



THAT EQUITY MAY PREVAIL

# Certificate Of Calibration

Weight Set

Report No: 121015-1-17



Calibration Laboratory 2398.01

Customer: VT Forensic Laboratory  
45 State Drive  
Waterbury, VT 05671

Date Received: 08 Dec 2015  
Calibration Date: 12 Dec 2015

Make: Troemner  
Model: SS 16 pc  
Serial #: 4000014465

Customer Specified Due Date: Dec 2018  
PO#: 33409

Range: 10 mg to 50 g  
Accuracy: ASTM E617 Class "2"

Contact: Jeff Dukette  
Temperature: 20.8 to 21.2 °C  
Humidity: 47.8 to 48.5 % RH

Item Received: Within Tolerance  
Calibration Location: QCS Met Lab

Item Returned: Within Tolerance No adjustment made.  
Equipment Location: Unknown

Weighing design: NIST SOP4 Double Substitution.

Nominal	As found Δ (UUT)	As left Δ (UUT)	Tolerance (±)	Comments	Uncertainty	Pass/Fail
50 g	0.045 mg	0.045 mg	0.25 mg		0.083 mg	P
20 g	-0.032 mg	-0.032 mg	0.10 mg		0.033 mg	P
20 g *	0.016 mg	0.016 mg	0.10 mg		0.033 mg	P
10 g	-0.004 mg	-0.004 mg	0.074 mg		0.020 mg	P
5 g	0.0014 mg	0.0014 mg	0.054 mg		0.0180 mg	P
2 g	0.0144 mg	0.0144 mg	0.054 mg		0.0180 mg	P
2g*	0.0004 mg	0.0004 mg	0.054 mg		0.0180 mg	P
1 g	0.0121 mg	0.0121 mg	0.054 mg		0.0180 mg	P
500 mg	-0.0004 mg	-0.0004 mg	0.025 mg		0.0083 mg	P
200 mg	0.0044 mg	0.0044 mg	0.025 mg		0.0083 mg	P
200 mg*	-0.0126 mg	-0.0126 mg	0.025 mg		0.0083 mg	P
100 mg	0.0027 mg	0.0027 mg	0.025 mg		0.0083 mg	P
50 mg	0.0049 mg	0.0049 mg	0.014 mg		0.0045 mg	P
20 mg	0.0047 mg	0.0047 mg	0.014 mg		0.0045 mg	P
20 mg*	0.0037 mg	0.0037 mg	0.014 mg		0.0045 mg	P
10 mg	0.0054 mg	0.0054 mg	0.014 mg		0.0045 mg	P

The measurement traceability and calibration process used for conformance verification of the above instrument meets or exceeds the requirements of ISO/IEC 17025:2005. The reported uncertainties reflect those of type B (Systematic errors associated with the standards and the procedure used), and type A (Random errors of the process). The type A and type B uncertainties were calculated in accordance with NIST technical Note 1297 using the RSS method and are reported at the coverage factor k=2 to approximate a confidence level of 95%. The due date as it appears on this report does not imply that the instrument will maintain its accuracy for any given length of time unless supported with further documentation (E.g. statistical etc.) which affirms such stability and is the responsibility of the end user. Many factors may contribute to instrument in-accuracy over time such as drift, environment, transportation, frequency of use etc. The reported results reflect readings obtained at the time of test only. The reported uncertainties reflect those associated with the calibration process itself and the instrument under test. If the UUT is a digital electronic measurement instrument add 0.6 of the least significant digit to the above stated uncertainty. The instrument is considered to be in-tolerance based on the observed results (Deviation or departure from nominal value) falling anywhere within its specified tolerance limits with consideration of applied uncertainties. Magnetic susceptibility testing was not performed. The UUT conforms to ASTM E617 by way of tolerance specification only and is not evaluated to conform with any other ASTM E617 Requirement. This document shall not be reproduced except in full without the written approval of Q.C. Services, Inc.  
Procedure Used: CAL 033 Rev. C



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**TRACEABLE STANDARD USED:**

Primary Weight Set S/N: 96-07592-01

Cal Due: 31 May 2016

Certified By: Martin Crowell

Date: 10 Dec 2015

Approved By:

  
Howard Maxim

Title: Metrologist.

Date: 10 Dec 2015