SOUTHWEST RESEARCH INSTITUTE®

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Institute Calibration Laboratory
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ACCREDITED
Certificate #
0972-01

Certificate of Calibration

Submitted By: DIV20
Address: B57
Contact: DON BANNON
Manufacturer Model: DURO-SENSE TYPE K
Description: THERMOCOUPLE
Serial No: 12401
Asset No: 012401
Procedure: TEMPERATURE PROBES - 5 JUNE, 2006

Work Order: 303070821
Date Issued: Sep 1, 2006
Calibration Date: Sep 1, 2006
***Calibration Due:** Sep 1, 2007
Calibration Location: Bldg. 64
Environment: Temp. 75.0°F Hum. 45 %RH
****Data Type:** FOUND-LEFT

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999, ANSI/NCSL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance. See Remarks or attached Measurement Report with the same Work Order number for data.

Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks: None

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
009137	A21208	HART SCIENTIFIC	1575	THERMOMETER	Dec 22, 06
009414	A25788	HART SCIENTIFIC	1502A	TEMPERATURE READOUT	Jan 14, 07
010281	0421	HART SCIENTIFIC	5628	SPRT	Jun 24, 08
010329	7949003	FLUKE	525A	TEMPERATURE/PRESSURE CALIBRATOR	Oct 06, 06
010692	632656	HART SCIENTIFIC	5618	PLATINUM RTD	Jan 14, 07

Reviewed by: blt ( ) jrg ( ) pwc ( ) wgh ( )
Metrology Technician

Measurements by: Paul Depmore
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303070821	Mfr.	DURE-SENSE	Technician	PRD
Asset No:	012401	Model	Type K		
Serial No:	12401	Type	Thermocouple	Cal Date	1-Sep-06
Remarks:	Limits taken from ASTM E230-02 and are based on brand new unused thermocouples.				
	Limited Cal - tested at 25, 100 and 200 °C				

Function/Range	Test Point	TI Read	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	° C	° C	° C	° C	° C	Result
	24.980	25.04	-0.06	2.2	0.30	Pass
	99.902	100.08	-0.18	2.2	0.30	Pass
	200.428	199.93	0.50	2.2	0.30	Pass

END OF REPORT