



## Vibrating Wire Pressure Transducer Calibration

Customer: Yukon Zinc Corporation  
 Model: VW2100-1.0  
 Serial Number: VW1229  
 Mfg Number: 04-5808  
 Range: 1.0 MPa  
 Date of Calibration: 11-May-04  
 Temperature: 21.5 °C  
 Barometric Pressure: 995.77 millibars  
 W.O. Number: Q04057  
 Cable Length: 100 meters  
 Cable Colour Code: red / black (coil) green / white (thermistor)  
 Cable Insulation: Polyurethane  
 Thermistor type: 3 Kohms

Applied Pressure (MPa)	First Reading (B units)	Applied Pressure (MPa)	Second Reading (B units)	Average Pressure (MPa)	Average Readings (B units)	Calculated Linear (MPa)	Linearity F.S. Error (%)	Polynomial Fit (% FS)
0.000	8983	0.000	8982	0.000	8983	0.002	0.20	0.01
0.200	8228	0.200	8229	0.200	8229	0.200	-0.05	-0.01
0.400	7469	0.400	7470	0.400	7470	0.398	-0.16	-0.01
0.600	6706	0.600	6705	0.600	6706	0.598	-0.15	0.00
0.800	5937	0.800	5937	0.800	5937	0.800	-0.02	0.02
1.000	5166	1.000	5166	1.000	5166	1.002	0.18	-0.01
Max. Error (%):							0.20	0.02

Linear Calibration Factor: C.F. = 0.00026196 MPa/B unit  
 Regression Zero: At Calibration Bi = 8990.1 B unit  
 Temperature Correction Factor: Tk = 0.0000340 MPa/°C rise

Polynomial Gage Factors (MPa) A: -9.8717E-10 B: -0.00024799 C: 2.30735

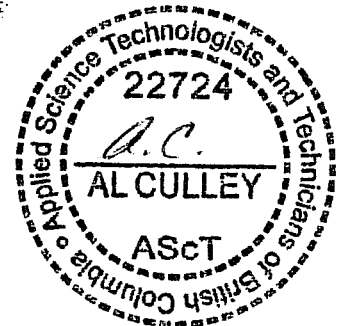
Pressure is calculated with the following equations:  
 Linear,  $P(\text{MPa}) = C.F. \times (Li - Lc) - [Tk (Ti - Tc)] + [0.10 (Bi - Bc)]$   
 Polynomial:  $P(\text{MPa}) = A(Lc)^2 + BLc + C + Tk(Tc - Ti) - [0.10(Bc - Bi)]$

	DATE (dd/mm/yr)	VW2104 Pos. B (Li)	TEMP °C (Ti)	BARO (Bi)
FACTORY ZERO READINGS:	14-May-04	8978	23.7	1003.0
SHIPPED ZERO READINGS:	13-Apr-05	8981	19.9	1018.1

Li, Lc = initial (at installation) and current readings  
 Ti, Tc = initial (at installation) and current temperature, in °C  
 Bi, Bc = initial (at installation) and current barometric pressure readings, in millibars  
 B units = B scale output of VW 2102, VW 2104 readouts  
 B units = Hz<sup>2</sup> / 1000 ie: 1700Hz = 2890 B units

Technician: C Christen CC Date: 13-Apr-05

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





## Vibrating Wire Pressure Transducer Calibration

Customer: Yukon Zinc Corporation  
 Model: VW2100-1.0  
 Serial Number: VW1230  
 Mfg Number: 04-5809  
 Range: 1.0 MPa  
 Date of Calibration: 11-May-04  
 Temperature: 21.5 °C  
 Barometric Pressure: 995.77 millibars  
 W.O. Number: Q04057  
 Cable Length: 100 meters  
 Cable Colour Code: red / black (coil) green / white (thermistor)  
 Cable Insulation: Polyurethane  
 Thermistor type: 3 Kohms

Applied Pressure (MPa)	First Reading (B units)	Applied Pressure (MPa)	Second Reading (B units)	Average Pressure (MPa)	Average Readings (B units)	Calculated Linear (MPa)	Linearity F.S. Error (%)	Polynomial Fit (% FS)
0.000	8545	0.000	8545	0.000	8545	0.002	0.17	-0.01
0.200	7759	0.200	7758	0.200	7759	0.200	-0.02	0.01
0.400	6969	0.400	6969	0.400	6969	0.399	-0.14	0.00
0.600	6176	0.600	6175	0.600	6176	0.598	-0.16	-0.02
0.800	5376	0.800	5376	0.800	5376	0.800	-0.03	0.01
1.000	4573	1.000	4574	1.000	4574	1.002	0.18	0.00
Max. Error (%):							0.18	0.02

