



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Michigan Dept. of Agriculture, E.C. Heffron Metrology Laboratory

940 Venture Lane
Williamston, MI 48895
Mr. Craig A. VanBuren
Phone: 517-655-8202 x315 Fax: 517-655-8303
E-mail: vanburenc9@michigan.gov
URL: www.michigan.gov/wminfo

CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

NVLAP Code: 20/A01 ANSI/NCSL Z540-1-1994; Part 1 Compliant

DIMENSIONAL

NVLAP Code: 20/D13
Surveying Rods and Tapes

<i>Range in feet</i>	<i>Best Uncertainty (±) in inches^{note 1}</i>	<i>Remarks</i>
0 to 6	0.01	Tape to Tape Method
0 to 30	0.014	Tape to Tape Method
0 to 50	0.017	Tape to Tape Method
0 to 100	0.03	Tape to Tape Method

MECHANICAL

NVLAP Code: 20/M06
Force

<i>Range</i>	<i>Best Uncertainty (±) in lbs^{note 1}</i>	<i>Remarks</i>
< = 20 000 lb	18	Wheel Load Weighers

2008-10-01 through 2009-09-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

NVLAP Code: 20/M08

Mass

<i>Range</i>	<i>Best Uncertainty (±) in mg^{note 1}</i>	<i>Remarks</i>
30 kg	18	Echelon I
20 kg	9.9	Echelon I
10 kg	1.1	Echelon I
5 kg	0.42	Echelon I
3 kg	0.38	Echelon I
2 kg	0.24	Echelon I
1 kg	0.064	Echelon I
500 g	0.035	Echelon I
300 g	0.024	Echelon I
200 g	0.019	Echelon I
100 g	0.019	Echelon I
50 g	0.0067	Echelon I
30 g	0.0065	Echelon I
20 g	0.0066	Echelon I
10 g	0.008	Echelon I
5 g	0.0044	Echelon I
3 g	0.003	Echelon I
2 g	0.0024	Echelon I
1 g	0.0023	Echelon I
500 mg	0.0012	Echelon I
300 mg	0.00082	Echelon I
200 mg	0.00063	Echelon I
100 mg	0.00057	Echelon I
50 mg	0.00037	Echelon I
30 mg	0.0003	Echelon I
20 mg	0.00026	Echelon I
10 mg	0.0003	Echelon I
5 mg	0.00019	Echelon I
3 mg	0.00017	Echelon I

2008-10-01 through 2009-09-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

2 mg	0.00017	Echelon I
1 mg	0.00019	Echelon I
30 kg	18	Echelon II
20 kg	16	Echelon II
10 kg	3.4	Echelon II
5 kg	1.8	Echelon II
3 kg	1.6	Echelon II
2 kg	0.64	Echelon II
1 kg	0.22	Echelon II
500 g	0.098	Echelon II
300 g	0.07	Echelon II
200 g	0.053	Echelon II
100 g	0.032	Echelon II
50 g	0.019	Echelon II
30 g	0.014	Echelon II
20 g	0.014	Echelon II
10 g	0.0099	Echelon II
5 g	0.0058	Echelon II
3 g	0.0036	Echelon II
2 g	0.0036	Echelon II
1 g	0.0029	Echelon II
500 mg	0.0028	Echelon II
300 mg	0.0019	Echelon II
200 mg	0.0012	Echelon II
100 mg	0.0012	Echelon II
50 mg	0.00092	Echelon II
30 mg	0.0012	Echelon II
20 mg	0.00084	Echelon II
10 mg	0.00078	Echelon II
5 mg	0.00074	Echelon II
3 mg	0.00063	Echelon II
2 mg	0.00059	Echelon II
1 mg	0.00061	Echelon II

2008-10-01 through 2009-09-30

Effective dates

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

Mass – Avoirdupois

50 lb	19	Echelon II
25 lb	11	Echelon II
20 lb	3.4	Echelon II
10 lb	1.3	Echelon II
5 lb	1.0	Echelon II
3 lb	0.86	Echelon II
2 lb	0.19	Echelon II
1 lb	0.096	Echelon II
0.5 lb	0.063	Echelon II
0.3 lb	0.051	Echelon II
0.2 lb	0.035	Echelon II
0.1 lb	0.019	Echelon II
0.05 lb	0.016	Echelon II
0.03 lb	0.018	Echelon II
0.02 lb	0.012	Echelon II
0.01 lb	0.0065	Echelon II
0.005 lb	0.0040	Echelon II
0.003 lb	0.0046	Echelon II
0.002 lb	0.0036	Echelon II
0.001 lb	0.003	Echelon II
0.0005 lb	0.002	Echelon II
0.0003 lb	0.0017	Echelon II
0.0002 lb	0.0014	Echelon II
0.0001 lb	0.00097	Echelon II
0.00005 lb	0.0012	Echelon II
0.00003 lb	0.00092	Echelon II
0.00002 lb	0.00071	Echelon II
0.00001 lb	0.00073	Echelon II
0.000005 lb	0.00062	Echelon II
0.000003 lb	0.00059	Echelon II
0.000002 lb	0.00059	Echelon II
0.000001 lb	0.00059	Echelon II
8 oz	0.063	Echelon II
4 oz	0.049	Echelon II
2 oz	0.026	Echelon II
1 oz	0.014	Echelon II
1/2 oz	0.018	Echelon II

