

SOUTHWEST RESEARCH INSTITUTE

Department of Quality Assurance

Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 25038 ASSET # 002042 DATE 07 Apr 97

ITEM DATA:

Manufacturer Fisher Model 485-103

Description Chemical Serial # 032906

Accessories \_\_\_\_\_

ACTION REQUESTED Cal

CUSTODIAN Dr. W. Daniel

Turned in by: \_\_\_\_\_ Phone 704

CHARGE # 70549-501 Date Required \_\_\_\_\_

INSTRUMENT USED ON:  NUCLEAR  DOD  NASA  GLP  SPPE  
 OTHER \_\_\_\_\_

COPY OF CALIBRATION CERTIFICATE  Yes  No

CONDITION RECEIVED: \_\_\_\_\_ Out of tolerance, repaired to specifications  
\_\_\_\_\_ In tolerance, minor adjustments/repairs made  
 In tolerance, no adjustments/repairs  
\_\_\_\_\_ Out of tolerance, adjusted to specifications  
\_\_\_\_\_ Received into system, introduced or reactivated  
\_\_\_\_\_ Calibration interval  
\_\_\_\_\_ Reliability code

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure  
etc etc  
0.00°C 0.00°C

CAL ENVIRONMENT:  
Temperature 77°F Humidity 27 %RH

CALIBRATED/REPAIRED:  
By [Signature] Cal Procedure WI-9-30-T#03  
Date 15 APR 97 Accuracy +/- 1°C  
Cal Interval 12 mo Time to complete:  
Next Cal due 15 APR 98 Cal 2.0 Repair \_\_\_\_\_  
Standards used (Asset#) 106, 5174

DATE COMPLETED 15 APR 97  
DATE PICKED UP 4/17/97 PICKED UP BY [Signature]

25038

SOUTHWEST RESEARCH INSTITUTE  
Department of Quality Assurance  
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 29649 ASSET # 004012 DATE 08 May 98

ITEM DATA:  
Manufacturer Fisherbrand Model 11.92.1.8  
Description Thermometer Serial # 0323001  
Accessories \_\_\_\_\_

ACTION REQUESTED 101

CUSTODIAN Steve Dwyer Daniel Dwyer

Turned in by: \_\_\_\_\_ Phone 6070

CHARGE # 10-1402-57 Date Required \_\_\_\_\_

INSTRUMENT USED ON:  (DOD/NASA)  (NUCLEAR)  (GLP)  (SPPE)  (ISO)  
 OTHER \_\_\_\_\_

COPY OF CALIBRATION CERTIFICATE  (Yes)  (No)

NEW WORK  Yes  No If yes, an evaluation shall be made to verify capabilities.

By MAJ Date 08 May 98

Work involves proprietary/confidential information or equipment  (Yes)  (No)

CONDITION RECEIVED: \_\_\_\_\_ (F) Out of tolerance, repaired to specifications  
\_\_\_\_\_ (G) In tolerance, minor adjustments/repairs made  
\_\_\_\_\_ (J) In tolerance, no adjustments/repairs  
\_\_\_\_\_ (K) Out of tolerance, adjusted to specifications  
\_\_\_\_\_ (S) Received into system, introduced or reactivated

29649

ACTION TAKEN: (Calibration/Repair/Parts) \_\_\_\_\_  
std 445  
-0.04°C 0.5°C

CAL ENVIRONMENT:  
Temperature 80 °F Humidity 33 %RH

CALIBRATED/REPAIRED:  
By [Signature] Cal Procedure ASTM E77-89  
Date 11 May 98 Accuracy 1/2° F  
Cal Interval 12 Mo Reliability Code: 5  
Next Cal due 11 May 99 Cal Time 1.5 Repair Time \_\_\_\_\_  
Standards used (Asset#) 219, 328

DATE COMPLETED 11 May 98  
DATE PICKED UP 5/12/98 PICKED UP BY [Signature]



