SOUTHWEST RESEARCH INSTITUTE®

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

Certificate of Calibration

A2LA ACCREDITED
Calibration Laboratory
Certificate #0972-01

Submitted By: DIV20
Address: B51
Contact: DON BANNON
Manufacturer / Model: ERTCO / ASTM 91C
Description: THERMOMETER, GLASS
Serial No: 1748
Asset No: 007618
Procedure: THERMOMETERS, GLASS - 11 SEP 06

Work Order: 303081680
Date Issued: Jun 30, 2008
Calibration Date: Jun 30, 2008
***Calibration Due:** Jun 30, 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: None

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:	303081680	Mfr:	Ertco	Technician:	blt
Asset No:	007618	Model:	ASTM 91 C		
Serial No:	1748	Type:	THERMOMETER	Cal Date:	30-Jun-08
Remarks:	Accuracy Referecnce ASTM E1 - 03a				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	°C	°C	°C	°C	°C	Result
20	20.12	20.02	-0.10	0.1	0.083	Pass
30	30.12	30.02	-0.10	0.1	0.083	Pass
40	40.11	40.02	-0.09	0.1	0.083	Pass
50	49.11	49.03	-0.08	0.1	0.083	Pass

END OF REPORT