innovation in geotechnical instrumentation

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Calibration Record

Vibrating Wire Piezometer

Customer:		PT. Unggul Ejawantah Industri	
Model:		VW2100-1.0-HD	
Customer ID:		**PZ 24**	
Serial Number:		**VW57105**	
Mfg Number:		P110141	
Range:		1.0	MPa
Temperature:		23.0	°C
Barometric Pressure:		1023.9	millibars
Work Order Number:		220592	
Cable Length:		180	meters
Cable Markings:	11241 m	to 11420	m
Cable Colour Code:	Red / Black (Coil)	Green / White	(Thermistor)
Cable Type:		EL380004HDL	
Thermistor Type:		3	kΩ

Applied Pressure (MPa)	First Reading (B units)	Second Reading (B units)	Average Reading (B units)	Calculated Linear (MPa)	Linearity Error (% FS)	Calculated Polynomial (MPa)	Polynomial Error (% FS)
0.000	8562	8563	8562	0.002	0.15	0.000	0.02
0.200	7734	7735	7734	0.200	-0.05	0.200	-0.02
0.400	6901	6902	6902	0.399	-0.13	0.400	-0.02
0.600	6064	6064	6064	0.599	-0.09	0.600	0.01
0.800	5224	5224	5224	0.800	0.00	0.800	0.03
1.000	4382	4384	4383	1.001	0.11	1.000	-0.02
			Max. Error (%):		0.15		0.03

Linear Calibration Factor: **CF = 2.3920E-04 MPa/B unit**
Temperature Correction Factor: **Tk = 2.2964E-04 MPa/°C rise**

Polynomial Gage Factors:

A = -5.8020E-10 **MPa/(B unit)²** **B =** -2.3169E-04 **MPa/B unit** **C =** _____ **MPa**

Pressure is calculated with the following equations:
Linear: $P = CF(L_0 - L) - Tk(T_0 - T) + (S_0 - S)$
Polynomial: $P = A(L^2) + B(L) + C - Tk(T_0 - T) + (S_0 - S)$

Users must establish site zero readings for calculation purposes
Polynomial $C = -[A(L_0^2) + B(L_0)]$

L_0, L = initial (installation) and current readings, in B units
T_0, T = initial (installation) and current temperature, in °C
S_0, S = initial (installation) and current barometric pressure readings, in MPa
B units = B scale output of VW 2102, VW 2104, VW 2106 and DT 2011 readouts
B units = $Hz^2/1000$ ie: 1700 Hz = 2890 B units

	Date (dd/mm/yy)	VW Reading (B units)	Temperature (°C)	Baro (mbar)
Shipped Zero Readings:	29-Mar-19	8566	21.4	1027.7

This instrument has been calibrated using standards traceable to the NIST in compliance with ANSI Z540-1

Technician: I. Kurchavov IK Date: 29-Mar-19

rst APR 0 2 2019 DATE NAME

Document Number.: ELL0130K

Recycled

MIG0106B