

Office of Weights and Measures

Metrology Laboratory

Office: 118 West Capitol Avenue, Pierre, SD 57501

Lab: 1100 Otter Rd, Bldg D, Sturgis, SD 57785

Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us <https://dps.sd.gov/inspections/weights-measures>

CALIBRATION CERTIFICATE

Capital Scale (Big Red)

SA# 61

Certificate number: M25048

Physical Address:

Billing Address:

3021 Valley Forge Street

3021 Valley Forge Street

Bismarck, ND 58503

Bismarck, ND 58503

Contact: Travis Will

Received Date: 01/23/2025

Phone: 701-255-1556

Certificate Issued: 01/27/2025

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
2	2000 lb Weight Carts	2	0	2	0	2
16	1000 lb Weights	16	14	7	0	16
20	50 lb Weights	20	13	15	0	20
1	Avoirdupois Kit	20	20	0	0	20
1	Metric Kit	14	14	0	0	14

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor k to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 2008 ISO/IEC Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. For weight carts, factors included on the inspection checklist have not been included in the calibration uncertainty. However, factors on the checklist may contribute measurement errors that are significant if not properly maintained during use.

Conformity Statement:

The artifacts submitted for this calibration are calibrated to NIST Handbook 105-1 (1990 or 2019), NIST Handbook 105-8 (2019), NIST Handbook 105-3 (2010), or ASTM E617 (2023), Standard Specification for Laboratory Weights and Precision Mass Standards specifications. The reported test values relate only to the observations made at the time and conditions of the test. Artifacts fully comply with all requirements (both specifications and tolerances) of the applicable documentary standard unless otherwise stated. Stated expanded uncertainties are less than one-third of the specified tolerances (maximum permissible errors, m.p.e.) for mass calibrations and less than the specified tolerances for volume calibrations. The correction value plus or minus the expanded uncertainty is within the stated tolerances. It is the decision rule of the SD State Metrology Laboratory that any cast weights determined to have a correction within 66 % of the upper tolerance or 50 % of the lower tolerance will be adjusted closer to zero mass correction, even if the mass correction originally met the applicable tolerance.

Traceability Statement:

The Standards of the SD Metrology Laboratory used for comparison are traceable to the International System of Units (SI) through the National Institute of Standards and Technology. The laboratory certificate number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only.



Ron E Peterson, Metrologist

01/27/2025



NVLAP LAB CODE 600384-0

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South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: **Capital Scale (Big Red)**
Calibration Date: **01/27/2025**

Certificate Number: **M25048**

Environmental conditions at time of test:

Temperature: 19.55 °C

Humidity: 48.63 %

Pressure: 666.88 mmhg

Test method used: SOP 33 Calibrations of Weight Carts, May 2019

Test equipment used: Recently calibrated weights and a Mettler SL5510 Load Cell with IND570 Indicator.
Vaisala PT301

Condition of Carts: Used but in good condition

Manufacturer: Unk

SN:

541094

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	k	Tolerance (lb)	Condition as Left
2000	2.40	1090	0.05	23	0.11	2.01	0.70	Adjusted

Notes:

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory.

The above weight cart was allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted if needed and as noted above to as close as practical to zero error. All fluid levels must be maintained as close to reference levels as possible during use. Any maintenance, repairs or damage to weight cart or its components will likely result in an out-of-tolerance condition; therefore, maintenance or replacement of components such as batteries, tires, filters, etc. will require recalibration of the weight cart prior to subsequent use.

Conformity Assessment:

The weight cart identified on this calibration certificate complies with NIST Handbook 105-8, 2019 specifications and tolerances. Additional details regarding the assessment are included in the associated checklist that is an integral part of this calibration certificate. The weight cart was found (or adjusted) to within the specified tolerances.

The above weight cart was compared with standards of the State of South Dakota, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and have current calibration values. The assigned certificate number provides documented evidence for measurement traceability.

