

Certificate ID: **285856A**

Certificate of Calibration

Quality Calibrations, Inc.



Device Details

Device ID: 285856A
Serial Number: 285856A
Description: EPPENDORF REFERENCE 1000 ul sc
Method: ISO - Accredited - SC
Test Plan: ISO - VARIABLE - SC - 1000ul
Operator: Judy Nissley

Customer: SAMPLE ISO II SC
Contact:
Location: ON SITE - MICROBIOLOGY
Address: ANY BUSINESS ANY ROAD
 LAUREL, MD 20708

102 E Bay Front Road
 Deale, MD 20751
 Phone: 877-747-3883

Environmental Factors

Temperature: 21.50 °C
Barometric Pressure: 30.1 inHg
Relative Humidity: 56.6 %
Liquid Density: 0.99788
Air Density: 0.00121
Z Factor: 1.00318

Calibration Date: 22-Sep-2016

Status: Passed

Calibration Type: Pipette Calibration

Next Due: 30-Sep-2017

Comment:

Measurement Standards

Device ID	Description	Serial Number	Last Calibration	Next Calibration
BALANCE	METTLER XS205DU	B130181039	18-Mar-2016	31-Mar-2017
HUMIDITY / TEMP METER	HTM CENTER 315	080603474	08-Jul-2015	08-Jul-2017
THERMOMETER	HB INSTRUMENT	K87177	08-Jul-2015	08-Jul-2017

Maintenance

- PM Service Replaced Friction Ring Replaced Piston Replaced Shaft Supplemental Parts

As Calibrated

Summary Statistics	Accuracy %		Precision %		Status	Sample Volumes (µL)							
	Mean	SD	Actual	Target		1	2	3	4	5			
1000.0 uL													
Ch 1	1004.39	1.126	1.02	0.439	0.800	0.112	0.300	Passed	1005.51	1002.69	1003.97	1005.24	1004.55
500.0 uL													
Ch 1	503.37	1.390	1.25	0.674	1.600	0.276	0.600	Passed	503.75	505.60	502.86	502.58	502.06
100.0 uL													
Ch 1	102.01	0.577	0.54	2.014	8.000	0.565	3.000	Passed	102.65	102.48	101.83	101.92	101.19

Statement of Traceability

This certificate has been issued in accordance with Standard Operating Procedures, SOP QACCRED and ISO 8655-2. This statement certifies that this calibration has been performed with instruments and standards traceable to NIST or equivalent National Metrology Institute. This certificate shall not be reproduced except in full, without written approval of the laboratory. These results relate only to item calibrated.



Measurement Uncertainties are determined using the factor of k=2 at a 95% confidence level.

ISO 17025:2005 Certified Certificate AC 1347

Completed by: Judy Nissley *JN*

Date: September 22, 2016

Reviewed by: Mike Beavers *MB*

Date: September 22, 2016

Certificate ID: **14031191**

Certificate of Calibration

Quality Calibrations, Inc.



Device Details

Device ID: 14031191
Serial Number: 14031191
Description: SOCOREX ACURA 855 40-350 ul, MCx12
Method: ISO - Accredited MC - 2
Test Plan: ISO - VARIABLE - MC - 350
Operator: Judy Nissley

Customer: SAMPLE ISO II MC
Contact:
Location: ON SITE - MICROBIOLOGY
Address: ANY BUSINESS ANY ROAD
 LAUREL, MD 20708

102 E Bay Front Road
 Deale, MD 20751
 Phone: 877-747-3883

Environmental Factors

Temperature: 21.70 °C
Barometric Pressure: 30.01 inHg
Relative Humidity: 55.7 %
Liquid Density: 0.99784
Air Density: 0.00120
Z Factor: 1.00322

Calibration Date: 21-Sep-2016
Calibration Type: Pipette Calibration

Status: Passed
Next Due: 30-Sep-2017

Comment: NO ADJUSTMENTS NECESSARY

Measurement Standards

Device ID	Description	Serial Number	Last Calibration	Next Calibration
BALANCE	METTLER XS205DU	B130181039	18-Mar-2016	31-Mar-2017
HUMIDITY / TEMP METER	HTM CENTER 315	080603474	08-Jul-2015	08-Jul-2017
THERMOMETER	HB INSTRUMENT	K87177	08-Jul-2015	08-Jul-2017

