

SOUTHWEST RESEARCH INSTITUTE

Department of Quality Assurance

Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 25031 ASSET # 00240 DATE 01 Apr 97

ITEM DATA:
Manufacturer Kossip Model ASTM 82C
Description HP, MOUNT Serial # 024 394
Accessories _____

ACTION REQUESTED 101

CUSTODIAN DW. W. Dorell Dorell

Turned in by: _____ Phone 105708-561

CHARGE # 105708-561 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 interval
_____ Reliability code

ACTION TAKEN: (Calibration/Repair/Parts) Calibrated per procedure
AT UNT
0.00°C 0.0°C

CAL ENVIRONMENT:
Temperature 70 °F Humidity 40 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure 41-9-30-54a3
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]

25031

SOUTHWEST RESEARCH INSTITUTE
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WORK ORDER

CERTIFICATE # 29655 ASSET # 002310 DATE 08 May 98

ITEM DATA:
Manufacturer Kossler Model AST M890
Description Thermometer Serial # 7243196
Accessories _____

ACTION REQUESTED Cal

CUSTODIAN Dr. D. Daniel 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 MA Date 05-08-98

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 Per Procedure
425
0.3°C 0.0°C

29655

CAL ENVIRONMENT:
Temperature 78.7°F Humidity 44 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure ASTM E 77-85 89
Date 11/12/98 Accuracy 1/29
Cal Interval 12/12 Reliability Code: 5
Next Cal due 11/12/99 Cal Time 1.5 Repair Time _____
Standards used (Asset#) 219, 328

DATE COMPLETED 11/12/98
DATE PICKED UP 5/13/98 PICKED UP BY [Signature]

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

WORK ORDER

CERTIFICATE # 34804 ASSET # 002310 DATE 07 June 99

ITEM DATA:

Manufacturer Kessler Model ASTM82C
Description Thermometer Serial # 9243196
Accessories _____

ACTION REQUESTED cal

CUSTODIAN Div. 20, Darrell Dunn

Turned in by: _____ Phone 6090

CHARGE # 20-OH 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 J.J.J. Date 07 June 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 72 °F Humidity 45 %RH

CALIBRATED/REPAIRED:

By [Signature] Cal Procedure CL-9 may 99

Date 14 Jun 99 Accuracy ± 1°C

Cal Interval 12 Reliability Code: _____

Next Cal due 14 Jun 00 Cal Time 2 Repair Time _____

Standards used (Asset#) 219 229

DATE COMPLETED 14 Jun 99

DATE PICKED UP 6/22/99 PICKED UP BY [Signature]

34804

CALIBRATION CHECK FORM

Date Calibrated 11 JUN 99 Work Order 34804 Cal By QW

Procedure No./Date _____ Unit Under Test _____

Mfg. _____ Model _____ SN 2243196 AN _____

STEP	FUNCTION OR RANGE	APPLIED	TOLERANCE		MEASURED VALUES		P/F
			MIN	MAX	AS FOUND	RELEASED	
	0°	ICE			0.0		
	36.0	36.575			37.0		
	69.0	69.045			70.0		
	90 TOL	90.179 ± 1°			91.0		

WORK ORDER 40044

Date Received 8/4/00

Asset No. 002310 Manufacturer KESSLER Model ASTM 82C
Description THERMOMETER Serial Number 9243196
Accessory Received/Required CASE
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
			70 to 100°C
			ASTM 82C P.T.

PARTS

Part Name	Part Number	Cost	Failure Description

Printed By: jr
Cal: 8/4/00 Due: 8/4/00
AN: 002310 SN: 9243196

40044

WORK SUMMARY

Failure Description _____

Repair Action _____

Cal Procedure CL-9, 5/99 Temp 74 F Hum 49 %

Tech [Signature] Cal Hrs. 1.5 Repair Hrs. _____ Part Cost _____

Action Taken [Signature] _____

Standards Used 000219

Date Cal 8-8-00 Int. 12 Mo. Date Due 8-8-01 Reliability Code _____

Date Picked Up 8/8/2000 Picked Up By [Signature]

Slut

-9 TM SPR
 -9 8.678°C

Steming 74

0	0	0
30	30.0	30.125
60	60.0	60.057
90	90.0	90.026

7007



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

8 August 2000

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: KESSLER ASTM 82C
Description: THERMOMETER
Serial Number: 9243196
Asset Number: 002310

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: 74.0 Degrees Fahrenheit Humidity: 49 % RH

Calibration Date: 8 Aug 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 # 40044

m:\a2la.rpt Rev date 22 May 00

Measurements performed by:

Mack Wood, Technician