Ron E Peterson, Metrologist

01/27/2025

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
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Inspection Checklist for Weight Cart

Calibrated for: Capital Scale (Big Red)
Calibration Date: 01/28/2025

Certificate number: M25048

Manufacturer: Unk Date of Manufacture Unk
Model Number: Unk ID/SN Number 541094

<input checked="" type="checkbox"/>	Nominal Mass of Weight Cart	2000 lbs	Suitably marked: Yes/No	<input checked="" type="checkbox"/> Yes
<input checked="" type="checkbox"/>	Powered by:	Electric/generator <input checked="" type="checkbox"/>	Diesel <input type="checkbox"/>	Gasoline <input type="checkbox"/>
<input checked="" type="checkbox"/>	Fluid Levels:	Engine Oil <input type="checkbox"/>		
		Hydraulic Fluid <input type="checkbox"/>		
		Battery <input checked="" type="checkbox"/>	Sealed: Yes/No	<input type="checkbox"/>
		Liquid Fuel <input type="checkbox"/>	Sealed: Yes/No	<input checked="" type="checkbox"/> Yes
			Reference Line Present: Yes/No	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Fluid drain tubes extend beyond the body of the cart: Yes/No		<input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/>	Number of axles:	2		
<input checked="" type="checkbox"/>	Number /Size of Tires	16x5x11.25 18x7x12.125		
<input checked="" type="checkbox"/>	Sealed wheel bearings: Yes/No	Yes		
<input checked="" type="checkbox"/>	Drain holes present in locations where water may accumulate: Yes/No		<input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/>	Weight restraint railing permanently fixed and solid: Yes/No		<input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/>	Adjusting cavity accessible: Yes/No	Yes	Approximate capacity:(lbs)	100
<input checked="" type="checkbox"/>	Adjusting cavity sealed: Yes/No	Yes		
<input checked="" type="checkbox"/>	Service brakes functioning properly: Yes/No	Yes		
<input checked="" type="checkbox"/>	Parking brakes functioning properly: Yes/No	Yes		
<input type="checkbox"/>	Remote control functioning properly: Yes/No			

☒ General condition at time of calibration (note any accumulated dirt/debris, damage, loose parts, or evidence of tampering or unauthorized entry of seals).

☒ List and report any repair and maintenance performed, parts replaced, etc., Leaks repaired, new battery, carburetor, exhaust system, wheels changed, welding performed, etc. Include any comments or changes since the last calibration.

Ron E Peterson

Ron E Peterson, Metrologist

01/27/2025

Ver 20250114



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CALIBRATION CERTIFICATE

Calibrated for: **Capital Scale (Big Red)**
Calibration Date: **01/27/2025**

Certificate Number: **M25048**

Environmental conditions at time of test:

Temperature: 19.45 °C Humidity: 48.83 % Pressure: 666.92 mmhg

Test method used: SOP 33 Calibrations of Weight Carts, May 2019

Test equipment used: Recently calibrated weights and a Mettler SLS510 Load Cell with IND570 Indicator.
Vaisala PT301

Condition of Carts: Used but in good condition

Manufacturer: Unk

SN: Unk

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	k	Tolerance (lb)	Condition as Left
2000	11.89	5398	0.05	23	0.11	2.01	0.70	Adjusted

Notes:

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory.

The above weight cart was allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted if needed and as noted above to as close as practical to zero error. All fluid levels must be maintained as close to reference levels as possible during use. Any maintenance, repairs or damage to weight cart or its components will likely result in an out-of-tolerance condition; therefore, maintenance or replacement of components such as batteries, tires, filters, etc. will require recalibration of the weight cart prior to subsequent use.

Conformity Assessment:

The weight cart identified on this calibration certificate complies with NIST Handbook 105-8, 2019 specifications and tolerances. Additional details regarding the assessment are included in the associated checklist that is an integral part of this calibration certificate. The weight cart was found (or adjusted) to within the specified tolerances.

The above weight cart was compared with standards of the State of South Dakota, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and have current calibration values. The assigned certificate number provides documented evidence for measurement traceability.

