						R.P. & W, Q O → 5MM POROUS OPEN TEXTURE MINOR SX	
120			100	20									
130			90	20									
140			100	10									
150			100	60									
160			90	22		MONZ POR							
170			90	45									
180			100	45									
190			95	50									
200			60	45		4' MISSING							

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>5</u> of <u> </u>
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PROJECT _____	DRILL HOLE No. <u>148</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL		3 10 30 100 300				PARTICULAR	GENERAL	
410			100	100						—	75 80 75			T ₅ R, P THIN CAL WASE	
420			100	100						—	70 75 70				
430			100	98						—	70 70 40				
440			100	55						#	20 80 80				
450			100	90						—	80 80				
460			100	85						—	80 80				
470			100	92		INTRUSION BRECCIA				—	65 65 65				
480			100	92						#	30 65				
490			100	97						I	2060 55				
500			100	65						#	2068 55				

PROJECT _____	DRILL HOLE No. <u>148</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength
					PARTICULAR	GENERAL	PARTICULAR GENERAL					
510			95	70				30	10	55		T ₅ R ₅ P THIN CAL WASH
520			100	80				30	10	55		
530			100	70				30	10	55		
540			100	97				30	10	55		
550			100	88				30	10	55		
560			100	55				30	10	55		
570			100	96				30	10	55		
580			100	100				30	10	55		
590			100	100				30	10	55		
600			100	98				30	10	55		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u>
		SHEET <u>7</u> of <u>7</u>

PROJECT _____	DRILL HOLE No. <u>148</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		30 100 300				Type, planarity, roughness, aperture, coatings, cement, strength	
					PARTICULAR	GENERAL						PARTICULAR	GENERAL
610			100	95					—	85		T ₃ R ₁ P ₃ CLEAN	
									—	80			
620			100	100					—	85			
									—	80			
630			100	100					—	85			
									—	80			
640			80	45		BROKEN TO ANGULAR GRAVEL [							
650			95	70				—	80				
660			100	100				—	60				
670			100	100				—	60				
								—	80				
680			100	100					—	55			
									—	85			
690			100	100					—	80			
700			100	100					—	85			
									—	40			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS						EXPLORATORY DRILLING - BEDROCK LOG								PROJECT No. <u>1624</u> SHEET <u>1</u> of <u>4</u>		
PROJECT <u>MOUNT POLLEY</u>						DRILL HOLE No. <u>MP-89-147</u>				REF. EL. _____				ANGLE FROM HORIZ. <u>-90°</u>		
DATE <u>JULY 27, 1989</u>						CONTRACTOR <u>J.T. Thomas</u>				BEDROCK EL. _____				BEARING _____		
LOGGED BY <u>TREVOR EAST</u>						CORE SIZE <u>NQ</u>				TOTAL LENGTH <u>400 FEET</u>				COORDINATES _____ N _____ E		
DRILLING INFO.					LITHOLOGY					ROCK MASS DEFECTS						
DEPTH (ft)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm) 10 30 100 300	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION			
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength			
						PARTICULAR	GENERAL									
0				0		CASING : sand + gravel.							bent seal			
10			50	0		Intrusion Breccia - chl etc cal. ep. clay minerals, veinlets fracture infill		MW					- altered fractured porous GW effects			
20		13'	100	0				to HW					- well broken			
30				10												
40				5												
50				20							45°		- br. sand seam			
60				70							45°					
70				5												
80				3									bent seal capped			
90				10							45°					

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>7624</u>	
										SHEET <u>2</u> of <u>9</u>	
PROJECT _____		DRILL HOLE No. <u>MP-89-147</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH (T)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
90			80	10										
100														
110			90	15		Int. Breccia				30°-45°		} sand filled fractures	pneumatic piezo installed @ 94'	
120			85	35						45°				
130			100	50										
140				50									bent seals (approx)	
150				30										
160				20										
170				5										
180				70						45°-60°		} much more competent		
190				65						45°-60°				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>4</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>MP-89-147</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH (T)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							PARTICULAR	GENERAL	PARTICULAR
190				40											
200			160								30° 45°			pneumatic drilled c/172	
210				70							30° 45°				
220				35							30° 45°				
230			90	10											
240			100	50							45° 60°				
250				75							70°				
260				55											
270				70			Syenodiorite - crosscutting qtz, cal. veins				45° 45°			clay alter epidote in fill	
280				85							60°			sent sent	
290											45° 80°				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>4</u>
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PROJECT _____	DRILL HOLE No. <u>MP-89-147</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
290													
300				58								R ₃ P. CAL + CAL	IC
												0-2mm	pneumatic piezo
												MINOR SX	installed @ 292'
310				35									
				60									
320													
				75		Monzonite Porphyry.							
330						- well fractured							
						- 5 to 10% fault gouge.							
340				0									
				18									
350													
				90	10								
360													
				90	12								
370													
				85	15								
380													
390				0									

DOMINANTLY
②
60 → 75° To CA
10 → 20° To CA

F O H 400'

ABON SX

R₃ P. CAL + CHL
0-2mm
MINOR SX
pneumatic
piezo
installed
@ 292'
Hole
caved
when installing
piezo.

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>7</u>
PROJECT <u>MOUNT RILEY</u> DATE <u>JULY 25, 1989</u> LOGGED BY <u>TREVOR EAST</u>	DRILL HOLE No. <u>MP-89-146</u> CONTRACTOR <u>JT Thomas</u> CORE SIZE <u>NQ</u>	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ FEET ANGLE FROM HORIZ. <u>-90°</u> BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS						
DEPTH (FT)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D. *	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	PARTICULAR
0													
5			30			CASING: No CORE RECOVERED							
20			100	45		Intrusion Breccia				45-60°		- Gw effects to ~ 50'	Slotted 1 1/2" standpipe installed to 700' Flushed water out with air line 5 times.
30				50						30-80°			
40				35						60-90°			
50				60						45-90°			
60				60						45-90°			
70				65									
80				40									
90				75						8°			
100				75						45°			

PROJECT _____	DRILL HOLE No. <u>MP-89-146</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm) 3 10 30 100 300	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength
					PARTICULAR	GENERAL						
					PARTICULAR	GENERAL						
100				70					///	26°		
110				60					///	26°		
120				70					///	45°		
130				50		133 _____ Angite Porphyry Dike			///	45°		
140				20		146.5 _____			///	30-45°		
150				60		Syenodiorite			///	45° ~60°		
160				50		164 _____			///	30-45°		
170				80		Angite Porphyry Dike - cal, gte veins			///	26°		
180				75		189.5 _____ Syenodiorite			///	45° 75°		etc @ 60° to ca.
190				75					///	60°		
200									///			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1521</u>	
							SHEET 3 of 7	
PROJECT _____		DRILL HOLE No. <u>MP-89-146</u>		REF. EL. _____		ANGLE FROM HORIZ. _____		
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____		
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E		

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
200				60				300	//	45°				
210								300	//	45°				
220				70		21k <u>Mafic Dike</u>		300	//	80°			etc @ 45° to ca.	
230				60		Syenodiorite		300	//	45°				
240				65				300	//	45°			SX, 15° to c.a. intense epidotization	
250				60				300	//	~45°				
260				60				300	//	~30°			- gouge (6")	
270				70				300	//	45°				
280				80				300	//	30°				
290				65				300	//	~60°				
300				65				300	//	~70°				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1624</u> SHEET <u>5</u> of <u>7</u>
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PROJECT _____	DRILL HOLE No. <u>MP-89-146</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
400				80						180°			
410										60°			
420				70						111			
430				70						60°			
440				70						60°			
450				80						80°			
460				55						720°			
470				65						220°			
480				70						60°			
490				70						80°			
500				85						80°			
core more competent													

core more competent

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>6</u> of <u>7</u>
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PROJECT _____	DRILL HOLE No. <u>MP-89-146</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL						PARTICULAR	GENERAL
500				65				100	///	45°			
510								100	///	76°			
520				70				100	///	30-45°			
530				80				100	///	~70°			
540				80				100	///	~70°			
550				60				100	///	45°			
560				70				100	///	45-60°			
570				75				100	///	20-60°			
580				80				100	///	30-60°			
590				35		10-15% is well broken in 4 1.5' segments @ ~45°/loc.		100	///	60°			clay alt.
600				50				100	///	45-60°			
								100	///	20-60°			
								100	///	10-30°			

10-15% is well broken
in 4 1.5' segments @ ~45°/lca.

clay alt.

