



SOUTHWEST RESEARCH INSTITUTE®

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Institute Calibration Laboratory
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Certificate of Calibration

0972-01

Submitted By: DIV20

Address: B57

Contact: DON BANNON

Manufacturer Model: DURO-SENSE TYPE K

Description: THERMOCOUPLE

Serial No: 331

Asset No: 008426

Procedure: TEMPERATURE PROBES - 5 JUNE, 2006

Work Order: 303071831

Date Issued: Nov 15, 2006

Calibration Date: Nov 15, 2006

***Calibration Due:** May 15, 2007

Calibration Location: Bldg. 64

Environment: Temp. 73.0°F Hum. 40 %RH

****Data Type:** FOUND-LEFT

DivID/Location:

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.

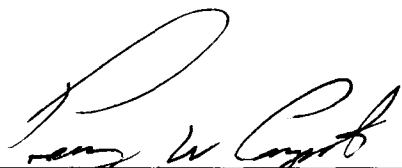
*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility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

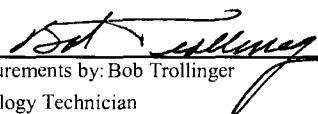
Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks: None

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
009137	A21208	HART SCIENTIFIC	1575	SUPER THERMOMETER	Dec 22, 06
010329	7949003	FLUKE	525A	TEMPERATURE/PRESSURE CALIBRATOR	Oct 17, 07
011904	0133	HART SCIENTIFIC	1913.6	PLATINUM RTD	Oct 12, 07


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


Measurements by: Bob Trollinger
Metrology Technician

Southwest Research Institute
 Calibration Laboratory
 Measurement Report

Work Order:	303071831	Mfr.	DURE-SENSE	Technician	blt
Asset No:	008426	Model	Type K	Cal Date	15-Nov-06
Serial No:	331	Type	Thermocouple		
Remarks: Limits taken from ASTM E230-02 and are based on brand new unused thermocouples.					
Limited Cal - tested at 0.0 and 150 C					

Function/Range	Test Point	TI Read	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	° C	° C	° C	° C	° C	Result
	0.063	0.26	-0.20	2.2	0.19	Pass
	150.030	150.10	-0.07	2.2	0.30	Pass
END OF REPORT						