



# SOUTHWEST RESEARCH INSTITUTE®

6220 Culebra Road, P.O. Drawer 28510  
Institute Quality Systems  
Institute Calibration Laboratory  
Phone: 210-522-5215 Fax 210-522-4834



Calibration Laboratory  
Certificate #0972-01

## Certificate of Calibration

**Submitted By:** DIV20

**Address:** B51

**Contact:** DON BANNON

**Manufacturer / Model:** ERTCO / ASTM 16C

**Description:** THERMOMETER, GLASS

**Serial No:** 3116

**Asset No:** 011745

**Procedure:** THERMOMETERS, GLASS - 11 SEP 06

**Work Order:** 303083092

**Date Issued:** Sep 4, 2008

**Calibration Date:** Sep 4, 2008

**\*Calibration Due:** Sep 4, 2009

**Calibration Location:** Bldg. 64

**Environment:** Temp. 74.0°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:** Calibration 30°C to 150°C

### Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
009137	A21208	HART SCIENTIFIC	1575	SUPER THERMOMETER	Dec 16, 08
013908	1641	HART SCIENTIFIC	5628	SPRT	Feb 20, 10

Reviewed by:  srk ( ) mar ( ) wgh

Measurements by: Bob Trollinger  
Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303083092	Mfr:	Ertco	Technician:	blt
Asset No:	011745	Model:	ASTM16C		
Serial No:	3116	Type:	THERMOMETER	Cal Date:	04-Sep-08
Remarks:	Accuracy Reference ASTM E1 - 03a Limited Calibration 30°C to 150°C				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	°C	°C	°C	°C	°C	Result
30.0	30.12	30.3	0.2	0.5	0.30	Pass
50.0	50.06	50.3	0.2	0.5	0.30	Pass
100.0	99.99	100.3	0.3	0.5	0.30	Pass
150.0	150.09	150.0	-0.1	0.5	0.30	Pass

END OF REPORT