Ron E Peterson, Metrologist
Ver 20250114

01/27/2025



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Inspection Checklist for Weight Cart

Calibrated for: Capital Scale (Big Red)
Calibration Date: 01/28/2025

Certificate number: M25048

Manufacturer: Date of Manufacture:
Model Number: ID/SN Number:

<input checked="" type="checkbox"/>	Nominal Mass of Weight Cart	2000 lbs	Suitably marked: Yes/No	<input type="text" value="Yes"/>
<input checked="" type="checkbox"/>	Powered by:	Electric/generator <input checked="" type="checkbox"/>	Diesel <input type="text"/>	Gasoline <input type="text"/>
<input checked="" type="checkbox"/>	Fluid Levels:	Engine Oil <input type="text"/>	Sealed: Yes/No	<input type="text"/>
		Hydraulic Fluid <input type="text"/>	Sealed: Yes/No	<input type="text" value="Yes"/>
		Battery <input checked="" type="checkbox"/>	Reference Line Present: Yes/No	<input type="text"/>
		Liquid Fuel <input type="text"/>		
<input checked="" type="checkbox"/>	Fluid drain tubes extend beyond the body of the cart: Yes/No		<input type="text" value="Yes"/>	
<input checked="" type="checkbox"/>	Number of axles:	<input type="text" value="2"/>		
<input checked="" type="checkbox"/>	Number /Size of Tires	<input type="text" value="16x5x11.25 18x7x12.125"/>		
<input checked="" type="checkbox"/>	Sealed wheel bearings: Yes/No	<input type="text" value="Yes"/>		
<input checked="" type="checkbox"/>	Drain holes present in locations where water may accumulate: Yes/No		<input type="text" value="Yes"/>	
<input checked="" type="checkbox"/>	Weight restraint railing permanently fixed and solid: Yes/No		<input type="text" value="Yes"/>	
<input checked="" type="checkbox"/>	Adjusting cavity accessible: Yes/No	<input type="text" value="Yes"/>	Approximate capacity:(lbs)	<input type="text" value="100"/>
<input checked="" type="checkbox"/>	Adjusting cavity sealed: Yes/No	<input type="text" value="Yes"/>		
<input checked="" type="checkbox"/>	Service brakes functioning properly: Yes/No	<input type="text" value="Yes"/>		
<input checked="" type="checkbox"/>	Parking brakes functioning properly: Yes/No	<input type="text" value="Yes"/>		
	Remote control functioning properly: Yes/No	<input type="text"/>		

☒ General condition at time of calibration (note any accumulated dirt/debris, damage, loose parts, or evidence of tampering or unauthorized entry of seals).

☒ List and report any repair and maintenance performed, parts replaced, etc., Leaks repaired, new battery, carburetor, exhaust system, wheels changed, welding performed, etc. Include any comments or changes since the last calibration.

Ron E Peterson

Ron E Peterson, Metrologist

01/27/2025

Ver

Ver 20250114





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Metrology Lab
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Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: Capital Scale (Big Red)

Certificate number: M25048

Calibration Date: 01/27/2025

Purchase Order Number:

Environmental conditions at time of test:

Temperature: 20.2 °C

Humidity: 46.3 %

Pressure: 667.3 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LDC, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 20 50 lb weights

Nominal	SN/ID	Correction as Found mg	Correction as Left mg	NIST Class F Tolerance (mg)	Uncertainty mg	k	Condition As Left
50 lb	03	-3318	57	2300	200	2.02	Adjusted
50 lb	09	-1823	7	2300	200	2.02	Adjusted
50 lb	19	-2138	77	2300	200	2.02	Adjusted
50 lb	29	-2533	-8	2300	200	2.02	Adjusted
50 lb	32	-1148	-1148	2300	200	2.02	In-Tolerance
50 lb	42	-1433	7	2300	200	2.02	Adjusted
50 lb	43	-1933	47	2300	200	2.02	Adjusted
50 lb	44	-2328	17	2300	200	2.02	Adjusted
50 lb	45	-1853	42	2300	200	2.02	Adjusted
50 lb	51	-1903	7	2300	200	2.02	Adjusted
50 lb	60	-2183	-23	2300	200	2.02	Adjusted
50 lb	11B	-2353	77	2300	200	2.02	Adjusted
50 lb	11C	-728	-728	2300	200	2.02	In-Tolerance
50 lb	A	-3333	7	2300	200	2.02	Adjusted
50 lb	B	-718	-718	2300	200	2.02	In-Tolerance
50 lb	K	-1848	47	2300	200	2.02	Adjusted
50 lb	L	-1368	47	2300	200	2.02	Adjusted
50 lb	N	-318	-318	2300	200	2.02	In-Tolerance
50 lb	P	-1233	-23	2300	200	2.02	Adjusted
50 lb	Y	-808	-808	2300	200	2.02	In-Tolerance

