



APPLICATION FOR REGISTRATION AS A REGISTERED SERVICE COMPANY
 Public Service Commission
 SFN 51277 (2/2014)



TYPE OR PRINT - AN INCOMPLETE OR ILLEGIBLE APPLICATION WILL BE REJECTED

Name of Company NCR Corporation	Email Address dave.boykin@ncr.com	Application Date 11/10/2017	
Mailing Address 200 Highway 74 South	City Peachtree City	State GA	Zip Code 30269
Telephone Number 770-288-1556	Cell Phone Number 678-416-0208	Fax Number 678-329-5705	

Select below all device types your company will certify:

Scales (include maximum capacity, if applicable)	Liquid (include maximum flow rate, if applicable)
<input type="checkbox"/> 1. Rail <input type="checkbox"/> 2. Truck <input type="checkbox"/> 3. Livestock <input type="checkbox"/> 4. Hopper: Max. Capacity: _____ <input type="checkbox"/> 5. Belt <input type="checkbox"/> 6. Over 30 lbs.: Max. Capacity: _____ <input checked="" type="checkbox"/> 7. 30 lbs. or less <input type="checkbox"/> 8. Class II (indicate on your calibration report which weight kit is Class II certified) <input type="checkbox"/> 9. Other: Please List:	<input type="checkbox"/> 1. Retail Fuel (less than 20 gal. per minute) <input type="checkbox"/> 2. High Flow Retail Fuel (20 gal. per minute or greater) <input type="checkbox"/> 3. Vehicle Tank: Max. Flow Rate: _____ <input type="checkbox"/> 4. Stationary Bulk (fuel or oil): Max. Flow Rate: _____ <input type="checkbox"/> 5. LPG <input type="checkbox"/> 6. Stationary LPG <input type="checkbox"/> 7. Fertilizer: Max. Flow Rate: _____ <input type="checkbox"/> 8. Chemical <input type="checkbox"/> 9. Anhydrous <input type="checkbox"/> 10. Loading Rack <input type="checkbox"/> 11. Other: Please List:

List below all persons employed by your company as a North Dakota Registered Service Person and the device types they are registered to certify (attach a separate sheet to list additional employees):

Permit No.	Employee	Device Types Registered to Certify (list using device type numbers from above)
<i>e.g. 1001</i>	<i>e.g. John Doe</i>	<i>e.g. Scales - 2, 3, 6, 8; e.g. Liquid - 1, 2, 6</i>
1754	Jesse Simpson	Scales - 7
1800	David Ferre	Scales - 7
1811	Timothy Donaldson	Scales - 7
1812	Cody Pfeifer	Scales - 7



List below all field standards (attach current calibration reports):

30# kit containing 2-10#, 1-5#, 2-2# & 1-1#	
kit also contains 13 decimal weights	

Additional Application Items (initial where appropriate):

Standardized Test Report	<input checked="" type="checkbox"/> Copy enclosed <input checked="" type="checkbox"/> No change in report filed previously
Tested and Approved Sticker	<input checked="" type="checkbox"/> Copy enclosed <input checked="" type="checkbox"/> No change in sticker filed previously
Photocopy of Crimped Lead Wire Seal	<input checked="" type="checkbox"/> Copy enclosed <input checked="" type="checkbox"/> No change in crimped lead wire seal filed previously

Public Company Listing:

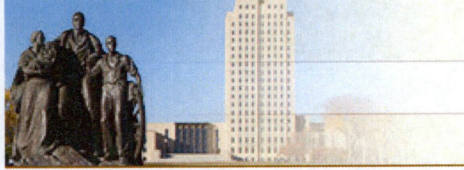
Include my company information on your registered service company list for public contact.
 Yes No

I am David Boykin, and have authority to represent this company.
By signing this application, I declare that I have examined this form and accompanying documentation, and to the best of my knowledge and belief, the facts stated and documentation provided is true, correct, and complete.