2008-10-01 through 2009-09-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

1/4 oz	0.014	Echelon II
1/8 oz	0.0052	Echelon II
1/16 oz	0.0037	Echelon II
1/32 oz	0.0036	Echelon II

Mass – Metric

Range	Best Uncertainty (\pm) ^{note 1}	Remarks
500 kg	8.8 g	Echelon III
250 kg	4.7 g	Echelon III
50 kg	0.28 g	Echelon III
25 kg	70 mg	Echelon III
20 kg	70 mg	Echelon III
10 kg	24 mg	Echelon III
5 kg	2.6 mg	Echelon III
3 kg	3.0 mg	Echelon III
2 kg	2.2 mg	Echelon III
1 kg	2.0 mg	Echelon III
500 g	1.8 mg	Echelon III
300 g	2.6 mg	Echelon III
200 g	0.077 mg	Echelon III
100 g	0.049 mg	Echelon III
50 g	0.042 mg	Echelon III
30 g	0.05 mg	Echelon III
20 g	0.029 mg	Echelon III
10 g	0.028 mg	Echelon III
5 g	0.025 mg	Echelon III
3 g	0.048 mg	Echelon III
2 g	0.024 mg	Echelon III
1 g	0.024 mg	Echelon III
500 mg	0.0066 mg	Echelon III
300 mg	0.0080 mg	Echelon III
200 mg	0.0073 mg	Echelon III
100 mg	0.0081 mg	Echelon III
50 mg	0.010 mg	Echelon III
30 mg	0.0079 mg	Echelon III

2008-10-01 through 2009-09-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

20 mg	0.0064 mg	Echelon III
10 mg	0.0076 mg	Echelon III
5 mg	0.0058 mg	Echelon III
3 mg	0.0078 mg	Echelon III
2 mg	0.0072 mg	Echelon III
1 mg	0.0096 mg	Echelon III
Mass – Avoirdupois		
5000 lb	70 g	Echelon III
1000 lb	1.4 g	Echelon III
500 lb	0.97 g	Echelon III
100 lb	0.21 g	Echelon III
50 lb	55 mg	Echelon III
25 lb	22 mg	Echelon III
20 lb	20 mg	Echelon III
10 lb	2.3 mg	Echelon III
5 lb	2.6 mg	Echelon III
3 lb	2.7 mg	Echelon III
2 lb	2.2 mg	Echelon III
1 lb	2.8 mg	Echelon III
0.5 lb	1.8 mg	Echelon III
0.3 lb	0.063 mg	Echelon III
0.2 lb	0.055 mg	Echelon III
0.1 lb	0.041 mg	Echelon III
0.05 lb	0.036 mg	Echelon III
0.03 lb	0.04 mg	Echelon III
0.02 lb	0.025 mg	Echelon III
0.01 lb	0.025 mg	Echelon III
0.005 lb	0.034 mg	Echelon III
0.003 lb	0.036 mg	Echelon III
0.002 lb	0.032 mg	Echelon III
0.001 lb	0.024 mg	Echelon III
8 oz	1.8 mg	Echelon III
4 oz	0.089 mg	Echelon III

2008-10-01 through 2009-09-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

2 oz	0.064 mg	Echelon III
1 oz	0.028 mg	Echelon III
1/2 oz	0.028 mg	Echelon III
1/4 oz	0.026 mg	Echelon III
1/8 oz	0.031 mg	Echelon III
1/16 oz	0.028 mg	Echelon III
1/32 oz	0.038 mg	Echelon III

NVLAP Code: 20/M12
Volume and Density

Range	Best Uncertainty (\pm) in in³ <i>note 1</i>	Remarks
2000 gal	110	Volume Transfer
1500 gal	81	Volume Transfer
1000 gal	57	Volume Transfer
750 gal	33	Volume Transfer
500 gal	23	Volume Transfer
100 gal	3.4	Volume Transfer
50 gal	2.4	Volume Transfer
5 gal	0.29	Volume Transfer
25 gal	0.58	Volume Gravimetric
15 gal	0.45	Volume Gravimetric
5 gal	0.13	Volume Gravimetric
1 gal	0.045	Volume Gravimetric
1/2 gal	0.042	Volume Gravimetric
1 qt	0.021	Volume Gravimetric
1 pt	0.015	Volume Gravimetric
1/2 pt	0.0049	Volume Gravimetric
30 gal	0.88	Small Volume Prover
20 gal	0.82	Small Volume Prover

2008-10-01 through 2009-09-30

Effective dates

For the National Institute of Standards and Technology



National Voluntary Laboratory Accreditation Program



CALIBRATION LABORATORIES

NVLAP LAB CODE 200408-0

<i>Range</i>	<i>Best Uncertainty (±) in ml^{note 1}</i>	<i>Remarks</i>
2 liter	0.67	Volume Gravimetric
1 liter	0.36	Volume Gravimetric
100 ml	0.075	Volume Gravimetric

THERMODYNAMICS

NVLAP Code: 20/T03
Laboratory Thermometers

<i>Range in °C</i>	<i>Best Uncertainty (±) in °C^{note 1}</i>	<i>Remarks</i>
0 to 30	0.031	Liquid in glass

NVLAP Code: 20/T07
Resistance Thermometry

<i>Range in °C</i>	<i>Best Uncertainty (±) in °C^{note 1}</i>	<i>Remarks</i>
0 to 30	0.014	PRT, RTD

1. Represents an expanded uncertainty using a coverage factor, $k = 2$, at an approximate level of confidence of 95 %.

2008-10-01 through 2009-09-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology