



# SOUTHWEST RESEARCH INSTITUTE™

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



0972-01

## Certificate of Calibration

**Submitted By:** DIV20  
**Address:** B57  
**Contact:** JIM PRIKRYL  
**Manufacturer Model:** OHAUS TS 400D  
**Description:** BALANCE  
**Serial No:** 2883  
**Asset No:** 002345  
**Procedure:** CLCP-WT-001, DEC/99

**Work Order:** 444057240  
**Date Issued:** Feb 2, 2004  
**Calibration Date:** Feb 2, 2004  
**\*\*Calibration Due:** Aug 2, 2004  
**Calibration Location:** B57  
**Environment:** Temp. 72.0°F Hum. 23 %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.

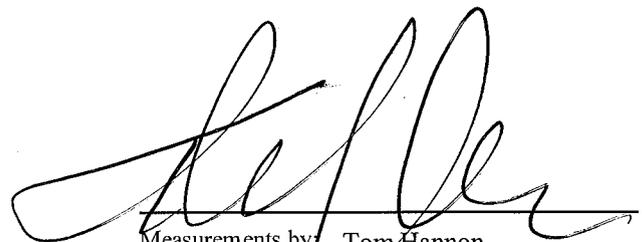
\*\*Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

**Remarks:** None

### Standards Used

Asset	Manufacturer	Model	Description	Cal Due
001712	RICE LAKE	100G	WEIGHT, CLASS S	Jun 23, 04
001713	RICE LAKE	200G	WEIGHT, CLASS S	Jun 20, 04
001714	RICE LAKE	200G	WEIGHT, CLASS S	Jun 20, 04

  
Approved by: Walt Hill  
Metrology Group Leader  
m:\a21a1.rpt Rev date 15, August 02

  
Measurements by: Tom Hannon  
Metrology Technician

**Southwest Research Institute**

Calibration Laboratory

Calibration Data Sheet

<b>Work Order</b> 444057240	<b>Mfr.</b> Ohaus	<b>Technician</b> TJH
<b>Asset No.</b> 002345	<b>Model</b> TS400D	<b>Procedure</b> CLCP-WT-001, 12/99
<b>Serial No.</b> 2883	<b>Type</b> Balance	<b>Cal Date</b> 02-Feb-04

**Location:** Bldg. 57/ Lab 111 Corrosion Lab

**Ambient Conditions:** 72 F 23 %RH 14.37 PSIA

**Operational Check:** Limits +/- : 0.05 g **Uncertainty:** 0.01 g

STD Mass Load	As Found Indication	Instrument Error
400.00 g	400.00 g	0.00 g

**Post Calibration Check:**

STD Mass Load	Post calibration Indication	Instrument Error	Results
400.00 g	400.00 g	0.00 g	Pass

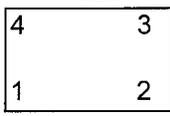
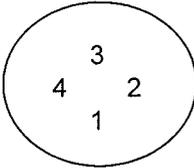
**Repeatability Check:** Mass Load: 200.00 g

1	200.00 g	6	200.00 g
2	199.99 g	7	200.00 g
3	199.99 g	8	200.00 g
4	200.00 g	9	200.00 g
5	200.00 g	10	200.00 g

Std Deviation	Tolerance
0.00 g	0.02 g

**Off-Centerline Check:** Mass Load: 200.00 g **Uncertainty:** 0.01 g



	Indication	Instrument Error	+/- Limits	Results
1	0.00 g	0.00 g	0.02	Pass
2	0.00 g	0.00 g	0.02	Pass
3	0.00 g	0.00 g	0.02	Pass
4	0.00 g	0.00 g	0.02	Pass

**Non-Linearity Check:** Range: 400.00 g **Uncertainty:** 0.01 g

STD Mass Load	Indication	Instrument Error	+/- Limits	Results
0.00 g	0.00 g	0.00 g	0.02	Pass
100.00 g	99.99 g	-0.01 g	0.02	Pass
200.00 g	99.99 g	-0.01 g	0.02	Pass
300.00 g	100.00 g	0.00 g	0.02	Pass
400.00 g	100.00 g	0.00 g	0.02	Pass

**Remarks:** Readability is 0.001g (80g) and 0.01g (410g). Standards used 1712, 1713, and 1714.

END OF REPORT

**SOUTHWEST RESEARCH INSTITUTE**

**INSTITUTE CALIBRATION LABORATORY**

6220 Culebra Road, Post Office Drawer 28510, San Antonio, Texas 78228-0510

Date: January 21, 2004

To: JIM PRIKRYL DIV20 B57

Subject: Recall Notice for Calibration

From: Walt Hill

Metrology Group Leader

Ext. 4929, e-mail [whill@swri.org](mailto:whill@swri.org)

According to our records you requested the following equipment be recalled for calibration on the date indicated. A single asterisk (\*) signifies the equipment is past due. A double asterisk (\*\*) signifies the item requires calibration in-place. In-place calibrations are normally completed within five workdays before the due date unless other arrangements are made. Equipment no longer requiring calibration should be removed from recall lists by drawing a ~~single line~~ through the due date and returning a signed copy to the Institute Calibration Laboratory, Bldg. 64 or fax to 210-522-4834. Please deliver equipment as close to the due date as possible to aid in meeting a turn-around goal of five workdays or less for on campus calibrations. To minimize down time for vendor calibrations, please contact the Calibration Laboratory as soon as possible to arrange for a vendor return authorization date. Call 210-522-5215 for additional information or to make arrangements for on-campus pickup and delivery.

\* Past Due \*\* Calibrate In Place

Due Date	Location Bldg/Rm/Lab	Asset No.	Div ID/Location	Manufacturer	Model	Description	Serial No.
29 Jan 04	** B57	002345	B57/ L111	OHAUS	TS 400D	BALANCE	2883
<b>Total:</b>	<b>1</b>						