

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600169-0

Rice Lake Weighing Systems (dba Heusser Neweigh)
Concord , CA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Calibration Laboratories

*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 Communique dated January 2009).*

2022-03-31 through 2023-03-31

Effective Dates



A handwritten signature in blue ink, appearing to read 'Dana S. Gorman', written over a horizontal line.

For the National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES

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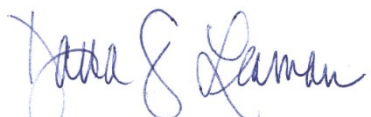
SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

<p>Rice Lake Weighing Systems Db a Heusser Neweigh 1400 Willow Pass Court Concord, CA 94520 Mr. Mark Ruefenacht Phone: 925-798-8900 Fax: 925-798-8905 E-mail: mruefenacht@ricelake.com URL: http://www.ricelake.com</p>	<p>Fields of Calibration Mechanical</p> <p>This laboratory is compliant to ANSI/NCSL 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	Expanded Uncertainty ^{Note 3}	Remarks
MECHANICAL			
MASS DETERMINATION (20/M08)			
Metric	600 kg	0.76 g	Echelon I
	575 kg	0.76 g	
	550 kg	0.76 g	
	525 kg	0.75 g	
	500 kg	0.75 g	
	475 kg	0.75 g	
	450 kg	0.75 g	
	425 kg	0.75 g	
	400 kg	0.75 g	
	375 kg	0.75 g	
	350 kg	0.75 g	
	325 kg	0.75 g	
	300 kg	0.75 g	
	275 kg	0.75 g	
	250 kg	0.75 g	
	225 kg	0.75 g	
	200 kg	0.75 g	
	175 kg	0.75 g	
	150 kg	0.75 g	
	125 kg	0.75 g	
	100 kg	0.75 g	
	60 kg	13 mg	

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
	50 kg	13 mg	
	45 kg	12 mg	
	30 kg	6.0 mg	
	25 kg	5.6 mg	
	20 kg	4.9 mg	
	10 kg	1.4 mg	
	5 kg	0.68 mg	
	4 kg	0.52 mg	
	3 kg	0.32 mg	
	2 kg	0.27 mg	
	1 kg	85 µg	
	500 g	30 µg	
	400 g	39 µg	
	300 g	36 µg	
	200 g	20 µg	
	150 g	24 µg	
	100 g	17 µg	
	50 g	8.8 µg	
	40 g	11 µg	
	30 g	11 µg	
	20 g	5.5 µg	
	10 g	6.0 µg	
	5 g	3.1 µg	
	3 g	2.3 µg	
	2 g	1.4 µg	
	1 g	1.0 µg	
	500 mg	0.94 µg	
	400 mg	1.6 µg	
	300 mg	0.88 µg	
	200 mg	0.82 µg	
	150 mg	1.9 µg	
	100 mg	0.95 µg	
	50 mg	1.0 µg	
	30 mg	0.98 µg	
	20 mg	0.95 µg	
	10 mg	1.1 µg	
	5 mg	0.86 µg	

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks	
Avoirdupois	3 mg	0.78 µg	Echelon I	
	2 mg	0.70 µg		
	1 mg	0.80 µg		
		0.5 mg		0.48 µg
		1000 lb		1.5 g
		500 lb		0.76 g
		250 lb		0.75 g
		200 lb		0.75 g
		100 lb		25 mg
		50 lb		12 mg
		30 lb		2.9 mg
		25 lb		2.5 mg
		20 lb		2.1 mg
		10 lb		0.95 mg
		5 lb		0.49 mg
		4 lb		0.40 mg
		3 lb		0.35 mg
		2 lb		0.13 mg
		1 lb		54 µg
		0.5 lb		31 µg
		0.3 lb		24 µg
		0.2 lb		21 µg
		0.1 lb		24 µg
		0.05 lb		13 µg
		0.03 lb		8.3 µg
		0.02 lb		6.2 µg
		0.01 lb		4.9 µg
		0.005 lb		2.5 µg
		0.003 lb		1.5 µg
		0.002 lb		1.2 µg
		0.001 lb		0.88 µg
		0.0005 lb		0.88 µg
	0.0003 lb	0.85 µg		
	0.0002 lb	0.84 µg		
	0.0001 lb	0.83 µg		
	0.00005 lb	0.83 µg		

