

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

WORK ORDER

CERTIFICATE # 34364 ASSET # 007404 DATE 04 May 99

ITEM DATA:

Manufacturer Frt 10 Model 70MM 1MM
Description Thermometer Serial # F98-343
Accessories Jub

ACTION REQUESTED Cal

CUSTODIAN Div. 20, Danell 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 MMI 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) Cal

CAL ENVIRONMENT:
Temperature 75 °F Humidity 57 %RH

CALIBRATED/REPAIRED:
By AM Ward Cal Procedure T033K5-4-42-1 Am97
Date 5-5-99 Accuracy ±1°C
Cal Interval 6mo 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]

34364

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

WORK ORDER

WORK ORDER # 36841 ASSET # 001304 DATE 17 Nov 99

ITEM DATA:

Manufacturer Extec Model ASTM 10
Description thermometer Serial # 198-396
Accessories _____

ACTION REQUESTED (N)

CUSTODIAN Div. 20 Danell Dunn

Turned in by: _____ Phone 6090

CHARGE # 20-01 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 [Signature] 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 per procedure

CAL ENVIRONMENT:
Temperature 75 °F Humidity 52 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure CL-9, 11/17/99
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 #) 5248, 5174

DATE COMPLETED 22 Nov 99

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

36841



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: ERTCO ASTM 1C
Description: THERMOMETER
Serial Number: F98-393
Asset Number: 007304

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NC SL 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 or Walt Hill, Metrologist
Certificate # 36841

Measurements performed by:



Ken Harp, Technician

WORK ORDER 39205

Date Received 5/25/00

Asset No. 007304 Manufacturer ERTCO Model ASTM 1C
Description THERMOMETER Serial Number F98-393
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

WORK SUMMARY

Failure Description _____
Repair Action _____
Cal Procedure CL-9, 5/99 Temp 76 F Hum 47 %
Tech JW Cal Hrs. 17 Repair Hrs. _____ Part Cost _____
Action Taken cal
Standards Used 219 5174
Date Cal JUN 2000 Int. 6 Mo. Date Due 1 Dec 2000 Reliability Code 3
Date Picked Up 6/2/00 Picked Up By Darrell D.

39205



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: ERTCO ASTM 1C
Description: THERMOMETER
Serial Number: F98-393
Asset Number: 007304

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCCL 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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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:

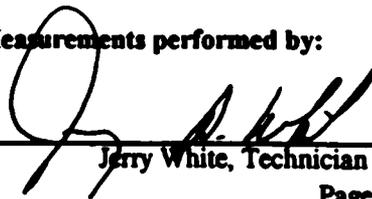


Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 39205

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 **444041757**

Arrived 12/14/00

Asset No. 007304 Manufacturer ERTCO

Model ASTM 1C

Instrument Type/Class THERMOMETER

Serial No. F98-393

Accessory No. Calibration Procedure CL-9, 5/99

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
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description _____

Repair Action _____

Calibration Procedure CL-9

Temp 69 F

Hum. 40 %

Tech QW

Totals Cal Hours 1

Repair Hours _____

Parts Cost _____

Standards Used 219

Date Picked Up 1/9/2001

Picked Up By [Signature]

41757



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: ERTCO ASTM 1C
Description: THERMOMETER
Serial Number: F98-393
Asset Number: 007304

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCCL 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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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: 69.0 Degrees Fahrenheit Humidity: 40 % RH

Calibration Date: 21 Dec 00 **Calibration Procedure:** CL-9, 5/99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 444041757

mAa2la.rpt Rev date 22 May 00

Measurements performed by:

Jerry White, Technician

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Processed by RCRUZ at 2:43:41PM on 6/22/01

1 1000 0000 0000 1000 0000 0101 1001

Work Order **444044160**

Arrived 6/22/01

Asset No. 007304 Manufacturer ERTCO

Model ASTM IC

Instrument Type/Class THERMOMETER

Serial No. F98-393

Accessory No. Calibration Procedure CL-9, 5/99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel. 6090

Charge/Project No. 00751.006.1.20

Delivered By / Telephone

IN4CAL

Special Instructions _____

WORK NOTES

Date	Hours	Remarks/Notes
<u>6/25</u>	<u>0.5</u>	<u>Calibration</u>
<u>6/26</u>	<u>0.5</u>	<u>Calibration</u>

REPAIR PARTS

Date	Hours	Part Name	Part Number	Failure Description	Cost
<u>4/16</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

WORK SUMMARY

Failure Description N/A

Repair Action N/A

Calibration Procedure CL-13, 5/99 Temp 75F Hum. 50 %

Tech R. Dikstra Totals Cal Hours 1.0 Repair Hours Parts Cost

Standards Used 0219

Date Picked Up 7/9/01

Picked Up By B. R. D.

44160



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

26 June 2001

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: ERTCO ASTM 1C
Description: THERMOMETER
Serial Number: F98-393
Asset Number: 007304
Work Order Number: 444044160

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCCL 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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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: 50 % RH

Calibration Date: 26 Jun 01 **Calibration Procedure:** CL-9, 5/99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Wak Hill, Supervisor
Institute Calibration Laboratory

Measurements performed by:

Roger Dykstra, Technician

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Received by JIBARRA, 1/8/02 11:36:03AM

ASSET TAG NO. 007304

Arrived 1/8/02

Work Order **444046680**

Asset No. 007304 Manufacturer ERTCO

Model ASTM 1C

Equipment Type THERMOMETER

Serial No. F98-393

Accessory No.

Interval 6 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 Typ _____

Charge/Project No. 00751.006 1.20

Requester / Telephone

DARRELL DUNN/ X6090

This information is correct for the work requested. Darrell Dunn

WORK NOTES

Date	Hours	Remarks/Notes
<u>1/10/02</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. Dykes Cal Hrs. 1.0 Repair Hrs _____ Parts Cost _____ Temp 76 F Hum. 42 %

Standards Used 0219

Date Picked Up 1/11/02

Picked Up By Darrell Dunn

444046680



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

Certificate of Calibration

10 January 2002

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: ERTCO ASTM 1C
Description: THERMOMETER
Serial Number: F98-393
Asset Number: 007304
Work Order Number: 444046680

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: 42 % RH

Calibration Date: 10 Jan 02 **Calibration Procedure:** CL-9, 5/99

Condition as Received: IN TOLERANCE

Condition as Returned: IN TOLERANCE

Remarks:

Approved by:


Walt Hill, Supervisor
Institute Calibration Laboratory

Measurements performed by:


Roger Dykstra, Technician