



SOUTHWEST RESEARCH INSTITUTE®

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Institute Quality Systems
Institute Calibration Laboratory
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Certificate #

0972-01

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: BRADLEY WERLING

Manufacturer Model: ERTCO ASTM 91 C

Description: THERMOMETER

Serial No: 1748

Asset No: 007618

Procedure: TEMPERATURE, JAN/04

Work Order: 303065046

Date Issued: Jul 14, 2005

Calibration Date: Jul 14, 2005

***Calibration Due:** Jul 14, 2006

Calibration Location: Bldg. 64

Environment: Temp. 71.0°F Hum. 43 %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	Nov 24, 05
010281	0421	HART SCIENTIFIC	5628	SPRT	Jun 24, 08

Approved by: Walt Hill

Manager

m:\a2la1.rpt Rev date March 6, 2005

Measurements by: Joe Greagrey

Metrology Technician

Page 1 of 1

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303065046	Mfr.	Ertco	Technician	JRG
Asset No.	007618	Model	ASTM 91 C		
Serial No.	1748	Type.	THERMOMETER	Cal Date.	14-Jul-05
Remarks:	Accuracy Reference ANSI Z236.1-1983				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	Deg C	Deg C	Deg C	Deg C	Deg C	Result
20	19.98	20.05	0.07	0.1	0.059	Pass
30	30.02	30.00	-0.02	0.1	0.059	Pass
40	39.97	40.00	0.03	0.1	0.059	Pass
50	49.96	50.00	0.04	0.1	0.059	Pass
END OF REPORT						