

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

WORK ORDER

CERTIFICATE # 32307 ASSET # 006969 DATE 11/24/98

ITEM DATA:

Manufacturer Quantachrome Corp. Model 01500-MICRO
Description CALIBRATION SPHERE Serial # 6969
Accessories Box

ACTION REQUESTED Cal

CUSTODIAN DIV 20 - DIM WINTERLE B189

Turned in by: _____ Phone _____

CHARGE # _____ 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 (Record Keeping only)

By [Signature] Date 11/24/98

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) _____

Measured with CM/M

CAL ENVIRONMENT: Temperature 70 °F Humidity 61 %RH

CALIBRATED/REPAIRED:
By Machand Shy Cal Procedure Mfg Spec
Date 11/24/98 Accuracy Mfg Spec
Cal Interval 24 MONTHS Reliability Code: 1
Next Cal due 11/24/00 Cal Time 15 Repair Time _____
Standards used (Asset#) 00

DATE COMPLETED 11/24/98
DATE PICKED UP 11/24/98 PICKED UP BY MORRIS ETHN STROM

32307

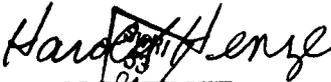
97

November 24, 1998

TO WHOM IT MAY CONCERN:

Calibration Sphere Assembly was measured and data recorded in building #162 at a temperature of 70 degrees (F) and humidity of 61%. The Coordinate Measuring Machine Serial Number CMM900900871 with traceability to N.I.S.T. was used for measurement.

Serial #6970	Diameter 1.8752	Form .0006
Serial #6969	Diameter .5001	Form .0005


HAROLD HENZE
IQA INSPECTOR

Center for Nuclear Waste Regulatory Analyses

(210) 522-5149

From: Bruce Mabrito

Date:

12/6/98



To: ① Jim Patterson / QA - CC 30

② Harold Henze / QA

PLEASE SEE my comments.
Need SWR letterhead
and determination whether
these are in CAL. Perhaps
we cannot determine that
because of the limitations
of our equipment.

November 24, 1998

~~File QA Records~~
129 Calibration Documentation

TO WHOM IT MAY CONCERN:

Calibration Sphere Assembly was measured and data recorded in building #162 at a temperature of 70 degrees (F) and humidity of 61%. The Coordinate Measuring Machine Serial Number CMM900900871 with traceability to N.I.S.T. was used for measurement.

Serial #6970	Diameter 1.8752	Form .0006
Serial #6969	Diameter .5001	Form .0005

Harold Henze
HAROLD HENZE
IQA INSPECTOR

Bruce
This is info I received from Machine Shop for the spheres. I have them in our (see lab) computer system for record keeping and recall.

- ① I think this should be a SURE betterhead to show from where it came.
- ② The measurement should show the units - inches, mm, whatever.
- ③ Help me with "Form"

Cal lab

.0006 x .0005 " - Does this mean it is in calibration?

James M... x 5149

1mm = .03937 1in = 25.4005 mm

November 24, 1998

~~F. & QA
Records
120 Calibration
Documentation~~

TO WHOM IT MAY CONCERN:

