



# National Voluntary Laboratory Accreditation Program



## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

**National Standards of Puerto Rico**  
 281 Jesus T. Pintero Avenue  
 P.O. Box 11936  
 Rio Piedras, PR 00922-1936  
 Mr. Denio Hernandez Osorio  
 Phone: 787-765-5564 Fax: 787-751-5920  
 E-mail: denio@insco.us  
 URL: <http://www.nsprlab.net>

### CALIBRATION LABORATORIES

**NVLAP LAB CODE 200454-0**

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

### MECHANICAL

*NVLAP Code:* 20/M08  
 Mass

<i>Nominal Value</i> <sup>note 6</sup>	<i>Best Uncertainty</i> ( $\pm$ ) <sup>note 1</sup>	<i>Remarks</i>
20 kg	5.7 mg	Echelon I
10 kg	1.5 mg	Echelon I
5 kg	0.75 mg	Echelon I
3 kg	0.75 mg	Echelon I
2 kg	0.24 mg	Echelon I
1 kg	50 $\mu$ g	Echelon I
500 g	28 $\mu$ g	Echelon I
300 g	28 $\mu$ g	Echelon I
200 g	19 $\mu$ g	Echelon I
100 g	15 $\mu$ g	Echelon I
50 g	9.6 $\mu$ g	Echelon I
30 g	9.6 $\mu$ g	Echelon I
20 g	6.0 $\mu$ g	Echelon I
10 g	4.3 $\mu$ g	Echelon I
5 g	1.7 $\mu$ g	Echelon I

2011-07-01 through 2012-06-30

*Effective dates*

*Sally S. Bruce*

*For the National Institute of Standards and Technology*



# National Voluntary Laboratory Accreditation Program



## CALIBRATION LABORATORIES

NVLAP LAB CODE 200454-0

3 g	1.7 µg	Echelon I
2 g	1.2 µg	Echelon I
1 g	1.0 µg	Echelon I
500 mg	0.58 µg	Echelon I
300 mg	0.58 µg	Echelon I
200 mg	0.44 µg	Echelon I
100 mg	0.43 µg	Echelon I
50 mg	0.51 µg	Echelon I
30 mg	0.51 µg	Echelon I
20 mg	0.42 µg	Echelon I
10 mg	0.47 µg	Echelon I
5 mg	0.41 µg	Echelon I
3 mg	0.41 µg	Echelon I
2 mg	0.20 µg	Echelon I
1 mg	0.26 µg	Echelon I
20 kg	5.5 mg	Echelon II
10 kg	1.9 mg	Echelon II
5 kg	0.80 mg	Echelon II
3 kg	0.80 mg	Echelon II
2 kg	0.37 mg	Echelon II
1 kg	50 µg	Echelon II
500 g	30 µg	Echelon II
300 g	30 µg	Echelon II
200 g	22 µg	Echelon II
100 g	21 µg	Echelon II
50 g	10 µg	Echelon II
30 g	10 µg	Echelon II
20 g	7.1 µg	Echelon II
10 g	6.1 µg	Echelon II
5 g	2.7 µg	Echelon II
3 g	2.7 µg	Echelon II
2 g	2.6 µg	Echelon II
1 g	2.6 µg	Echelon II

2011-07-01 through 2012-06-30

Effective dates

For the National Institute of Standards and Technology



# National Voluntary Laboratory Accreditation Program



## CALIBRATION LABORATORIES

NVLAP LAB CODE 200454-0

500 mg	3.2 µg	Echelon II
300 mg	3.2 µg	Echelon II
200 mg	1.8 µg	Echelon II
100 mg	2.7 µg	Echelon II
50 mg	2.0 µg	Echelon II
30 mg	2.0 µg	Echelon II
20 mg	2.1 µg	Echelon II
10 mg	1.9 µg	Echelon II
5 mg	1.7 µg	Echelon II
3 mg	1.7 µg	Echelon II
2 mg	1.5 µg	Echelon II
1 mg	1.5 µg	Echelon II
Single Substitution		
20 kg	5.7 mg	Echelon III
10 kg	1.7 mg	Echelon III
5 kg	0.79 mg	Echelon III
3 kg	0.79 mg	Echelon III
2 kg	0.27 mg	Echelon III
1 kg	51 µg	Echelon III
500 g	35 µg	Echelon III
300 g	35 µg	Echelon III
200 g	32 µg	Echelon III
100 g	22 µg	Echelon III
10 g	4.7 µg	Echelon III
5 g	3.1 µg	Echelon III
3 g	3.1 µg	Echelon III
2 g	1.3 µg	Echelon III
1 g	1.9 µg	Echelon III
Modified Substitution		
50 kg	14 mg	Echelon III
30 kg	14 mg	Echelon III
20 kg	14 mg	Echelon III

