

MW09-3



overburden



weathered bedrock



fresh bedrock

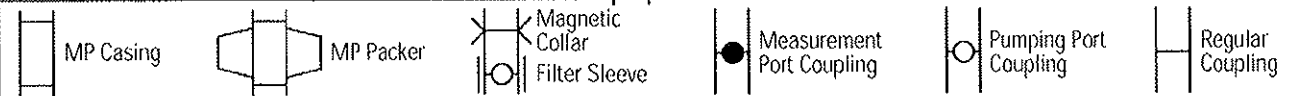
Geotechnical log (basic+)

\* 10ft rods were used, with 5ft core barrel,  
HQ3 bit, with split tubes; casing depth 10ft

Run #	Run Interval				TCR					OF	J	CJ	+J from RZ	RQD		IRS		micro def. 0 to 3	J - properties	comment
	From	To	From	To	ft	inches	decimal ft	m	%					cm	%	strong	weak			
	ft	ft	m	m																
1	10	15	3.05	4.57	3.5		3.50	1.07	70	8	28	0	24	15	14%	R2	R0	2	brown stained J's	crumbly R0 zones, highly weathered
2	15	20	4.57	6.10	3	1	3.08	0.94	62	7	12	0	6	30	32%	R3	R0	2	planar rough, stained, alpha 45 deg	weathered rock, jointed, RZ (15cm) R0, minor Qz vein
3	20	25	6.10	7.62	5		5.00	1.52	100	13	9	0		123	81%	R3		2	7, 4   9   0 staining only; alpha 50 to 60 degrees	weathered rock, jointed
4	25	30	7.62	9.14	5	1	5.08	1.55	102	10	9	0		145	94%	R4	R3	1	4, 7, 8   1, 3, 0   0 brown non softening fill, alpha 60 to 80 degrees	slightly weathered rock / competent rock
5	30	35	9.14	10.67	5		5.00	1.52	100	6	3	0		147	96%	R4	R3	0	4 to 7   0   0, stained brown-orange	1 Qz vein
6	35	40	10.67	12.19	5		5.00	1.52	100	8	5	0		150	98%	R4	R3	0	4 to 8   0   0, stained brown-orange, alpha 50 to 70 degrees	
7	40	45	12.19	13.72	4	9	4.75	1.45	95	12	10	0		108	75%	R4	R3	0	7   0 to 3   0 stained orange, alpha 30 to 70 degrees	slightly altered from 41 to 43'
8	45	50	13.72	15.24	5	3	5.25	1.60	105	9	7	1		148	92%	R4	R3	0	7   0   0 stained orange, alpha 45	
9	50	55	15.24	16.76	5		5.00	1.52	100	6	3	0		150	98%	R5	R4	0	4 to 7   0   0, stained, alpha 45 to 70 degrees	
10	55	60	16.76	18.29	4	10.5	4.88	1.49	98	7	4	0		149	100%	R5	R4	0	4 to 7   0   0, slightly stained	very competent fresh rock, crs grained, 1 large vein
11	60	65	18.29	19.81	4	10.5	4.88	1.49	98	6	5	0		149	100%	R5	R4	0	4 to 7   0   0, no staining	
12	65	67	19.81	20.42	2	2	2.17	0.66	108	5	4	1		66	100%	R5	R3	0		competent grey/pink rock (logged from photo)
13	67	70	20.42	21.34	3	6	3.50	1.07	117	2	1	0		100	94%	R5	R4	0		
14	70	75	21.34	22.86	4	10	4.83	1.47	97	6	3	0		148	100%	R5	R4	0	J walls planar, undulating, rough, brown & altered; alpha 30 to 80 degrees	
15	75	80	22.86	24.38	4	10	4.83	1.47	97	6	5	0		138	94%	R5	R4	0	stained J's	grey brown rock, slightly altered
16	80	85	24.38	25.91	4	7.5	4.63	1.41	93	6	3	0		141	100%	R5	R4	0	all J's weathered with non softening fill, altered J wall; alpha 45 to 90 degrees	fluid flow evidence
18	85	90	25.91	27.43	5	2	5.17	1.57	103	4	4	0		149	95%	R5	R4	1		
19	90	95	27.43	28.96	5		5.00	1.52	100	11	6	4		149	98%	R5	R4	1	1 J with soft fill 0.5mm brown clay, alpha 15 degrees	
20	95	100	28.96	30.48	5	2	5.17	1.57	103	12	13	0	4	133	84%	R4	R2	0	1 J at 99' has 1 cm brown clay gauge fill (alpha 50 degrees)	RZ (10cm) jointed at 96'; R2 rock highly altered, brown from 95-96'
21	100	105	30.48	32.00	5		5.00	1.52	100	6	5	1		150	98%	R5	R4	0		
22	105	110	32.00	33.53	5	2	5.17	1.57	103	7	5	1		146	93%	R5	R4	1	1 J has 0.5mm soft fill	
23	110	115	33.53	35.05	5	1	5.08	1.55	102	10	11	3		122	79%	R5	R4	0		mineralization around micro defects at 111.5'
24	115	120	35.05	36.58	5	1	5.08	1.55	102	12	7	1		103	66%	R5	R4	1	hard fill in Js	
25	120	125	36.58	38.10	5	2	5.17	1.57	103	12	6	2		140	89%	R5	R4	1		
26	125	130	38.10	39.62	4	11	4.92	1.50	98	10	5	1		135	90%	R5	R4	1	1 J has 2mm soft fill	
27	130	135	39.62	41.15	5		5.00	1.52	100	14	14	0		62	41%	R5	R3	1		
28	135	140	41.15	42.67	5	2	5.17	1.57	103	8	6	1		141	90%	R5	R4	1		
29	140	145	42.67	44.20	5		5.00	1.52	100	9	7	0		150	98%	R5	R4	1		
30	145	150	44.20	45.72	5		5.00	1.52	100	7	5	0		137	90%	R5	R4	1		
31	150	155	45.72	47.24	5		5.00	1.52	100	7	4	1		144	94%	R5	R4	0		
32	155	160	47.24	48.77	4	10	4.83	1.47	97	10	5	1		133	90%	R5	R4	1	1 J has 2mm soft fill	
33	160	165	48.77	50.29	4	9	4.75	1.45	95	9	7	0		139	96%	R5	R4	0	Js betw 162-163' have 2mm of soft fill	

