GEOSCIENCES AND ENGINEERING DIVISION NONCONFORMANCE REPORT

Project No. 20.OHD20.131	NCR No. 2006-19				
PART 1: DESCRIPTION OF NONCONFORMANCE Thermometer (model: Ertco, s/n 6489, AN Lab. during scheduled calibration. Measurement differenc 280.240° C.	N011748) was found to be out of tolerance per SwRI Cal. e was greater than \pm 1.0 at 210.416 °C. and also at				
Initiated by: Don Bannon	Date: 24 July 2006				
Action Required by: <u>Xihua He</u>	Response Due Date: <u>4 August 2006</u>				
PART 2: PROPOSED DISPOSITION AND CORRECTIVE					
Disposition: Accept data obtained in tests using this	thermometer as is.				
Basis of Disposition: As noted in the out of tolerance report, the out of tolerance condition was limited to the temperature of 210.416 °C and 280.240 °C. All other temperatures of the thermometer were in tolerance. At 210.416 °C and 280.240 °C the thermometer had measurement error of 1.6 °C and 2.8 °C versus a limit of +/- 1.0 °C. Measurement error of 1.6 °C at 210.416 °C has no significant effect on corrosion measurements because corrosion tests have requirements for temperature of +/- 2 °C. The error at 280.240 °C also has no effect on previous measurements because no data were taken at temperatures above 200 °C using this thermometer.					
Action to Correct Nonconformance: This thermometer cycle and was properly disposed of.	was not adjustable. It was removed from the calibration				
-	Target date for completion: <u>07 AUG 2006</u>				
Proposed by: Xihua He	Date: 7/28/2006				
PART 3: APPROVAL Manager: <u><u><u></u></u> Director of QA: <u><u></u></u> Comments/Instructions:</u>	Date: 7/28/06 Date: 1/28/06				
PART 4: CLOSE OUT Comments: No additional activitieded Verified by: McMuel Date: 7/28/04	Distribution: Original-CENTER QA Records ORIGINATOR X.H.C. T. FSANNIN PRINCIPAL INVESTIGATOR X. H.C. MANAGER V. JAir ASSISTANT DIRECTOR S. Mohanty				

FORM QAP- 9 (04/2005)

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Southwest Research Institute Calibration Laboratory Measurement Report

Work Order: Asset No: Serial No:	303070220 011748 6489	Mfr: Model: Type:	Ertco ASTM 2C-99 THERMOMETER		Technician: Cal Date:	bit 17-Jul-06
Remarks:	Accuracy Ref	erecnce ASTM E	E1 - 03a			
Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found
Temperature	°C	°C	°C	°C	°C	Result

emperature	-C	-L	-C	ι. 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 O	F REPORT			

Rev, Jul/06

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S. R		SOUTHWEST RESEARCH INSTITUTE [®] 6220 Culebra Road, P.O. Drawer 28510 Institute Quality Systems Institute Calibration Laboratory Phone: 210-522-5215 Fax 210-522-4834			ACCREDITED Certificate #
	®		Certificate of Calibration		0972-01
	Submitted By:	DIV20	Work Order:	303070220	
	Address:	B57	Date Issued:	Jul 17, 2006	
	Contact:	DON BANNON	Calibration Date:	Jul 17, 2006	
Manu	facturer Model:	ERTCO ASTM 2C	*Calibration Due:	Jul 17, 2007	
	Description:	THERMOMETER	Calibration Location:	Bldg. 64	
	Serial No:	6489	Environment:	Temp. 73.0°F	Hum. 40 %RH
	Asset No:	011748	**Data Type:	AS-LEFT	
	Procedure:	TEMPERATURE, JAN	/04		
*Determin this date. determina Reported uncertain Remarks Standar	ned by the customer, **Found/Left = adju- tition of in-/out-of-tol uncertainty calculate ty with a coverage fa : Limited Cal - +/-3 ds Used	does not imply the instrume istment and/or repair was no erance or compliance/noncor ed in accordance with the ISC ctor of k=2 to approximate a °C	nt will remain within tolerance as any number of factors may on t required, As Left = adjusted and/or repaired was required. T mpliance. See Remarks or attached Measurement Report with O "Guide to the Expression of Uncertainty in Measurement" (C 95% confidence level.	ause an out-of-tole he client has sole r the same Work Or GUM) and represen	rance condition before esponsibility for der number for data. ts an expanded
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

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Reviewed by: blt () fg () bwc () w Metrology Technic an m:\a2la1.rpt Rev ate August 15, 2005

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تسح Measurements by: Bob Trollinger Metrology Technician

Page 1 of 1

Southwest Research Institute Calibration Laboratory Measurement Report

Work Order:	303070220	Mfr:	Ertco	· · ·	Technician:	blt
Asset No:	011748	Model:	ASTM 2C-99			
Serial No:	6489	Туре:	THERMOMETER		Cal Date:	17-Jul-06
Remarks:	Accuracy Refe	erecnce ASTM E	1 - 03a			
		Limite	d 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			

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Bob Trollinger

From:Don Bannon [dbannon@cnwra.swri.edu]Sent:Wednesday, July 19, 2006 2:44 PMTo:'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

SOUTHWEST RESEARCH INSTITUTE®

То:	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

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Manufacturer: I	Ertco	Model: ASTM 2C-99	Description: Thermometer	
Serial Number:	6489	Asset Number: 11748	User ID:	
Cause of Review	w: Unit is readir	ng high. Limits need to b	e set to +/-3°C.	
If no relpy has b	been received b	y the unit will be retu	irned without action.	
Approved ()	Disapproved re	turn unit as is ()	Date:	
Instructions ()				
Authorized by _			_	
F	Print or Type Na	ame	Signature	
Thank you for y	our timely resp	onse,		

Walt Hill, Metrology Group Leader Institute calibration Laboratory