DEPARTMENT OF COMMERCE
WEIGHTS & MEASURES DIVISION

14305 Southcross Drive #150
Burnsville, MN 55306-7008
mn.gov/commerce/
651.539.1555 FAX 952.435.4040
An equal opportunity employer

Receipt Date: August 23, 2017
Cal. Date: August 24, 2017
Report Date: August 24, 2017

Report No.: 338134
Set Serial No.: 11, 22
Barcode: 201219

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102-2733
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 11

Item(s) Submitted: 2 - 5000 lb Weight Carts
Manufacturer: Heinisch
Weight Type: NA
Equipment ID: None
Condition: Good
Temperature: 19.8 °C
Pressure: 740.4 mmHg
Relative Humidity: 49.5 %

Nominal Value		Serial No.	CM Correction (g) As Found	CM Correction (g) As Left	NIST HB105-8 Tolerance As Found	NIST HB105-8 Tolerance As Left	*k*	U (g)
5000	lb	11	-90.	-90.	Meets	Meets	2.08	60.
5000	lb	22	-300.	-300.	Meets	Meets	2.08	60.

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handook 105-8 (2003). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Pete Whebbe
Peter J Whebbe
Metrologist

Reviewed by:
Benjamin FitzPatrick
Benjamin FitzPatrick
Deputy Director

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Receipt Date: August 23, 2017
Cal. Date: August 23, 2017
Report Date: August 23, 2017

Report No.: 338135
Set Serial No.: 114, 119, 127, 128
Barcode: 201216

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102-2733
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 11

Item(s) Submitted: Cast Cube Weights
Manufacturer: Rice Lake
Weight Type: II
Equipment ID: None
Condition: Good
Temperature: 20.1 °C
Pressure: 738.2 mmHg
Relative Humidity: 49.8 %

Nominal Value		Serial No.	CM Correction (g) As Found	CM Correction (g) As Left	NIST HB105-1 Class As Found	NIST HB105-1 Class As Left	*k*	U (g)
2500	lb	114	105.3	74.3	*	F	2.05	8.0
2500	lb	119	80.3	80.3	F	F	2.05	8.0
2500	lb	127	56.3	56.3	F	F	2.05	8.0
2500	lb	128	115.3	4.3	*	F	2.05	8.0

* Weight(s) as found exceed NIST HB105-1 Class F tolerance.

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Pete Whebbe
Metrologist

Reviewed by:
Heidi Jones
Laboratory Administrator

NVLAP® CALIBRATION
NVLAP LAB CODE 105003-0

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Receipt Date: August 23, 2017
Cal. Date: August 24, 2017
Report Date: August 24, 2017

Report No.: 338136
Set Serial No.: None
Barcode: 201217

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102-2733
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 11

Item(s) Submitted: Cast Cube Weights
Manufacturer: Howe
Weight Type: II
Equipment ID: None
Condition: Good
Temperature: 20.1 °C
Pressure: 740.7 mmHg
Relative Humidity: 49.2 %

Nominal Value		Serial No.	CM Correction (g) As Found	CM Correction (g) As Left	NIST HB105-1 Class As Found	NIST HB105-1 Class As Left	k	U (g)
500	lb		6.52	6.52	F	F	2.01	0.90
500	lb		4.32	4.32	F	F	2.01	0.90
500	lb		-2.28	-2.28	F	F	2.01	0.90
500	lb		-4.48	-4.48	F	F	2.01	0.90

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (k) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Pete Whebbe
Metrologist

Reviewed by:
Heidi Jones
Laboratory Administrator

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Receipt Date: August 23, 2017
Cal. Date: August 23, 2017
Report Date: August 23, 2017

Report No.: 338137
Set Serial No.: None
Barcode: 201218

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102-2733
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 11

Item(s) Submitted: Cast Hand Weights
Manufacturer: Rice Lake
Weight Type: II
Equipment ID: None
Condition: Good
Temperature: 19.7 °C
Pressure: 738.1 mmHg
Relative Humidity: 49.1 %

Nominal Value		Serial No.	CM Correction (mg) As Found	CM Correction (mg) As Left	NIST HB105-1 Class As Found	NIST HB105-1 Class As Left	*k*	U (mg)
50	lb		294	294	F	F	2.01	56
50	lb		644	644	F	F	2.01	56

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Pete Whebbe
Peter J Whebbe
Metrologist

Reviewed by:
Heidi Jones
Heidi Jones
Laboratory Administrator

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Receipt Date: August 23, 2017
Cal. Date: August 24, 2017
Report Date: August 24, 2017

Report No.: 338141
Set Serial No.: NONE
Barcode: 203255

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 09

Item(s) Submitted: 30 lb kit w/ decimals & fractions
Manufacturer: RICE LAKE
Weight Type: I & II
Equipment ID: None
Condition: Good
Temperature: 19.2 °C
Pressure: 740.4 mmHg
Relative Humidity: 52.2 %

