SOUTH DAKOTA
DEPARTMENT OF PUBLIC SAFETY
prevention – protection – enforcement

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

K-Scale SA# **90** Certificate number: **MP4219**

Physical Address:
1701 W Madison
Sioux Falls, SD 57104

Billing Address:
1701 W Madison
Sioux Falls, SD 57104

Contact: **Kevin Baumgartner** Received Date: **10/25/2021**

Phone: **605-334-8003** Certificate Issued: **10/27/2021**

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
1	4000 lb Weight Cart(s)	1	1	1	0	1
1	3000 lb Weight Cart(s)	1	0	1	0	1
41	1000 lb weights	41	37	10	0	41
4	500 lb weights	4	2	2	0	4
69	50 lb weights	69	66	21	0	69
47	25 lb weights	47	40	15	0	47
4	Class F Cast Weights	4	4	0	0	4
7	Class F kits	113	113	0	0	113

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 artifacs 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 (2018), 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.) and 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 33 % 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.

This document does not represent or imply endorsement by NIST Office of Weights and Measures or any agency of the State and/or national governments. This report may not be reproduced, except in full without the written approval of this laboratory. The client must not use this document to claim product endorsement by this laboratory.

10/27/2021

Ron Peterson, Metrologist

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

CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** Certificate Number: **MP4219**

Calibration Date: **10/27/2021**

Environmental conditions at time of test:

Temperature: 21.2 °C **Humidity:** 44.5 % **Pressure:** 664.4 mmhg

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

Test equipment used: Recently calibrated weights and a Morehouse Precision Load Cell with 4215A Indicator.

Condition of Carts: Used but in good condition

Manufacturer: Kraft Fluid Systems **SN:** 10318

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	*k*	Tolerance (lb)	Condition as Left
4000	0.59	265.57	0.34	154.04	0.09	2.02	1.40	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 possible 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 re-calibration 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.

10/27/2021

Ron Peterson, Metrologist

Ver 20210927

South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1500 N Garfield – E. Truck Bypass Phone: 605-773-3170
Office: 118 West Capitol Avenue Phone: 605-773-3697
Pierre SD 57501

Inspection Checklist for Weight Cart

Calibrated for: K-Scale **Certificate number:** **MP4219**

Calibration Date: 10/28/2021

Manufacturer:	**Kraft Fluid Systems**	**Date of Manufacture**	Unk
Model Number:	**KFS4108-A**	**ID/SN Number**	10318

✓	Nominal Mass of Weight Cart	4000 lbs		Suitably marked: Yes/No	Yes
✓	Powered by:	Electric/generator		Diesel	Gasoline
✓	Fluid Levels:	Engine Oil	✓		
		Hydraulic Fluid	✓	Sealed: Yes/No	Yes
		Battery	✓	Sealed: Yes/No	Yes
		Liquid Fuel	✓	Reference Line Present: Yes/No	Yes
✓	Fluid drain tubes extend beyond the body of the cart: Yes/No			Yes	
✓	Number of axles:	2			
✓	Number /Size of Tires	21x7x15			
✓	Sealed wheel bearings: Yes/No	Yes			
✓	Drain holes present in locations where water may accumulate: Yes/No			Yes	
✓	Weight restraint railing permanently fixed and solid: Yes/No			Yes	
✓	Adjusting cavity accessible: Yes/No	Yes		Approximate capacity:(lbs)	
✓	Adjusting cavity sealed: Yes/No	Yes			
✓	Service brakes functioning properly: Yes/No		Yes		
✓	Parking brakes functioning properly: Yes/No		Yes		
	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.

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** Certificate Number: **MP4219**

Calibration Date: **10/26/2021**

Environmental conditions at time of test:

Temperature: 20.9 °C **Humidity:** 47.2 % **Pressure:** 656.7 mmhg

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

Test equipment used: Recently calibrated weights and a Morehouse Precision Load Cell with 4215A Indicator.

Condition of Carts: Used but in good condition

Manufacturer: Dunbar **SN:** 15138545

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	*k*	Tolerance (lb)	Condition as Left
3000	1.57	710.49	-0.04	-16.34	0.11	2.02	1.05	In Tolerance

Notes:

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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 possible 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 re-calibration 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.