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>7</u> of <u>7</u>	
PROJECT _____		DRILL HOLE No. <u>MP-89-146</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL		30 100 300				PARTICULAR	GENERAL
600				60							5°			
610											60°			
620				75							60°			
630				95							45°			
640				75							70°			
650				80							20° 60°			
660				40							60° 80°			
670				70		66-5'					45° 50°			
680				85		Monzonite Porphyry					30° 45°			
690				70		68'					45° 60°			
700				65		Intrusive Breccia					20° 45°			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>3</u>
PROJECT <u>MOUNT POLLEY</u> DATE <u>JULY 23/89</u> LOGGED BY <u>KJB</u>	DRILL HOLE No. <u>MP89-145</u> CONTRACTOR <u>JT Thomas</u> CORE SIZE <u>NO</u>	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH <u>300 FEET</u> ANGLE FROM HORIZ. <u>~ 80°</u> BEARING <u>~ S45E</u> COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH (F)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						PARTICULAR	GENERAL
0													
10'						cooling ↓							
20'			50%	10		Syenodiorite - weak to med epidotization - weak k-spar alter	SW					Joints, planar to rough, gtz, calcite infill, some epidote many drill induced breaks	
30'			90	10			SW 10W HW					- rubble from 10'-30' - occasional clay alteration	
40			100	40			SW			60° to 45°			
50			100	20			SW HW			30° 20°			
60			100	20		- chl veins	SW			20° 30°		- blocky core	
70			100	40		- ± cal & gtz veins	SW			70° 30° 60°		60-65" = rubble	
80			100	40			SW					- many joints healed with gtz & calcite but open after drilling. 1mm infill	
90			100	15			SW					- mostly rubble with few intact pieces over 4" length	
100			100	30								- calcite infill to 1mm thick - gtz, epidote - planar to rough, mostly tight & healed but open & broken by drill	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>3</u>	
PROJECT _____		DRILL HOLE No. <u>MP89-145</u>		REF. EL. _____		ANGLE FROM HORIZ. _____		
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____		
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
110			100	70				FS		30 20 40		Its planar to slightly wavy, sparse infill	
120			100	70				FS		40 30 20 20		fewer jts and less drill breakage. - chl. infill.	
130			100	60				FS		20		few near vert. jts & broken core	
140			100	85		136 _____	etc @ 45° to core	FS				- few tight jts healed w/ calcite	
150			100	90		Monzonite Porphyry		FS		30- 20			
						- wuggy calcite							
						- gts, calc veins.							
160			100	40 ?				FS		20		- steep jts & drill induced fracture.	
170			100	85				FS		20- 10		- tight jts infilled w/ chl or apatite & calcite up to 1mm thick.	
180			70	15								- some clayey infill (weathered)	
												} rubble	
190			70	70						30			
200			100	90									

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>3</u> of <u>3</u>	
PROJECT _____		DRILL HOLE No. <u>MP89-145</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
210			100	60			FS		+	10°		Wavy, tight, minor infill, intact core		
220			100	90		etc ——— 212 Angite Porphyry Dike	F		/	10 45		Wavy, tight, calcite, chl infill		
230			100	90			F		X	45 30		few jts.		
240			100	95			F		X	30°		intersecting jts (steep)		
250			100	60		etc ——— 246.5	F		+					
260			100	95		Monzonite Porphyry ~ 5% gte and v. calcite	F		—					
270			100	100			F		//			calcite infill, jts. healed.		
280			100	100			F		//					
290			100	80			F		/			core broken along vert. jts.		
300			100	100			F		—			steep jts well healed.		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u>	
						SHEET <u>1</u> of <u>2</u>	
PROJECT <u>MT. POLLEY</u>		DRILL HOLE No. <u>MP89-144</u>		REF. EL. _____		ANGLE FROM HORIZ. <u>VERT.</u>	
DATE <u>July 22/89</u>		CONTRACTOR <u>J.T. THOMAS</u>		BEDROCK EL. _____		BEARING _____	
LOGGED BY <u>KJB</u>		CORE SIZE <u>NO</u>		TOTAL LENGTH <u>200'</u>		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS					
DEPTH (ft)	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						PARTICULAR						GENERAL
						cooling to 5'						
10			100	15			SW			various		
20			100	20		Intrusion Breccia	SW			"		planar, smooth joints, many open, Fe staining, calcite infill, occasional clay infill
30			100	15		• pink to light grey • epidotization & groundwater effects to ~18'	SW			"		some chlorite infill, occasional joints healed w/ calcite - minor magnetite fracture cementing.
40			100	20		• core generally slightly to moderately broken throughout except where epidiorite present or only weakly k-spar alteration	SW			"		- many drill induced breaks.
50			100	20			SW					
60			100	25			SW					- very broken
70			100	20			N					} very broken
71.5'			100	95		Angite Porphyry Dike - pitted, chloritized, augite phenocrysts in green-gray v. fine groundmass	FS			40° 50°		planar, smooth, tight, calcite & chlorite infill.
79.5'			100	85			FS			45° 60°		
90			100	87			FS			45°		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of <u>2</u>	
PROJECT _____		DRILL HOLE No. <u>MP89-144</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			100	100		79.5-175' Syenodiorite - contact @ 45° to	SW		///	45°		planar, smooth, tight, cel: chl infill.		
120			100	70		core axis - m.g. light to med grey with pinkish hues & whites	SW		///	40° to 50°		- intersecting jts		
130			100	40		- variably k-spar altered - weak-med. epidotization = 3% gtz calcite veinlets	SW		///			- broken along vert jt.		
140			100	85		148'-175' - intense epidotization - clay mineral alteration + gtz - calcite infill	SW		///			- tight joints healed with calcite.		
150			100	95			SW		///					
160			100	30			W SW		///			} very broken with some sandy infilling.		
170			100	25			W		///			} gtz infilling. } very broken with some sandy material		
180			100	40		175' Augite Porphyry Dike - chilled etc @ 30° to ca. - minor (1%) calcite veinlets	W		///			- Fault gouge = 6cm thick		
190			100	45		184.5 Syenodiorite - broken etc = 5% gtz calcite veinlets			///			- rubble zones		
200			100	50		195-196.5' Augite Porphyry Dike @ ~30° to c.a.			///			- fault gouge		

Knight and Piccolo Ltd.

Project : _____ Project No : _____
 Calculations for : _____ Date : _____
 Calculations by : _____ Sheet _____ of _____
 Checked by : _____ Date : _____

MP 89-143

Summary of Point Load Test Readings

Depth	Reading (psi)	Rock Type
18'	1850	Intrusion Breccia
30'	1250	" "
40'	1700	" "
50'	1900	" "
150-200'	3600-3200	Syenodiorite
200-246	1800-2200 (ave 1900)	Intrusion Breccia
246-271	2600-3000	Angite Porphyry Dike
271-346	1700-2200 (ave 1900)	Intrusion Breccia

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>4</u>
PROJECT <u>MOUNT POLLEY</u> DATE <u>JULY 20</u> LOGGED BY <u>KEN M. NAUGHTON</u> DRILL HOLE No. <u>MP-89-141</u> CONTRACTOR <u>J.T. THOMAS</u> CORE SIZE <u>NQ</u> REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. <u>-90</u> BEARING _____ COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.								Type, planarity, roughness, aperture, coatings, cement, strength
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
20						0-20 CASING								
30			35	30				MW						R, Q .1-5MM LIM + CAL + ZEO
40			75	15										
50			95	15			BROKEN INTO 5-10CM BLOCKS RANDOM ORIEN.							
60			80	10										
70			85	15				FS						R, P, T .1-2MM CAL + ZEO
80			100	60										
90			100	20			BROKEN							R, Q .1-3MM QTZ + CAL + ZEO FILL 5-15% FAULT GOUGE. CHL + HEM ON MOST FRAC.
100			85	15			60 → 80° To CA 45°							
110			90	0			0 → 20° To CA.							
120			85	0										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>4</u> of <u>4</u>	

PROJECT _____	DRILL HOLE No. <u>141</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
330			100	60								P, R, Q .1-5mm.		
340			100	80		HEAVILY FRACT. (C)						CAL, QIZ, FEM, TALL + ZEO		
350			100	50		45° OPPOSED To C.A.								
360			100	50										
370			100	0		RANDOM FRACT.								
380			90	25		1.5 - 10cm BLOCKS								
390			100	80		60-75° To CA						T, R, P THIN CAL + CHL		
400			100	70		30-50° To C.A.						+ P _y		
F.O.H.														

