



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Geller MicroAnalytical Laboratory
426e Boston Street
Topsfield, MA 01983

Fulfills the requirements of

ISO/IEC 17025:2017

and

ANSI/NCSL Z540-1-1994 (R2002)

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

A handwritten signature in black ink, appearing to read 'R. Douglas Leonard Jr.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 14 August 2024
Certificate Number: AC-1236



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

AND

ANSI/NCSL Z540-1-1994 (R2002)

Geller MicroAnalytical Laboratory

426e Boston Street
Topsfield, MA 01983
Joseph Geller 978-887-7000

CALIBRATION

Valid to: **August 14, 2024**

Certificate Number: **AC-1236**

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Magnification Standard Pitch	0.1 μm	3 nm	Scanning Electron Microscope Primary Standard
	0.5 μm	38 nm	
	1 μm	30 nm	
	2 μm	31 nm	
	50 μm	0.1 μm	
	500 μm	0.25 μm	
Stage Micrometer Pitch	10 μm	1.1 μm	Optical Microscope Primary Standard
	100 μm	1.1 μm	
	10 mm	2.9 μm	
	150 mm	2.9 μm	
Step Height	0.1 μm	5 nm	Profilometry Primary Standard

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ($k=2$), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1236.



R. Douglas Leonard Jr., VP, PILR SBU