

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

WORK ORDER

CERTIFICATE # 34367 ASSET # 001300 DATE 04 May 99

ITEM DATA:

Manufacturer Fisher Brand Model 15-166A
Description Thermometer Serial # 498-19c
Accessories Top

ACTION REQUESTED Cal

CUSTODIAN Dr. D. 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 ma 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) 6 Point Cal

CAL ENVIRONMENT:
Temperature 75 °F Humidity 57 %RH

CALIBRATED/REPAIRED: DM Wood
By _____ Cal Procedure T033K5-4-42-1 Apr-97
Date 5-5-99 Accuracy ±1°C
Cal Interval 6 mo Reliability Code: _____
Next Cal due 11-5-99 Cal Time 1h Repair Time _____
Standards used (Asset#) 5174, 7001

DATE COMPLETED 5-6-99
DATE PICKED UP 5/13/99 PICKED UP BY [Signature]

34367

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
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WORK ORDER

WORK ORDER # 4205 ASSET # 07900 DATE 11/16/99

ITEM DATA:
Manufacturer Tektronics Inc Model 15166A
Description Thermometer Serial # 478192
Accessories _____

ACTION REQUESTED Cal

CUSTODIAN Dr. J. J. Smith

Turned in by: _____ Phone 6076

CHARGE # 5204 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 Standard

CAL ENVIRONMENT:
Temperature 75 °F Humidity 52 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure CL-9, May 99
Date 22 Nov 99 Accuracy [Signature]
Cal Interval 6 mos Reliability Code 2
Next Cal Due 22 May 00 Cal Time 2 Repair Time _____
Standards used (Asset #) 5243, 5174

DATE COMPLETED 22 Nov 99
DATE PICKED UP 11/23/99 PICKED UP BY [Signature]

36835



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

22 November 1999

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 15-166A
Description: THERMOMETER
Serial Number: H98-180
Asset Number: 007300

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: 75.0 Degrees Fahrenheit Humidity: 52 % RH

Calibration Date: 22 Nov 99 **Calibration Procedure:** CL-9, MAY99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Jim Patterson, Supervisor of Walt Hill, Metrologist

Certificate # 36835

m:\a2la.rpt Rev date 10 Mar 99

Measurements performed by:

Ken Harp, Technician

Page 1 of 1

WORK ORDER 39213

Date Received 5/26/00

Asset No. 007300 Manufacturer FISHER SCIENTIFIC Model 15-106A
Description THERMOMETER Serial Number H98-180
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. 20.00751.008 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

WORK SUMMARY

Failure Description _____

Repair Action _____

Cal Procedure CL-9, MAY99 Temp 76 F Hum 47 %

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

Action Taken ent

Standards Used 219 8174

Date Cal 1/20/00 Int. 6 Mo. Date Due 1/20/00 Reliability Code 3

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

39213

CALIBRATION CHECK FORM

Date Calibrated JUN 2000 Work Order 39 213 Cal By QW

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

Mfg. Fisher Model ~~15-111A~~ 15-111A SN H98-180 AN 7300

STEP	FUNCTION OR RANGE	APPLIED	TOLERANCE		MEASURED VALUES		P/F
			MIN	MAX	AS FOUND	RELEASED	
4.1	Temperature Calibration						
	Lowest value of Range + 2 Div.	19.97			-21.0		
	20% Range	15.05			15.1		
	40% Range	49.69			50.1		
	60% Range	75.07			76.0		
	80% Range	119.96			120.1		
	Highest value of Range -2 Div.	149.91			150.0		
		28			25.5		



Southwest Research Institute
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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 15-166A
Description: THERMOMETER
Serial Number: H98-180
Asset Number: 007300

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.

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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:

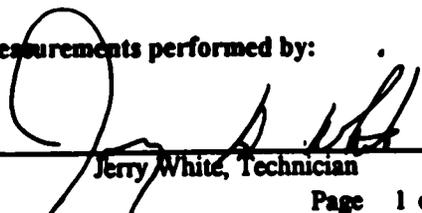
Approved by:



Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 39213
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 RCRUZ at 3:56:28PM on 12/14/00

||||| ||||| ||||| ||||| ||||| |||||

Work Order **444041754**

Arrived 12/14/00

Asset No. 007300

Manufacturer FISHER SCIENTIFIC

Model 15-166A

Instrument Type/Class THERMOMETER

Serial No. H98-180

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

IN4CAL

Special Instructions _____

WORK NOTES

Date	Hours	Remarks/Notes
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

REPAIR PARTS

Date	Hours	Part Name	Part Number	Failure Description	Cost
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description _____

Repair Action _____

Calibration Procedure _____ Temp 69 F Hum. 40 %

Tech JW Totals Cal Hours 1 Repair Hours _____ Parts Cost _____

Standards Used 219

Date Picked Up 1/9/2001

Picked Up By [Signature]

444041754



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

22 December 2000

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 15-166A
Description: THERMOMETER
Serial Number: H98-180
Asset Number: 007300

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Ambient Conditions: Temperature: 69.0 Degrees Fahrenheit Humidity: 40 % RH

Calibration Date: 21 Dec 00 **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 # 444041754

m\A2LA.rpt Rev date 22 May 00

Measurements performed by:

Jerry White, Technician