SOUTHWEST RESEARCH INSTITUTE®

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Institute Quality Systems
Institute Calibration Laboratory
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ACCREDITED
Certificate #
0972-01

Certificate of Calibration

Submitted By: DIV20
Address: B57
Contact: DON BANNON
Manufacturer / Model: FISHER SCIENTIFIC / 14-983-10B
Description: THERMOMETER, GLASS
Serial No: 183303
Asset No: 002469
Procedure: THERMOMETERS, GLASS - 11 SEP 2006

Work Order: 303072186
Date Issued: Dec 14, 2006
Calibration Date: Dec 14, 2006
***Calibration Due:** Jun 14, 2007
Calibration Location: Bldg. 64
Environment: Temp. 73.0°F Hum. 40 %RH
****Data Type:** FOUND-LEFT
DivID/Location: N/A

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, 2005, 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
010281	0421	HART SCIENTIFIC	5628	SPRT	Jun 24, 08

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

Measurements by: Bob Trollinger
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303072186	Mfr.	Fisher-Scientific	Technician	blt
Asset No.	002469	Model	14-983-10B		
Serial No.	183303	Type.	THERMOMETER	Cal Date.	14-Dec-06

Remarks: No accuracy is provided by manufacturer. +/- 1 Degree C resolution is used as the accuracy specification.

TOTAL IMMERSION

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	°C	°C	°C	°C	°C	Result
	-19.85	-19.0	0.9	1.0	0.58	Pass
	0.08	0.5	0.4	1.0	0.58	Pass
	50.02	50.5	0.5	1.0	0.58	Pass
	99.94	100.9	1.0	1.0	0.58	Pass

END OF REPORT