Linear Calibration Factor: C.F. = 0.00025181 MPa/B unit  
 Regression Zero: At Calibration Bi = 8551.9 B unit  
 Temperature Correction Factor: Tk = 0.0000590 MPa/°C rise

Polynomial Gage Factors (MPa) A: -8.5536E-10 B: -0.00024059 C: 2.11821

Pressure is calculated with the following equations:

Linear,  $P(\text{MPa}) = C.F. \times (Li - Lc) - [Tk (Ti - Tc)] + [0.10 (Bi - Bc)]$

Polynomial:  $P(\text{MPa}) = A(Lc)^2 + BLc + C + Tk(Tc - Ti) - [0.10(Bc - Bi)]$

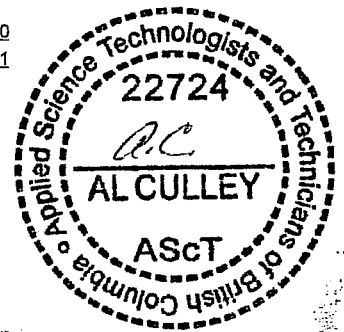
	DATE (dd/mm/yr)	VW2104 Pos. B (Li)	TEMP °C (Ti)	BARO (Bi)
FACTORY ZERO READINGS:	14-May-04	<u>8539</u>	<u>23.5</u>	<u>1003.0</u>
SHIPPED ZERO READINGS:	13-Apr-05	<u>8541</u>	<u>20.4</u>	<u>1018.1</u>

Li, Lc = initial (at installation) and current readings  
 Ti, Tc = initial (at installation) and current temperature, in °C  
 Bi, Bc = initial (at installation) and current barometric pressure readings, in millibars  
 B units = B scale output of VW 2102, VW 2104 readouts  
 B units = Hz<sup>2</sup> / 1000 ie: 1700Hz = 2890 B units

Technician: C Christen *CC*

Date: 13-Apr-05

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





200 - 2050 Hartley Ave., Coquitlam, British Columbia, Canada V3K 6W5

## Vibrating Wire Pressure Transducer Calibration

Customer: Yukon Zinc Corporation  
 Model: VW2100-2.0  
 Serial Number: VW1835  
 Mfg Number: 04-6906  
 Range: 2.0 MPa  
 Date of Calibration: 28-Jun-04  
 Temperature: 22.4 °C  
 Barometric Pressure: 995.6 millibars  
 W.O. Number: Q04057  
 Cable Length: 180 meters  
 Cable Colour Code: red / black (coil) green / white (thermistor)  
 Cable Insulation: Polyurethane  
 Thermistor type: 3 Kohms

Applied Pressure (MPa)	First Reading (B units)	Applied Pressure (MPa)	Second Reading (B units)	Average Pressure (MPa)	Average Readings (B units)	Calculated Linear (MPa)	Linearity F.S. Error (%)	Polynomial Fit (% FS)
0.000	8848	0.000	8848	0.000	8848	0.004	0.22	0.00
0.400	8095	0.400	8094	0.400	8095	0.400	-0.02	0.02
0.800	7339	0.800	7339	0.800	7339	0.796	-0.22	-0.03
1.200	6575	1.200	6574	1.200	6575	1.197	-0.17	0.01
1.600	5806	1.600	5807	1.600	5807	1.599	-0.04	0.01
2.000	5034	2.000	5034	2.000	5034	2.004	0.22	-0.01
Max. Error (%):							0.22	0.03

Linear Calibration Factor: C.F. = 0.00052436 MPa/B unit  
 Regression Zero: At Calibration Bi = 8856.5 B unit  
 Temperature Correction Factor: Tk = 0.0002604 MPa/°C rise

Polynomial Gage Factors (MPa) A: -2.3332E-09 B: -0.00049197 C: 4.53555

Pressure is calculated with the following equations:  
 Linear,  $P(\text{MPa}) = C.F. \times (L_i - L_c) - [Tk \times (T_i - T_c)] + [0.10 \times (B_i - B_c)]$   
 Polynomial:  $P(\text{MPa}) = A(L_c)^2 + BL_c + C + Tk(T_c - T_i) - [0.10 \times (B_c - B_i)]$

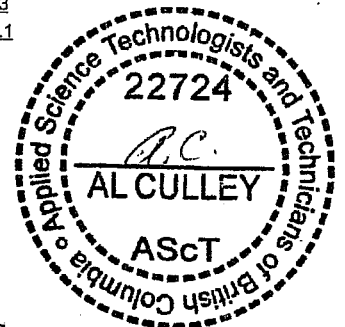
	DATE (dd/mm/yr)	VW2104 Pos. B (Li)	TEMP °C (Ti)	BARO (Bi)
FACTORY ZERO READINGS:	10-Sep-04	<u>8850</u>	<u>24.2</u>	<u>991.3</u>
SHIPPED ZERO READINGS:	13-Apr-05	<u>8850</u>	<u>20.5</u>	<u>1018.1</u>