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Lab: 1500 N Garfield – E. Truck Bypass Phone: 605-773-3170
Office: 118 West Capitol Avenue Phone: 605-773-3697
Pierre SD 57501

Inspection Checklist for Weight Cart

Calibrated for: K-Scale **Certificate number:** **MP4219**

Calibration Date: 10/28/2021

Manufacturer:	**Dunbar**	**Date of Manufacture**	Unk
Model Number:	**WM-20**	**ID/SN Number**	15138545

✓	Nominal Mass of Weight Cart	3000 lbs	Suitably marked: Yes/No	No	
✓	Powered by:	Electric/generator		Diesel	Gasoline ✓
✓	Fluid Levels:	Engine Oil	✓		
		Hydraulic Fluid	✓	Sealed: Yes/No	No
		Battery	✓	Sealed: Yes/No	No
		Liquid Fuel	✓	Reference Line Present: Yes/No	Yes
✓	Fluid drain tubes extend beyond the body of the cart: Yes/No		Yes		
✓	Number of axles:	2			
✓	Number /Size of Tires	21x9x15			
✓	Sealed wheel bearings: Yes/No	Yes			
✓	Drain holes present in locations where water may accumulate: Yes/No		Yes		
✓	Weight restraint railing permanently fixed and solid: Yes/No		Yes		
✓	Adjusting cavity accessible: Yes/No	Yes		Approximate capacity:(lbs)	20 lbs
✓	Adjusting cavity sealed: Yes/No	Yes			
✓	Service brakes functioning properly: Yes/No		Yes		
✓	Parking brakes functioning properly: Yes/No		Yes		
	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.

10/26/2021

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/26/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21 °C **Humidity:** 48.1 % **Pressure:** 656.9 mmhg

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

Test equipment used: Lab standards traceable to the SI, an XPE604KMC balance, and a Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **21 - 1000 lb weights**

Nominal		Correction as Found		Correction as Left		NIST Class F	Uncertainty		Condition
	SN/ID	lb	g	lb	g	Tolerance (g)	g	*k*	As Left
1000 lb	J18	0.02	9.8	0.02	9.8	45	4.6	2.1	In-Tolerance
1000 lb	1	-0.04	-17.6	0.00	0.0	45	4.6	2.1	Adjusted
1000 lb	1	0.06	29.4	0.06	29.4	45	4.6	2.1	In-Tolerance
1000 lb	2	0.01	5.3	0.01	5.3	45	4.6	2.1	In-Tolerance
1000 lb	5	0.07	33.3	0.06	28.3	45	4.6	2.1	Adjusted
1000 lb	5	-0.01	-6.5	-0.01	-6.5	45	4.6	2.1	In-Tolerance
1000 lb	6	0.10	46.3	0.00	0.1	45	4.6	2.1	Adjusted
1000 lb	6	0.04	16.5	0.04	16.5	45	4.6	2.1	In-Tolerance
1000 lb	8	-0.04	-18.6	-0.04	-18.6	45	4.6	2.1	In-Tolerance
1000 lb	10	0.00	0.6	0.00	0.6	45	4.6	2.1	In-Tolerance
1000 lb	11	-0.02	-6.9	-0.02	-6.9	45	4.6	2.1	In-Tolerance
1000 lb	12	0.00	1.0	0.00	1.0	45	4.6	2.1	In-Tolerance
1000 lb	13	0.01	4.1	0.01	4.1	45	4.6	2.1	In-Tolerance
1000 lb	14	-0.04	-18.8	0.00	0.2	45	4.6	2.1	Adjusted
1000 lb	14	0.04	20.2	0.04	20.2	45	4.6	2.1	In-Tolerance
1000 lb	15	-0.03	-14.4	-0.03	-14.4	45	4.6	2.1	In-Tolerance
1000 lb	16	0.00	-1.2	0.00	-1.2	45	4.6	2.1	In-Tolerance
1000 lb	17	-0.02	-7.8	-0.02	-7.8	45	4.6	2.1	In-Tolerance
1000 lb	19	0.11	49.5	0.00	0.1	45	4.6	2.1	Adjusted
1000 lb	20	-0.02	-6.9	-0.02	-6.9	45	4.6	2.1	In-Tolerance
1000 lb	21	0.01	2.7	0.01	2.7	45	4.6	2.1	In-Tolerance

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

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

10/27/2021

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21 °C **Humidity:** 48.1 % **Pressure:** 656.9 mmhg

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

Test equipment used: Lab standards traceable to the SI, an XPE604KMC balance, and a Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **20 - 1000 lb weights**

