

SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, 78228-0510 • TEL (210) 522-5215 • FAX (210) 522-369

To: Don Bannon
From: Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Date: Jul. 17, 2006
Subject: Out-of-tolerance Notice

The purpose of this notice is to alert you of a condition, which may have caused erroneous measurements affecting safety or the quality of products or services your organization provides. The attached as-found readings are provided for your evaluation to determine if the instrument listed below had an impact and if further action is required.

When the as-found results are near the specification limit, +/- a margin less than the measurement uncertainty, it is not possible to state in-tolerance or out-of-tolerance with a 95% level of confidence. It is the Institute Calibration Laboratory policy that the client is made aware of this situation because the end-user is taking some of the risk that the instrument listed below may not meet the end-user measurement requirements.

Your review/evaluation should be conducted in accordance with your organizational quality policy and procedural requirements. If we can be of further assistance, please contact the Calibration Laboratory at 522-5215.

Manufacturer: Ertco **Model:** ASTM 2C-99

Description: Thermometer **Serial Number:** 6489

Asset Number: 11748 **User ID Number:**

Last Calibration: Jul 25, 2005

Date Received for Service: Jul. 11, 2006 **Work Order Number:** 303070220

Service Requested: Scheduled calibration

Remarks: Out of tolerance. dee data Sheet.

120 --- Q20061120007
Instrument calibration record for ERTCO
Thermometer, Model # ASTM 2C, Serial #
6489 (07/17/2006)

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303070220	Mfr:	Ertco	Technician:	blt
Asset No:	011748	Model:	ASTM 2C-99	Cal Date:	17-Jul-06
Serial No:	6489	Type:	THERMOMETER		
Remarks:	Accuracy Reference ASTM E1 - 03a				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found
Temperature	°C	°C	°C	°C	°C	Result
	0.091	0.0	-0.1	1.0	0.58	Pass
	99.999	100.0	0.0	1.0	0.58	Pass
	210.416	212.0	1.6	1.0	0.58	Fail
	280.240	283.0	2.8	1.0	0.58	Fail
END OF REPORT						



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 #

0972-01

Certificate of Calibration

Submitted By: DIV20
Address: B57
Contact: DON BANNON
Manufacturer Model: ERTCO ASTM 2C
Description: THERMOMETER
Serial No: 6489
Asset No: 011748
Procedure: TEMPERATURE, JAN/04

Work Order: 303070220
Date Issued: Jul 17, 2006
Calibration Date: Jul 17, 2006
***Calibration Due:** Jul 17, 2007
Calibration Location: Bldg. 64
Environment: Temp. 73.0°F Hum. 40 %RH
****Data Type:** AS-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.

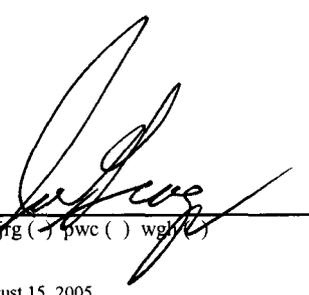
*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility 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: Limited Cal - +/-3 °C

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
009137	A21208	HART SCIENTIFIC	1575	THERMOMETER	Dec 22, 06
010281	0421	HART SCIENTIFIC	5628	SPRT	Jun 24, 08


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


Measurements by: Bob Trollinger
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303070220	Mfr:	Ertco	Technician:	blt
Asset No:	011748	Model:	ASTM 2C-99	Cal Date:	17-Jul-06
Serial No:	6489	Type:	THERMOMETER		
Remarks:	Accuracy Referecnce ASTM E1 - 03a				
	Limited Cal +/-3°C				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Left
Temperature	°C	°C	°C	°C	°C	Result
	0.091	0.0	-0.1	3.0	0.58	Pass
	99.999	100.0	0.0	3.0	0.58	Pass
	210.416	212.0	1.6	3.0	0.58	Pass
	280.240	283.0	2.8	3.0	0.58	Pass
END OF REPORT						

Bob Trollinger

From: Don Bannon [dbannon@cnwra.swri.edu]
Sent: Wednesday, July 19, 2006 2:44 PM
To: 'Bob Trollinger'
Subject: RE: Request to proceed

Bob--

Please relax tolerance to +/-3°C.

Thank you,
--Don

Don Bannon - Staff Technician
Geology & Geophysics, CNWRA
Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
210-522-5118
dbannon@swri.org

-----Original Message-----

From: Bob Trollinger [mailto:robert.trollinger@swri.org]
Sent: Monday, July 17, 2006 4:15 PM
To: don.bannon@swri.org
Subject: Request to proceed

**S O U T H W E S T R E S E A R C H
I N S T I T U T E ®**

To: Don Bannon, Div 20
From: Institute Calibration Laboratory, Bob Trollinger
Date: July 17, 2006
Subject: Review of Work Request Number 303070220

The work you requested is held pending your review. Please review the information provided and respond with your approval or further instructions for work to proceed. Return a signed copy via mail to Cal Lab Bldg 64, FAX (522-4834) or reply to this email. If you have questions or require additional information please call 522-5215.

Unit Received: July 11, 2006

Work Requested: Cal

7/20/2006

Manufacturer: Ertco Model: ASTM 2C-99 Description: Thermometer

Serial Number: 6489 Asset Number: 11748 User ID:

Cause of Review: Unit is reading high. Limits need to be set to +/-3°C.

If no reply has been received by the unit will be returned without action.

Approved () Disapproved return unit as is () Date: _____

Instructions ()

Authorized by _____

Print or Type Name

Signature

Thank you for your timely response,

Walt Hill, Metrology Group Leader
Institute calibration Laboratory