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Metric	0.00003 lb	0.82 µg	Echelon II
	0.00002 lb	0.83 µg	
	0.00001 lb	0.82 µg	
	0.000005 lb	0.87 µg	
	0.000003 lb	0.82 µg	
	0.000002 lb	0.83 µg	
	0.000001 lb	0.83 µg	
	4 oz	33 µg	
	2 oz	20 µg	
	1 oz	15 µg	
	0.5 oz	11 µg	
	0.25 oz	5.9 µg	
	0.2 oz	6.5 µg	
	0.125 oz	3.4 µg	
	0.1 oz	3.3 µg	
	0.0625 oz	3.0 µg	
	0.05 oz	1.9 µg	
	0.03125 oz	1.9 µg	
	0.015625 oz	1.9 µg	
	600 kg	0.76 g	
	575 kg	0.76 g	
	550 kg	0.76 g	
	525 kg	0.75 g	
	500 kg	0.75 g	
	475 kg	0.75 g	
	450 kg	0.75 g	
	425 kg	0.75 g	
	400 kg	0.75 g	
	375 kg	0.75 g	
	350 kg	0.75 g	
	325 kg	0.75 g	
	300 kg	0.75 g	
	275 kg	0.75 g	
250 kg	0.75 g		
225 kg	0.75 g		
200 kg	0.75 g		



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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
	175 kg	0.75 g	
	150 kg	0.75 g	
	125 kg	0.75 g	
	100 kg	0.75 g	
	60 kg	13 mg	
	50 kg	13 mg	
	45 kg	12 mg	
	30 kg	6.0 mg	
	25 kg	5.6 mg	
	20 kg	4.9 mg	
	10 kg	1.4 mg	
	5 kg	0.68 mg	
	4 kg	0.52 mg	
	3 kg	0.32 mg	
	2 kg	0.27 mg	
	1 kg	85 µg	
	500 g	30 µg	
	400 g	39 µg	
	300 g	36 µg	
	200 g	20 µg	
	150 g	24 µg	
	100 g	17 µg	
	50 g	8.8 µg	
	40 g	11 µg	
	30 g	12 µg	
	20 g	5.5 µg	
	10 g	6.0 µg	
	5 g	3.1 µg	
	3 g	2.3 µg	
	2 g	1.4 µg	
	1 g	1.0 µg	
	500 mg	0.95 µg	
	400 mg	1.6 µg	
	300 mg	0.89 µg	
	200 mg	0.83 µg	
	150 mg	1.9 µg	
	100 mg	0.96 µg	



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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Avoirdupois	50 mg	1.0 µg	Echelon II
	30 mg	0.99 µg	
	20 mg	0.96 µg	
	10 mg	1.1 µg	
	5 mg	0.87 µg	
	3 mg	0.79 µg	
	2 mg	0.71 µg	
	1 mg	0.81 µg	
	1000 lb	1.5 g	
	500 lb	0.76 g	
	250 lb	0.75 g	
	200 lb	0.75 g	
	100 lb	25 mg	
	50 lb	12 mg	
	30 lb	2.9 mg	
	25 lb	2.5 mg	
	20 lb	2.1 mg	
	10 lb	0.95 mg	
	5 lb	0.49 mg	
	4 lb	0.40 mg	
	3 lb	0.35 mg	
	2 lb	0.13 mg	
	1 lb	54 µg	
	0.5 lb	31 µg	
	0.3 lb	24 µg	
	0.2 lb	21 µg	
	0.1 lb	24 µg	
	0.05 lb	13 µg	
	0.03 lb	8.3 µg	
	0.02 lb	6.2 µg	
	0.01 lb	4.9 µg	
	0.005 lb	2.5 µg	
0.003 lb	1.5 µg		
0.002 lb	1.2 µg		
0.001 lb	0.88 µg		
0.0005 lb	0.88 µg		

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Metric	0.0003 lb	0.85 µg	Echelon III
	0.0002 lb	0.84 µg	
	0.0001 lb	0.83 µg	
	0.00005 lb	0.83 µg	
	0.00003 lb	0.82 µg	
	0.00002 lb	0.83 µg	
	0.00001 lb	0.82 µg	
	0.000005 lb	0.87 µg	
	0.000003 lb	0.82 µg	
	0.000002 lb	0.83 µg	
	0.000001 lb	0.83 µg	
	4 oz	33 µg	
	2 oz	20 µg	
	1 oz	15 µg	
	0.5 oz	11 µg	
	0.25 oz	5.9 µg	
	0.2 oz	6.2 µg	
	0.125 oz	3.4 µg	
	0.1 oz	5.4 µg	
	0.0625 oz	3.0 µg	
	0.05 oz	3.6 µg	
	0.03125 oz	1.9 µg	
	0.015625 oz	1.9 µg	
	1500 kg	8.7 g	
	1200 kg	6.7 g	
	1000 kg	6.1 g	
	600 kg	0.76 g	
	575 kg	0.76 g	
	550 kg	0.76 g	
	525 kg	0.75 g	
	500 kg	0.75 g	
	475 kg	0.75 g	
	450 kg	0.75 g	
425 kg	0.75 g		
400 kg	0.75 g		
375 kg	0.75 g		