David Boykin
Signature

Send Completed Application and Related Documents To:

Public Service Commission
600 E Boulevard Ave Dept 408
Bismarck ND 58505-0480
Telephone: (701) 328-2400
Fax: (701) 328-2410



SECRETARY OF STATE NORTH DAKOTA

[Home](#) | [Business Records Search](#)

NCR CORPORATION

Corporation Details

System ID: 3206700 **Phone:** (770) 623-7249
Type: FOREIGN BUSINESS CORPORATION
Status: Active & Good Standing
Original File Date: 04/19/1926 **Effective Date:** 04/19/1926
State of Origin: Maryland

Nature of Business

COMPUTER PROGRAMING, DATA PROCESSING & RELATED SERVICES

Principal Office

3097 SATELLITE BLVD DULUTH, GA 30096-1242

Registered Agent

CORPORATION SERVICE COMPANY
1709 N 19TH ST STE 3
BISMARCK, ND 58501-2121
Established Date: Jul 02, 2014

Generate an Annual Report To File


To Generate a Annual Report form to be filed with the Secretary of State, select the appropriate year of the report you intend to file. This report does not contain details of a report previously filed with the Secretary of State. The annual report years reflected are an indication of the various report forms available in this site and is not an indication that an entity needs to file reports for all years. Missing years indicate that the forms for the missing year have not yet been deployed to the website, or have already been removed, and can be obtained by contacting the Secretary of State.

[2017](#) [2018](#) (generates a forms-fillable pdf in a new pop-up window)

[Return to Search Results](#)

[Contact Us](#)[Disclaimer](#) | [Privacy Policy](#)

 We use Secure Sockets Layer (SSL) encryption technology to ensure your information is secure and protected.

 Will open a new window (pop-up).

W3C WAI AA, CSS, XHTML Compliant | Copyright 2006. All Rights Reserved. The State of North Dakota.



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: June 27, 2017
 Cal. Date: July 10, 2017
 Report Date: July 10, 2017

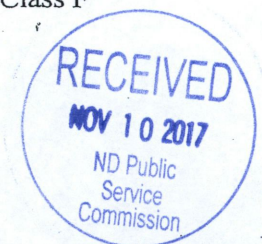
Report No.: 337881
 Set Serial No.: NONE / 34273
 Barcode: 200461

Calibration Certificate

NCR
 4269 43RD AVE S
 FARGO, ND 58104

Contact: **TIM DONALDSON**
 Phone: 770-288-1568
 PO Number: None
 Procedure: NIST SOP 8
 Technician ID: 19

Item(s) Submitted: AVDP Weight Kit - Class F
 Manufacturer: Troemner
 Weight Type: I & II
 Equipment ID: None
 Condition: Good
 Temperature: 18.8 °C
 Pressure: 732.5 mmHg
 Relative Humidity: 44.8 %



Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
10 lb		302	302	F	F	2.01	12
10 lb		101	101	F	F	2.01	12
5 lb		72.4	72.4	F	F	2.01	6.0
2 lb		29.7	29.7	F	F	2.01	3.1
2 lb		54.5	54.5	F	F	2.01	3.1
1 lb		51.9	51.9	F	F	2.01	1.6
0.3 lb		12.35	12.35	F	F	2.02	0.33
0.2 lb		4.60	4.60	F	F	2.02	0.22
0.2 lb		4.77	4.77	F	F	2.02	0.22
0.1 lb		3.09	3.09	F	F	2.02	0.14
0.1 lb		2.88	2.88	F	F	2.02	0.14
0.05 lb		1.95	1.95	F	F	2.02	0.11
0.02 lb		0.523	0.523	F	F	2.02	0.066
0.02 lb		0.298	0.298	F	F	2.02	0.066
0.01 lb		0.501	0.501	F	F	2.02	0.052
0.005 lb		0.921	0.921	F	F	2.02	0.073
0.003 lb		-0.009	-0.009	F	F	2.02	0.070
0.002 lb		0.305	0.305	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.