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

01/27/2025



Calibrated for:	Capital Scale (Big Red)	Certificate number:	M25048
Calibration Date:	01/28/2025	Purchase Order Number:	

Environmental conditions at time of test:

Temperature: 21 °C

Humidity: 45.5 %

Pressure: 665.4 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s):

20 piece Avoirdupois Kit

SN 010813A

[illegible]

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

None of them

Ron E Peterson, Metrologist

01/28/2025

Office of Weights and Measures

Metrology Laboratory

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Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us <https://dps.sd.gov/inspections/weights-measures>

CALIBRATION CERTIFICATE

Capital Scale (Shop)

SA# 61

Certificate number: M25049

Physical Address:

Billing Address:

3021 Valley Forge Street

3021 Valley Forge Street

Bismarck, ND 58503

Bismarck, ND 58503

Contact: Travis Will

Received Date: 01/23/2025

Phone: 701-255-1556

Certificate Issued: 01/27/2025

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
20	50 lb Weights	20	19	7	1	19
3	25 lb and 10 lb cast Weights	3	3	0	0	3
1	Metric Kit	21	21	0	0	21
2	Avoirdupois Kits	30	30	0	0	30

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor k to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 2008 ISO/IEC Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. For weight carts, factors included on the inspection checklist have not been included in the calibration uncertainty. However, factors on the checklist may contribute measurement errors that are significant if not properly maintained during use.

Conformity Statement:

The artifacts submitted for this calibration are calibrated to NIST Handbook 105-1 (1990 or 2019), NIST Handbook 105-8 (2019), NIST Handbook 105-3 (2010), or ASTM E617 (2023), Standard Specification for Laboratory Weights and Precision Mass Standards specifications. The reported test values relate only to the observations made at the time and conditions of the test. Artifacts fully comply with all requirements (both specifications and tolerances) of the applicable documentary standard unless otherwise stated. Stated expanded uncertainties are less than one-third of the specified tolerances (maximum permissible errors, m.p.e.) for mass calibrations and less than the specified tolerances for volume calibrations. The correction value plus or minus the expanded uncertainty is within the stated tolerances. It is the decision rule of the SD State Metrology Laboratory that any cast weights determined to have a correction within 66 % of the upper tolerance or 50 % of the lower tolerance will be adjusted closer to zero mass correction, even if the mass correction originally met the applicable tolerance.

Traceability Statement:

The Standards of the SD Metrology Laboratory used for comparison are traceable to the International System of Units (SI) through the National Institute of Standards and Technology. The laboratory certificate number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only.



Ron E Peterson, Metrologist

01/27/2025



NVLAP LAB CODE 600384-0

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Calibrated for:	Capital Scale (Shop)	Certificate number:	M25049
Calibration Date:	01/27/2025	Purchase Order Number:	

Environmental conditions at time of test:

Serial#

Temperature: 19.5 °C

Humidity: 45.3 %

Pressure: 666.4 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR50035C, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 20 50 lb weights

[illegible]

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Healy E. H. T.

Ron E Peterson, Metrologist

01/27/2025



CALIBRATION CERTIFICATE

Calibrated for: Capital Scale (Shop)

Certificate number: M25049

Calibration Date: 01/24/2025

Purchase Order Number:

Environmental conditions at time of test:

Serial# 11111A

Temperature: 21 °C

Humidity: 45 %

Pressure: 667.3 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 21 piece Metric Kit

SN 11111A

[illegible]

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Don E. A. T.

Ron E Peterson, Metrologist

01/24/2025



CALIBRATION CERTIFICATE

Calibrated for: Capital Scale (Shop)

Certificate number: M25049

Calibration Date: 01/24/2025

Purchase Order Number:

Environmental conditions at time of test:

Serial# 11905B

Temperature: 21 °C

Humidity: 45 %

Pressure: 667.3 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 17 piece Avoirdupois Kit

SN 11905B

[illegible]

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Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Wm. E. P. T.