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>2</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>140</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							
						PARTICULARGENERAL						PARTICULARGENERAL	
120			90	10			FR					RP, Q 0-2mm	CHLICAL FILL
130			95	70		HEAVILY BROKEN							
140			95	43		INTO 3-10 CM BLOCKS							
150			100	35		75-85° TO CA.							
160			100	35		ADDITIONAL FRAC.							
170			95	25		15-30° TO CA.							
180			80	50			HW					FRACT ZONE WITH HEAVY	LIMONITE STAIN
190			80	25								R, P, T THIN CALICAL FILL	
200			100	50									
210			100	80		F.O.H 218							

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>7</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>138</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL							PARTICULAR	GENERAL
20			100	60				FR						TJR, P, THIN CAL+ CIL FILL	
220			100	94											
230			100	90											
240			100	100											
250			100	55			HEAVILY BROKEN @ 60-65° To CA 15-30° To CA								
260			95	50											
270			100	85											
280			100	100											
290			95	85			BROKEN TO PEA SIZED GRAVEL								
300			100	75										CLAY. CAL. SX	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>7</u> of <u>7</u>	
PROJECT _____		DRILL HOLE No. <u>138</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL	
610			100	96				FR		80 85 75 80 70 75 70	30			T ₅ R, P THIN CHL + SULPHIDES
620			100	96						70 75 70	30			
630			100	100						80 75 70 70	10			
640			100	94						70 60 70 60	30 30			
650			100	55						60 65 60	30 30 30			
660			100	35						70 60 60	30 30 30			
670			160	75		MONZ POR #2				60 70 60	30 30			
680			100	96						65 70 70	30 30 30			
690			160	95						70 75 70	30 30 30			
						E.O.H.								

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>6</u>
PROJECT <u>MOUNT POLLEY</u> DRILL HOLE No. <u>MP-89-132</u> REF. EL. _____ ANGLE FROM HORIZ. <u>-90°</u> DATE <u>JULY 15</u> CONTRACTOR <u>J.T. THOMAS</u> BEDROCK EL. _____ BEARING _____ LOGGED BY <u>REN McNAUGHTON</u> CORE SIZE <u>NQ</u> TOTAL LENGTH _____ COORDINATES _____ N E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
10						0-7 CASING.							R, Q .1 → 2mm	
20			90	75		MONZ POR INT. BRECCIA	MW						.1-2mm CAL CHL Py Free	
30			90	35										
40			100	5										
50			90	60										
60			90	20										
70			100	60										
80			100	25										
90			100	15										
100			90	10										

HEAVILY BROKEN
.5 - 30cm BLOCKS
DOMINANT JOINTS @
60 → 70° To CA.
30 → 45° To CA.

FS

HEAVILY BROKEN
DOMINANTLY @ 70-80° To CA
20-30° To CA

BROKEN
TO 1/2" GRAIN

.1-1.5mm Qtz, CAL CHL.
LOCAL Sx.

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>137</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Particular	General
110			100	32		HEAVILY-FRACT. @ 10-25° TO CA. MINOR 60-70 TO CA							R, P, T 0-3M CHL, CAL FILL ABUND. SX S, P, T 0-5M CAL + R, SX	
120			100	55										
130			100	35										
140			100	35										
150			100	35									T, R, P 0-2M CAL + CHL	
160			100	95										
170			100	100										
180			100	100										
190			100	90										
200			100	100										

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621SHEET 4 of 6

PROJECT _____ DRILL HOLE No. 137 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL	3 10 30 100 300				PARTICULAR	GENERAL
310			100	70			FR					T, R. O - 21114 CALY CHL	
320			100	55									
330			100	95									
340			100	45									
350			100	40									
360			100	95		MONZ POR.							
370			100	35									
380			100	70		MONZ POR INTRUSION BRECCIA							
390			100	50									
400			75	50									

MONZ POR.

MONZ POR INTRUSION BRECCIA

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>5</u> of <u>6</u>							
PROJECT _____ DATE _____ LOGGED BY _____		DRILL HOLE No. <u>137</u> CONTRACTOR _____ CORE SIZE _____		REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____		ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E								
DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc. PARTICULAR GENERAL							Type, planarity, roughness, aperture, coatings, cement, strength PARTICULAR GENERAL	
410			100	30		HEAVILY BROKEN @ 10-30° To C.A. → 65 → 80° To C.A.		FR					P, T, R, 0 - 2mm CAL + CHL	
420			100	50		HEAVILY BROKEN INTO 2" → 6" BLOCKS DOMINANTLY @ 15 → 30° To C.A. 60 → 80° To C.A.								
430			100	75										
440			100	40										
450			100	30										
460			100	35										
470			100	55										
480			100	45										
490			100	50										
500			100	50				✓						

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of <u>7</u>	

PROJECT _____	DRILL HOLE No. <u>136</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			100	95			FR	30	30	30		T ₁ R ₂ P ₃ 0 → 1MM CAL + CHL FILL		
120			100	85				30	30	30				
130			100	80				30	30	30				
140			100	95				30	30	30				
150			100	98				30	30	30				
160			100	85				30	30	30				
170			100	100				30	30	30				
180			100	95				30	30	30				
190			100	90				30	30	30				
200			100	95				30	30	30		✓		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>7</u>
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PROJECT _____	DRILL HOLE No. <u>136</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Particular	General
260			100	80				FR						T ₅ R, 0-3mm QZ CAL FILL
220			100	95										
230			100	70										
240			100	70										
250			100	37										
260			100	80										
270			100	75										
280			100	55										
290			100	50										
300			100	85										

BROKEN TO
PEA SIZED GRAVEL
CHL SHEAR.
CHLZED SX

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 5 of 7

PROJECT _____ DRILL HOLE No. 136 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
410			100	35						60		T, R, O → 2mm CALIBRED FILE	
420			100	27						70			
430			100	25						20			
440			90	10		MONIZ POR #2				5			
450			95	45						60			
460			100	35						60			
470			100	65						60			
480			100	30						45			
490			100	70						45			
500			100	80						45			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>6</u> of <u>7</u>	

PROJECT _____	DRILL HOLE No. <u>136</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
510			100	90			FR	30	20	85		T ₃ R, 0 - .2 CAL FILL		
520			100	96				85	40	85				
530			100	98				85	30	85				
540			100	100				85	10	85				
550			100	85				85	70	85				
560			100	100				85	60	85				
570			100	90				85	30	85				
580			100	90				85	60	85				
590			100	60		BROKEN TO PEA SIZED GRAVEL	E	85	30	85				
600								85	20	85				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>1</u> of <u>5</u>	
PROJECT <u>MOUNT POLLEY</u>		DRILL HOLE No. <u>MP-B9-135</u>		REF. EL. _____		ANGLE FROM HORIZ. <u>-90°</u>					
DATE <u>JULY 13</u>		CONTRACTOR <u>J.T. THOMAS</u>		BEDROCK EL. _____		BEARING _____					
LOGGED BY <u>KEN McNAUGHTON</u>		CORE SIZE <u>NQ</u>		TOTAL LENGTH <u>505</u>		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
10						CASING								
20			70	40		ALTERED DIORITE		(MW)						
30			95	10		BROKEN TO 15 → 50M BLOCKS JOINTS @ 30→40° TO CA. 60°, 0°								
40			90	50										
50			90	80										
60			100	60		BROKEN TO 75 PEA SIZED GRAVEL		(FS)						
70			100	90										
80			100	80										
90			100	80										
100			100	40		GOUGE WITH CHL FILL								

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>4</u>
PROJECT <u>MOUNT POLLEY</u> DRILL HOLE No. <u>MP-89-133</u> REF. EL. _____ ANGLE FROM HORIZ. <u>90°</u> DATE <u>JUNE 28</u> CONTRACTOR <u>J.T. THOMAS</u> BEDROCK EL. _____ BEARING _____ LOGGED BY <u>KEN McNAUGHTON</u> CORE SIZE <u>NQ</u> TOTAL LENGTH <u>400</u> COORDINATES _____ N E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							PARTICULAR	GENERAL
10						0-6 CASING. DIORITE		FS						
20			80	20						115 70 80				TSS, P ₃ ol → .2MM CALZED FILL
30			100	70						70 80				
40			100	90						80 90 45 45				
50			100	60						80 80				
60			100	95						80 45 45				
70			100	98			HEAVILY FRACT. JOINT SETS @ 60 → 70° TO CA 20-30° TO CA.			20 20 80 80 5 50 70				
80			100	50										
90			100	50										
100			100	45			MONZ POR			60 70 80 95 70 70				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>4</u>	
PROJECT _____		DRILL HOLE No. <u>133</u>		REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____	
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E	

DRILLING INFO.					LITHOLOGY	ROCK MASS DEFECTS								
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			100	35		MONZ POR	FR		70	5		T, R, FE FE, CAL WASH		
120			100	35					70	45				
130			100	45		ALTERED DIDRITE			45	60				
140			100	80					70	30				
150			100	75					5	70				
160			100	95					70	70				
170			100	90					30	80				
180			100	95					70	30				
190			90	80					70	50				
200			100	50					30	30				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>4</u>
PROJECT _____ DATE _____ LOGGED BY _____	DRILL HOLE No. <u>133</u> CONTRACTOR _____ CORE SIZE _____	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH _____ ANGLE FROM HORIZ. _____ BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
PARTICULAR						GENERAL			3 10 30 100 300				PARTICULAR	GENERAL	
210			100	80		DIORITE		FR			70 30 60 60 40 40 20 5			T ₃ R, THIN CALCITE	
220			100	70							30 60 60 40				
230			100	60							60 60 40				
240			100	60							60 60 20 5				
250			100	95							60 60 60				
260			100	65							40 30 30 30				
270			100	60							20				
280			100	60		100% Gouge					0 45 45 45 45				
290			100	70							5 45				
300			100	100							30 30 95				