Li, Lc = initial ( at installation) and current readings  
 Ti, Tc = initial ( at installation) and current temperature, in °C  
 Bi, Bc = initial ( at installation) and current barometric pressure readings, in millibars  
 B units = B scale output of VW 2102, VW 2104 readouts  
 B units = Hz<sup>2</sup> / 1000 ie: 1700Hz = 2890 B units

Technician: C Christen *CC*

Date: 13-Apr-05

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





## Vibrating Wire Pressure Transducer Calibration

Customer: Yukon Zinc Corporation  
 Model: VW2100-2.0  
 Serial Number: VW1836  
 Mfg Number: 05-1898  
 Range: 2.0 MPa  
 Date of Calibration: 16-Mar-05  
 Temperature: 23.8 °C  
 Barometric Pressure: 990.2 millibars  
 W.O. Number: Q04057  
 Cable Length: 220 meters  
 Cable Colour Code: red / black (coil) green / white (thermistor)  
 Cable Insulation: Polyurethane  
 Thermistor type: 3 Kohms

Applied Pressure (MPa)	First Reading (B units)	Applied Pressure (MPa)	Second Reading (B units)	Average Pressure (MPa)	Average Readings (B units)	Calculated Linear (MPa)	Linearity F.S. Error (%)	Polynomial Fit (% FS)
0.000	8808	0.000	8808	0.000	8808	0.005	0.26	0.00
0.400	8089	0.400	8089	0.400	8089	0.399	-0.04	0.01
0.800	7365	0.800	7366	0.800	7366	0.796	-0.22	-0.01
1.200	6635	1.200	6635	1.200	6635	1.196	-0.21	0.01
1.600	5900	1.600	5899	1.600	5900	1.599	-0.06	0.00
2.000	5158	2.000	5158	2.000	5158	2.005	0.26	0.00
Max. Error (%):							0.26	0.01

Linear Calibration Factor: C.F. = 0.00054795 MPa/B unit  
 Regression Zero: At Calibration Bi = 8817.4 B unit  
 Temperature Correction Factor: Tk = 0.0004722 MPa/°C rise

Polynomial Gage Factors (MPa) A: -2.9472E-09 B: -0.00050679 C: 4.69239

Pressure is calculated with the following equations:

Linear,  $P(\text{MPa}) = C.F. \times (Li - Lc) - [Tk (Ti - Tc)] + [0.10 (Bi - Bc)]$

Polynomial:  $P(\text{MPa}) = A(Lc)^2 + BLc + C + Tk(Tc - Ti) - [0.10(Bc - Bi)]$

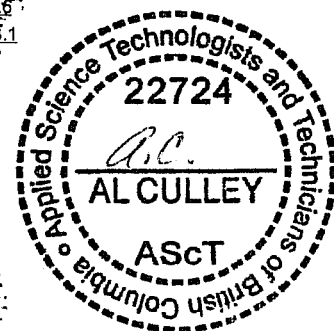
	DATE (dd/mm/yr)	VW2104 Pos. B (Li)	TEMP °C (Ti)	BARO (Bi)
FACTORY ZERO READINGS:	6-Apr-05	<u>8810</u>	<u>28.7</u>	<u>995.6</u>
SHIPPED ZERO READINGS:	13-Apr-05	<u>8810</u>	<u>26.2</u>	<u>1016.1</u>

Li, Lc = initial ( at installation) and current readings  
 Ti, Tc = initial ( at installation) and current temperature, in °C  
 Bi, Bc = initial ( at installation) and current barometric pressure readings, in millibars  
 B units = B scale output of VW 2102, VW 2104 readouts  
 B units = Hz<sup>2</sup> / 1000 ie: 1700Hz = 2890 B units

Technician: C Christen *CC*

Date: 13-Apr-05

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





**Certificate of Compliance**

Model DT2011 Vibrating Wire Data Logger

This is to certify that s/n 01771 meets RST Instruments specifications for this product.

Technician: KAH Date: Apr 13, 05

ELL0158A.DOC



**Certificate of Compliance**

Model DT2011 Vibrating Wire Data Logger

This is to certify that s/n 01768 meets RST Instruments specifications for this product.

Technician: KAH Date: Apr 13, 05

ELL0158A.DOC



**Certificate of Compliance**

Model DT2011 Vibrating Wire Data Logger

This is to certify that s/n 01770 meets RST Instruments specifications for this product.

Technician: KAH Date: Apr 13, 05

ELL0158A.DOC



**Certificate of Compliance**

Model DT2011 Vibrating Wire Data Logger

This is to certify that s/n 01769 meets RST Instruments specifications for this product.

Technician: KAH Date: Apr 13, 05

ELL0158A.DOC