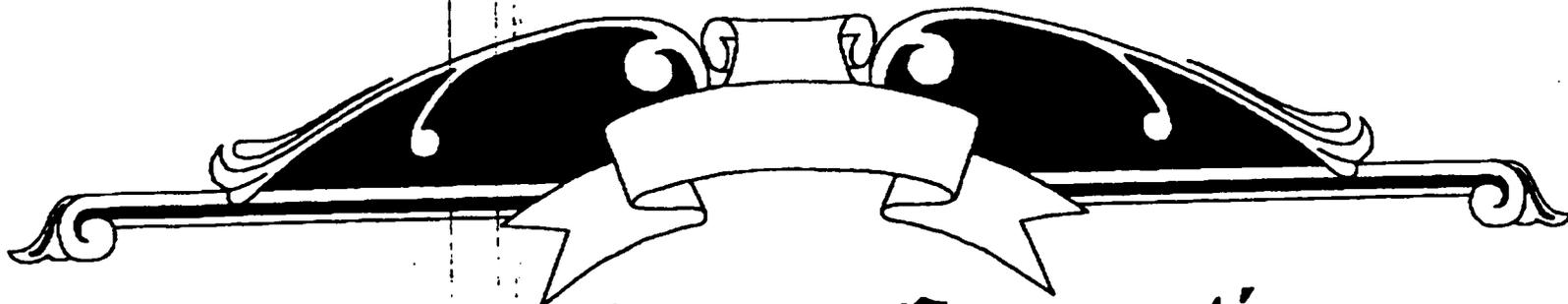
Calibration Sphere Assembly was measured and data recorded in building #162 at a temperature of 70 degrees (F) and humidity of 61%. The Coordinate Measuring Machine Serial Number CMM900900871 with traceability to N.I.S.T. was used for measurement.

Serial #6970	Diameter 1.8752	Form .0006
Serial #6969	Diameter .5001	Form .0005

~~Harold Henze~~
HAROLD HENZE
IQA INSPECTOR

Bruce
This is info I received from Machine Shop for the spheres. I have them in our (C&E Lab) computer system for record keeping and recall.

~~Jim Dattner~~
C&E Lab



Quantachrome Corporation
SPECIFICATION SHEET

Calibration Sphere - Large

Part Number 75212

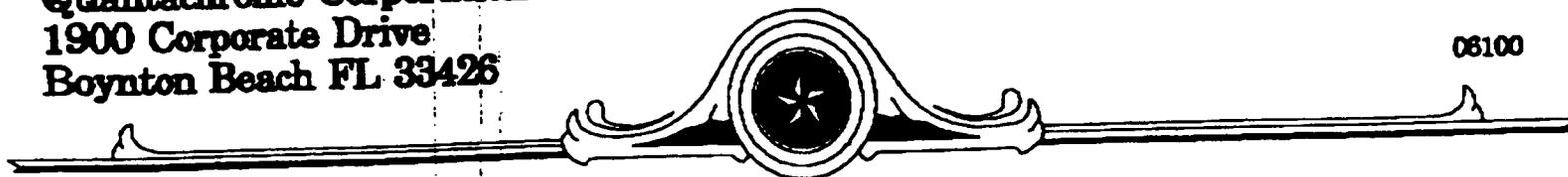
Material: Type 440-C Stainless Steel
Nominal Diameter 4.7625 cm
Diameter Tolerance 0.000254 cm

1.0711956 10

Volume 56.5592 ± 0.0023 cubic centimeters

Quantachrome Corporation
1900 Corporate Drive
Boynton Beach FL 33426

08100



November 8, 2000

To Whom It May Concern:

Calibration Sphere Assembly was measured and data recorded in building #162 at a temperature of 70 degrees (F) and humidity of 31%. The Coordinate Measuring Machine Serial Number CMM900900871 with traceability to N.I.S.T. was used for measurement.

Serial #6970	Diameter 1.8752	Form .0005
Serial #6969	Diameter .5001	Form .0005

HAROLD HENZESWRI
QA INSPECTOR 53
QA

To: Calibration File for Sphere Assemblies
Serial Nos. 6969 and 6970

November 8, 2000

From: Bruce Mabrito
Director of CNWRA Quality Assurance

Subject: Calibration Cycle Extension

The subject sphere assemblies were measured on November 8, 2000 at the SwRI Machine Shop using a coordinate measuring machine traceable to NIST standards. (See attached dimensional information sheet dated November 8, 2000) This measurement showed the metal spheres had not changed dimensionally in the preceding two years. In recognition that these metal spheres will not change dimensionally unless a mechanical abrasive process is used on them, and in accordance with the CQAM Section 12, Paragraph 12.4.1(2) (b), I am extending the calibration cycle of the spheres to 5 years.



Bruce Mabrito
Director of CNWRA
Quality Assurance

11/14/2000

Date