

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

WORK ORDER

CERTIFICATE # 22377 ASSET # 2468 DATE 14 Aug 96

ITEM DATA:

Manufacturer Fisher Model 14-983-10B
Description Thermometer Serial # 183302
Accessories _____

ACTION REQUESTED cal

CUSTODIAN Darrell Dunn Div 20

Turned in by: _____ Phone _____

CHARGE # 20-5708-573 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 internal
 - _____ Realibility code

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure
0.0°C 0°C

CAL ENVIRONMENT:
Temperature 80 °F Humidity 33 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure WI-9-30-7763
Date 19 AUG 96 Accuracy ± 1°C
Cal Interval 6 Mths Time to complete:
Next Cal due 19 FEB 97 Cal 2.0 Repair _____
Standards used (Asset#) 4965

DATE COMPLETED 19 Aug 96
DATE PICKED UP 2/2/97 PICKED UP BY [Signature]

22377

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

WORK ORDER

CERTIFICATE # 24348 ASSET # 002468 DATE 17 FEB 97

ITEM DATA:
Manufacturer Fisherbrand Model 14-985-10B
Description thermometer Serial # 183302
Accessories _____

ACTION REQUESTED cal

CUSTODIAN DW.20, Donnell Dunn

Turned in by: _____ Phone _____

CHARGE # 20-5708-561 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 internal
_____ Reliability code

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated Per Procedure.
Std 445
0.01°C 0.0°C

24348

CAL ENVIRONMENT:
Temperature 51 °F Humidity 32 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure 61-9-30-7403
Date 20 Feb 97 Accuracy ±.1°C
Cal Interval 6 mos Time to complete:
Next Cal due 20 Aug 97 Cal 2.0 Repair _____
Standards used (Asset#) 311, 328

DATE COMPLETED 21 Feb 97
DATE PICKED UP 2/26/97 PICKED UP BY [Signature]

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

WORK ORDER

CERTIFICATE # 26594 ASSET # 002408 DATE 25 Aug 97

ITEM DATA:
Manufacturer Fisher Brand Model W-98310B
Description Thermometer Serial # 183502
Accessories _____

ACTION REQUESTED 01

CUSTODIAN DW20, Donald Dunn

Turned in by: _____ Phone 6090

CHARGE # 20518561 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 _____ Date _____

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
44 447
0.021°C 0.0°C

26594

CAL ENVIRONMENT:
Temperature 50 °F Humidity 34 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure W-9-30-9703
Date 3 Sep 97 Accuracy ±1°C
Cal Interval 6 mo Reliability Code: 7
Next Cal due 3 Apr 98 Cal Time 1.5 Repair Time _____
Standards used (Asset#) 218, 328

DATE COMPLETED 4 Sep 97
DATE PICKED UP 9/10/97 PICKED UP BY [Signature]

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

WORK ORDER

CERTIFICATE # 28930 ASSET # 002468 DATE 07 Mar 98

ITEM DATA:

Manufacturer Fisher Model 14-983-1013
Description Thermometer Serial # 183302
Accessories _____

ACTION REQUESTED Cal

CUSTODIAN Dr. J. D. Smith

Turned in by: _____ Phone 6076

CHARGE # 20-1402-511 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 _____ Date _____

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) _____
Cal std unt
0.020°C 0.1°C

CAL ENVIRONMENT: Temperature 72 °F Humidity 26 %RH

CALIBRATED/REPAIRED:
By K. Kuehn Cal Procedure WI 9-30-T# 03
Date 10 Mar 98 Accuracy ± 1°C
Cal Interval 6 months Reliability Code: 8
Next Cal due 10 Sep 98 Cal Time 1.0 Repair Time _____
Standards used (Asset#) 29, 328

DATE COMPLETED 10 Mar 98
DATE PICKED UP 3/18/98 PICKED UP BY [Signature]

28930

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

WORK ORDER

CERTIFICATE # 21646 ASSET # 002468 DATE 19 Oct 98

ITEM DATA:

Manufacturer Fisher Model 14-983-106
Description Thermometer Serial # 18332
Accessories _____

ACTION REQUESTED Cal

CUSTODIAN Div. 20, Donald Dunn

Turned in by: _____ Phone 6090

CHARGE # 20-1402-571 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 MM Date 10/19/98

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

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated by [Signature]

21646

CAL ENVIRONMENT:
Temperature 73 °F Humidity 61 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure ASTM E77-92
Date 20 Oct 98 Accuracy ±0.1
Cal Interval 6 mos Reliability Code: 9
Next Cal due 20 Apr 99 Cal Time 1.0 Repair Time _____
Standards used (Asset#) 219, 328

DATE COMPLETED 20 Oct 98
DATE PICKED UP 10/22/98 PICKED UP BY [Signature]