Nominal		Correction as Found		Correction as Left		NIST Class F	Uncertainty		Condition
	SN/ID	lb	g	lb	g	Tolerance (g)	g	*k*	As Left
1000 lb	23	0.05	24.7	0.05	24.7	45	4.6	2.1	In-Tolerance
1000 lb	24	0.03	14.5	0.03	14.5	45	4.6	2.1	In-Tolerance
1000 lb	28	0.01	3.9	0.01	3.9	45	4.6	2.1	In-Tolerance
1000 lb	122	-0.02	-7.2	-0.02	-7.2	45	4.6	2.1	In-Tolerance
1000 lb	A	0.13	56.8	0.00	0.1	45	4.6	2.1	Adjusted
1000 lb	B18	0.17	78.4	0.00	-0.1	45	4.6	2.1	Adjusted
1000 lb	C	0.04	17.2	0.04	17.2	45	4.6	2.1	In-Tolerance
1000 lb	D	0.04	19.5	0.04	19.5	45	4.6	2.1	In-Tolerance
1000 lb	E18	0.07	33.6	0.00	0.0	45	4.6	2.1	Adjusted
1000 lb	G8	0.05	23.7	0.05	23.7	45	4.6	2.1	In-Tolerance
1000 lb	H18	0.04	16.9	0.04	16.9	45	4.6	2.1	In-Tolerance
1000 lb	K	-0.04	-16.4	0.00	0.1	45	4.6	2.1	Adjusted
1000 lb	L1	0.01	6.5	0.01	6.5	45	4.6	2.1	In-Tolerance
1000 lb	N	0.09	39.2	0.00	0.0	45	4.6	2.1	Adjusted
1000 lb	N18	0.03	15.1	0.03	15.1	45	4.6	2.1	In-Tolerance
1000 lb	R17	-0.02	-8.3	-0.02	-8.3	45	4.6	2.1	In-Tolerance
1000 lb	RR	0.02	8.5	0.02	8.5	45	4.6	2.1	In-Tolerance
1000 lb	W18	0.02	11.3	0.02	11.3	45	4.6	2.1	In-Tolerance
1000 lb	X	-0.02	-7.8	-0.02	-7.8	45	4.6	2.1	In-Tolerance
1000 lb	Z6	0.02	9.2	0.02	9.2	45	4.6	2.1	In-Tolerance

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

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

10/27/2021

Ron Peterson, Metrologist

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/26/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21 °C **Humidity:** 48.1 % **Pressure:** 656.9 mmhg

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

Test equipment used: Lab standards traceable to the SI, an XPE604KMC balance, and a Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **4 - 500 lb weights**

Nominal		Correction as Found		Correction as Left		NIST Class F	Uncertainty		Condition
	SN/ID	lb	g	lb	g	Tolerance (g)	g	*k*	As Left
500 lb	A	0.01	6.2	0.01	6.2	23	2.9	2.1	In-Tolerance
500 lb	B	0.00	-2.1	0.00	-2.1	23	2.9	2.1	In-Tolerance
500 lb	1	0.06	29.4	0.00	-0.3	23	2.9	2.1	Adjusted
500 lb	165	0.19	85.6	0.00	-0.3	23	2.9	2.1	Adjusted

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

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 20.7 °C **Humidity:** 46.2 % **Pressure:** 656.2 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **28 50 lb weights**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
50 lb	1	-659	-659	2300	223	2.1	In-Tolerance
50 lb	2	-769	-769	2300	223	2.1	In-Tolerance
50 lb	3	-1884	-14	2300	223	2.1	Adjusted
50 lb	4	676	676	2300	223	2.1	In-Tolerance
50 lb	5	-989	-989	2300	223	2.1	In-Tolerance
50 lb	6	-2124	11	2300	223	2.1	Adjusted
50 lb	7	-1394	-9	2300	223	2.1	Adjusted
50 lb	7	-1324	1	2300	223	2.1	Adjusted
50 lb	8	-1279	16	2300	223	2.1	Adjusted
50 lb	10	241	241	2300	223	2.1	In-Tolerance
50 lb	11	-1509	1	2300	223	2.1	Adjusted
50 lb	15	176	176	2300	223	2.1	In-Tolerance
50 lb	16	196	196	2300	223	2.1	In-Tolerance
50 lb	17	101	101	2300	223	2.1	In-Tolerance
50 lb	18	-1009	-1009	2300	223	2.1	In-Tolerance
50 lb	18	-844	-844	2300	223	2.1	In-Tolerance
50 lb	19	-2619	1	2300	223	2.1	Adjusted
50 lb	20	-129	-129	2300	223	2.1	In-Tolerance
50 lb	21	-1424	-4	2300	223	2.1	Adjusted
50 lb	22	-1869	1	2300	223	2.1	Adjusted
50 lb	25	-294	-264	2300	223	2.1	Adjusted
50 lb	27	-584	-584	2300	223	2.1	In-Tolerance
50 lb	28	876	876	2300	223	2.1	In-Tolerance
50 lb	29	-554	-554	2300	223	2.1	In-Tolerance
50 lb	31	-99	-99	2300	223	2.1	In-Tolerance
50 lb	32	-474	-474	2300	223	2.1	In-Tolerance
50 lb	33	-829	-829	2300	223	2.1	In-Tolerance
50 lb	34	-1049	-1049	2300	223	2.1	In-Tolerance

