



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: 12/8/2017  
Date of Test: 12/8/2017  
Date Due:

State Test No.: W17-376

**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/cm<sup>3</sup>], or for magnetism.*

The following standard(s) were used: Avoirdupois Weight Set WS-1

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*Paul Masterson*

Paul Masterson, Chief Metrologist



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**Calibration Certificate**

Date Received: December 08, 2017  
Date of Test: December 08, 2017

State Test No.: W17-376  
Item(s) Submitted: Weight Kit  
Manufacturer: Rice Lake  
Condition: Good  
Tolerance Class: NIST HB 105-1 (1990), Class F  
Kit Serial #: HSS5P  
Balance ID#: 6&7  
Procedure Used: NISTIR 6969 (2014), SOP 8  
Temperature: 22.2 °C  
Relative Humidity: 45.3 %  
Pressure: 734.1 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: 2013

| Nominal Mass | Mass Unit | Serial No. | Conventional Mass Correction (mg) |         | NIST HB 105-1 (1990), Class F |         | Uncertainty (mg) | Coverage Factor (k) |
|--------------|-----------|------------|-----------------------------------|---------|-------------------------------|---------|------------------|---------------------|
|              |           |            | As Found                          | As Left | As Found                      | As Left |                  |                     |
| 10           | lb        |            | 178                               | 178     | Pass                          | Pass    | 55               | 2.07                |
| 10           | lb        | *          | 187                               | 187     | Pass                          | Pass    | 55               | 2.07                |
| 5            | lb        |            | 50                                | 50      | Pass                          | Pass    | 28               | 2.07                |
| 1            | lb        |            | 15.3                              | 15.3    | Pass                          | Pass    | 8.6              | 2.07                |
| 1            | lb        | *          | 26.3                              | 26.3    | Pass                          | Pass    | 8.6              | 2.07                |
| 1            | lb        | **         | 26.3                              | 26.3    | Pass                          | Pass    | 8.6              | 2.07                |
| 1            | lb        | ***        | 29.3                              | 29.3    | Pass                          | Pass    | 8.6              | 2.07                |
| 1            | lb        | ****       | 18.3                              | 18.3    | Pass                          | Pass    | 8.6              | 2.07                |
| 4            | oz        |            | 8.0                               | 8.0     | Pass                          | Pass    | 2.7              | 2.03                |
| 4            | oz        | *          | 9.0                               | 9.0     | Pass                          | Pass    | 2.7              | 2.03                |
| 4            | oz        | **         | 6.0                               | 6.0     | Pass                          | Pass    | 2.7              | 2.03                |
| 1            | oz        |            | 2.65                              | 2.65    | Pass                          | Pass    | 0.64             | 2.03                |
| 1            | oz        | *          | 1.93                              | 1.93    | Pass                          | Pass    | 0.64             | 2.03                |
| 1            | oz        | **         | 1.64                              | 1.64    | Pass                          | Pass    | 0.64             | 2.03                |
| 1/2          | oz        |            | 1.00                              | 1.00    | Pass                          | Pass    | 0.34             | 2.03                |
| 1/2          | oz        | *          | 1.43                              | 1.43    | Pass                          | Pass    | 0.34             | 2.03                |
| 1/4          | oz        |            | 0.49                              | 0.49    | Pass                          | Pass    | 0.2              | 2.03                |
| 1/4          | oz        | *          | 0.72                              | 0.72    | Pass                          | Pass    | 0.2              | 2.03                |

The following standard(s) were used: Avoirdupois Weight Set WS-1

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*Paul Masterson*  
Paul Masterson, Chief Metrologist

*Justin Lien*  
Justin Lien, Laboratory Director