



Receipt Date: March 30, 2017
Cal. Date: April 6, 2017
Report Date: April 6, 2017

Report No.: 337515
Set Serial No.: None
Barcode: 201599

Calibration Certificate

HOBART SALES & SERVICES
1412 EAST FRONT AVENUE
BISMARCK, ND 58504
Contact: JIM LINDQUIST
Phone: 701-222-0450
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 11

Item(s) Submitted: Cast Hand Weights
Manufacturer: Assorted
Weight Type: II
Equipment ID: None
Condition: Fair
Temperature: 21.9 °C
Pressure: 740.7 mmHg
Relative Humidity: 51.7 %

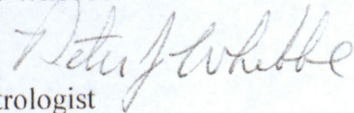
Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
25 lb		-311	-311	F	F	2.01	52
50 lb		-130	-130	F	F	2.01	56
50 lb		170	170	F	F	2.01	56
50 lb		-470	-470	F	F	2.01	56
50 lb		690	690	F	F	2.01	56
50 lb		-1170	-1170	F	F	2.01	56
50 lb		-570	-570	F	F	2.01	56

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Calibration Report - Bismarck

Hobart Sales and Service

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.

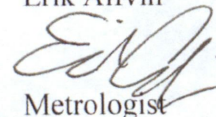
Pete Whebbe



Metrologist

Reviewed by:

Erik Alfvín



Metrologist



Receipt Date: March 30, 2017
Cal. Date: April 3, 2017
Report Date: April 3, 2017

Report No.: 337514
Set Serial No.: None
Barcode: 201594

Calibration Certificate

HOBART SALES & SERVICES
1412 EAST FRONT AVENUE
BISMARCK, ND 58504
Contact: JIM LINDQUIST
Phone: 701-222-0450
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 07

Item(s) Submitted: 30 lb Kit w/ Decimals
Manufacturer: Rice Lake
Weight Type: I & II
Equipment ID: None
Condition: Fair
Temperature: 18.9 °C
Pressure: 727.4 mmHg
Relative Humidity: 45.6 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
5 lb		12.4	12.4	F	F	2.01	6.0
5 lb		34.4	34.4	F	F	2.01	6.0
5 lb		48.4	48.4	F	F	2.01	6.0
5 lb		37.4	37.4	F	F	2.01	6.0
5 lb		9.4	9.4	F	F	2.01	6.0
1 lb		18.1	18.1	F	F	2.01	1.6
1 lb		7.1	7.1	F	F	2.01	1.6
1 lb		2.8	2.8	F	F	2.01	1.6
1 lb		17.9	17.9	F	F	2.01	1.6
1 lb		16.5	16.5	F	F	2.01	1.6
8 oz		12.2	12.2	F	F	2.01	1.3
0.2 lb		1.28	1.28	F	F	2.02	0.22
0.2 lb		8.34	8.34	F	F	2.02	0.22
0.1 lb		5.84	5.84	F	F	2.02	0.14
0.05 lb		0.30	0.30	F	F	2.02	0.11
0.02 lb		0.706	0.706	F	F	2.02	0.066
0.02 lb		0.850	0.850	F	F	2.02	0.066
0.01 lb		0.912	0.912	F	F	2.02	0.052
0.005 lb		0.397	0.397	F	F	2.02	0.073
0.002 lb		0.219	0.219	F	F	2.02	0.047

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.

Mark Nicollet

Mark Nicollet
Quality Manager

Reviewed by:

Pete Whebbe

Pete Whebbe
Metrologist

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.

Scope

Mass Echelon I	Mass Echelon III	Volume Gravimetric, I
10 kg to 1 mg	50 kg to 1 mg	20 L to 10 mL
Mass Echelon II	5000 lb to 0.001 lb	100 gal to 0.25 qt
50 kg to 1 mg	4 oz to 0.03125 oz	Volume Transfer, II
1000 lb to 0.001 lb	Weight Carts	1500 gal to 5 gal
4 oz to 0.03125 oz	10 000 lb to 2000 lb	100 gal to 25 gal LPG
	Wheel Load Weighers	
	20 000 lb to 2000 lb	
	Railroad Test Cars	
	110 000 lb to 80 000 lb	



2017


George 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.