



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

CHEMTRACE - FREMONT
ANALYTICAL TESTING AND SOLUTIONS
Quantum Global Technologies, LLC
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CHEMICAL

Valid To: February 28, 2019

Certificate Number: 2252.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following specialized analytical test services for chemicals, aqueous solutions, ultrapure water, components, chamber parts, and wafers including:

<u>Test Description</u>	<u>Test Method(s)</u>
Analysis of Trace Metals by ICP-MS <ul style="list-style-type: none"> In Acid and Base Solutions In Organic Solvents In Ultrapure Water 	SOP CAT-C039 SOP CAT-C003 SOP CAT-C007 SOP CAT-W002
Analysis of Surface Trace Metals by ICP-MS <ul style="list-style-type: none"> On Silicon Wafers by VPD On Tool Components by Acid Extraction 	SOP CAT-S007 SOP CAT-S001 SOP CAT-S005
Analysis of Trace Metals in Aqueous Solutions Used in Medical Life Sciences by ICP-MS and/or ICP-AES	SOP CAT-C049
Analysis of Total Silica in Ultrapure Water by ICP-OES	SOP CAT-W011
Analysis of Anions and Cations by Ion Chromatography <ul style="list-style-type: none"> Aqueous Solutions Ultrapure Water 	SOP CAT-W010 SOP CAT-W003A
Analysis of Dissolved Silica in Ultrapure Water	SOP CAT-W017
Analysis of Total Organic Carbon (TOC) in UPW or Acid and Base Solutions	SOP CAT-C016 SOP CAT-W016
Analysis of pH in Aqueous Solutions	SOP CAT-C045 (ASTM E70) SOP CAT W027
Assay of Chemical Solutions by Auto-titration Method	SOP CAT-C023
Analysis of Conductivity in Aqueous Solutions	SOP CAT-W028

<u>Test Description</u>	<u>Test Method(s)</u>
Analysis by Scanning Electron Microscopy/Electron Dispersion X-Ray Spectroscopy (SEM/EDX) <ul style="list-style-type: none"> • Enumeration of Particles in Ultrapure Water • Analysis of Unknown Solids • Analysis of Porosity in TWAS-Coated Coupons • Surface Morphology 	SOP CAT-W021
Analysis of Liquid Samples by Particle Measuring Systems	SOP CAT-C029
Analysis of Liquid Samples by Liquid Particle Counter (LPC) <ul style="list-style-type: none"> • Liquid Samples 	SOP CAT-C054
Quantitation of Viable Bacteria in Ultra-Pure Water	SOP CAT-W005





Accredited Laboratory

A2LA has accredited

CHEMTRACE

Fremont, CA

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. 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 8 January 2009).



Presented this 16th day of February 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 2252.01
Valid to February 28, 2019
Revised March 03, 2017

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.