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
	350 kg	0.75 g	
	325 kg	0.75 g	
	300 kg	0.75 g	
	275 kg	0.75 g	
	250 kg	0.75 g	
	225 kg	0.75 g	
	200 kg	0.75 g	
	175 kg	0.75 g	
	150 kg	0.75 g	
	125 kg	0.75 g	
	100 kg	0.75 g	
	60 kg	14 mg	
	50 kg	13 mg	
	45 kg	12 mg	
	30 kg	8.6 mg	
	25 kg	8.3 mg	
	20 kg	7.8 mg	
	10 kg	2.1 mg	
	5 kg	2.0 mg	
	4 kg	1.9 mg	
	3 kg	1.9 mg	
	2 kg	1.9 mg	
	1 kg	1.0 mg	
	500 g	0.99 mg	
	400 g	1.0 mg	
	300 g	1.0 mg	
	200 g	0.12 mg	
	150 g	0.12 mg	
	100 g	0.12 mg	
	50 g	0.12 mg	
	40 g	0.12 mg	
	30 g	0.12 mg	
	20 g	10 µg	
	10 g	10 µg	
	5 g	9.1 µg	
	3 g	8.9 µg	
	2 g	8.7 µg	



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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Avoirdupois	1 g	8.7 µg	Echelon III
	500 mg	8.7 µg	
	400 mg	8.8 µg	
	300 mg	8.7 µg	
	200 mg	8.7 µg	
	150 mg	8.8 µg	
	100 mg	8.7 µg	
	50 mg	8.7 µg	
	30 mg	8.7 µg	
	20 mg	8.7 µg	
	10 mg	8.7 µg	
	5 mg	8.7 µg	
	3 mg	8.7 µg	
	2 mg	8.7 µg	
	1 mg	8.7 µg	
	3200 lb	11 g	
	3000 lb	9.8 g	
	2000 lb	7.6 g	
	1800 lb	7.6 g	
	1500 lb	7.0 g	
	1300 lb	3.3 g	
	1000 lb	1.5 g	
	500 lb	0.76 g	
	250 lb	0.75 g	
	200 lb	0.75 g	
	100 lb	25 mg	
	50 lb	13 mg	
	30 lb	6.7 mg	
	25 lb	6.6 mg	
	20 lb	2.6 mg	
	10 lb	2.1 mg	
	5 lb	1.9 mg	
	4 lb	1.9 mg	
3 lb	1.9 mg		
2 lb	1.0 mg		
1 lb	1.0 mg		



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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
	0.5 lb	1.0 mg	
	0.3 lb	0.12 mg	
	0.2 lb	0.12 mg	
	0.1 lb	0.12 mg	
	0.05 lb	0.12 mg	
	0.03 lb	14 µg	
	0.02 lb	10 µg	
	0.01 lb	9.9 µg	
	0.005 lb	9.0 µg	
	0.003 lb	9.1 µg	
	0.002 lb	8.8 µg	
	0.001 lb	8.8 µg	
	0.0005 lb	8.8 µg	
	0.0003 lb	8.8 µg	
	0.0002 lb	8.8 µg	
	0.0001 lb	8.8 µg	
	0.00005 lb	8.8 µg	
	0.00003 lb	8.8 µg	
	0.00002 lb	8.8 µg	
	0.00001 lb	8.8 µg	
	0.000005 lb	8.8 µg	
	0.000003 lb	8.8 µg	
	0.000002 lb	8.8 µg	
	0.000001 lb	8.8 µg	
	4 oz	0.12 mg	
	2 oz	0.12 mg	
	1 oz	0.12 mg	
	0.5 oz	14 µg	
	0.25 oz	10 µg	
	0.2 oz	9.2 µg	
	0.125 oz	9.2 µg	
	0.1 oz	9.3 µg	
	0.0625 oz	9.1 µg	
	0.05 oz	8.9 µg	
	0.03125 oz	8.9 µg	
	0.015625 oz	8.8 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 with a level of confidence of approximately 95 %, typically using a coverage factor of $k = 2$. However, laboratories may report a coverage factor different than $k = 2$ to achieve the 95 % level of confidence. 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.5 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.

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