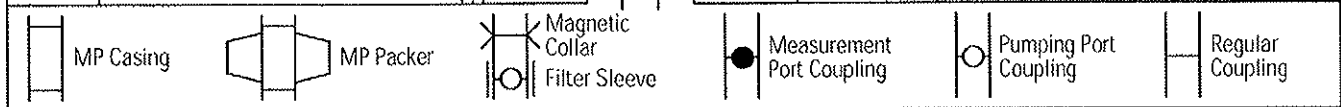
Project: MINTO 2CM027.007.001.10 WB Ref.: \_\_\_\_\_  
 Location: MINTO NORTH Hole No.: MW09-3 Installed by: \_\_\_\_\_  
 Hole Depth: 165 FT MP Depth: 165 FT Hole Diameter: HQ Date Installed: 27 NOV '09  
 Measurement Datum: GROUND SURFACE Datum Elevation: 908.0 m Date Drawn: 19 JAN '10

Depth, FT	Geological Description	Geologic Log	MP Casing Log	Serial No. Batch No.	Final Packer Pressure/Volume	Comments	Joint	
							Install	Test
	WELL CASING		18			2.9 m from top of casing to top of piece 17.		
10	WEATHERED BEDROCK		17					
20	COMPETENT ROCK		16	17023	740 PSI 3.9 L	VALVE OPEN 170 PSI		
30			15					
40	STAINED JOINTS, ALTERATION		14	2805				
50			13	7956				
60			12	17028	740 PSI 3.75 L	VALVE OPEN 165 PSI		
70			11					
80			10	2802				
90	R2 ROCK, HIGHLY ALTERED		9	7949				
100			8					



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Depth	Geological Description	Geologic Log	MP Casing Log	Serial No. Batch No.	Final Packer Pressure/Volume	Comments	Joint	
							Install	Test
100	COMPETENT BEDROCK		7	17027	750 PSI 3.75 L	VALVE OPEN 170 PSI		
110			6					
120			5					
130			4	2804				
140			3	7950				
150			2					
160	END OF HOLE 165'		1					
170								

