



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
Department of Quality Assurance
Calibration Laboratory

Certificate of Calibration

27 August 1996

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: ERTCO 15-166A
Description: THERMOMETER
Serial Number: C96-649
Asset Number: 004989

Environmental Conditions

Temperature: 78.0 Humidity: 38%

Calibration Information

Calibration was in accordance with requirements of MIL-STD-45662A and ANSI/NC SL Z540-1-1994. Measurements are traceable to the National Institute of Standards and Technology (NIST). This report may not be reproduced except in full without written approval of the originator. Inspection and test data are on file and available for inspection.

Calibration Date: 26 Aug 96

Calibration Procedure: WI-9-30-TH03

Interval: 6 months

Accuracy: MFGR

Next Calibration Due: 26 Feb 97

Received: In Tolerance

Remarks:

Certificate # 22436

Signed: _____

LAST PAGE OF REPORT
Total Pages Printed: 1



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
Department of Quality Assurance
Calibration Laboratory

Certificate of Calibration

26 February 1997

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: ERTCO 15-166A
Description: THERMOMETER
Serial Number: C96-649
Asset Number: 004989

Environmental Conditions

Temperature: 76.0 Deg. F Humidity: 35%

Calibration Information

Calibration was in accordance with requirements of MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Measurements are traceable to the National Institute of Standards and Technology (NIST). This report may not be reproduced except in full without written approval of the originator. Inspection and test data are on file and available for inspection.

Calibration Date: 25 Feb 97 Calibration Procedure: WI-9-30-TH03
Interval: 6 months Accuracy: +/-1 DEG.C
Next Calibration Due: 25 Aug 97 Received: In Tolerance

Remarks:

Standards Used

Asset	MFR	Model	Description	Serial No.	Due Cal
000219	AZONI	A1011	RTD THERMOMETER	T1587-2078	12 Mar 97
000328	AZONI	A12001	RTD TEMPERATURE PROB	351477	12 Mar 97

Certificate # 24338

Signed: 

LAST PAGE OF REPORT
Total Pages Printed: 1



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
Department of Quality Assurance
Calibration Laboratory

Certificate of Calibration

10 March 1998

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHERBRAND/ERTCO 15-166A
Description: THERMOMETER
Serial Number: C96-649
Asset Number: 004989

Environmental Conditions

Temperature: 72.00 Deg. F

Humidity: 26 % RH

Calibration Information

Calibration was in accordance with requirements of MIL-STD-45662A and ANSI/NC SL Z540-1-1994. Measurements are traceable to the National Institute of Standards and Technology (NIST). This report may not be reproduced except in full without written approval of the originator. Inspection and test data are on file and available for inspection.

The uncertainty of the calibration was sufficient to determine that the instrument met the manufacturer's specifications.

Calibration Date: 10 Mar 98

Calibration Procedure: WI 9-30-TH03

Interval: 6 months

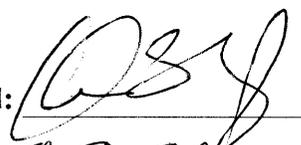
Next Calibration Due: 10 Sep 98

Received: In Tolerance

Remarks:

Standards Used

Asset	MFR	Model	Description	Serial No.	Due Cal
000219	AZONIX	A1011	RTD THERMOMETER	T1587-2078	24 Mar 98
000328	AZONIX	A12001	RTD TEMPERATURE PROBE	351477	3 Apr 98

Signed: 
Title: 

LAST PAGE OF REPORT
Total Pages Printed: 1

Certificate # 28933



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

12 May 1999

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 15-166A
Description: THERMOMETER
Serial Number: C96-649
Asset Number: 004989

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: 71.0 Degrees Fahrenheit Humidity: 50 % RH

Calibration Date: 12 May 99 **Calibration Procedure:** T.O.33K5-4-42-1, APR97

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

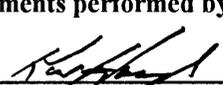


Jim Patterson, Supervisor or Walt Hill, Metrologist

Certificate # 34397

m:\a2la.rpt Rev date 10 Mar 99

Measurements performed by:



Ken Harp, Technician

Page 1 of 1



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

10 December 1999

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 15-166A
Description: THERMOMETER
Serial Number: C96-649
Asset Number: 004989

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: 70.0 Degrees Fahrenheit Humidity: 30 % RH

Calibration Date: 10 Dec 99 **Calibration Procedure:** CL-9 MAY 99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Jim Patterson, Supervisor or Walt Hill, Metrologist

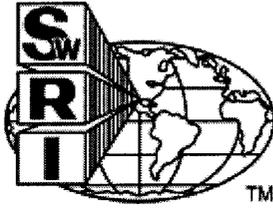
Certificate # 37057

m:\a2la.rpt Rev date 10 Mar 99

Measurements performed by:

