



**National Voluntary
Laboratory Accreditation Program**



CALIBRATION LABORATORIES

NVLAP LAB CODE 200647-0

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

<p>New Mexico Department of Agriculture Metrology Laboratory 3190 South Espina MSC 3170, P.O. Box 30005 Las Cruces, NM 88003-8005 Mr. Steve Sumner Phone: 575-646-1616 Fax: 575-646-2361 E-mail: ssumner@nmda.nmsu.edu URL: http://www.nmda.nmsu.edu</p>	<p>Parameter(s) of Accreditation Mechanical</p> <p>This laboratory is compliant to ANSI/NCCL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)</p>
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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) ^{Note 3}	Remarks
MECHANICAL			
<p>NVLAP Code: 20/M08 MASS Metric</p>	<p>30 kg 20 kg 10 kg 5 kg 3 kg 2 kg 1 kg 500 g 300 g 200 g 100 g 50 g 30 g 20 g 10 g 5 g 3 g 2 g 1 g 500 mg 300 mg</p>	<p>12 mg 8.6 mg 3.2 mg 2.3 mg 2.0 mg 0.72 mg 0.17 mg 97 µg 78 µg 58 µg 35 µg 14 µg 10 µg 10 µg 10 µg 3.9 µg 3.3 µg 2.6 µg 1.9 µg 1.2 µg 1.2 µg</p>	<p>Echelon II</p>

2013-01-01 through 2013-12-31

Effective dates

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Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Avoirdupois	200 mg	1.1 μ g	Echelon II
	100 mg	1.2 μ g	
	50 mg	1.1 μ g	
	30 mg	1.1 μ g	
	20 mg	0.70 μ g	
	10 mg	0.93 μ g	
	5 mg	0.65 μ g	
	3 mg	0.65 μ g	
	2 mg	0.49 μ g	
	1 mg	0.54 μ g	
	1000 lb	1.4 g	
	500 lb	1.2 g	
	50 lb	11 mg	
	25 lb	10 mg	
	20 lb	3.3 mg	
	10 lb	2.3 mg	
	5 lb	2.1 mg	
	3 lb	0.80 mg	
	2 lb	0.20 mg	
	1 lb	0.11 mg	
	0.5 lb	94 μ g	
	0.3 lb	73 μ g	
	0.2 lb	41 μ g	
	0.1 lb	20 μ g	
	0.05 lb	15 μ g	
	0.03 lb	15 μ g	
	0.02 lb	12 μ g	
0.01 lb	6.2 μ g		
0.005 lb	4.8 μ g		
0.003 lb	5.0 μ g		
0.002 lb	3.8 μ g		
0.001 lb	3.1 μ g		
8 oz	94 μ g		
4 oz	76 μ g		
2 oz	48 μ g		

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Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Metric	1 oz	13 μ g	Echelon III
	1/2 oz	13 μ g	
	1/4 oz	7.0 μ g	
	1/8 oz	4.0 μ g	
	1/16	4.0 μ g	
	1/32	3.6 μ g	
	50 kg	0.70 g	
	30 kg	0.19 g	
	20 kg	0.19 g	
	10 kg	0.19 g	
	5 kg	16 mg	
	3 kg	12 mg	
	2 kg	10 mg	
	1 kg	6.5 mg	
	500 g	3.5 mg	
	300 g	3.2 mg	
	200 g	0.53 mg	
	100 g	0.43 mg	
	50 g	0.23 mg	
	30 g	0.13 mg	
	20 g	0.13 mg	
	10 g	69 μ g	
	5 g	63 μ g	
	3 g	61 μ g	
	2 g	61 μ g	
	1 g	61 μ g	
	500 mg	61 μ g	
	300 mg	57 μ g	
	200 mg	57 μ g	
	100 mg	57 μ g	
	50 mg	52 μ g	
	30 mg	52 μ g	
20 mg	52 μ g		
10 mg	47 μ g		
5 mg	47 μ g		

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Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Avoirdupois	3 mg	46 µg	Echelon III
	2 mg	40 µg	
	1 mg	33 µg	
	5000 lb	47 g	
	4000 lb	47 g	
	3500 lb	47 g	
	2500 lb	30 g	
	2000 lb	30 g	
	1000 lb	4.1 g	
	500 lb	3.3 g	
	100 lb	0.70 g	
	50 lb	0.19 g	
	30 lb	0.19 g	
	25 lb	0.19 g	
	20 lb	0.19 g	
	10 lb	16 mg	
	5 lb	12 mg	
	3 lb	11 mg	
	2 lb	6.5 mg	
	1 lb	3.5 mg	
	0.5 lb (8 oz)	3.2 mg	
	0.3 lb (4 oz)	0.53 mg	
	0.2 lb (2 oz)	0.46 mg	
	0.1 lb (1 oz)	0.25 mg	
	0.05 lb	0.14 mg	
	0.03 lb (1/2 oz)	0.13 mg	
	0.02 lb (1/4 oz)	69 µg	
	0.01 lb (1/8 oz)	62 µg	
	0.005 lb	61 µg	
	0.003 lb (1/16 oz)	61 µg	
0.002 lb (1/32 oz)	61 µg		
0.001 lb	61 µg		
100 oz t	14 mg		
50 oz t	10 mg		

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	20 oz t	9.1 mg	
	10 oz t	5.5 mg	
	5 oz t	0.38 mg	
	2 oz t	0.42 mg	
	1 oz t	0.23 mg	
	10 dwt	0.13 mg	
	5 dwt	69 µg	
	2 dwt	62 µg	
	1 dwt	61 µg	
	500 grain	0.13 mg	
	200 grain	0.13 mg	
	5 grain	61 µg	
	2 grain	61 µg	
	1 grain	61 µg	
END			

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Notes

Note 1: A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.

Note 2: Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.

Note 3: The uncertainty associated with a measurement in a CMC is an expanded uncertainty using a coverage factor, $k = 2$, with a level of confidence of approximately 95 %. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).

Note 3a: The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.

Note 3b: As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.

Note 3c: As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under *normal conditions*. However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.1.h. of NIST Handbook 150, Procedures and General Requirements.

Note 4: Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)

Note 5: Values listed with percent (%) are percent of reading or generated value unless otherwise noted.

Note 6: NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.

Note 7: See [NIST Handbook 150](#) for further explanation of these notes.

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