KNIGHT AND PIÉSOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>4</u> of <u>4</u>	
PROJECT _____		DRILL HOLE No. <u>133</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
310			100	100		DIORITE	FR			45 -10		TJR, 1-2MM CAL-ZEO		
320			100	100						30		1-2MM LEACHED DIORITE		
330			100	100						60 30		FORMS SLIMEY MUD ON FRACT.		
340			100	98						55-40 40				
350			100	98						20 60				
360			100	100						60-10 45				
370			100	90						45 45 10 10				
380			100	90						70 70 20 10 25				
390			100	100						60 45 30 45				
400			100	95						60 45 60 45 60				

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET / of 3

PROJECT MOUNT POLLEY DRILL HOLE No. MP-81-132 REF. EL. _____ ANGLE FROM HORIZ. -90°
DATE JUNE 28 CONTRACTOR J.T. THOMAS BEDROCK EL. _____ BEARING _____
LOGGED BY KEN McNAUGHTON CORE SIZE NQ TOTAL LENGTH 300 COORDINATES _____ N

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		0-10 10-30 30-100 100-300				Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULARGENERAL						PARTICULARGENERAL	
10						CASING							
20			90	10		HEAVILY FRACT.	FS					R, Q .1-2MM	
30			100	0		80% 1-3" BLOCKS,						CAL, CHL, ZEO FILL	
40			100	15		DOMINANT JOINTS @							
50			100	25		60-80% To L.A.							
60			100	15		45° To C.A.A.							
70			100	40									
80			100	15									
90			100	15									
100			100	10									

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG						PROJECT No. <u>1621</u>	
								SHEET <u>2</u> of <u>3</u>	
PROJECT _____		DRILL HOLE No. <u>132</u>		REF. EL. _____		ANGLE FROM HORIZ. _____			
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____			
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E			

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			100	65		INTRUSION BRECCIA		FR					T ₅ R ₅ P ₅ 0.1-2mm ZEO FILL	
120			90	0		HEAVILY FRACT.								
130			100	32		DOMINANT JOINT SET @ 60-75° TO CA 45° TO C.A.								
140			100	45										
150			100	20		MAFIC DYKE		80° L. BOUGE						
160			60	10										
170			100	0										
180			100	35		ALTERED DIORITE								
190			100	40										
200			100	0										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u>	
						SHEET <u>3</u> of <u>3</u>	
PROJECT _____		DRILL HOLE No. <u>131</u>		REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____	
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Particular Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.	General						Particular	General
210			100	35		DIORITE		FR					T ₅ R ₁ - 1 - 2mm cal, 2EO, chl fill	
220			100	0										
230			100	20										
240			100	85										
250			100	25										
260			100	35										
270			100	75										
280			100	45										
290			100	85										
300			100	90										

BROKEN TO REAST
GRAVEL

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>5</u>
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PROJECT _____	DRILL HOLE No. <u>13φ</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
210			100	57		INTRUSION BRECCIA.	60' 1.60UGLE	FR	90	20		T ₂ R, 1-5MM CAL, CH, ZED	Sx LOCALLY
220			100	90					30	70			
230			100	90					45	30			
240			100	95					10	45			
250			100	70					10	45			
260			90	35		BROKEN TO 25- 4" BLOCKS			90	20			
270			90	15		100' 1.60UGLE.			80	20			
280			100	45					140	20			
290			100	80					45	20			
300			100	55					50	60			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>5</u>
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PROJECT _____ DRILL HOLE No. 131 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
310			100	35			FR		45	70		T ₅ R ₅ .1-2 MM ITEM, CAL	
320			100	58					45	70		MINOR SX	
330			100	50					40	70			
340			100	20					4	70			
350			100	10		HEAVILY FRACT			30	70			
360			100	30		Py, CAL SX ON MOST SURFACES							
370			100	30		DOMINANT JOINT SETS							
380			80	10		① 60 → 80°, 30 → 45°							
390			80	0									
400			100	25		100' 1.600 GE							

PROJECT _____ DRILL HOLE No. 131 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 E

[illegible]

DRILLING INFO.						LITHOLOGY	ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc. PARTICULAR GENERAL	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength PARTICULAR GENERAL	
210			90	15		BROKEN TO PEA SIZE GRAVEL. HEM + CHL SX	K _s	30 30 30 100 300		70% 80% 45% 100%		R, Q . 1-1mm HEM, CH, ZEO SX locally.	
220			100	35						45% 70% 70% 100% 60%			
230			100	10		BROKEN TO GRAVEL 5% GOUGE							
240			100	30		HEM + ZEO SX							
250			100	5		RANDOM IRREGULAR BLOCKS • 5 - 4" BLOCKS.							
260			100	30		10% GOUGE							
270			100	45						80% 90% 30% 60% 60% 58% 40% 80% 55% 80% 80%			
280			100	80						80% 40% 80% 80%			
290			100	70						80% 40% 80% 80%			
300			100	65						80% 40% 80% 80%			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>4</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>130</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength
						PARTICULAR	GENERAL					
310			100	65		BROKEN TO GRAVEL	F ₈₅	70	80			T ₃ R ₃ VERY THIN CAL. ZED
320			100	50		INTENSE CHL. ALT.	F ₇₀	40	50			
330			100	62				90	50			
340			100	5		BROKEN TO GRAVEL .5 - 3" BLOCKS.			85			
350			100	0		DOMINANT JOINTS @ 80°, 45° TO L.H.			70			
360			100	50				30	60			
370			100	87				20	80			
380			100	85				40	80			
390			100	60				20	80			
400			100	35				30	70			

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 6 of 6

PROJECT _____ DRILL HOLE No. 130 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
510			100	55				FS	30	45			T ₃ R ₃ THIN P ₃ CHL	
520			100	98					30	45				
530			100	85					30	45				
540			100	85					30	45				
550			100	70					30	45				
560			100	75					30	45				
570			100	90					30	45				
580			100	90					30	45				
590			100	95					30	45				
600			100	96					30	45				

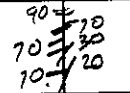
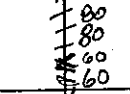
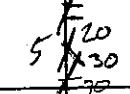
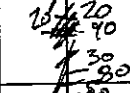
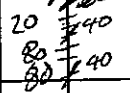
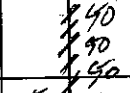
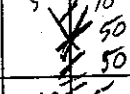
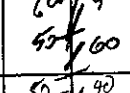
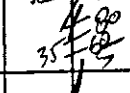
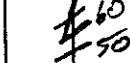
KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>4</u>
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PROJECT _____	DRILL HOLE No. <u>129</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			100	60				FR					T ₅ R ₅ P ₅ THIN CAL CHL BED FILL	
120			100	85										
130			100	85			6" GOUGE ZONE → E							
140			100	75										
150			100	85										
160			100	70			SINUOUS FRACT.							
170			100	60			1-3CM WIDE @ 070CA CAL, CHL FILL AND GOUGE ON BOTH SIDES							
180			100	65			BROKEN TO GRAVEL							
190			100	80			TALC-CHL SX							
200			100	65										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>7</u>
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PROJECT _____	DRILL HOLE No. <u>128</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL							PARTICULAR	GENERAL
310			100	90		MONZ POR		FR					T ₃ R ₃ THIN CAL + CHL		
320			100	98											
330			100	80											
340			95	65		60% GRAVEL L									
350			100	70											
360			100	45											
370			100	35											
380			100	44											
390			100	87											
400			100	95				V					V		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG		PROJECT No. <u>1621</u>
			SHEET <u>5</u> of <u>7</u>

PROJECT _____	DRILL HOLE No. <u>128</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL	50 30 100 300				PARTICULAR	GENERAL
410			100	100			FR			70 70 70		T, R, THIN CAL + CHL.	
420			100	85						30 45 30 70 80 80			
430			100	96						40 40 70 60			
440			100	96						30 45 80 30 30			
450			100	97						80 20 30 80			
460			100	100						150 70 50 50 10			
470			100	98						70 20 35 40 30			
480			100	100						100 10			
490			100	100						10 30 40 40			
500			100	55						40			
						RANDOMLY BROKEN INTO ANGULAR BLOCKS.		[	✓	[			✓

