



SOUTHWEST RESEARCH INSTITUTE®

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Institute Calibration Laboratory
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Certificate #

0972-01

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: DON BANNON

Manufacturer / Model: METTLER / UMT2

Description: BALANCE

Serial No: 211001-142

Asset No: 002028

Procedure: BALANCES AND SCALES - 1 DEC 2006

Work Order: 303073148

Date Issued: Feb 9, 2007

Calibration Date: Feb 9, 2007

***Calibration Due:** Aug 9, 2007

Calibration Location: B57

Environment: Temp. 68.4°F Hum. 46 %RH

****Data Type:** FOUND-LEFT

DivID/Location: N/A

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, 2005. ANSI/NCSL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance. See Remarks or attached Measurement Report with the same Work Order number for data.

Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks: Readings provided without pass/fail indications. User to determine if readings meet their requirements. See report.

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
001704	C859	RICE LAKE	1G	WEIGHT, CLASS 1	Jun 28, 07
001706	C861	RICE LAKE	2G	WEIGHT, CLASS 1	Sep 15, 07
001720	C8583	RICE LAKE	1MG-500 MG	WEIGHT SET, CLASS 1	Jun 28, 07

Reviewed by: blt () jrg () pwc (x) wgh ()

Metrology Technician

m:\a2la1.rpt Rev date August 15, 2005

Measurements by: Mark Romero

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303073148	Mfr:	Mettler	Technician:	Mark Romero
Asset No:	002028	Model:	UMT2		
Serial No:	211001-142	Type:	Balance	Cal Date:	09-Feb-07
Remarks: Readings provided without pass/fail indications due to readability of balance and uncertainty of the measurement. Customer to determine if readings meet their requirements.					
Linearity readings derived from the mean of 10 measurements.					
Ambient Conditions	68.4 °F		46 % RH		14.41 PSIA

Function/Range	Applied	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Corner Load	micrograms	micrograms	micrograms	micrograms	micrograms	
Reference	1000000.0					
Front	0.0	-3.1	-3.1	1.0		
Rear	0.0	-1.4	-1.4	1.0		
Left	0.0	0.7	0.7	1.0		
Right	0.0	-1.5	-1.5	1.0		
Repeatability						
1	2000000.0	2000008.0				
2	2000000.0	2000006.5				
3	2000000.0	2000008.7				
4	2000000.0	2000008.0				
5	2000000.0	2000007.3				
6	2000000.0	2000010.4				
7	2000000.0	2000009.5				
8	2000000.0	2000010.7				
9	2000000.0	2000008.6				
10	2000000.0	2000006.4				
Std Deviation		1.48		0.50		
Linearity	0.0	0.0	0.0	2.0	3.0	
	500000.0	499998.5	-1.5	2.0	3.0	
	1000000.0	999999.9	-0.1	2.0	3.0	
	1500000.0	1499998.1	-1.9	2.0	3.0	
	2000000.0	1999995.9	-4.1	2.0	3.0	

End of Report