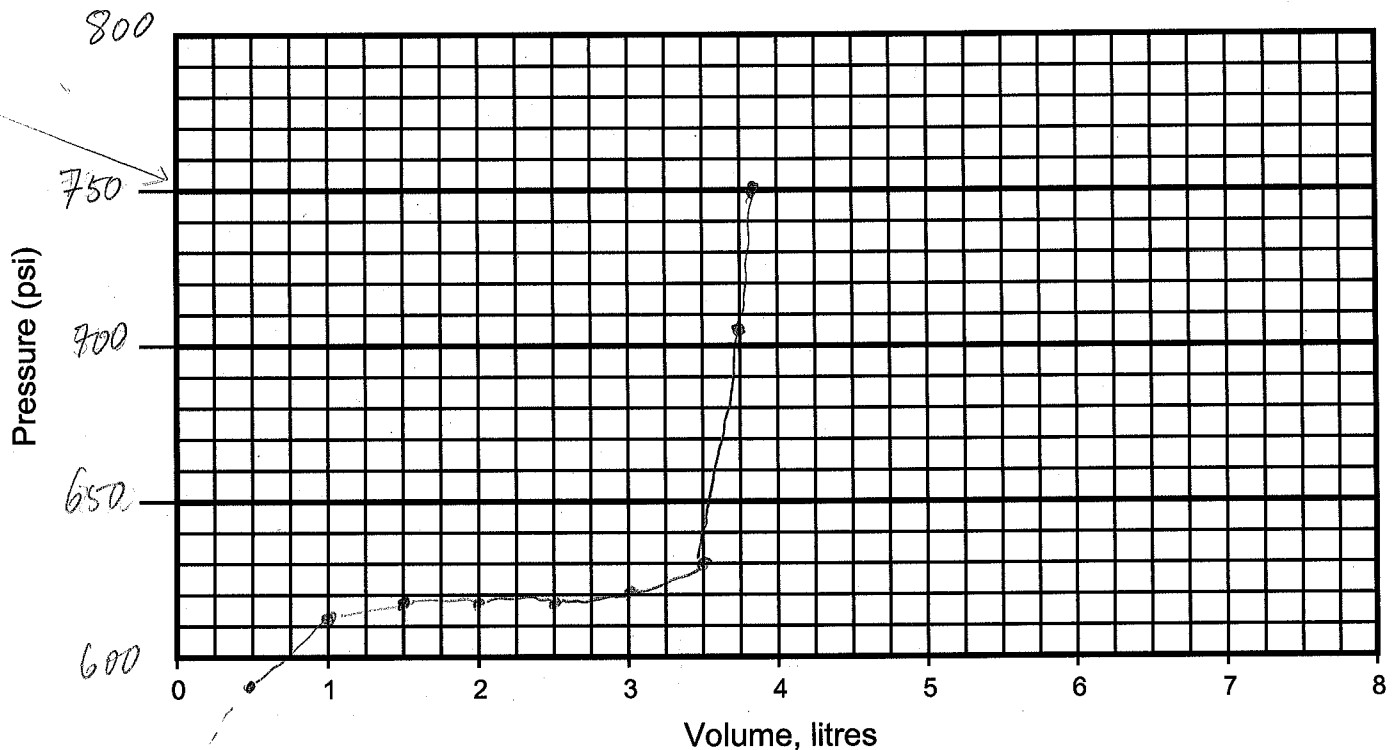


# Packer Inflation Record

Project: Minto Project No.: 2CM022.007.001-10 Well No.: MW09-3  
 Location: Minto North Completed by: [Redacted] Date Inflated: 27 Nov 09  
 Packer No. 7 Serial# 17027 Depth (ft/m): 100 ft Inflation Tool No.: 1  
 Packer Valve Pressure, P<sub>V</sub>: 170 psi Final Line Pressure, P<sub>L</sub>: 754 psi Tool Pressure, P<sub>T</sub>: 425 psi  
 Borehole Water Level: 4 (ft/m) = 1 psi (P<sub>W</sub>)

Calculated Packer Element Pressure,  $P_E = P_L + P_W - P_V - P_T =$  160 psi  
 $425 + 170 + 160 - 1 = 754$  psi

Volume, litres	0.5	1.0	1.5	2.0	2.5	3.0	3.5	3.75	3.85	
Pressure, psi	580	625	635	635	635	645	660	710	750	
Volume, litres	final volume		3.75 L.							
Pressure, psi										