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS						EXPLORATORY DRILLING - BEDROCK LOG								PROJECT No. <u>1621</u> SHEET <u>6</u> of <u>7</u>	
PROJECT _____				DRILL HOLE No. <u>128</u>				REF. EL. _____				ANGLE FROM HORIZ. _____			
DATE _____				CONTRACTOR _____				BEDROCK EL. _____				BEARING _____			
LOGGED BY _____				CORE SIZE _____				TOTAL LENGTH _____				COORDINATES _____ N _____ E			
DRILLING INFO.					LITHOLOGY					ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength			
					PARTICULAR	GENERAL				PARTICULAR GENERAL					
510			100	98		INTRUSION BRECCIA	FR				T ₅ R ₅ P THIN CAL + GRL FILL				
520			100	92											
530			100	100											
540			100	100											
550			100	98											
560			100	100		ANIGITE POR									
570			100	100											
580			100	98											
590			100	98											
600			100	100			↓				✓				

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 7 of 7

PROJECT _____ DRILL HOLE No. 128 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N

[illegible]

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG		PROJECT No. <u>1621</u>
			SHEET <u>2</u> of <u>7</u>

PROJECT _____	DRILL HOLE No. <u>127</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						PARTICULAR	GENERAL
110			100	95			FR	30	85	45		T ₃ R, THIN CAL + CHL FILL L ₅₀ UP TO .2 MM	
120			100	90					90	40			
130			100	100					90	30			
140			100	100					480	30			
150			100	100					30	30			
160			100	98					30	30			
170			100	100					60	25			
180			100	95					60	25			
190			100	100					60	20			
200			100	85					80	30			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>2</u>
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PROJECT _____	DRILL HOLE No. <u>127</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
210			95	35		BROKEN TO PEA SIZED GRAVEL AND COARSE	I		80			T, S, P, CHL, CAL, FEN SX	
220			100	55					45				
230			100	60					45			T, R, THIN CAL, CAL FILL	
240			100	100					45				
250			100	100					60				
260			100	100					60				
270			100	90					50				
280			100	65		MONZ POR BRECCIA	T		30				
290			100	90					20				
300			100	100			V		50				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>5</u> of <u>8</u>
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PROJECT _____	DRILL HOLE No. <u>127</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		70 30 100 300				PARTICULAR	GENERAL
						PARTICULAR	GENERAL						
410			100	100			FR			130 140 160 130		T, R, P, THIN LAL, LAL,	
420			100	100						160 120 160			
430			100	100						80 80 55			
440			100	100						80 80 80			
450			100							80 80 70			
460			100							70 70 80			
470			100							60 40 40			
480			100			MAFIC DYKE				70 60 60			
490			100							80 30 80			
500			100							80 60 60			

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>				
										SHEET <u>6</u> of <u>7</u>				
PROJECT _____		DRILL HOLE No. <u>127</u>		REF. EL. _____		ANGLE FROM HORIZ. _____								
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____								
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E								
DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.							PARTICULAR	GENERAL
510			100	100		SYENODIORITE		FR	30 50 100 300	+80 +80 +70			T, R, P, THIN CHL + CPY	
520			100	100						+80 +50				
530			100	95						60 60 +45 +60				
540			100	100						+70 +70 +60 +60				
550			100	65						+70 +70 +60 +60				
560			100	75						70 70 +70 +70				
570			100	80						80 80 +50 +30				
580			100	95						+40 +40 +30 +30				
590			100	100						+80 +80 +80				
100			100	100						+80 +70 +70				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG		PROJECT No. <u>1621</u>
			SHEET <u>2</u> of <u>6</u>

PROJECT _____	DRILL HOLE No. <u>126</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
110			100	90			FR					T, R, THEN CHL.	
120			100	95									
130			100	90									
140			100	92									
150			100	99									
160			100	85									
170			100	80									
180			100	60									
190			90	55		90% GROUND							
200			100	45									

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 3 of 6

PROJECT _____ DRILL HOLE No. 126 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.			30 10 30 100 300				Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
210			95	15				FS			30 70 0		T, R, P, THIN CAL + HCL FILL	
													LOCALLY THIN CAL + ZEO FILL	
220			95	25							70 30 60 60 45 45 60			
230			100	55							45 45 60 70			
240			100	85							60 30 60 80			
250			100	85							0 40 80 60			
260			100	35			80% GOUGE BROKEN TO GRAVE				20 20 70 0			
270			100	55							20 60 60 60 50 70			
280			100	45										
290			100	25			RANDOMLY BROKEN 1 STRONG JOINT SET @							
300			100	50			0-10° To CA.							

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>6</u>
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PROJECT _____	DRILL HOLE No. <u>126</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength
						PARTICULARGENERAL		30 50 100 300				PARTICULARGENERAL
310			100	93			FR			45 45 30 45		T, R, CLEAN
320			100	65		80% 60% 60%				70 45 70		
330			100	65						30 45 45 70 60		
340			100	95						70 40 40		
350			100	100						80 80 80		
360			100	80						20 80 20		
370			100	100						40 60 60		
380			100	100						50 70 80		
390			100	100						80 40		
400			100	100						80 90		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>5</u> of <u>6</u>
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PROJECT _____	DRILL HOLE No. <u>126</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength	
PARTICULAR						GENERAL	PARTICULAR						GENERAL
410			100	98		MONZ POR INTRUSION BRECCIA	FR			70		T ₃ R ₁ P, THIN CAL FILL	
420			100	100						70			
430			100	50		MONZ POR				45			
440			100	70						30			
450			100	100						80			
460			100	100						80			
470			100	100		INTRUSION BRECCIA				70			
480			100	100						70			
490			100	160						80			
500			100	160						40			

PROJECT _____ DRILL HOLE No. 126 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc. PARTICULAR GENERAL	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength PARTICULAR GENERAL
510			100	100			FR			60		
520			100	50						60		
530			100	25		MAFIC HEAVILY BROKEN TO GRAVEL				60		T, R AND S., TALL CHL FIL
540			100	15		DYKE 20-30% GOUGE →				60		
550			100	10						90		
560			100	35						10		T, S, HEM SX
570			100	25						70		
580			100	100						50		
590			100	100						30		
600			100	95						40		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>5</u>
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PROJECT _____	DRILL HOLE No. <u>125</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength
						PARTICULARGENERAL						PARTICULARGENERAL
110			100	35								
120			100	50								
130			100	20		HEAVILY FRACT. 20-30% FAULT LOOSE KENDON BREAKAGE						
140			90	0		AUGITE POR.						
150			90	0								
160			160	25		HEAVILY FRACT. DOMINANTLY @ 20-30° & 60-80°						
170			100	25								
180			100	35		R, Q .1 → 1cm WITH SLIMY TALC-BED. FILL						
190			100	35								
200			100	35								

HEAVILY FRACT.
20-30% FAULT
LOOSE
RANDOM BREAKAGE

AMBI
POR.

HEAVILY FRACT.
DOMINANTLY @ 20-30°
& 60-80°

R, Q. 1 → 1cm WITH
SLIMY TALC-BED. FILL

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>5</u> of <u>5</u>
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PROJECT _____	DRILL HOLE No. <u>125</u>	REF. EL. _____	ANGLE FROM HORIZ. _____
DATE _____	CONTRACTOR _____	BEDROCK EL. _____	BEARING _____
LOGGED BY _____	CORE SIZE _____	TOTAL LENGTH _____	COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.O.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength
						PARTICULARGENERAL						PARTICULARGENERAL
410			100	50								T ₃ P ₃ R ₁ THIN CAL + CHL ISOLATED FRACT. WITH 0.5CM TALC-ZEO. FILL
420			100	95								
430			100	85								
440			100	65								
450			100	65								
460			100	25								
470			80	15								
480			90	0								
489			40	0								
						EOH.						

BROKEN TO
GRAVEL

EOH.