Jerry White, Technician

Page 1 of 1



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

Certificate of Calibration

11 July 2002

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: FISHER SCIENTIFIC 15-166A
Description: THERMOMETER
Serial Number: C96-649
Asset Number: 004989
Work Order Number: 444049289

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: 81.0 Degrees Fahrenheit Humidity: 42 % RH

Calibration Date: 9 Jul 02 **Calibration Procedure:** CL-9 MAY 99

Condition as Received: IN TOLERANCE

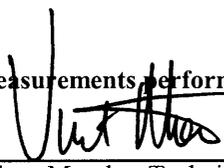
Condition as Returned: IN TOLERANCE

Remarks:

Approved by:


Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Measurements performed by:


Vince Morales, Technician

Southwest Research Institute
Calibration laboratory
Calibration Sheet.

Work Order:	444049289	Mfr.	Fisher Scientific	Technician	V.Morales
Asset No.	4989	Model	15-166A	Procedure	CL-9 5/99
Serial No.	C96-649	Type.	THERMOMETER	Cal Date	7/9/02

Function/Range	Standard	TI Reading	Difference (1)	Test Limits+/-	Results
Temperature	Deg. C	Deg. C	Deg. C	Deg. C	
-20	-19.83	-20.00	-0.17	1.00	Pass
0	0.10	0.20	0.10	1.00	Pass
50	49.99	50.00	0.01	1.00	Pass
100	99.97	100.00	0.03	1.00	Pass
150	149.92	150.00	0.08	1.00	Pass
0	-0.12	0.20	0.32	1.00	Pass



SOUTHWEST RESEARCH INSTITUTE™

6220 Culebra Road, P.O. Drawer 28510
Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: DARRELL DUNN

Manufacturer Model: FISHER SCIENTIFIC 15-166A

Description: THERMOMETER

Serial No: C96-649

Asset No: 004989

Procedure: CL-9, 5/99

Work Order: 444051768

Date Issued: Jan 10, 2003

Calibration Date: Jan 10, 2003

****Calibration Due:** Jul 10, 2003

Calibration Location: N/A

Environment: Temp. 77.0°F Hum. 21 %RH

***As Found:** IN TOLERANCE

***As Left:** IN TOLERANCE

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCCL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of $k=2$ to approximate a 95% confidence level. The calibration process provides a Test Uncertainty Ratio (TUR) of less than or equal to 25% (4:1) of the test limit unless otherwise stated in remarks or an attachment.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: None

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
008920	HART SCIENTIFIC, INC	17660-A-120-6-W	PLATINUM RTD	Jul 06, 03
009137	HART SCIENTIFIC, INC	1575	THERMOMETER	Jul 06, 03

Approved by: Walt Hill

Metrology Group Leader

m:\Nona21a1.rpt Rev date 15, August 02

Measurements by: Vince Morales

Metrology Technician

Southwest Research Institute
Calibration laboratory
Measurement Record

Work Order:	444051768	Mfr.	FISHER SCIENTIFIC	Technician	Vmorales
Asset No.	4989	Model	15-166A	Rev Level	0, 02-JUL-02
Serial No.	C96-649	Type.	THERMOMETER	Cal Date.	13-Jan-03
Remarks:					

Function/Range	Test Point	TI Reading	Difference	Test Limits+/-	Uncertainty	Found/Left
Temperature	Deg C	Deg C	Deg C	Deg C	Deg C	Results
-20	-20.40	-20.20	0.20	0.50	1.2	Pass
0	0.00	0.50	0.50	0.50	1.2	Pass
50	50.05	50.20	0.15	0.50	1.2	Pass
100	99.95	100.00	0.05	0.50	1.2	Pass
150	149.96	150.00	0.04	0.50	1.2	Pass



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Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: DARRELL DUNN

Manufacturer Model: FISHER SCIENTIFIC 15-166A

Description: THERMOMETER

Serial No: C96-649

Asset No: 004989

Procedure: TEMPERATURE, MAY/03

Work Order: 444054473

Date Issued: Jul 16, 2003

Calibration Date: Jul 15, 2003

****Calibration Due:** Jan 15, 2004

Calibration Location: Bldg. 64

Environment: Temp. 77.0°F Hum. 47 %RH

***As Found:** IN TOLERANCE

***As Left:** IN TOLERANCE

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCSL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of $k=2$ to approximate a 95% confidence level. The calibration process provides a Test Uncertainty Ratio (TUR) of less than or equal to 25% (4:1) of the test limit unless otherwise stated in remarks or an attachment.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: None