As Found

Summary Statistics				Accuracy %		Precision %		Sample Volumes (µL)	Status	Sample Volumes (µL)	
350.0 uL	Mean	SD	Unc. +/-	Actual	Target	Actual	Target			1	2
Ch 1	350.91	0.383	0.56	0.259	1.143	0.109	0.429	Passed	350.64	351.18	
Ch 2	349.85	1.185	1.68	0.043	1.143	0.339	0.429	Passed	349.01	350.69	
Ch 3	349.74	0.532	0.77	0.075	1.143	0.152	0.429	Passed	349.36	350.11	
Ch 4	351.01	0.376	0.55	0.289	1.143	0.107	0.429	Passed	350.75	351.28	
Ch 5	351.99	0.553	0.80	0.569	1.143	0.157	0.429	Passed	352.38	351.60	
Ch 6	350.04	0.326	0.48	0.013	1.143	0.093	0.429	Passed	349.81	350.28	
Ch 7	350.43	1.064	1.51	0.122	1.143	0.304	0.429	Passed	351.18	349.67	
Ch 8	350.54	0.369	0.54	0.153	1.143	0.105	0.429	Passed	350.28	350.80	
Ch 9	350.60	0.986	1.40	0.172	1.143	0.281	0.429	Passed	351.30	349.90	
Ch 10	350.50	0.454	0.66	0.142	1.143	0.130	0.429	Passed	350.18	350.82	
Ch 11	351.33	0.184	0.37	0.380	1.143	0.052	0.429	Passed	351.46	351.20	
Ch 12	350.15	0.121	0.37	0.043	1.143	0.034	0.429	Passed	350.06	350.24	
175.0 uL	Mean	SD	Unc. +/-	Actual	Target	Actual	Target	Status	1	2	
Ch 1	175.73	0.035	0.17	0.417	2.286	0.020	0.857	Passed	175.70	175.75	
Ch 2	174.80	0.341	0.50	0.113	2.286	0.195	0.857	Passed	175.04	174.56	
Ch 3	174.68	0.667	0.95	0.182	2.286	0.382	0.857	Passed	174.21	175.15	
Ch 4	175.61	0.184	0.30	0.351	2.286	0.105	0.857	Passed	175.48	175.74	
Ch 5	175.64	0.397	0.58	0.368	2.286	0.226	0.857	Passed	175.93	175.36	
Ch 6	174.73	0.028	0.17	0.153	2.286	0.016	0.857	Passed	174.71	174.75	
Ch 7	174.48	0.468	0.68	0.297	2.286	0.268	0.857	Passed	174.15	174.81	
Ch 8	175.78	0.206	0.33	0.446	2.286	0.117	0.857	Passed	175.63	175.93	
Ch 9	175.08	0.518	0.75	0.044	2.286	0.296	0.857	Passed	175.44	174.71	
Ch 10	175.65	1.227	1.74	0.371	2.286	0.699	0.857	Passed	176.52	174.78	
Ch 11	174.32	0.568	0.82	0.389	2.286	0.326	0.857	Passed	174.72	173.92	
Ch 12	174.90	0.298	0.45	0.056	2.286	0.170	0.857	Passed	175.11	174.69	

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Measurement Uncertainties are determined using the factor of k=2 at a 95% confidence level.

ISO 17025:2005 Certified Certificate AC 1347

Completed by: Judy Nissley

Date: September 21, 2016

Reviewed by: Mike Beavers

Date: September 21, 2016

As Found

Summary Statistics				Accuracy %		Precision %		Sample Volumes (µL)	
35.0 uL	Mean	SD	Unc. +/-	Actual	Target	Actual	Target	Status	
Ch 1	35.25	0.170	0.28	0.724	11.429	0.483	4.286	Passed	1
Ch 2	35.01	0.078	0.18	0.021	11.429	0.223	4.286	Passed	2
Ch 3	35.22	0.078	0.18	0.623	11.429	0.222	4.286	Passed	35.37
Ch 4	34.91	0.064	0.17	0.265	11.429	0.183	4.286	Passed	35.06
Ch 5	34.52	0.262	0.40	1.383	11.429	0.760	4.286	Passed	35.27
Ch 6	34.22	0.199	0.31	2.229	11.429	0.580	4.286	Passed	34.95
Ch 7	35.25	0.104	0.21	0.714	11.429	0.296	4.286	Passed	34.86
Ch 8	34.78	0.738	1.05	0.624	11.429	2.121	4.286	Passed	34.70
Ch 9	34.17	0.262	0.40	2.358	11.429	0.768	4.286	Passed	34.08
Ch 10	34.61	0.341	0.50	1.111	11.429	0.984	4.286	Passed	34.36
Ch 11	34.93	0.341	0.50	0.194	11.429	0.975	4.286	Passed	35.18
Ch 12	35.20	0.149	0.26	0.566	11.429	0.423	4.286	Passed	35.30

SAMPLE

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