Ron E Peterson, Metrologist

01/24/2025

Office of Weights and Measures

Metrology Laboratory

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Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us <https://dps.sd.gov/inspections/weights-measures>

CALIBRATION CERTIFICATE

Capital Scale (Trailer)

SA# 61

Certificate number: M25050

Physical Address:

Billing Address:

3021 Valley Forge Street

3021 Valley Forge Street

Bismarck, ND 58503

Bismarck, ND 58503

Contact: Travis Will

Received Date: 01/23/2025

Phone: 701-255-1556

Certificate Issued: 01/27/2025

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
4	1000 lb Weights	3	4	2	0	4
30	50 lb Weights	30	26	12	0	30

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor k to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 2008 ISO/IEC Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. For weight carts, factors included on the inspection checklist have not been included in the calibration uncertainty. However, factors on the checklist may contribute measurement errors that are significant if not properly maintained during use.

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Traceability Statement:

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01/27/2025



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CALIBRATION CERTIFICATE

Calibrated for: Capital Scale (Trailer)

Certificate number: M25050

Calibration Date: 01/27/2025

Purchase Order Number:

Environmental conditions at time of test:

Serial#

Temperature: 20 °C

Humidity: 48 %

Pressure: 667.2 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 10 50 lb weights

[illegible]

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

May 21. 1911

Ron E Peterson, Metrologist

01/27/2025

Office of Weights and Measures

Metrology Laboratory

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Lab: 1100 Otter Rd, Bldg D, Sturgis, SD 57785

Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us <https://dps.sd.gov/inspections/weights-measures>

CALIBRATION CERTIFICATE

Capital Scale (Wanda)

Certificate number: M26023

Physical Address:

Billing Address:

3021 Valley Forge St

3021 Valley Forge St

Bismarck, ND 58503

Bismarck, ND 58503

Contact: Travis Will

Received Date: 08/25/2025

Phone: 701-255-1556

Certificate Issued: 08/26/2025

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
2	2000 lb Weight Carts	2	2	1	0	2
16	1000 lb Weights	16	16	0	0	16
20	50 lb weights	20	19	2	0	20
1	Avoirdupois kit	20	20	0	0	20
1	Metric kit	14	14	0	0	14

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor k to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 2008 ISO/IEC Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. For weight carts, factors included on the inspection checklist have not been included in the calibration uncertainty. However, factors on the checklist may contribute measurement errors that are significant if not properly maintained during use.

Conformity Statement:

The artifacts submitted for this calibration are calibrated to NIST Handbook 105-1 (1990 or 2019), NIST Handbook 105-8 (2019), NIST Handbook 105-3 (2010), or ASTM E617 (2023), Standard Specification for Laboratory Weights and Precision Mass Standards specifications. The reported test values relate only to the observations made at the time and conditions of the test. Artifacts fully comply with all requirements (both specifications and tolerances) of the applicable documentary standard unless otherwise stated. Stated expanded uncertainties are less than one-third of the specified tolerances (maximum permissible errors, m.p.e.) for mass calibrations and less than the specified tolerances for volume calibrations. The correction value plus or minus the expanded uncertainty is within the stated tolerances. It is the decision rule of the SD State Metrology Laboratory that any cast weights determined to have a correction within 66 % of the upper tolerance or 50 % of the lower tolerance will be adjusted closer to zero mass correction, even if the mass correction originally met the applicable tolerance.. SD Metrology laboratory uses an assumed density provided by the customer or weight manufacturer which could affect measurement results.

Traceability Statement:

The Standards of the SD Metrology Laboratory used for comparison are traceable to the International System of Units (SI) through the National Institute of Standards and Technology. The laboratory certificate number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only.





