



CALIBRATION CERTIFICATE
 Report Number: 042780009-4102017-09:38:40
Calibrate, Inc.
 610 Jones Ferry Rd. Suite 210
 Carrboro, NC 27510
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Serial # 042780009

Data type: As Left
 SOP followed: Level 5 - SOP125-5
 Calibration date: 10-Apr-2017
 Next calibration due: Jul-2017
 Status: Pass
 Work order # S217041001

Instrument Information

Serial # 042780009 Device ID: 042780009
 Mfg, Type, and Size: VWR 5000, variable, 5000ul, 1ch
 Customer: Houston Forensic Science Center
 Contact: Jeffrey Watson-Evans
 Department: Toxicology
 Address: 1200 Travis
 Houston, TX 77002

Environmental Factors

Temperature: 72.08 °F
 Barometric pressure: 30.04 inHg
 Relative humidity: 55.04 %
 Liquid density: 0.9977
 Z Factor: 1.0031246
 Air density: 0.0011999
 Cubic expansion: 0.0001000

Test Criteria

Test plan: 5000 ul 500/2500/5000
 Method: Level 5 - SOP125-5 5 AL Standard

Measurement & Test Equipment

Name	Serial Number	Next Calibration Due
Balance - B442140901 - Mettler - WXTS205DU	B442140901	30-Jun-2017
CMC uc	NA	
Hygrometer - 150106890 - Control Company	150106890	31-May-2017
Weight Set - 10027 - Rice Lake	10027	30-Apr-2017

Parts, Repairs, & Restrictions

- | | | | |
|--|---|---|---|
| <input checked="" type="checkbox"/> Adjust Calibration | <input type="checkbox"/> Battery | <input type="checkbox"/> cGLP | <input type="checkbox"/> cGMP |
| <input type="checkbox"/> Charger | <input type="checkbox"/> Counter Assembly | <input type="checkbox"/> Ejector | <input checked="" type="checkbox"/> Grease |
| <input checked="" type="checkbox"/> ISO 17025 | <input type="checkbox"/> ISO 9001 | <input type="checkbox"/> Lip Seal | <input type="checkbox"/> Non-Routine Maint. |
| <input type="checkbox"/> O-ring | <input type="checkbox"/> Piston | <input checked="" type="checkbox"/> Preventive Maint. | <input type="checkbox"/> Repair |
| <input type="checkbox"/> Retainer | <input type="checkbox"/> Routine Maint. | <input type="checkbox"/> Seal | <input type="checkbox"/> Shaft |
| <input type="checkbox"/> Tension Ring | <input type="checkbox"/> Verification | <input type="checkbox"/> z540.3 | |

Notes

Statistics & Sample Data

Ch	Target (µl)	Tolerances (+/- µl)	Mean (µl)	Inaccuracy % Limit % Actual %	Imprecision % Limit % Actual %	Uncertainty (µl)	Guardband A 2% (µl)	Status	Sample	Sample Weight (g)	Sample Volume (µl)
1	500.00	15.00	507.35	3.00 1.47	3.00 0.32	3.65	14.84	Pass	1	0.50449	506.06631
									2	0.50370	505.27384
									3	0.50711	508.69450
									4	0.50724	508.82490
									5	0.50630	507.88196
1	2,500.00	75.00	2,519.32	3.00 0.77	3.00 0.32	18.47	74.12	Pass	1	2.51226	2520.10971
									2	2.50719	2515.02387
									3	2.52129	2529.16792
									4	2.51623	2524.09211
									5	2.50041	2508.22268
1	5,000.00	150.00	5,050.65	3.00 1.01	3.00 0.44	51.00	141.74	Pass	1	5.06293	5078.74943
									2	5.03542	5051.15347
									3	5.01300	5028.66342
									4	5.01295	5028.61327
									5	5.05029	5066.06994

Comment:

Technician: Steven Murray Tech - Onsite

Date: 10-Apr-2017

The calibration performed is in accordance with ISO/IEC 17025:2005 & ANSI/NCSL Z540-1-1994. The standards in this calibration report are traceable to SI through NIST. Expanded uncertainty is expressed at approximately the 95% confidence level using a coverage factor of k=2. Statement of compliance does not include the measurement uncertainty. The Calibration results and measurement uncertainties reported above relate only to the instrument calibrated. Calibrate, Inc. grants permission to reproduce this report in whole only.