PROJECT _____ DRILL HOLE No. 124 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		30 100 300				Type, planarity, roughness, aperture, coatings, cement, strength .	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
110			100	25		INTRUSION BRECCIA	HEAVILY BROKEN IRREGULAR	Fs				T, S, P, .1 → ZHA CAL + FE STAIN	
120			90	15									
130			70	20									
140			100	50									
150			100	35									
160			100	47									
170			90	35									
180						HEAVILY BROKEN TO GRAVEL							
190													
200													

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 2 of 2

PROJECT _____ DRILL HOLE No. 123 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength
					PARTICULAR	GENERAL	PARTICULAR GENERAL					
110			100	55			FS	30	70			T, B, P, THIN CAL, FE, Mg STAIN
120			100	47				30	70			↓
130			90	35				30	70			
140			90	0		BROKEN 50-60% PEA SIZE GRAVEL		30	70			
150			95	10				30	70			
160			90	25				30	70			
170			100	60				30	70			T, R, P, THIN CAL, FE, Mg STAIN
180			85	35				30	70			↓
190			80	10		BROKEN TO MARBLE SIZED PIECES		30	70			
						E.O.L.	V					

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>5</u>
PROJECT <u>MOUNT POLLEY</u> DATE <u>KEN McNAUGHTON</u> LOGGED BY <u>JUNE 21</u> <u>HAPPY SOLSTICE DAY</u>	DRILL HOLE No. <u>MP-8Y-122</u> CONTRACTOR <u>J.T. THOMAS</u> CORE SIZE <u>NQ</u>	REF. EL. _____ BEDROCK EL. _____ TOTAL LENGTH <u>510'</u> ANGLE FROM HORIZ. <u>-90°</u> BEARING _____ COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
							Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		30 50 100 300					Type, planarity, roughness, aperture, coatings, cement, strength
40			90	45			0-30 CASING SYENODIORITE	FS		50/30				T, R, VERY THIN CHL+ FIE STAIN
50			100	55						30/20				
60			100	65				FW		30/80				
70			70	35			80-90 % GOUGE LEACHED, OXIDIZED SULPHIDES							
80			80	5										
90			100	55				FS		70/30				
100			100	85						30/70				
110			100	90						15/55				
120			100	50						30/20				
130			100	78						0/45				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>2</u> of <u>5</u>	
PROJECT _____		DRILL HOLE No. <u>122</u>		REF. EL. _____		ANGLE FROM HORIZ. _____		
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____		
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY	ROCK MASS DEFECTS								
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
140			100	35		INTRUSION BRECCIA		FR	50	50			R, Q .1 → 2CH, LEACHED OPEN BREAK WITH OXIDE FILL	
150			100	80					100	100				
160			80	37			RANDOM IRREG. BREAKS INTO ROUNDED FRAG.		100	100				
170			100	80					100	100				
180			100	80					100	100				
190			100	72					100	100				
200			100	60					100	100			R, S P, THIN CIL, FE STAIN.	
210			100	86					100	100				
220			100	65					100	100				
230			100	85					100	100				

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 4 of 5

PROJECT _____ DRILL HOLE No. 122 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL		300 100 30 10				PARTICULAR	GENERAL
340			100	92						100			T, R, P, TAIN CAL+C.H.C.	
350			100	100						130				
360			100	95						100				
370			100	90						120				
380			100	92						100				
390			100	96						135				
400			100	96						180				
410			100	97						100				
420			100	30						100				
430			100	35						100				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>5</u> of <u>5</u>	
PROJECT _____		DRILL HOLE No. <u>122</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
440			100	55		VOLCANIC BRECCIA	FR		150			T, R, P, THIN CAL + CHL		
450			100	20		BROKEN TO PEA SIZED GRAVEL			150					
460			100	97					130					
470			100	100					150					
480			100	100					140					
490			100	100					145					
500			100	100					145					
510			100	100					145					

W.O.F.

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KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>		SHEET <u>2</u> of <u>6</u>	
PROJECT <u>M.P.</u>		DRILL HOLE No. <u>121</u>		REF. EL. _____		ANGLE FROM HORIZ. _____				
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____				
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E				

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
110			100	25		INTRUSION BRECCIA		FS				60-70	K. Q. 1-1CM, FE, CHL, LEACHED CAL. FILL	
						BROKEN TO GRAVEL						30-40	R. Q. 1.5-1CM FE, CHL	
120			100	35		DIORITE CONTACTS SHEARED OUT.							LEACHED CAL, HEM. SX	
						STRAINED - LEACHED								
130			100	65										
140			100	55										
150			100	45										
160			100	55										
170			100	45										
180			100	55									T ₂ 1/2 R, 1/2 S, THIN CHL. FILL	
190			100	55										
200			100	55										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>6</u>
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PROJECT _____ DRILL HOLE No. 121 REF. EL. _____ ANGLE FROM HORIZ. _____
 DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
 LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
 E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL		3 10 30 100				PARTICULAR	GENERAL
210			100	60		INTRUSION BRECCIA AUGITE POR DIKE CONTACTS @ 30° TO C.A.		FR					T, S, THIN CIL + FE	
220			100	80										
230			100	70										
240			100	25										
250			100	35										
260			100	30										
270			100	60		INTRUSION BRECCIA		FS						
280			100	55										
290			100	55										
300			100	75										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>			
										SHEET <u>4</u> of <u>6</u>			
PROJECT _____					DRILL HOLE No. <u>121</u>					REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____					CONTRACTOR _____					BEDROCK EL. _____		BEARING _____	
LOGGED BY _____					CORE SIZE _____					TOTAL LENGTH _____		COORDINATES _____ N E	

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.	PARTICULAR						GENERAL	PARTICULAR
310			100	80				FR	30 100 300	70 45 70				T, S, THIN CHL, FE STAIN
320			100	45		] AUGITE POR.			45 30	70 50				- CHL, SX, TALC.
330			160	45			FR	60 20	70 20					
340			100	80		FRACT. 1-2CM QZ-FILL	E		15 20	70 20				
350			100	68					160 20	70 70				
360			100	80					60 45 40 45	70 70 70 70				
370			100	75					0 70 70	70 70 70				- 0° & 1-2MM, OPEN QZ FILL
380			100	75					45 70 70	70 70 70				
390			100	96					40 70 70 45	70 70 70 70				
400			100	95					40 70 70 30	70 70 70 70				

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>6</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>121</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Particular	General
510			95	23				FS						R, Q. 1mm - 2cm, CAL + Qtz fill CHL + TALC SX
520			100	67										
530			100	73										
540			100	75										R, P, T, & THIN CAL + CHL + FE STAIN
550			100	70										
560			100	43										
570			100	50										
580			100	75										
590			100	85										
600			100	72										

VERI Ring Core
IN REG. T. KAL.

FAH

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 1 of 4

PROJECT MOUNT POLEY DRILL HOLE No. MR-89-120 REF. EL. _____ ANGLE FROM HORIZ. -90°
DATE JUNE 19 CONTRACTOR J.T. THOMAS. BEDROCK EL. _____ BEARING _____
LOGGED BY KEN McNAUGHTON CORE SIZE NQ TOTAL LENGTH 400' COORDINATES _____ N

[illegible]

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 4 of 4

PROJECT _____ DRILL HOLE No. 120 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL	30 10 30 100 300				PARTICULAR	GENERAL
310			100	75		Diorite	FS					R ₁ THIN CAL+CHL FIL	
320			100	35								S ₁ & .1-2MM, TALC, CAL, HEM FILL SLIMY FILL RANDOM FRACT.	
330			100	37									
340			100	75									
350			100	85									
360			100	85									
370			100	60		TALC, CAL, CHL FIL HIGHLY FRAC.							
380													
390													
400													

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
10			0	0		CASING.		FS						
20			90	22		CROWDED MONZ POR. WEAK K-SPAR ALT.								R, T ₃ THIN CHL
30			100	30										
40			100	65										
50			95	60		SPARSE FRACT. WITH 1-2MM QTZ CEMENT.								
60			95	70										
70			85	45										↓
80			100	55		RANDOM, IRREGULAR FRACT. HEM + WEAK MAL.								R, T ₃ HEM, CAL, TALC, WEAK SX
90			90	60										↓
100			90	55				V						↓

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of <u>4</u>	
PROJECT _____		DRILL HOLE No. <u>119</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
					PARTICULAR GENERAL								PARTICULAR GENERAL	
110			95	70		SAME AS ABOVE	FS	3	10	30	100	300	150°	T, R, HEM, CAL, TALC. WEAK SX
120			100	80				10	145				160	T, R, THIN OXIDIZED CAL
130			100	80				10	160				160	
140			100	60				10	20				70	
150			100	65				10	45				160	T, S, P, THIN OXIDIZED CAL.
160			100	85				10	45				160	
170			100	85				10	60				160	
180			100	80				10	70				160	
190			100	70				10	70				160	
200			100	90		BASIC DYKE	↓	150	150				150	✓