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
009137	HART SCIENTIFIC, INC	1575	THERMOMETER	Jul 30, 03
008920	HART SCIENTIFIC, INC	17660-A-120-6-W	PLATINUM RTD	Jul 30, 03

Approved by: Walt Hill

Metrology Group Leader

m:\Nona21a1.rpt Rev date 15, August 02

Measurements by: Mark Romero

Metrology Technician

Southwest Research Institute
Calibration laboratory
Caibration Report

Work Order:	444054473	Mfr.	Fisher Scientific	Technician	Mark Romero
Asset No.	004989	Model	15-166A		
Serial No.	C96-649	Type.	THERMOMETER	Cal Date.	15-Jul-03
Remarks:					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	Deg C	Deg C	Deg C	Deg C	Deg C	Results
	-19.9	-20.2	-0.3	0.5	0.6	Pass
	0.1	0.2	0.1	0.5	0.6	Pass
	50.0	50.0	0.0	0.5	0.6	Pass
	99.5	100.0	0.5	0.5	0.6	Pass
	150.1	150.5	0.4	0.5	0.6	Pass

END OF REPORT



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Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692



Certificate of Calibration

Certificate #

0972-01

Submitted By: DIV20
Address: B57
Contact: DARRELL DUNN
Manufacturer Model: FISHER SCIENTIFIC 15-166A
Description: THERMOMETER
Serial No: C96-649
Asset No: 004989
Procedure: TEMPERATURE, MAY/03

Work Order: 444056971
Date Issued: Jan 16, 2004
Calibration Date: Jan 15, 2004
****Calibration Due:** Jul 15, 2004
Calibration Location: Bldg. 64
Environment: Temp. 79.0°F Hum. 45 %RH
***As Found:** IN TOLERANCE
***As Left:** IN TOLERANCE

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCCL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of k=2 to approximate a 95% confidence level. The calibration process provides a Test Uncertainty Ratio (TUR) of less than or equal to 25% (4:1) of the test limit unless otherwise stated in remarks or an attachment.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: None

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
009137	HART SCIENTIFIC, INC	1575	THERMOMETER	Feb 05, 04
008920	HART SCIENTIFIC, INC	5614-17660-A-12	PLATINUM RTD	Feb 07, 04

Approved by: Walt Hill
Metrology Group Leader
m:\a2la1.rpt Rev date 15, August 02

Measurements by: Mark Romero
Metrology Technician

Southwest Research Institute
 Calibration laboratory
 Calibration Report

Work Order:	444056971	Mfr.	Fisher-Scientific	Technician	Mark Romero
Asset No.	004989	Model	15-166A		
Serial No.	C96-649	Type.	THERMOMETER	Cal Date.	15-Jan-04
Remarks:					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	Deg C	Deg C	Deg C	Deg C	Deg C	Result
	-19.9	-20.0	-0.1	0.5	0.6	Pass
	0.1	0.3	0.2	0.5	0.6	Pass
	50.0	50.2	0.2	0.5	0.6	Pass
	100.0	100.0	0.0	0.5	0.6	Pass
	149.9	149.9	0.0	0.5	0.6	Pass
END OF REPORT						



SOUTHWEST RESEARCH INSTITUTE™

6220 Culebra Road, P.O. Drawer 28510
Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692



Certificate #

0972-01

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: DARRELL DUNN

Manufacturer Model: FISHER SCIENTIFIC 15-166A

Description: THERMOMETER

Serial No: C96-649

Asset No: 004989

Procedure: TEMPERATURE, JAN/04

Work Order: 444059845

Date Issued: Jul 16, 2004

Calibration Date: Jul 14, 2004

****Calibration Due:** Jan 14, 2005

Calibration Location: Bldg. 64

Environment: Temp. 77.0°F Hum. 48 %RH

***As Found:** IN TOLERANCE

***As Left:** IN TOLERANCE

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCSL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of k=2 to approximate a 95% confidence level. See Remarks or attached Calibration Report with the same Work Order number for calibration data.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: None

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
008920	HART SCIENTIFIC	5614-17660-A-12	PLATINUM RTD	Sep 09, 04
009137	HART SCIENTIFIC	1575	THERMOMETER	Sep 05, 04

Approved by: Walt Hill
Metrology Group Leader

m:\a2la1.rpt Rev date 11, May 04

Measurements by: Mark Romero
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Caibration Report

Work Order:	444059845	Mfr.	Fisher Scientific	Technician	Mark Romero
Asset No.	004989	Model	15-166A		
Serial No.	C96-649	Type.	THERMOMETER	Cal Date.	14-Jul-04
Remarks:					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	Deg C	Deg C	Deg C	Deg C	Deg C	Result
-20	-19.8	-19.8	0.0	0.5	0.58	Pass
0	0.1	0.0	-0.1	0.5	0.58	Pass
50	50.0	50.5	0.5	0.5	0.58	Pass
100	100.0	100.2	0.2	0.5	0.58	Pass
150	150.0	150.3	0.3	0.5	0.58	Pass