Erik Alfvin

 Metrologist

Reviewed by:
 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 10 kg to 1 mg	Mass Echelon III 50 kg to 1 mg 5000 lb to 0.001 lb 4 oz to 0.03125 oz	Volume Gravimetric, I 20 L to 10 mL 100 gal to 0.25 qt
Mass Echelon II 50 kg to 1 mg 1000 lb to 0.001 lb 4 oz to 0.03125 oz	Weight Carts 10 000 lb to 2000 lb	Volume Transfer, II 1500 gal to 5 gal 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

Georgia L. Harris

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.

David Ferre



Certificate of Mass Calibration

Montana Department of Labor & Industry Metrology Laboratory
2801 N Cooke St. Helena, Montana 59601
(406)449-2582 FAX (406)443-8163

Company Name & Address:	Date of Test:	Test Number:
Bob Bourgeois	2/21/2017	2017-036
National Cash Register		Kit Number
7169 US Hwy 89		1100
Belt, MT 59412		

All results contained within this report only relate to the item(s) listed in this report. This calibration report must not be used to claim product endorsement by the State of Montana or any other government agency.

Date these weights were received: 2/17/2017
Description and condition of artifacts received: Items were scratched but in good condition overall.

Environmental Conditions at Time of Test:

Temperature °C		Pressure mmHg	Relative Humidity %	
Start	End	Duration of Test	Start	End
20.70	21.60	657.35	54.60	55.60

Conventional Mass Value: Assumed Density of Artifacts: 7.84 g/cm³

Nominal	Serial No.	As Found ± (g)	As Left ± (g)	Uncertainty ± (g)	NIST 105-1 Class F ± (g)	k factor
10 lb	1100	0.217	0.217	0.016	0.45	2.13
10 lb *	1100	0.218	0.218	0.016	0.45	2.13
5 lb	1100	0.143	0.143	0.016	0.23	2.13
2 lb	1100	0.015	0.015	0.016	0.091	2.13
2 lb *	1100	0.048	0.048	0.016	0.091	2.13
1 lb	1100	0.0271	0.0271	0.0021	0.070	2.13
0.3 lb	1100	0.0111	0.0111	0.0027	0.027	2.13
0.2 lb	1100	0.0061	0.0061	0.0019	0.018	2.13
0.2 lb *	1100	0.0054	0.0054	0.0019	0.018	2.13

Standards and Procedures used for testing:

The Standards used for this comparison are continuously monitored by a measurement control program for ensuring continued accuracy and traceability within the level of uncertainty reported. These standards were calibrated by a nationally accredited laboratory on 10/2009 (Reports on File) and are traceable to the SI. The test number listed above is traceable to National Standards through an unbroken chain of comparison each having stated uncertainties. This information is on file and available upon request.

Procedure Used: SOP-7

All procedures used in this laboratory are in accordance to National Institute of Standards and Technology Intermediate Report (NISTIR) 6969, issue February 2012, and the *Quality Assurance of Metrological Measurements*.

Traceability Statement:

The equipment in this report has been compared to the standards of the State of Montana. The States equipment complies with the specifications and tolerances listed in NIST 105-1 Class F tolerances. The standards of the State of Montana are traceable to the SI through the National Institute of Standards and Technology.

Uncertainty Statement:

The expanded uncertainty presented in this report is consistent with the 1993 *ISO Guide to Expression of Uncertainty in Measurement* and follows *NISTIR 6969*, issue February 2012, SOP-29. The reported uncertainty is calculated by combining the uncertainty of the standard used, with the uncertainty of the measurement process in a root sum square formula using a calculated k factor, for a confidence level of 95.45%.

State Metrologist: Dave Fraser

Email: dafraser@mt.gov

This document shall not be reproduced except in full without prior written agreement given by the State Metrologist.



