State of Wisconsin
Governor Scott Walker

Department of Agriculture, Trade and Consumer Protection
Sheila E. Harsdorf, Secretary

Wisconsin Weights and Measures Laboratory

Calibration Certificate
Statement of
Uncertainty, Traceability, Limitations, and Conditions

for calibration work performed for:

HAWKEYE STATE SCALE, INC

5040 BLAIRS FOREST WAY, SUITE F
CEDAR RAPIDS
IA
52402
(319)-364-4173

Date Received: 12/12/2017
Date of Test: 12/12/2017
Date Due:

State Test No.: W17-378

Uncertainty Statement

For the weights used in this calibration, some components can be assessed through a Type A evaluation, the method for assessing uncertainty by a statistical analysis of measured quantity values obtained under defined measurement conditions. In addition, other components were assessed from a Type B evaluation of standard uncertainty, based on scientific judgement using all of the relevant information available. The combined standard uncertainties multiplied by those coverage factors specified in our standard calibration records, to provide an expanded uncertainty. This uncertainty defined an interval having a level of confidence of approximately 95 per cent, assuming normal distribution. The expanded uncertainty presented in this report is consistent with the ISO/IEC Guide to the Expression of Uncertainty in Measurement using the method Root Sum Squares (JCGM 100:2008).

Traceability Statement

The standards used by the Wisconsin State laboratory demonstrate an unbroken traceable chain to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The laboratory maintains documented calibration intervals and uses documented procedures, all under the performance of trained personnel who demonstrate suitable measurement assurance for the information listed in this calibration report. The laboratory test number identified above is the unique report number to be used in referencing measurement traceability for the artifacts identified in this report. The State Standards are traceable to the SI unit for mass, the kilogram.

Limitations and Conditions Statement

These results relate only to the items calibrated in this report. Weights and weight carts are calibrated to NIST Handbook 105-1 (1990) and NIST Handbook 105-8 (2003), respectively, using NISTIR 6969: Selected Laboratory Measurement Practices and Procedures to Support Basic Mass Calibrations (2014). Class F tolerances are usable for testing commercial weighing devices in Wisconsin, following NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices. Weights calibrated to ASTM tolerance 7 by this laboratory cannot be used for testing commercial weighing devices in Wisconsin, by definition (See NIST Handbook 105-1, Specification 1). Weight calibrated by ASTM Standard Specification E617-13 are not checked for density [Stainless steel weights are assumed 8.0 g/cm3], or for magnetism.

r Weight has been rejected for calibration (please see enclosed letter for details).

The following standard(s) were used: 50 lb: W50LB

Paul Masterson
Paul Masterson, Chief Metrologist

Justin Lien, Laboratory Director

3601 Galleon Run • Madison, WI 53718 • (608) 224-4910

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Calibration Certificate

Date Received: December 12, 2017
Date of Test: December 12, 2017

State Test No.: W17-378
Item(s) Submitted: Cast Weight
Manufacturer: Rice Lake
Condition: Good
Tolerance Class: NIST HB 105-1 (1990), Class F
Kit Serial #:
Balance ID#: 8
Procedure Used: NISTIR 6969 (2014), SOP 8
Temperature: 18.9 °C
Relative Humidity: 43.7 %
Pressure: 739.0 mmHg

Customer: HAWKEYE STATE SCALE, INC
Address: 5040 BLAIRS FOREST WAY, SUITE F
CEDAR RAPIDS, IA 52402
Contact: NATE SYTSMA
Phone: (319)-364-4173
PO Number: 2006

	Nominal Mass	Mass Unit	Serial No.	Conventional Mass Correction (mg) As Found	Conventional Mass Correction (mg) As Left	NIST HB 105-1 (1990), Class F As Found	NIST HB 105-1 (1990), Class F As Left	Uncertainty (mg)	Coverage Factor (*k*)
	50	lb	2-35	-3,575	75	*Fail*	Pass	280	2.00
	50	lb	2-39	295	295	Pass	Pass	280	2.00
	50	lb	2-30	-1,465	-1,465	Pass	Pass	280	2.00
	50	lb	2-26	-3,195	45	*Fail*	Pass	280	2.00
	50	lb	2-40	-175	-175	Pass	Pass	280	2.00
	50	lb	2-29	375	375	Pass	Pass	280	2.00
	50	lb	2-25	-225	-225	Pass	Pass	280	2.00
	50	lb	2-23	-3,095	75	*Fail*	Pass	280	2.00
	50	lb	2-32	-4,895	65	*Fail*	Pass	280	2.00
	50	lb	2-28	-655	-655	Pass	Pass	280	2.00
	50	lb	2-27	-1,955	55	Pass	Pass	280	2.00
	50	lb	2-38	-585	-585	Pass	Pass	280	2.00
	50	lb	2-37	555	555	Pass	Pass	280	2.00
	50	lb	2-31	-355	-355	Pass	Pass	280	2.00
	50	lb	2-24	-3,145	95	*Fail*	Pass	280	2.00
	50	lb	2-22	-2,065	95	*Fail*	Pass	280	2.00
	50	lb	2-34	85	85	Pass	Pass	280	2.00
	50	lb	2-21	-2,635	105	*Fail*	Pass	280	2.00
	50	lb	2-33	2,255	1,205	*Fail*	Pass	280	2.00
	50	lb	2-36	-1,945	125	Pass	Pass	280	2.00
r	50	lb	1-23	-137,475	-137,475	*Fail*	*Fail*	280	2.00
	25	lb	2-41	470	470	Pass	Pass	140	2.01

r Weight has been rejected for calibration (please see enclosed letter for details).

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