SOUTHWEST RESEARCH INSTITUTE  
Department of Quality Assurance  
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WORK ORDER

CERTIFICATE # 34378 ASSET # 002042 DATE Or May 99

ITEM DATA:

Manufacturer Fisherbrand Model 14-983/100  
Description Thermometer Serial # 10323004  
Accessories tube

ACTION REQUESTED cal

CUSTODIAN M. J. Danell Dunn

Turned in by: \_\_\_\_\_ Phone 6046

CHARGE # 20-04 Date Required \_\_\_\_\_

INSTRUMENT USED ON:  (DOD/NASA)  (NUCLEAR)  (GLP)  (SPPE)  (ISO)  
 OTHER \_\_\_\_\_

COPY OF CALIBRATION CERTIFICATE  (Yes)  (No)

NEW WORK  Yes  No If yes, an evaluation shall be made to verify capabilities.

By MAJ Date 05-04-99

Work involves proprietary/confidential information or equipment  (Yes)  (No)

CONDITION RECEIVED: \_\_\_\_\_ (F) Out of tolerance, repaired to specifications  
\_\_\_\_\_ (G) In tolerance, minor adjustments/repairs made  
 (J) In tolerance, no adjustments/repairs  
\_\_\_\_\_ (K) Out of tolerance, adjusted to specifications  
\_\_\_\_\_ (S) Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated Per Procedure

CAL ENVIRONMENT:  
Temperature 76 °F Humidity 33 %RH

CALIBRATED/REPAIRED:  
By [Signature] Cal Procedure F.O. 2315-4-12-1, April 97  
Date 7/13/99 Accuracy [Signature]  
Cal Interval Emps Reliability Code: \_\_\_\_\_  
Next Cal due 7 Nov 99 Cal Time 1.5 Repair Time \_\_\_\_\_  
Standards used (Asset#) 7001, 5174

DATE COMPLETED 7/13/99  
DATE PICKED UP 5/13/99 PICKED UP BY [Signature]

34378

# WORK ORDER 39206

Date Received 5/25/00

Asset No. 002042 Manufacturer FISHER SCIENTIFIC Model 14-983-10B  
Description THERMOMETER Serial Number 0323004  
Accessory Received/Required NONE  
Div/CC ID NONE Accessory to Asset No. N/A  
Div/CC DIV20 Location B57 Custodian DARRELL DUNN Tel. 6090  
Charge/Project No. 20.00751.006 Proprietary/Confidential N Date Required ROUTINE  
Work Requested CALIBRATION  
Receiving Inspection O.K.  
Delivered By DARRELL DUNN Tel. 6090

## WORK HISTORY

Date	Start Time	Stop Time	Notes

## PARTS

Part Name	Part Number	Cost	Failure Description

39206

## WORK SUMMARY

Failure Description \_\_\_\_\_  
Repair Action \_\_\_\_\_  
Cal Procedure CL-2 MAY 99 Temp 76 F Hum 47 %  
Tech DW Cal Hrs. .7 Repair Hrs. \_\_\_\_\_ Part Cost \_\_\_\_\_  
Action Taken enl  
Standards Used 219 5124  
Date Cal JUN 2000 Int. 12 Mo. Date Due JUN 2000 Reliability Code 7  
Date Picked Up 6/2/00 Picked Up By [Signature]

**CALIBRATION CHECK FORM**

Date Calibrated 15 JUN 2000 Work Order 39206 Cal By JW

Procedure No./Date : CL-9, May99 Unit Under Test Thermometer.