Certificate of Mass Calibration

Montana Department of Labor & Industry Metrology Laboratory
2801 N Cooke St. Helena, Montana 59601
(406)449-2582 FAX (406)443-8163

Company Name & Address: Bob Bourgeois National Cash Register 7169 US Hwy 89 Belt, MT 59412	Date of Test: 2/21/2017	Test Number: 2017-036
	Kit Number 1100	

All results contained within this report only relate to the item(s) listed in this report. This calibration report must not be used to claim product endorsement by the State of Montana or any other government agency.

Date these weights were received: 2/17/2017
Description and condition of artifacts received: Items were scratched but in good condition overall.

Environmental Conditions at Time of Test:

Temperature °C		Pressure mmHg	Relative Humidity %	
Start	End	Duration of Test	Start	End
20.70	21.60	657.35	54.60	55.60

Conventional Mass Value: Assumed Density of Artifacts: 7.84 g/cm³

Nominal	Serial No.	As Found (g)	As Left (g)	Uncertainty ± (g)	NIST 105-1 Class F ± (g)	k factor
0.1 lb	1100	0.0034	0.0034	0.0010	0.0091	2.13
0.1 lb *	1100	0.0030	0.0030	0.0010	0.0091	2.13
0.05 lb	1100	0.00034	0.00034	0.00053	0.0045	2.13
0.02 lb	1100	0.00031	0.00031	0.00034	0.0018	2.13
0.02 lb *	1100	0.00039	0.00039	0.00034	0.0018	2.13
0.01 lb	1100	0.00060	0.00060	0.00027	0.0015	2.13
0.005 lb	1100	-0.00071	-0.00071	0.00031	0.0012	2.13
.003 lb	1100	-0.00034	-0.00034	0.00014	0.00099	2.13
.002 lb	1100	-0.00024	-0.00024	0.00014	0.00087	2.13

Standards and Procedures used for testing:

The Standards used for this comparison are continuously monitored by a measurement control program for ensuring continued accuracy and traceability within the level of uncertainty reported. These standards were calibrated by a nationally accredited laboratory on 10/2009 (Reports on File) and are traceable to the SI. The test number listed above is traceable to National Standards through an unbroken chain of comparison each having stated uncertainties. This information is on file and available upon request.

Procedure Used: SOP-7

All procedures used in this laboratory are in accordance to National Institute of Standards and Technology Intermediate Report (NISTIR) 6969, issue February 2012, and the *Quality Assurance of Metrological Measurements*.

Traceability Statement:

The equipment in this report has been compared to the standards of the State of Montana. The States equipment complies with the specifications and tolerances listed in NIST 105-1 Class F tolerances. The standards of the State of Montana are traceable to the SI through the National Institute of Standards and Technology.

Uncertainty Statement:

The expanded uncertainty presented in this report is consistent with the 1993 *ISO Guide to Expression of Uncertainty in Measurement* and follows *NISTIR 6969*, issue February 2012, SOP-29. The reported uncertainty is calculated by combining the uncertainty of the standard used, with the uncertainty of the measurement process in a root sum square formula using a calculated k factor, for a confidence level of 95.45%.

State Metrologist: Dave Fraser

Email: dafraser@mt.gov

This document shall not be reproduced except in full without prior written agreement given by the State Metrologist.



Certificate of Mass Calibration

Montana Department of Labor & Industry Metrology Laboratory
2801 N Cooke St. Helena, Montana 59601
(406)449-2582 FAX (406)443-8163

Company Name & Address:	Date of Test:	Test Number:
Bob Bourgeois	2/21/2017	2017-036
National Cash Register		
7169 US Hwy 89	Kit Number	
Belt, MT 59412	1100	

All results contained within this report only relate to the item(s) listed in this report. This calibration report must not be used to claim product endorsement by the State of Montana or any other government agency.

Date these weights were received: 2/17/2017
Description and condition of artifacts received: Items were scratched but in good condition overall.