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

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

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Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 20.7 °C **Humidity:** 46.2 % **Pressure:** 656.2 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **20 50 lb weights**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
50 lb	36	-819	-819	2300	223	2.1	In-Tolerance
50 lb	39	-379	-379	2300	223	2.1	In-Tolerance
50 lb	40	-1459	-9	2300	223	2.1	Adjusted
50 lb	41	-1284	-9	2300	223	2.1	Adjusted
50 lb	45	-454	-454	2300	223	2.1	In-Tolerance
50 lb	47	-394	-394	2300	223	2.1	In-Tolerance
50 lb	48	1166	1166	2300	223	2.1	In-Tolerance
50 lb	50	-1249	1	2300	223	2.1	Adjusted
50 lb	51	-1204	16	2300	223	2.1	Adjusted
50 lb	52	-574	-574	2300	223	2.1	In-Tolerance
50 lb	53	-369	-369	2300	223	2.1	In-Tolerance
50 lb	96	-1469	-4	2300	223	2.1	Adjusted
50 lb	97	1206	1206	2300	223	2.1	In-Tolerance
50 lb	98	-879	-879	2300	223	2.1	In-Tolerance
50 lb	99	-374	-374	2300	223	2.1	In-Tolerance
50 lb	333	-764	-764	2300	223	2.1	In-Tolerance
50 lb	13 1M	-864	-864	2300	223	2.1	In-Tolerance
50 lb	C44	-24	-24	2300	223	2.1	In-Tolerance
50 lb	M67	-629	-629	2300	223	2.1	In-Tolerance
50 lb	R	-1189	1	2300	223	2.1	Adjusted

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

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

10/27/2021

Ron Peterson, Metrologist

Ver 20210927

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: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 20.7 °C **Humidity:** 46.2 % **Pressure:** 656.2 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **21 50 lb Hanging Weights**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
50 lb	12	-2449	1	2300	223	2.1	Adjusted
50 lb	46	641	641	2300	223	2.1	In-Tolerance
50 lb	47	-1689	21	2300	223	2.1	Adjusted
50 lb	49	-669	-669	2300	223	2.1	In-Tolerance
50 lb	50	1596	1	2300	223	2.1	Adjusted
50 lb	59	356	356	2300	223	2.1	In-Tolerance
50 lb	8037	-674	-674	2300	223	2.1	In-Tolerance
50 lb	SD21	601	601	2300	223	2.1	In-Tolerance
50 lb	SD24	1071	1071	2300	223	2.1	In-Tolerance
50 lb	SD25	-454	-454	2300	223	2.1	In-Tolerance
50 lb	SD26	-94	-94	2300	223	2.1	In-Tolerance
50 lb	SD27	-1094	-1094	2300	223	2.1	In-Tolerance
50 lb	SD28	1	1	2300	223	2.1	In-Tolerance
50 lb	SD32	-1019	-1019	2300	223	2.1	In-Tolerance
50 lb	SD33	1396	1396	2300	223	2.1	In-Tolerance
50 lb	SD34	51	-1170	2300	223	2.1	Adjusted
50 lb	SD36	86	-814	2300	223	2.1	Adjusted
50 lb	SD38	446	446	2300	223	2.1	In-Tolerance
50 lb	SD39	-744	-744	2300	223	2.1	In-Tolerance
50 lb	SD8	-9	-9	2300	223	2.1	In-Tolerance
50 lb	SD91	1125	1125	2300	223	2.1	In-Tolerance