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>4</u>	
PROJECT _____			DRILL HOLE No. <u>119</u>			REF. EL. _____			ANGLE FROM HORIZ. _____		
DATE _____			CONTRACTOR _____			BEDROCK EL. _____			BEARING _____		
LOGGED BY _____			CORE SIZE _____			TOTAL LENGTH _____			COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							PARTICULAR	GENERAL
310			100	90		DIORITE UNALTERED		F	30 10 30 100 300	45 60 60 70 20 70 30 60 60 60 10 30 60 30 70 80 70 60 60 60 45 45			T, S, THIN CAL + CHL	
320			100	80										
330			100	95										
340			100	98										
350			100	87										
360			100	65										
370			100	82										
380			100	90										
390			100	60										
400			95	55		FRACT., QZ REALED - BRECCIA, LEACHED		F					-HEM, SX, S, 1-2CM FILL	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG			PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>2</u>	
PROJECT <u>4513</u>		DRILL HOLE No. <u>MP-84-118</u>		REF. EL. _____		ANGLE FROM HORIZ. <u>-90°</u>
DATE <u>JUNE 17</u>		CONTRACTOR <u>J.T. THOMAS</u>		BEDROCK EL. _____		BEARING _____
LOGGED BY <u>KEN McNAUGHTON</u>		CORE SIZE <u>NQ</u>		TOTAL LENGTH <u>398</u>		COORDINATES _____ N _____ E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
10						CASING								
20			100	50		DIORITE - ABUND. FRACT. HEALED WITH QTZ - CAL.		FS						T, R, THIN CAL WASH UP TO 15MM. THIN CAL.
30			100	70										R, Q, 2-4MM, 1CM CAL FILL HEM, CAL 5X
40			100	65										
50			100	30										
60			100	85										
70			100	80										R, Q, 2MM CAL FILL
80			100	85										
90			100	92										
100			100	95										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>4</u> of <u>4</u>	
PROJECT _____		DRILL HOLE No. <u>118</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
310			95	55		MAFIC DYKE 80% GOUGE HIGH TALL-CLAY	FS					T ₃ R, D. → 5M CAL, FILL		
320			100	60										
330			90	25		70% GOUGE 2-3CM TALL-CLAY SEAMS HEAVILY LEACHED HEM 5X								
340			100	45										
350			100	90										
360			95	10		40-50% GOUGE HEAVILY LEACHED								
370			95	10		WITH MOD. CLAY CONTENT.								
380			90	15										
390			95	25										
398			80	0		BROKEN, MINOR GOUGE OR CAL. FILL	✓						✓	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>2</u> of <u>5</u>	
PROJECT _____		DRILL HOLE No. <u>117</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
110			80	30		80% FAULT GOUGE	FS		45			T ₁ P ₃ S ₃ 15-1mm CAL. FILL		
120			90	15					10			0.5mm CAL FILL TALC ALT.		
130			90	20		ALT. BANDS OF MOD TO INTENSIVELY BROKEN MATERIAL.			60					
140			40	25		10-15% FAULT GOUGE.			50					
150			85	10					50					
160			40	10					60					
170			60	0					50			✓		
180			90	65					20 45	50		T ₃ R ₃ P ₃ 0-0.5mm CAL.		
190			100	70					30 45	50				
200			100	50					45 50	30		✓		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>3</u> of <u>5</u>	
PROJECT _____		DRILL HOLE No. <u>117</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
2.10			100	45				FS						T, R, O - 1.5 CAL + CHL.
2.20			95	75										- R, D, 2-3CM OPEN VUG CAL, CHL FILL SX
2.30			95	75										
2.40			100	35										
2.50			100	40			FALLT GOUGE, SX HEM, CAL, CHL.	I						1-2MM LEACHED HALO AROUND FRACT. SX LOCALLY
2.60			100	60										
2.70			100	70										
2.80			100	50										
2.90			100	45										
3.00			100					V						

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>5</u> of <u>5</u>	
PROJECT _____		DRILL HOLE No. <u>117</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
410			100	90		CRACKLE BRECCIA WELL FRACT. WITH CAL CEMENT DECREASING DOWN HOLE	FS					6" FAULT BOND, HEM CLAY FILL T, P, R, 0 - .5 CAL FILL		
420			100	90										
430			100	92										
440			100	65										
450			100	80								CHL SX, R, T		
460			100	65										
470			100	42		FAULT GOUGE, LEACHED								
480			100	30										
490			90	10		GRAVEL, 30-40% FAULT GOUGE								
500			100	25								P, S, HEM SX		

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS	EXPLORATORY DRILLING - BEDROCK LOG	PROJECT No. <u>1621</u> SHEET <u>1</u> of <u>6</u>
PROJECT <u>MOUNT POLLEY</u> DRILL HOLE No. <u>MP-88-116</u> REF. EL. _____ ANGLE FROM HORIZ. <u>-90°</u>		
DATE <u>JUNE 16</u> CONTRACTOR <u>J.T THOMAS</u> BEDROCK EL. _____ BEARING _____		
LOGGED BY <u>KEN McNAUGHTON</u> CORE SIZE <u>N.Q.</u> TOTAL LENGTH <u>600</u> COORDINATES _____ N _____ E		

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
44			95	80		0-744 CASING.		FS					R, Q, 1-2 mm, FE STAIN	
50						SYENODIORITE.								
60			95	80										
70			90	75										R, T, FE + Mg WASH.
80			90	60										
90			100	80										INTERSECT. OF JOINTS OPPOSING EACH OTHER.
100			100	85				WS						
110			100	75										R, Q, 1cm OPEN QTZ FILL
120			100	80										R, Q, THIN CAL + CHL
130			95	50										R, Q, FE STAIN + CHL.
140			95	40										1-5 mm

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 2 of 6

PROJECT _____ DRILL HOLE No. 116 REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components ; alteration , etc.		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL		3 10 30 100 300				PARTICULAR	GENERAL
150			100	80				PS		40 40			T, R, 1-2mm CAL + FILL	
160			100	95						60 40				
170			100	90						60 60 60				
180			90	50						60 60 60			WELL FRACT. MINOR CAL MINOR BOUGE	
190			100	90		VERY SPARSE 1-2MM FRACT. WITH QTZ, CAL FILL.				90 45 60			T, S, 1mm CAL FILL R, Q, RE STAIN	
200			95	65						90 70 40mm			- FAULT BOUGE	
210			100	100						60 60 60			T, R, THIN CAL. COATING.	
220			100	97						70 70			1cm, S, Q, CAL + QTZ x ALS T, R,	
230			100	97						70 70				
240			100	99				V		30			R, T, CAL + CHL COAT.	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u> SHEET <u>3</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>116</u>		REF. EL. _____		ANGLE FROM HORIZ. _____	
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____	
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E	

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						PARTICULAR
250			100	78			FS	30	200	70		- P, T, 1-2mm CAL FILL
260			100	55				30	145			76" GRAVEL, CAL, EA, CHL. FILL
270			100	85		NONE P.O.R.	WS	30	50			
280			100	95				30	145			T, R,
290			100	90				30	160			3CH, 2, 1CM QTE, CHL + EP,
300			100	95				30	160			T, R, THIN CAL. WASH.
310			100	95				30	160			
320			100	90				30	160			- T, R, THIN SAND COATING
330			100	70				30	160			T, R,
340			100	97				30	160			TIGHT JOINT SET.
350								30	160			- T, R, 1MM CAL, 2CM K-SAR HALO

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u> SHEET <u>4</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. <u>116</u>		REF. EL. _____		ANGLE FROM HORIZ. _____					
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____					
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E					

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength
					PARTICULAR	GENERAL						
355			100	70			WS	30	30	30		T, R, THIN CAL WASH
360			95	50				30	30	30		
370			90	60				30	30	30		
380			100	95				30	30	30		- 15cm OPEN FRACT. 2/3 FILLED WITH QZ - CAL. - P, T, 2mm CAL
390			100	100				30	30	30		- DI
400			100	100				30	30	30		- JOINT SET, P, R, CLEAN - R, Q, 2-3mm OPEN FRACT XALS
410			100	80				30	30	30		R, Q,
420			100	70		INTRUSION BRECCIA		30	30	30		- 2" FAULT GOUGE
430			100	75		RANDOM FRAC.		30	30	30		- S, R, SX, 1cm QZ FILL WITH TEM
440			100	40		QZ - CAL FILL. EPI. ALT. AS 1-2cm FRACT. HALDS.	V	30	30	30		R, T, C

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>	
										SHEET <u>5</u> of <u>6</u>	
PROJECT _____			DRILL HOLE No. <u>116</u>			REF. EL. _____			ANGLE FROM HORIZ. _____		
DATE _____			CONTRACTOR _____			BEDROCK EL. _____			BEARING _____		
LOGGED BY _____			CORE SIZE _____			TOTAL LENGTH _____			COORDINATES _____ N E		

DRILLING INFO.					LITHOLOGY		ROCK MASS DEFECTS							
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							PARTICULAR	GENERAL
450			100	95				WS						T, R, .5-2MM CAL FILL
460			95	60							70°			1" GOUGE, MAFIC DYKE
470			100	85			MAFIC DYKE CONTACTS @ 20/30° TO 90°				45°			T, P, 2-3MM CAL + CHL SX
480			100	85			1-2CM CAL BRECCIA ON CONTACTS.				60°			T, R, .5-2MM CAL FILL
490			95	80							5°			W, FREQ=6", AMP=2CM 1-2CM W WITH CAL FILL, 2-3CM K-SPAR HAD
500			100	75							50°			T, R, .5-2MM CAL FILL
510			100	95							70°			
520			100	80							70°			
530			95	70							45°			
540			100	60							40°			T, P, S, 2MM CAL.