END OF REPORT

SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, 78228-0510 • TEL (210) 522-5215 • FAX (210) 522-369

To: Darrell Dunn, Div 20, Ext 6090

From: Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Date: Jan. 06, 2005

Subject: Out-of-tolerance Notice

The purpose of this notice is to alert you of a condition, which may have caused erroneous measurements affecting safety or the quality of products or services your organization provides. The attached as-found readings are provided for your evaluation to determine if the instrument listed below had an impact and if further action is required.

When the as-found results are near the specification limit, +/- a margin less than the measurement uncertainty, it is not possible to state in-tolerance or out-of-tolerance with a 95% level of confidence. It is the Institute Calibration Laboratory policy that the client is made aware of this situation because the end-user is taking some of the risk that the instrument listed below may not meet the end-user measurement requirements.

Your review/evaluation should be conducted in accordance with your organizational quality policy and procedural requirements. If we can be of further assistance, please contact the Calibration Laboratory at 522-5215.

Manufacturer: Fisher Scientific **Model:** 15-166A

Description: Thermometer **Serial Number:** C96-649

Asset Number: 4989 **User ID Number:**

Last Calibration: Jan 14, 2004

Date Received for Service: Jan. 03, 2005 **Work Order Number:** 444062202

Service Requested: Scheduled calibration

Remarks: Unit is unreadabel below 30 Degrees C.

OUT OF TOLERANCE

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	444062202	Mfr.	Fisher-Scientific	Technician	blt
Asset No.	004989	Model	15-166A (ASTM 1C)		
Serial No.	C96-649	Type.	THERMOMETER	Cal Date.	06-Jan-05
Remarks:	Accuracy Reference ANSI Z236.1-1983				
RETURNED TO USER UNCALIBRATED					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Temperature	°C	°C	°C	°C	°C	Result
		Unreadable	#VALUE!	0.5	0.12	#### #
		Unreadable	#VALUE!	0.5	0.12	#### #
	50.0	50.5	0.5	0.5	0.12	Pass
	99.9	100.0	0.1	0.5	0.12	Pass
	150.0	150.2	0.2	0.5	0.12	Pass
END OF REPORT						

SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, 78228-0510 • TEL (210) 522-5215 • FAX (210) 522-3692

To: Darrell Dunn, Div 20, Ext 6090
From: Institute Calibration Laboratory
Date: January 6, 2005
Subject: Returned Equipment

The equipment described below is being return "as is" for the reason(s) indicated. The Institute Calibration Laboratory is not responsible to the customer for calibration status or condition. If we can be of further assistance, please contact the Calibration Laboratory at 522-5215.

Unit Received: January 3, 2005 Work Requested: Scheduled calibration

Manufacturer: Fisher Scientific Model: 15-166A Description: Thermometer

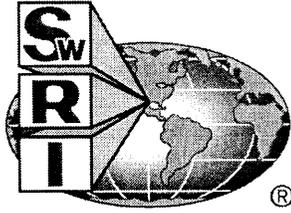
Serial Number: C96-649 Asset Number: 4989 User ID Number:

Reason for return without calibration or repair:

- Requested by the owning organization.
- Required accessories or items listed in remarks were not provided.
- Lack of technical data.
- Parts are no longer available.
- Lack of support by manufacturer.
- Other

Remarks: The markings are unreadable below 20 Degrees C and marginal below 30 Degrees C. Unable to calibrate.


Walt Hill, Metrology Group Leader
Institute Calibration Laboratory



CNWRA *A center of excellence in earth
sciences and engineering*

6220 Culebra Road · San Antonio · Texas, U.S.A. 78228-5166

MEMORANDUM

To: SwRI Calibration Lab
From: Darrell S. Dunn *D.S.D.*
Date: March 25, 2005
Subject: Thermometers

The following thermometers were either broken in service or were found to be out of tolerance during a normally scheduled calibration and should be removed from the calibration recall list. A copy of this memorandum will be placed in the Division 20 calibration records.

Kessler	ASTM 1C	Serial Number: 115749	Asset Number: 003247
Fisher Scientific	15-166A	Serial Number: C96-783	Asset Number: 005434
Fisher Scientific	15-166A	Serial Number: H98-149	Asset Number: 007298
Fisher Scientific	15-166A	Serial Number: C96-649	Asset Number: 004989
Fisher Scientific	15-166A	Serial Number: A2000-130	Asset Number: 008109

Please contact me at extension 6090 if you have any questions.