Mfg. FISHER Model 14-983-10R SN 0323004 AN 2042

STEP	FUNCTION OR RANGE	APPLIED	TOLERANCE		MEASURED VALUES		P/F
			MIN	MAX	AS FOUND	RELEASED	
4.1	Temperatre Calibration						
	Lowest value of Range + 2 Div.	19.97			19.0		
	20% Range	4.95			+ 5.3		
	40% Range	30.00			30.5		
	60% Range	55.03			55.6		
	80% Range	80.14			81.0		
	Highest value of Range - 2 Div.	109.05			110.5		
	Room 74F (2353)						
		25°			26°		



Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238  
(210) 522-5215  
Department of Quality Assurance  
Calibration Laboratory

Accredited



Certificate #  
0972-01

## Certificate of Calibration

1 June 2000

**Issued to:** DARRELL DUNN DIV20 B57  
**Manufacturer/Model:** FISHER SCIENTIFIC 14-983-10B  
**Description:** THERMOMETER  
**Serial Number:** 0323004  
**Asset Number:** 002042

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NC SL Z540-1-1994. The results of this calibration relate only to the individual item as described above. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results of this calibration certificate were determined in accordance with the terms of accreditation unless stated otherwise below.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

**Ambient Conditions:** Temperature: 76.0 Degrees Fahrenheit Humidity: 47 % RH

**Calibration Date:** 1 Jun 00 **Calibration Procedure:** CL-9 5/99

**Condition as Received:** In Tolerance

**Remarks:**

Approved by:

Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 39206

m:\a2la.rpt Rev date 22 May 00

Measurements performed by:

Jerry White, Technician

Page 1 of 1

# SOUTHWEST RESEARCH INSTITUTE

## Calibration Laboratory

### WORK ORDER

Received by RCRUZ,10/26/01 11:23:26AM

Arrived 10/26/01

Work Order **444045913**

Asset No 002042 Manufacturer FISHER SCIENTIFIC

Model 14-983-10B

Equipment Type THERMOMETER

Serial No. 0323004

Accessory No.

Interval 12 M

Calibration Procedure CL-9, 5/99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel 6090

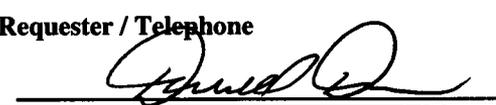
**IN4CAL**

Special Instructions \_\_\_\_\_

Notify before adjustments or repairs. ( ) Provide data with certificate ( ) Certificate Type E540

Charge/Project No. 00751.006 1.20

Requester / Telephone \_\_\_\_\_

This information is correct for the work requested. 

### WORK NOTES

Date	Hours	Remarks/Notes
<u>10/30</u>	<u>1.0</u>	<u>cal</u>
<u>10/31</u>	<u>.5</u>	<u>cal</u>

Date	Hours	Part Name	Part Number	Failure Description	Cost
<u>n/a</u>					

### WORK SUMMARY

Failure Description n/a

Repair Action n/a

Tech R. D. K. S. M. Cal Hrs. \_\_\_\_\_ Repair Hrs. \_\_\_\_\_ Parts Cost \_\_\_\_\_ Temp 76 F Hum. 44 %

Standards Used 5174, 5243

Date Picked Up 11/16/01

Picked Up By B. D. J.

444045913



Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78238  
(210) 522-5215  
Department of Quality Assurance  
Calibration Laboratory

## Certificate of Calibration

31 October 2001

**Issued to:** DARRELL DUNN DIV20 B57  
**Manufacturer/Model:** FISHER SCIENTIFIC 14-983-10B  
**Description:** THERMOMETER  
**Serial Number:** 0323004  
**Asset Number:** 002042  
**Work Order Number:** 444045913

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

**Ambient Conditions:** Temperature: 76.0 Degrees Fahrenheit Humidity: 44 % RH

**Calibration Date:** 31 Oct 01 **Calibration Procedure:**

**Condition as Received:** SEE ATTACHED DATA

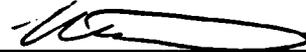
**Condition as Received:** SEE ATTACHED DATA

**Remarks:**

**Approved by:**

  
Walt Hill, Supervisor  
Institute Calibration Laboratory

**Measurements performed by:**

  
Roger Dykstra, Technician

