

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

WORK ORDER

CERTIFICATE # 32308 ASSET # 006970 DATE 11/24/

ITEM DATA:

Manufacturer (Quantachrome Corp) Model 01500-LARGE  
Description CALIBRATION SPHERE ASSY Serial # 6970  
Accessories Case

ACTION REQUESTED Cal

CUSTODIAN DIV 20 - JIM WINTER <sup>LE</sup> - 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 \_\_\_\_\_ Date \_\_\_\_\_

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 CMM.*

CAL ENVIRONMENT:  
Temperature 70 °F Humidity 61 %RH

CALIBRATED/REPAIRED:  
By Machine Shop Cal Procedure Machine Shop ?  
Date 11/24/98 Accuracy mfg spec  
Cal Interval 24 MONTHS Reliability Code: 1  
Next Cal due 11/24/00 Cal Time .5 Repair Time \_\_\_\_\_  
Standards used (Asset#) 00

DATE COMPLETED 11/24/98  
DATE PICKED UP 11/24/98 PICKED UP BY MARK ~~Winter~~ GINSBERG

32308

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

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 inches	*Form .0005
Serial #6969	Diameter .5001 inches	Form .0005

HAROLD HENZE  
QA INSPECTOR



\*Form is the deviation between the form of the measured feature and perfect form.

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