Ron E Peterson, Metrologist

08/26/2025

Wade Robbins, Reviewer

08/26/2025



NVLAP LAB CODE 600384-0

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South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: **Capital Scale (Wanda)**

Certificate Number: **M26023**

Calibration Date: **08/26/2025**

Environmental conditions at time of test:

Temperature: 21.5 °C

Humidity: 51.2 %

Pressure: 672.4 mmhg

Test method used: SOP 33 Calibrations of Weight Carts, May 2019

Test equipment used: Recently calibrated weights and a Sartorius Loadcell PR6246/33 C6 with X4 Process controller .
Vaisala PT301

Condition of Carts: Used but in good condition

Manufacturer: Unk

SN: 2016-1

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	k	Tolerance (lb)	Condition as Left
2000	0.03	11	0.03	11	0.11	2.01	0.70	In-Tolerance

Notes:

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory.

The above weight cart was allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted if needed and as noted above to as close as practical to zero error. All fluid levels must be maintained as close to reference levels as possible during use. Any maintenance, repairs or damage to weight cart or its components will likely result in an out-of-tolerance condition; therefore, maintenance or replacement of components such as batteries, tires, filters, etc. will require recalibration of the weight cart prior to subsequent use.

Conformity Assessment:

The weight cart identified on this calibration certificate complies with NIST Handbook 105-8, 2019 specifications and tolerances. Additional details regarding the assessment are included in the associated checklist that is an integral part of this calibration certificate. The weight cart was found (or adjusted) to within the specified tolerances.

The above weight cart was compared with standards of the State of South Dakota, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and have current calibration values. The assigned certificate number provides documented evidence for measurement traceability.

Ron E Peterson, Metrologist

08/26/2025

Wade Robbins, Reviewer

08/26/2025

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



Inspection Checklist for Weight Cart

Calibrated for: Capital Scale (Wanda) Certificate number: M26023
Calibration Date: 08/27/2025

Manufacturer: Unk Date of Manufacture 2016
Model Number: 2000 ID/SN Number 2016-1

<input checked="" type="checkbox"/>	Nominal Mass of Weight Cart	2000 lbs	Suitably marked: Yes/No	Yes
<input checked="" type="checkbox"/>	Powered by:	Electric/generator <input checked="" type="checkbox"/>	Diesel <input type="checkbox"/>	Gasoline <input type="checkbox"/>
<input checked="" type="checkbox"/>	Fluid Levels:	Engine Oil <input type="checkbox"/>		
		Hydraulic Fluid <input type="checkbox"/>		Sealed: Yes/No <input type="checkbox"/>
		Battery <input checked="" type="checkbox"/>		Sealed: Yes/No Yes
		Liquid Fuel <input type="checkbox"/>		Reference Line Present: Yes/No <input type="checkbox"/>
<input checked="" type="checkbox"/>	Fluid drain tubes extend beyond the body of the cart: Yes/No		Yes	
<input checked="" type="checkbox"/>	Number of axles:	2		
<input checked="" type="checkbox"/>	Number /Size of Tires	15x5x11.25		
<input checked="" type="checkbox"/>	Sealed wheel bearings: Yes/No	Yes		
<input checked="" type="checkbox"/>	Drain holes present in locations where water may accumulate: Yes/No		Yes	
<input checked="" type="checkbox"/>	Weight restraint railing permanently fixed and solid: Yes/No		Yes	
<input checked="" type="checkbox"/>	Adjusting cavity accessible: Yes/No	Yes		Approximate capacity:(lbs) 20
<input checked="" type="checkbox"/>	Adjusting cavity sealed: Yes/No	Yes		
<input checked="" type="checkbox"/>	Service brakes functioning properly: Yes/No	Yes		
<input checked="" type="checkbox"/>	Parking brakes functioning properly: Yes/No	Yes		
<input type="checkbox"/>	Remote control functioning properly: Yes/No			

☒ General condition at time of calibration (note any accumulated dirt/debris, damage, loose parts, or evidence of tampering or unauthorized entry of seals).

☒ List and report any repair and maintenance performed, parts replaced, etc., Leaks repaired, new battery, carburetor, exhaust system, wheels changed, welding performed, etc. Include any comments or changes since the last calibration.

Ron E Peterson, Metrologist 08/26/2025 Wade Robbins, Reviewer 08/26/2025
Ver Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: **Capital Scale (Wanda)**
Calibration Date: **08/26/2025**

Certificate Number: **M26023**

Environmental conditions at time of test:

Temperature: 21.46 °C

Humidity: 51.21 %

Pressure: 672.38 mmhg

Test method used: SOP 33 Calibrations of Weight Carts, May 2019

Test equipment used: Recently calibrated weights and a Sartorius Loadcell PR6246/33 C6 with X4 Process controller .
Vaisala PT301

Condition of Carts: Used but in good condition

Manufacturer: UNK

SN: 2016-2

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	k	Tolerance (lb)	Condition as Left
2000	0.18	80	-0.13	-61	0.11	2.01	0.70	Adjusted

Notes:

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory.

The above weight cart was allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted if needed and as noted above to as close as practical to zero error. All fluid levels must be maintained as close to reference levels as possible during use. Any maintenance, repairs or damage to weight cart or its components will likely result in an out-of-tolerance condition; therefore, maintenance or replacement of components such as batteries, tires, filters, etc. will require recalibration of the weight cart prior to subsequent use.

Conformity Assessment:

The weight cart identified on this calibration certificate complies with NIST Handbook 105-8, 2019 specifications and tolerances. Additional details regarding the assessment are included in the associated checklist that is an integral part of this calibration certificate. The weight cart was found (or adjusted) to within the specified tolerances.

The above weight cart was compared with standards of the State of South Dakota, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and have current calibration values. The assigned certificate number provides documented evidence for measurement traceability.

Ron E Peterson, Metrologist

08/26/2025

Wade Robbins, Reviewer

08/26/2025

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



Inspection Checklist for Weight Cart

Calibrated for: Capital Scale (Wanda) Certificate number: M26023
Calibration Date: 08/27/2025

Manufacturer: UNK Date of Manufacture: 2016
Model Number: 2000 ID/SN Number: 2016-2

<input checked="" type="checkbox"/>	Nominal Mass of Weight Cart	2000 lbs	Suitably marked: Yes/No	<input checked="" type="checkbox"/> Yes
<input checked="" type="checkbox"/>	Powered by:	Electric/generator <input checked="" type="checkbox"/>	Diesel <input type="checkbox"/>	Gasoline <input type="checkbox"/>
<input checked="" type="checkbox"/>	Fluid Levels:	Engine Oil <input type="checkbox"/>		
		Hydraulic Fluid <input type="checkbox"/>		Sealed: Yes/No <input type="checkbox"/>
		Battery <input checked="" type="checkbox"/>		Sealed: Yes/No <input checked="" type="checkbox"/> Yes
		Liquid Fuel <input type="checkbox"/>		Reference Line Present: Yes/No <input type="checkbox"/>
<input checked="" type="checkbox"/>	Fluid drain tubes extend beyond the body of the cart: Yes/No		<input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/>	Number of axles:	2		
<input checked="" type="checkbox"/>	Number /Size of Tires	15x5x11.25		
<input checked="" type="checkbox"/>	Sealed wheel bearings: Yes/No	Yes		
<input checked="" type="checkbox"/>	Drain holes present in locations where water may accumulate: Yes/No		<input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/>	Weight restraint railing permanently fixed and solid: Yes/No		<input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/>	Adjusting cavity accessible: Yes/No	Yes		Approximate capacity:(lbs) 20
<input checked="" type="checkbox"/>	Adjusting cavity sealed: Yes/No	Yes		
<input checked="" type="checkbox"/>	Service brakes functioning properly: Yes/No	Yes		
<input checked="" type="checkbox"/>	Parking brakes functioning properly: Yes/No	Yes		
<input type="checkbox"/>	Remote control functioning properly: Yes/No			

☒ General condition at time of calibration (note any accumulated dirt/debris, damage, loose parts, or evidence of tampering or unauthorized entry of seals).

☒ List and report any repair and maintenance performed, parts replaced, etc., Leaks repaired, new battery, carburetor, exhaust system, wheels changed, welding performed, etc. Include any comments or changes since the last calibration.

Ron E Peterson, Metrologist

08/26/2025

Wade Robbins, Reviewer

08/26/2025

Ver

Ver 20250114



CALIBRATION CERTIFICATE

Calibrated for: Capital Scale (Wanda)

Certificate number: M26023

Calibration Date: 08/26/2025

Purchase Order Number:

Environmental conditions at time of test:

Temperature: 21.28 °C

Humidity: 45.22 %

Pressure: 763.49 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s):

20 piece Avoirdupois Kit

SN 119050

[illegible]

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Henry H. D.

Ron E Peterson, Metrologist

08/26/2025

Wade Robbins, Reviewer

08/26/2025



Office of Weights and Measures

Metrology Laboratory

Office: 118 West Capitol Avenue, Pierre, SD 57501

Lab: 1100 Otter Rd, Bldg D, Sturgis, SD 57785

Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us <https://dps.sd.gov/inspections/weights-measures>

CALIBRATION CERTIFICATE

Capital Scale (Shop)

Certificate number: M26024

Physical Address:

3021 Valley Forge St

Bismarck, ND 58503

Contact: Travis Will

Phone: 701-255-1556

Billing Address:

3021 Valley Forge St

Bismarck, ND 58503

Received Date: 08/25/2025

Certificate Issued: 08/26/2025

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
1	50 lb weight	1	0	1	0	1

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor k to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 2008 ISO/IEC Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. For weight carts, factors included on the inspection checklist have not been included in the calibration uncertainty. However, factors on the checklist may contribute measurement errors that are significant if not properly maintained during use.

Conformity Statement:

The artifacts submitted for this calibration are calibrated to NIST Handbook 105-1 (1990 or 2019), NIST Handbook 105-8 (2019), NIST Handbook 105-3 (2010), or ASTM E617 (2023), Standard Specification for Laboratory Weights and Precision Mass Standards specifications. The reported test values relate only to the observations made at the time and conditions of the test. Artifacts fully comply with all requirements (both specifications and tolerances) of the applicable documentary standard unless otherwise stated. Stated expanded uncertainties are less than one-third of the specified tolerances (maximum permissible errors, m.p.e.) for mass calibrations and less than the specified tolerances for volume calibrations. The correction value plus or minus the expanded uncertainty is within the stated tolerances. It is the decision rule of the SD State Metrology Laboratory that any cast weights determined to have a correction within 66 % of the upper tolerance or 50 % of the lower tolerance will be adjusted closer to zero mass correction, even if the mass correction originally met the applicable tolerance.. SD Metrology laboratory uses an assumed density provided by the customer or weight manufacturer which could affect measurement results.

Traceability Statement:

The Standards of the SD Metrology Laboratory used for comparison are traceable to the International System of Units (SI) through the National Institute of Standards and Technology. The laboratory certificate number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only.

Ron E Peterson

Ron E Peterson, Metrologist

08/26/2025

Wade Robbins

Wade Robbins, Reviewer

08/26/2025



NVLAP LAB CODE 600384-0

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Office of Weights and Measures

Metrology Laboratory

Office: 118 West Capitol Avenue, Pierre, SD 57501

Lab: 1100 Otter Rd, Bldg D, Sturgis, SD 57785

Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us <https://dps.sd.gov/inspections/weights-measures>

INVOICE

Certificate number: M26023 -M26024

Purchase Order Number:

Date: 08/26/2025

Company Name: Capital Scale (Wanda)

Physical Address: 3021 Valley Forge St

Bismarck, ND 58503

Billing Address: 3021 Valley Forge St

Bismarck, ND 58503

Contact: Travis Will

Phone: 701-255-1556

Items submitted for calibration

Quantity	Artifact(s)	Quantity	Artifact(s)
2	2000 lb Weight Carts	16	1000 lb Weights
21	50 lb weights	1	Avoirdupois kit
1	Metric kit		

Notes:

7 Hours at \$96.00/hr \$ 672.00

Shipping Fee: \$ -

Total Amount Due: \$ 672.00

Payment is due when you receive this bill.

Payments should be sent to:

Department of Public Safety

Office of Weights and Measures

118 West Capitol Avenue

Pierre, SD 57501

If you have any questions; please contact this office at (605) 773-3697.



Ron E Peterson, Metrologist

08/26/2025