Nominal Value		Serial No.	CM Correction (mg) As Found	CM Correction (mg) As Left	NIST HB105-1 Class As Found	NIST HB105-1 Class As Left	*k*	U (mg)
5	lb		19.2	19.2	F	F	2.01	6.0
5	lb		19.2	19.2	F	F	2.01	6.0
5	lb		31.2	31.2	F	F	2.01	6.0
5	lb		95.2	95.2	F	F	2.01	6.0
5	lb		38.2	38.2	F	F	2.01	6.0
1	lb		35.0	35.0	F	F	2.01	1.6
1	lb		33.7	33.7	F	F	2.01	1.6
1	lb		23.9	23.9	F	F	2.01	1.6
1	lb		26.6	26.6	F	F	2.01	1.6
1	lb		23.3	23.3	F	F	2.01	1.6
0.2	lb		1.93	1.93	F	F	2.02	0.22
0.2	lb		1.37	1.37	F	F	2.02	0.22
0.1	lb		1.42	1.42	F	F	2.02	0.14
0.05	lb		1.84	1.84	F	F	2.02	0.11
0.02	lb		0.592	0.592	F	F	2.02	0.066
0.02	lb		0.980	0.980	F	F	2.02	0.066
0.01	lb		0.806	0.806	F	F	2.02	0.052
0.005	lb		1.461	0.551	*	F	2.02	0.073
0.002	lb		0.877	0.371	*	F	2.02	0.047
0.002	lb		0.868	0.271	*	F	2.02	0.047
0.001	lb		0.641	0.197	F	F	2.02	0.041

* Weight(s) as found exceed NIST HB105-1 Class F tolerance.

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Receipt Date: August 23, 2017
Cal. Date: August 24, 2017
Report Date: August 24, 2017

Continued,
Report No.: 338141
Set Serial No.: NONE
Barcode: 203255

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 09

Item(s) Submitted: 30 lb kit w/ decimals & fractions
Manufacturer: RICE LAKE
Weight Type: I & II
Equipment ID: None
Condition: Good
Temperature: 19.2 °C
Pressure: 740.4 mmHg
Relative Humidity: 52.2 %

Nominal Value		Serial No.	CM Correction (mg) As Found	CM Correction (mg) As Left	NIST HB105-1 Class As Found	NIST HB105-1 Class As Left	*k*	U (mg)
8	oz		8.3	8.3	F	F	2.01	1.3
4	oz		10.03	10.03	F	F	2.00	0.22
2	oz		2.67	2.67	F	F	2.00	0.14
1	oz		0.34	0.34	F	F	2.00	0.11
1/2	oz		-1.412	-1.412	F	F	2.00	0.092
1/4	oz		0.800	0.800	F	F	2.00	0.056
1/8	oz		0.288	0.288	F	F	2.00	0.046
1/16	oz		0.642	0.642	F	F	2.00	0.070
1/32	oz		-0.132	-0.132	F	F	2.00	0.044
1/32	oz		0.220	0.220	F	F	2.00	0.044

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Heidi Jones
Heidi Jones
Laboratory Administrator

Reviewed by:
Pete Whebbe
Pete J Whebbe
Metrologist

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Receipt Date: August 23, 2017
Cal. Date: August 24, 2017
Report Date: August 24, 2017

Report No.: 338139
Set Serial No.: NONE
Barcode: 201209

Calibration Certificate

SPECIALTY PRODUCTS
1420 N 4TH ST
FARGO, ND 58102
Contact: PHIL MCINTYRE
Phone: 701-235-2996
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 09

Item(s) Submitted: Metric weight set
Manufacturer: Rice Lake
Weight Type: I & II
Equipment ID: None
Condition: Good
Temperature: 18.9 °C
Pressure: 740.4 mmHg
Relative Humidity: 47.4 %

Nominal Value		Serial No.	CM Correction (mg)		NIST HB105-1 Class			
			As Found	As Left	As Found	As Left	*k*	U (mg)
2000	g		40.1	40.1	F	F	2.02	5.7
1000	g		30.3	30.3	F	F	2.02	2.5
500	g		28.2	28.2	F	F	2.02	2.0
200	g		8.63	8.63	F	F	2.02	0.55
200	g		7.52	7.52	F	F	2.02	0.55
100	g		5.58	5.58	F	F	2.02	0.25
50	g		2.06	2.06	F	F	2.03	0.16
20	g		1.93	1.93	F	F	2.02	0.11
20	g		2.10	2.10	F	F	2.02	0.11
10	g		0.691	0.691	F	F	2.02	0.072
5	g		0.586	0.586	F	F	2.03	0.054
2	g		0.351	0.351	F	F	2.02	0.048
2	g		0.468	0.468	F	F	2.02	0.048
1	g		0.503	0.503	F	F	2.03	0.039

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Heidi Jones
Heidi Jones
Laboratory Administrator

Reviewed by:
Pete Whebbe
Peter J Whebbe
Metrologist

NVLAP®
CALIBRATION
NVLAP LAB CODE 105003-0

United States Department of Commerce

National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Minnesota

This laboratory has demonstrated evidence of an unbroken chain of metrological traceability of its standards to the international system of units (SI), documented measurement uncertainties, uses documented measurement procedures, successfully completed training and proficiency tests, documented calibration intervals, submitted a quality management system, and demonstrated suitable measurement assurance for the Scope listed on this certificate.

The Office of Weights and Measures Program assesses laboratories to NIST Handbook 143 - Program Handbook for State Weights and Measures Laboratories and ISO/IEC 17025:2005.

2017

Scope

Mass Echelon I
10 kg to 1 mg

Mass Echelon II
50 kg to 1 mg
1000 lb to 0.001 lb
4 oz to 0.03125 oz

Mass Echelon III
50 kg to 1 mg
5000 lb to 0.001 lb
4 oz to 0.03125 oz

Weight Carts
10 000 lb to 2000 lb

Wheel Load Weighers
20 000 lb to 2000 lb

Railroad Test Cars
110 000 lb to 80 000 lb

Volume Gravimetric, I
20 L to 10 mL
100 gal to 0.25 qt

Volume Transfer, II
1500 gal to 5 gal
100 gal to 25 gal LPG

Georgia L. Harris, Acting Chief
NIST Office of Weights and Measures

Effective Dates: 2017-01-01 to 2017-12-31

Amended: 2016-12-31
Scope modified for 2017.

(Rev.: March 2013)