2011-07-01 through 2012-06-30

Effective dates

*Sally S. Bruce*

For the National Institute of Standards and Technology



**National Voluntary  
Laboratory Accreditation Program**



**CALIBRATION LABORATORIES**

**NVLAP LAB CODE 200454-0**

10 kg	1.8 mg	Echelon III
5 kg	1.4 mg	Echelon III
3 kg	1.2 mg	Echelon III
2 kg	1.2 mg	Echelon III
1 kg	1.2 mg	Echelon III
500 g	0.12 mg	Echelon III
300 g	0.12 mg	Echelon III
200 g	0.12 mg	Echelon III
100 g	0.12 mg	Echelon III
50 g	0.12 mg	Echelon III
30 g	10 µg	Echelon III
20 g	7.3 µg	Echelon III
10 g	6.0 µg	Echelon III
5 g	5.3 µg	Echelon III
3 g	18 µg	Echelon III
2 g	18 µg	Echelon III
1 g	18 µg	Echelon III
500 mg	18 µg	Echelon III
300 mg	6.1 µg	Echelon III
200 mg	6.0 µg	Echelon III
100 mg	6.0 µg	Echelon III
50 mg	6.0 µg	Echelon III
30 mg	6.0 µg	Echelon III
20 mg	6.0 µg	Echelon III
10 mg	6.0 µg	Echelon III
5 mg	6.0 µg	Echelon III
3 mg	6.0 µg	Echelon III
2 mg	6.0 µg	Echelon III
1 mg	6.0 µg	Echelon III

2011-07-01 through 2012-06-30

*Effective dates*

*Sally S. Bruce*

*For the National Institute of Standards and Technology*



# National Voluntary Laboratory Accreditation Program



## CALIBRATION LABORATORIES

NVLAP LAB CODE 200454-0

### THERMODYNAMIC

**NVLAP Code:** 20/T03

Liquid in Glass Thermometers *note 2*

<b>Range in °C</b>	<b>Best Uncertainty (±) in mk <i>note 1</i></b>
-80 to -40	53
-40 to -20	52
-20 to 0	53
0 ( Ice Point )	52
0 to 50	52
50 to 150	53
150 to 200	52
200 to 250	53

**NVLAP Code:** 20/T04

Platinum Resistance Thermometers by Comparison *note 3*

<b>Range in °C</b>	<b>Best Uncertainty (±) in mk <i>note 1</i></b>
-196 to -80	9.6
-80 to -40	9.0
-40 to -20	7.5
-20 to 0	10
0.01	1.9
0 to 50	8.2
50 to 100	9.1
100 to 200	8.3
200 to 250	11
250 to 420	26

2011-07-01 through 2012-06-30

*Effective dates*

*Sally S. Bruce*

*For the National Institute of Standards and Technology*



# National Voluntary Laboratory Accreditation Program



## CALIBRATION LABORATORIES

NVLAP LAB CODE 200454-0

**NVLAP Code:** 20/T07

Resistance Thermometry – ITS 90 Fixed Point

<i>Value in °C</i>	<i>Best Uncertainty (±) in mk <sup>note 1</sup></i>	<i>Remarks</i>
419.527	9.1	Zn FP
231.928	7.9	Sn FP
156.5985	3.8	In FP
0.01 ( TPW )	1.9	H <sub>2</sub> O TP
-38.8344	2.6	Hg TP
-189.3442	9.6	Liq. LN <sub>2</sub>

**NVLAP Code:** 20/T06

Thermocouples <sup>note 4</sup>

<i>Range in °C</i>	<i>Best Uncertainty (±) in mk <sup>note 1</sup></i>
-196 to -80	30
-80 to -40	22
-40 to -20	21
-20 to 0	42
0 ( Ice Point )	15
0 to 50	130
50 to 100	140
100 to 200	120
200 to 250	120
250 to 420	130
420 to 800	1600
800 to 1100	1400

**NVLAP Code:** 20/T08

Digital Thermometer <sup>note 5</sup>

<i>Range in °C</i>	<i>Best Uncertainty (±) in mk <sup>note 1</sup></i>
-196 to -80	43
-80 to -40	43
-40 to -20	43

2011-07-01 through 2012-06-30

Effective dates

*Sally S. Bruce*

For the National Institute of Standards and Technology



# National Voluntary Laboratory Accreditation Program



## CALIBRATION LABORATORIES

NVLAP LAB CODE 200454-0

-20 to 0	56
0 (Ice Point)	40
0 to 50	49
50 to 100	75
100 to 200	45
200 to 250	42
250 to 420	48
420 to 800	1500
800 to 1100	1300

- 
1. Represents an expanded uncertainty using a coverage factor,  $k = 2$ , at an approximate level of confidence of 95 %.
  2. Uncertainty components for DUT repeatability, resolution, and drift at ice point are calculated at time of test; for the purpose of this scope, typical values were used.
  3. Uncertainty components for DUT repeatability, resolution, and hysteresis are calculated at time of test; for the purpose of this scope, typical values were used.
  4. Uncertainty components for DUT repeatability, resolution, and inhomogeneity are calculated at time of test; for the purpose of this scope, typical values were used.
  5. Uncertainty components for DUT repeatability, resolution, and hysteresis are calculated at time of test; for the purpose of this scope, typical values were used.
  6. Calibration of mass values other than those listed are available at higher uncertainties.

2011-07-01 through 2012-06-30

*Effective dates*

*For the National Institute of Standards and Technology*