Comments: Packer # normal inflation

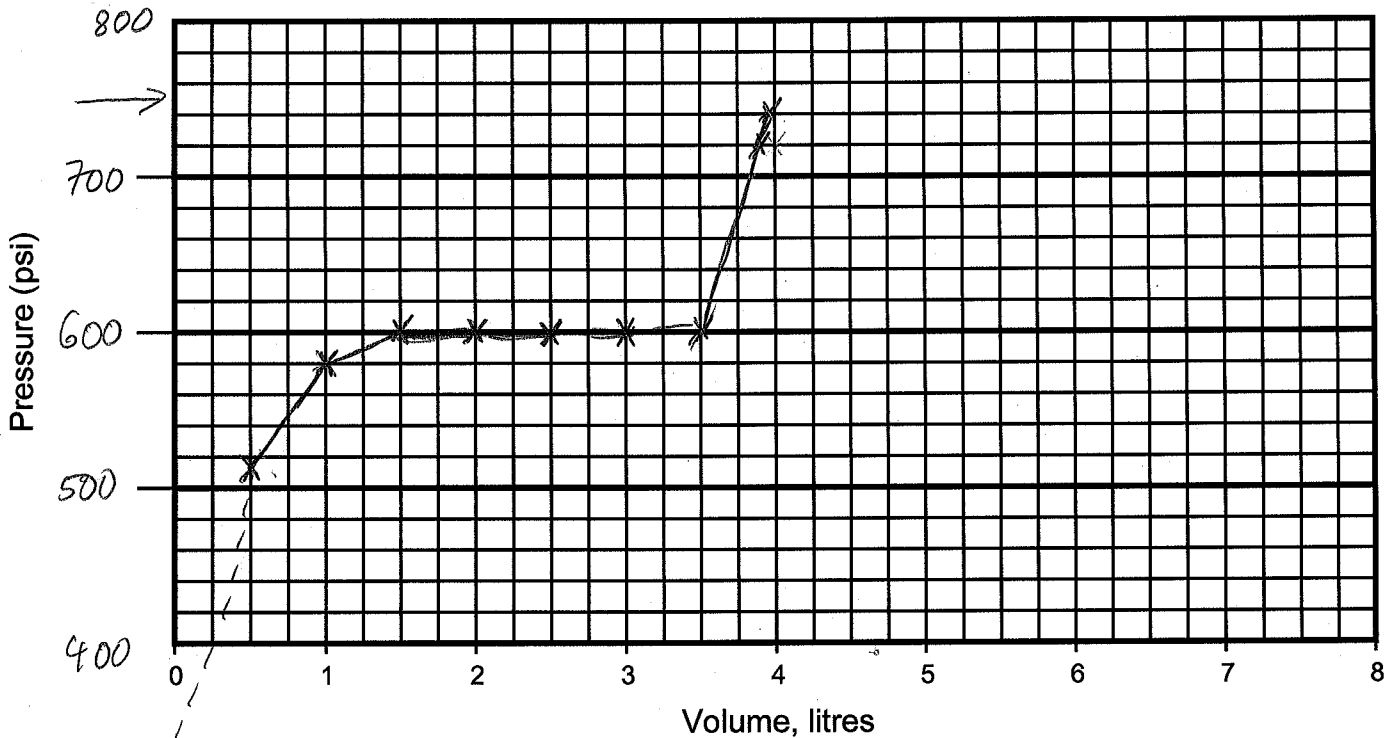
Time - 14:35

# Packer Inflation Record

Project: Minto Project No.: 2LM022.007.001.10 Well No.: MW09-3  
 Location: Minto North Completed by: [REDACTED] Date Inflated: 27 Nov 2009  
 Packer No. 12 Serial # 17028 Depth (ft/m): 55 ft Inflation Tool No.: \_\_\_\_\_  
 Packer Valve Pressure, P<sub>V</sub>: 165 psi Final Line Pressure, P<sub>L</sub>: 749 psi Tool Pressure, P<sub>T</sub>: 425 psi  
 Borehole Water Level: 4 (ft/m) = 1 psi (P<sub>W</sub>)

Calculated Packer Element Pressure,  $P_E = P_L + P_W - P_V - P_T = 160$  psi  
 $425 + 165 + 160 - 1 = 749$  psi

Volume, litres	0.5	1.0	1.5	2.0	2.5	3.0	3.5	3.8	3.9	FINAL 375L
Pressure, psi	515	580	600	600	600	600	600	720	740	
Volume, litres										
Pressure, psi										

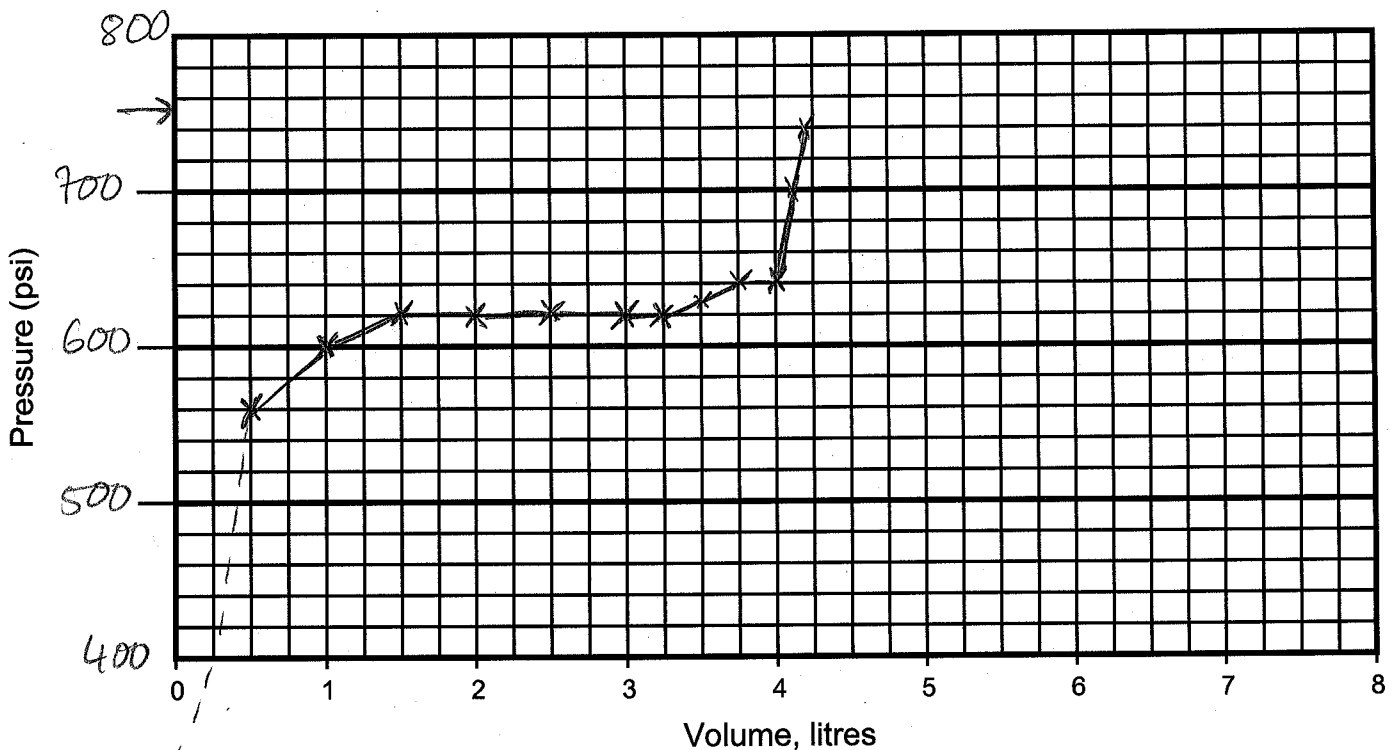


Comments: Packer # Normal inflation. Time - \_\_\_\_\_

# Packer Inflation Record

Project: Minto Project No.: 2CM022-007 Well No.: MW09-3  
 Location: Minto North Completed by: [REDACTED] Date Inflated: 27 Nov 09  
 Packer No. 16 Serial # 17023 Depth (ft) m): 20 ft Inflation Tool No.:           
 Packer Valve Pressure, P<sub>V</sub>: 170 psi Final Line Pressure, P<sub>L</sub>: 754 psi Tool Pressure, P<sub>T</sub>: 425 psi  
 Borehole Water Level: 4 (ft/m) = 1 psi (P<sub>W</sub>)  
 Calculated Packer Element Pressure, P<sub>E</sub> = P<sub>L</sub> + P<sub>W</sub> - P<sub>V</sub> - P<sub>T</sub> = 160 psi

Volume, litres	0.5	1.0	1.5	2.0	2.5	3.0	3.25	3.5	3.75	4.0
Pressure, psi	560	600	620	620	620	620	620	630	640	640
Volume, litres	4.1	4.15	Final volume 3.9L							
Pressure, psi	700	740								



Comments: Packer #

Time -

On first pumping, pressure rose then suddenly dropped, then rose again. Packer pushing loose rock until it gave way? otherwise normal inflation.