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

WORK ORDER

CERTIFICATE # 34376 ASSET # 002468 DATE 01 May 99

ITEM DATA:

Manufacturer Fisher Brand Model 14-983-1013
Description Thermometer Serial # 183302
Accessories tube

ACTION REQUESTED cal

CUSTODIAN Div. 20, Darrell Dunn

Turned in by: _____ Phone 6090

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) collected by leadman

CAL ENVIRONMENT:
Temperature 76 °F Humidity 33 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure F.O. 33K5-4-42-1, Apr 97
Date 7 May 99 Accuracy 0.5% spec
Cal Interval 6 mos Reliability Code: _____
Next Cal due 7 Nov 99 Cal Time 1.5 Repair Time _____
Standards used (Asset#) 5174, 7001

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

34376

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

WORK ORDER

WORK ORDER # 36856 ASSET # 002468 DATE 19 Nov. 99

ITEM DATA:

Manufacturer Fisher Model 14-983-1013
Description 1 hp motor Serial # 183503
Accessories _____

ACTION REQUESTED cal

CUSTODIAN M. D. Darrell 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 MAD Date 11-17-99

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

CONDITION RECEIVED: _____ Out of tolerance
 In tolerance
_____ Damaged (Contact customer)
_____ Contact _____ Date _____
_____ Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) calibrated by hand

CAL ENVIRONMENT:
Temperature 74 °F Humidity 49 %RH

CALIBRATED/REPAIRED:
By A. [Signature] Cal Procedure CL-9, May 99
Date 19 Nov 99 Accuracy [Signature]
Cal Interval 6 mos Reliability Code 11
Next Cal Due 19 May 00 Cal Time 2 Repair Time _____
Standards used (Asset #) 5243, 5174

DATE COMPLETED 19 Nov 99

DATE PICKED UP 11/23/99 PICKED UP BY [Signature]

36856



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



Certificate #
 0972-01

Certificate of Calibration

19 November 1999

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 14-983-10B
Description: THERMOMETER
Serial Number: 183302
Asset Number: 002468

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.

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: 74.0 Degrees Fahrenheit Humidity: 49 % RH

Calibration Date: 19 Nov 99 **Calibration Procedure:** CL-9, MAY99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:



 Jim Patterson, Supervisor or Walt Hill, Metrologist

Certificate # 36856

m:\a2la.rpt Rev date 10 Mar 99

Measurements performed by:



 Ken Harp, Technician

Page 1 of 1

WORK ORDER 39204

Date Received 5/25/00

Asset No. 002468 Manufacturer FISHER SCIENTIFIC Model 14-983-10B
Description THERMOMETER Serial Number 183302
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

39204

WORK SUMMARY

Failure Description _____

Repair Action _____

Cal Procedure CL-9, MAY99 Temp 74 F Hum 47 %

Tech QW Cal Hrs. .7 Repair Hrs. _____ Part Cost _____

Action Taken 219 5174

Standards Used _____

Date Cal 1 JUN 2000 Int. 6 Mo. Date Due 1 DEC 2000 Reliability Code 12

Date Picked Up 6/2/00 Picked Up By Darrell Dunn



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



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: 183302
Asset Number: 002468

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL 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, MAY99

Condition as Received: In Tolerance

Remarks:

Approved by:

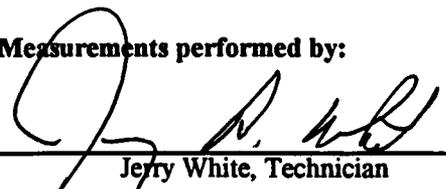


Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 39204

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

Processed by JIBARRA at 8:35:03AM on 1/12/01

1 10000 0000 0000 0000 0000 0000 0000

Work Order **444042029**

Arrived 1/12/01

Asset No. 002468

Manufacturer FISHER SCIENTIFIC

Model 14-983-10B

Instrument Type/Class THERMOMETER

Serial No. 183302

Accessory No.

Calibration Procedure CL-9, MAY99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel. 6090

Charge/Project No. 20.00751.006

Delivered By / Telephone DARRELL DUNN/ X6090

IN4CAL

Special Instructions _____

WORK NOTES

Date	Hours	Remarks/Notes
		<u>Thermometer OOT @ 108°C Thermometer read 110°C. will</u>
		<u>reject thermometer.</u>
		<u>6/1/2000</u>

REPAIR PARTS

Date	Hours	Part Name	Part Number	Failure Description	Cost

WORK SUMMARY

Failure Description _____

Repair Action _____

Calibration Procedure CC-9, 5/99 Temp 74 F Hum. 36 %

Tech UMoreb Totals Cal Hours 1.0 Repair Hours _____ Parts Cost _____

Standards Used 219

Date Picked Up 1/31/2001

Picked Up By Darrell Dunn

42029