Environmental Conditions at Time of Test:

Temperature °C		Pressure mmHg	Relative Humidity %	
Start	End	Duration of Test	Start	End
20.70	21.60	657.35	54.60	55.60

Conventional Mass Value: Assumed Density of Artifacts: 7.84 g/cm³

Nominal	Serial No.	As Found (g)	As Left (g)	Uncertainty ± (g)	NIST 105-1 Class F ± (g)	k factor
.001 lb	1100	0.00010	0.00010	0.00014	0.0007	2.13

Standards and Procedures used for testing:
The Standards used for this comparison are continuously monitored by a measurement control program for ensuring continued accuracy and traceability within the level of uncertainty reported. These standards were calibrated by a nationally accredited laboratory on 10/2009 (Reports on File) and are traceable to the SI. The test number listed above is traceable to National Standards through an unbroken chain of comparison each having stated uncertainties. This information is on file and available upon request.

Procedure Used: SOP-7
All procedures used in this laboratory are in accordance to National Institute of Standards and Technology Intermediate Report (NISTIR) 6969, issue February 2012, and the *Quality Assurance of Metrological Measurements*.

Traceability Statement:
The equipment in this report has been compared to the standards of the State of Montana. The States equipment complies with the specifications and tolerances listed in NIST 105-1 Class F tolerances. The standards of the State of Montana are traceable to the SI through the National Institute of Standards and Technology.

Uncertainty Statement:
The expanded uncertainty presented in this report is consistent with the 1993 *ISO Guide to Expression of Uncertainty in Measurement* and follows *NISTIR 6969*, issue February 2012, SOP-29. The reported uncertainty is calculated by combining the uncertainty of the standard used, with the uncertainty of the measurement process in a root sum square formula using a calculated k factor, for a confidence level of 95.45%.

State Metrologist: *Dave Fraser*

Email: dafraser@mt.gov
This document shall not be reproduced except in full without prior written agreement given by the State Metrologist.

United States Department of Commerce

National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Montana

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 III	Volume Transfer, II
30 kg to 1 mg	1500 gal to 5 gal
3000 lb to 0.001 lb	100 gal to 25 gal LPG
8 oz to 0.03125 oz	
Weight Carts	
5000 lb to 2000 lb	



2017

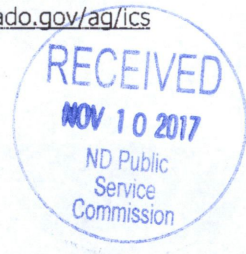

Georgia L. Harris, Acting Chief
NIST Office of Weights and Measures

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



COLORADO
Department of Agriculture
Inspection & Consumer Services Division

Metrology Laboratory
3125 Wyandot Street
Denver, CO 80211-3824
P 303.867.4270
www.colorado.gov/ag/ics



CALIBRATION CERTIFICATE # 17-112F

Customer Name N C R Corporation
Customer Address 200 Highway 74 South, Peachtree City GA 30269
Submitted By David Boykin
Certificate Date March 14, 2017
Calibration Date(s) March 10 and March 13, 2017
Calibration Due This certificate expires at 12:01 A.M. on March 13, 2018, per State of Colorado Revised Statute Title 35 Article 14 Section 123:2009.
Serial Number(s) Asset number 2580 / serial number 69090
Manufacturer Troemner
Description Class F, 31.011 lb x 0.001 lb weight set
Condition Received Good
Procedure Used National Institute of Standards and Technology (NIST) NISTIR 6969:2016 SOP 7, Weighing by Single Substitution

Traceability This certificate has been issued under the authority of the Commissioner of the Colorado Department of Agriculture, Inspection and Consumer Services Division, pursuant to the State of Colorado Revised Statute Title 35 Article 14:2009. Standards used for comparison are traceable to the International System of Units (SI) through standards at NIST, by way of the certificate number above.