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG										PROJECT No. <u>1621</u>				
															SHEET <u>6</u> of <u>6</u>				
PROJECT _____					DRILL HOLE No. <u>116</u>					REF. EL. _____					ANGLE FROM HORIZ. _____				
DATE _____					CONTRACTOR _____					BEDROCK EL. _____					BEARING _____				
LOGGED BY _____					CORE SIZE _____					TOTAL LENGTH _____					COORDINATES _____ N _____ E				

DRILLING INFO.					LITHOLOGY					ROCK MASS DEFECTS				
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							Particular	General
550			100	85			4" GRAVEL - WS		30 30 300					T, R, 0-2MM CAL FILL
560			100	85					30 20 20					
570			100	97			AUND. RAND FRACT.		60 50					
580			100	100			WITH 15-2MM CAL CEMENT.		60 20					-T, R, 1CM CAL FILL
590			95	65					5 45					BROKEN LOTS OF GRAVEL
600			85	45					10 10					+ 5-10% FAULT GOUGE.

E.O.H.

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. ~~1621~~

SHEET 1 of 6

PROJECT MOUNT POLLEY DRILL HOLE No. MP-89-115 REF. EL. _____ ANGLE FROM HORIZ. -90°
DATE JUNE 15 CONTRACTOR J.T. THOMAS BEDROCK EL. _____ BEARING _____
LOGGED BY K. McNAUGHTON CORE SIZE N.Q. TOTAL LENGTH 600' COORDINATES _____ N

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
38			60	50		SYENODIORITE	K-SPAR ALT.	SW					R, Q, FE	
40						INTRUSION BRECCIA	BLEACHING 3-5% SULPHIDES							
			80	50		"	"						R, T,	
50													FRACT. INTO 3-5 CM. FRAGMENTS. FAULT GOUGE CLAY COATING ON MOST FRAG.	
60			50	5										
70			50	5										
80			50	5										
90			80	40										
			100	95									R, T, THIN CAL + ZEO. FILL	NUMEROUS 1-2 MM FRACT
100														
110			100	60									R, T, THIN CAL + ZEO. FILL	WITH CAL + QTZ FILL
120			100	40										
130			100	85										

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG				PROJECT No. <u>1621</u>		SHEET <u>2</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. _____		REF. EL. _____		ANGLE FROM HORIZ. _____			
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____			
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N _____ E			

DRILLING INFO.					LITHOLOGY	ROCK MASS DEFECTS								
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION		
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.						Type, planarity, roughness, aperture, coatings, cement, strength		
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
140			100	80		AS ABOVE	SW			60°		TWO SETS #1 R, T, THIN CAL. ZED.		
150			90	80						60°		#2 R, Q, 1-2MM CAL. ZED SX		
160			90	55		2CM OPEN FRACT				60°		1 FAULT. GOUGE		
170			100	65						60°		T R, THIN CAL. ZED. 2.1MM.	SPARSE FRACT. 1-2MM CEMENTED WITH QZ + CAL.	
180			100	95						60°				
190			100	70		VUG WITH FINE QZ Lining, 1CM FRACT.				60°				
200			85	40		AUGITE POR.				40°		HEAVILY FRACT. WITH 40% TALC RICH FAULT. GOUGE SX.	HORSETAIL FRACT. WITH CAL. CEMENT.	
210										70°		T, R, SX, TALC + CAL + CHL.		
220						MONZ. POR - WEAK BRECCIATION				30°		STRAINED, POORLY DEVELOPED FAULT GOUGE.		
230						2-3% Py				70°				

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 3 of 6

PROJECT _____ DRILL HOLE No. _____ REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS					
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION Rock type , fabric , colour , hardness , structure , secondary components , alteration , etc.	WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION Type, planarity, roughness, aperture, coatings, cement, strength	
						PARTICULAR	GENERAL					PARTICULAR	GENERAL
240			100	95		As ABOVE	SW					T, R, VERY THIN CAL.	
250			100	85								- BRECCIA WITH 30% GOUGE	
260			100	95								T, R, VERY THIN CAL. - BROKEN, WELL CEMENTED WITH QZ.	
270			100	75								T, R, VERY THIN CAL + CAL.	
280			100	100								WELL FRACT. ; CAL + THIN CAL FILL	
290			100	100								T, R, 1-1.5MM CAL + QZ FILL	
300			95	80								10% GOUGE, BROKEN WITH CLAY FILL	
310			100	95									
320			100	90								BROKEN	
330						INTRUSION BRECCIA - K-SPAR, MAG CEMENT, BLEACHED WITH E.P. REPLACEMENT.							

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS					EXPLORATORY DRILLING - BEDROCK LOG					PROJECT No. <u>1621</u>				
										SHEET <u>4</u> of <u>6</u>				
PROJECT _____			DRILL HOLE No. _____			REF. EL. _____			ANGLE FROM HORIZ. _____					
DATE _____			CONTRACTOR _____			BEDROCK EL. _____			BEARING _____					
LOGGED BY _____			CORE SIZE _____			TOTAL LENGTH _____			COORDINATES _____ N E					
DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						Rock type, fabric, colour, hardness, structure, secondary components, alteration, etc.							PARTICULAR	GENERAL
340			100	98		AS ABOVE		SW					R, Q, T, UP TO 1 CM CAL FILL	
350			100	95		ABUNDANT FRAC.								
360			100	95		UP TO 1 CM THICK CEMENTED WITH QZ-CAL.							R, Q, 2-3 CM WIDE, CAL+QZ XALS.	
370			100	90										
380			100	100		HOMOGENEOUS CRACKLE BRECCIA		NW						
390			100	97									R, Q, 1-2 CM, 25-1 CM CAL, QZ FILL	
400			90	45									FRACT. ZONE, ROCK BROKEN INTO BLOCKS AND GRAVEL	
410			90	50									10-20% GOUGE CAL, HEM, ZED. ON FRACT.	
420			100	100		MAFIC DYKE		FS					P, S, T, THIN CAL FILL	
430			100	100									R, T, D.I.	
													NUMBER FRACT. HEALED WITH QZ	

KNIGHT AND PIESOLD LTD.
CONSULTING ENGINEERS

EXPLORATORY DRILLING - BEDROCK LOG

PROJECT No. 1621

SHEET 5 of 6

PROJECT _____ DRILL HOLE No. _____ REF. EL. _____ ANGLE FROM HORIZ. _____
DATE _____ CONTRACTOR _____ BEDROCK EL. _____ BEARING _____
LOGGED BY _____ CORE SIZE _____ TOTAL LENGTH _____ COORDINATES _____ N
E

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
						SYENODIORITE	CRACKLE BRECCIA						T, R, THIN CAL WAS	
440			100	100				SW			60			
450			100	100							60			
460			100	100		SPARSE FRACT. 1-2cm WIDE WITH 5-10 cm ALT. HALO AND HEALED WITH QZ, CAL.					60		2cm FRACT. QZ, QZ CAL XALS	
470			100	100							60		FRACT. SET PAR. TO JOINTS WITH 1-2mm CAL FILL, WELL CEMENTED	
480			100	100							60			
490			100	100		INTRUSION BRECCIA					60			
500			100	100		INTENSE FRACT. WITH SIG. CEMENT. ABUNDANT HORSETAIL FRACT. WITH MAG. FILL.					80			
510			100	95							20		R, T, 1-2mm CHL. FILL	
520			100	95							30			
530			100	100									-R, Q, 1-1.5mm, LEACHING, THIN CAL WASH	

KNIGHT AND PIESOLD LTD. CONSULTING ENGINEERS		EXPLORATORY DRILLING - BEDROCK LOG						PROJECT No. <u>1621</u> SHEET <u>6</u> of <u>6</u>	
PROJECT _____		DRILL HOLE No. _____		REF. EL. _____		ANGLE FROM HORIZ. _____			
DATE _____		CONTRACTOR _____		BEDROCK EL. _____		BEARING _____			
LOGGED BY _____		CORE SIZE _____		TOTAL LENGTH _____		COORDINATES _____ N E			

DRILLING INFO.					LITHOLOGY			ROCK MASS DEFECTS						
DEPTH ()	SAMPLES	PERMEABILITY	LIFT & CORE RECOVERY	R.Q.D.	FOLIATION	ROCK DESCRIPTION		WEATHERING	DEFECT SPACING (cm)	GRAPHIC LOG OF DEFECTS	DEFECT ORIENTATION	POINT LOAD TEST VALUES	DEFECT DESCRIPTION	
						PARTICULAR	GENERAL						PARTICULAR	GENERAL
540			100	85		SYENODIORITE CRACKLE BRECCIA	NUMER. HEALIED FRACT. 1-8 MM QTZ, CAL FILL	SW	10 30 100 300		60°			-R.Q. 2-3 CM FRACT. ZONE -R.T. THIN CAL
550			100	100										
560			100	100										
570			100	100										
580			100	100										
590			100	100										
600			100	100				MW						-FRACT, LEACHED

E.O.H.