Uncertainty The combined standard uncertainty of the measurements is multiplied by the coverage factor *k* listed in the table on page 2 (based on available degrees of freedom) to give an expanded uncertainty which defines an interval having a level of confidence of 95.45 %. The expanded uncertainty presented in this report was calculated according to the BIPM JCGM 100:2008 *Evaluation of measurement data – Guide to the expression of uncertainty in measurement* (GUM 1995 with 2008 minor corrections). Uncertainty components evaluated may include, but are not limited to, standard deviation of the process, mass standard uncertainties, the uncertainty for magnitude of the air buoyancy correction and/or for any uncorrected errors associated with air buoyancy corrections, uncertainties associated with densities of the standards and test items, and a component to account for any observed deviations from mass standard values that are less than surveillance limits.

Magnetism None of the weights used for this calibration have been tested for magnetic properties, and no magnetism components are included in the uncertainty budget.

Metrologist(s) performing calibration

Diane C. Wise
Diane C. Wise, Metrologist
Authorized Signatory

Environmental Conditions at Time of Calibration

	minimum	units	maximum	units
Temperature:	20.7	°C	21.0	°C
Barometric Pressure:	630.7	mmHg	631.3	mmHg
Relative Humidity:	41.7	%	47.4	%

Conversion Factors from NIST Special Publication 811:2008, *Guide for the Use of the International System of Units (SI)*
1 pound (avoirdupois) (lb) = 0.45359237 kilogram (kg)

MS Invoice # 2505



Nominal Value (lb)	ID	Conventional Mass Correction		Tolerance ± mg	Uncertainty ± mg	k
		As Found mg	As Left mg			
10			118	450	33	2.02
10	•		231	450	33	2.02
5			94	230	17	2.03
2			24.0	91	6.6	2.02
2	•		28.6	91	6.6	2.02
1			37.8	70	4.0	2.02
0.3			12.1	27	1.4	2.03
0.2			6.92	18	0.91	2.03
0.2	•		8.10	18	0.91	2.03
0.1			0.75	9.1	0.46	2.03
0.10	•		3.60	9.1	0.46	2.03
0.05			2.74	4.5	0.23	2.03
0.02			0.255	1.8	0.094	2.01
0.02	•		0.755	1.8	0.094	2.01
0.01			0.383	1.5	0.072	2.01
0.005			0.31	1.2	0.14	2.01
0.003			0.102	0.99	0.091	2.01
0.002			0.364	0.87	0.067	2.01
0.001		0.783	0.564	0.70	0.045	2.01

Supplemental Information:

All items were left "as found", except as listed in the "As Found" column. The item(s) were found at time of test, or adjusted, to meet the specifications and tolerances stated in NIST Handbook 105-1:1990, *Specifications and Tolerances for Reference Standards and Field Standard Weights and Measures (NIST Class F)*, and are approved for use in the State of Colorado.

Standards used for calibration 09514 and 34775

END OF DOCUMENT

Cody Pfeifer



COLORADO
Department of Agriculture
Inspection & Consumer Services Division

Metrology Laboratory
3125 Wyandot Street
Denver, CO 80211-3824
P 303.867.4270
www.colorado.gov/ag/ics

CALIBRATION CERTIFICATE # 17-102A



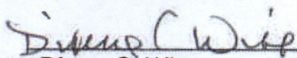
Customer Name N C R Corporation
Customer Address 200 Highway 74 South, Peachtree City GA 30269
Submitted By David Boykin
Certificate Date March 14, 2017
Calibration Date(s) February 28 and March 7, 2017
Calibration Due This certificate expires at 12:01 A.M. on March 7, 2018, per State of Colorado Revised Statute Title 35 Article 14 Section 123:2009.
Serial Number(s) Asset number 2170 / serial number 54057
Manufacturer Troemner
Description Class F, 31.011 lb x 0.001 lb weight set
Condition Received good
Procedure Used National Institute of Standards and Technology (NIST) NISTIR 6969:2016 SOP 7, Weighing by Single Substitution

Traceability This certificate has been issued under the authority of the Commissioner of the Colorado Department of Agriculture, Inspection and Consumer Services Division, pursuant to the State of Colorado Revised Statute Title 35 Article 14:2009. Standards used for comparison are traceable to the International System of Units (SI) through standards at NIST, by way of the certificate number above.

Uncertainty The combined standard uncertainty of the measurements is multiplied by the coverage factor *k* listed in the table on page 2 (based on available degrees of freedom) to give an expanded uncertainty which defines an interval having a level of confidence of 95.45 %. The expanded uncertainty presented in this report was calculated according to the BIPM JCGM 100:2008 *Evaluation of measurement data – Guide to the expression of uncertainty in measurement* (GUM 1995 with 2008 minor corrections). Uncertainty components evaluated may include, but are not limited to, standard deviation of the process, mass standard uncertainties, the uncertainty for magnitude of the air buoyancy correction and/or for any uncorrected errors associated with air buoyancy corrections, uncertainties associated with densities of the standards and test items, and a component to account for any observed deviations from mass standard values that are less than surveillance limits.

Magnetism None of the weights used for this calibration have been tested for magnetic properties, and no magnetism components are included in the uncertainty budget.

Metrologist(s) performing calibration


Diane C. Wise, Metrologist
Authorized Signatory

Environmental Conditions at Time of Calibration

	minimum	units	maximum	units
Temperature:	19.9	°C	21.0	°C
Barometric Pressure:	621.1	mmHg	627.6	mmHg
Relative Humidity:	42.2	%	47.4	%

Conversion Factors from NIST Special Publication 811:2008, *Guide for the Use of the International System of Units (SI)*
1 pound (avoirdupois) (lb) = 0.45359237 kilogram (kg)

MS Invoice # XXXX



Nominal Value (lb)	ID	Conventional Mass		Uncertainty \pm mg	<i>k</i>
		Correction mg	Tolerance \pm mg		
10		185	450	33	2.02
10	•	92	450	33	2.02
5		140	230	17	2.03
2		37.8	91	6.6	2.02
2	•	41.4	91	6.6	2.02
1		31.6	70	4.0	2.02
0.3		12.4	27	1.4	2.03
0.2		6.26	18	0.91	2.03
0.2	•	6.19	18	0.91	2.03
0.1		- 0.19	9.1	0.46	2.03
0.10	•	- 0.20	9.1	0.46	2.03
0.05		2.45	4.5	0.23	2.03
0.02		- 0.366	1.8	0.094	2.01
0.02	•	- 0.155	1.8	0.094	2.01
0.01		0.083	1.5	0.072	2.01
0.005		0.67	1.2	0.14	2.01
0.003		- 0.029	0.99	0.091	2.01
0.002		0.124	0.87	0.067	2.01
0.001		0.214	0.70	0.045	2.01

Supplemental Information:

All items were left "as found", no adjustments were made. The item(s) were found at time of test, or adjusted, to meet the specifications and tolerances stated in NIST Handbook 105-1:1990, *Specifications and Tolerances for Reference Standards and Field Standard Weights and Measures (NIST Class F)*, and are approved for use in the State of Colorado.

Standards used for calibration 09514 and 34775

END OF DOCUMENT

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Colorado

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 II	Volume Transfer, II	Frequency
10 kg to 1 mg	100 gal to 5 gal	Tuning Forks ≤ 80 mpm
Mass Echelon III	100 gal to 25 gal LPG	Grain Moisture
30 kg to 1 mg	Length,	≤ 20 %
2500 lb to 0.001 lb	Steel Tapes, Bench, Tapes	
8 oz to 0.03125 oz	200 ft to 1 ft	
Weight Carts		
5000 lb to 2000 lb		



2017 to 2018


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

Effective Dates: 2017-01-01 to 2018-12-31