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

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

10/27/2021

Ron Peterson, Metrologist

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.2 °C **Humidity:** 45.9 % **Pressure:** 657 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **27 25 lb weights**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
25 lb	56	-286	-286	1100	130	2.1	In-Tolerance
25 lb	E1	-611	-6	1100	130	2.1	Adjusted
25 lb	FPK3	194	194	1100	130	2.1	In-Tolerance
25 lb	IPJ9	-601	-1	1100	130	2.1	Adjusted
25 lb	IPJA	589	589	1100	130	2.1	In-Tolerance
25 lb	IPJB	-1061	-1	1100	130	2.1	Adjusted
25 lb	IPJB	1274	24	1100	130	2.1	Adjusted
25 lb	IPJD	-371	-371	1100	130	2.1	In-Tolerance
25 lb	IPJE	1189	-6	1100	130	2.1	Adjusted
25 lb	IPJF	399	399	1100	130	2.1	In-Tolerance
25 lb	IPJH	-226	-226	1100	130	2.1	In-Tolerance
25 lb	IPJI	-46	-46	1100	130	2.1	In-Tolerance
25 lb	IPJJ	379	379	1100	130	2.1	In-Tolerance
25 lb	IPJL	349	349	1100	130	2.1	In-Tolerance
25 lb	IPJM	-241	-241	1100	130	2.1	In-Tolerance
25 lb	IPJN	144	144	1100	130	2.1	In-Tolerance
25 lb	IPJO	-396	-396	1100	130	2.1	In-Tolerance
25 lb	IPJP	-56	-56	1100	130	2.1	In-Tolerance
25 lb	IPJR	269	269	1100	130	2.1	In-Tolerance
25 lb	IPJS	-436	-436	1100	130	2.1	In-Tolerance
25 lb	IPJT	564	564	1100	130	2.1	In-Tolerance
25 lb	IPJV	184	184	1100	130	2.1	In-Tolerance
25 lb	IPJW	274	274	1100	130	2.1	In-Tolerance
25 lb	IPJX	-1536	-51	1100	130	2.1	Adjusted
25 lb	IPJZ	-871	-1	1100	130	2.1	Adjusted
25 lb	IPK$	1019	14	1100	130	2.1	Adjusted
25 lb	IPK2	1264	-11	1100	130	2.1	Adjusted

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

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

10/27/2021

Ron Peterson, Metrologist

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.2 °C **Humidity:** 45.9 % **Pressure:** 657 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **20 25 lb weights**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
25 lb	IPK5	-591	9	1100	130	2.1	Adjusted
25 lb	IPK6	794	-1	1100	130	2.1	Adjusted
25 lb	IPK8	879	-1	1100	130	2.1	Adjusted
25 lb	IPK9	414	414	1100	130	2.1	In-Tolerance
25 lb	IPKC	-516	-516	1100	130	2.1	In-Tolerance
25 lb	IPKD	514	514	1100	130	2.1	In-Tolerance
25 lb	IPKF	-26	-26	1100	130	2.1	In-Tolerance
25 lb	IPKF	574	574	1100	130	2.1	In-Tolerance
25 lb	IPKF	839	9	1100	130	2.1	Adjusted
25 lb	IPKG	89	89	1100	130	2.1	In-Tolerance
25 lb	IPKH	324	324	1100	130	2.1	In-Tolerance
25 lb	IPKI	764	-1	1100	130	2.1	Adjusted
25 lb	IPKJ	-71	-71	1100	130	2.1	In-Tolerance
25 lb	IPKK	629	629	1100	130	2.1	In-Tolerance
25 lb	IPKM	9	9	1100	130	2.1	In-Tolerance
25 lb	IPKN	-11	-11	1100	130	2.1	In-Tolerance
25 lb	IPKO	659	659	1100	130	2.1	In-Tolerance
25 lb	J	-106	-106	1100	130	2.1	In-Tolerance
25 lb	KSD2	-2046	4	1100	130	2.1	Adjusted
25 lb	x	469	469	1100	130	2.1	In-Tolerance

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

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

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 20.7 °C **Humidity:** 46.2 % **Pressure:** 656.2 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

Condition of Weights: Cleaned and painted

Artifact(s): **4 Class F Cast Weights**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
20 kg	Y	-70	-70	2000	181	2.1	In-Tolerance
5 kg		-81	-81	500	45	2.1	In-Tolerance
20 lb	57	-113	-113	910	119	2.1	In-Tolerance
5 lb	58	-33	-33	230	20	2.1	In-Tolerance

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

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

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 44.3 % **Pressure:** 658.6 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **16 piece Metric Class F Kit** **SN 208D**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
5 kg		132	132	500	45	2.1	In-Tolerance
2 kg		83	83	200	18	2.1	In-Tolerance
2 kg	.	89	89	200	18	2.1	In-Tolerance
1 kg		51.1	51.1	100	8.9	2.1	In-Tolerance
500 g		25.4	25.4	70	6.3	2.1	In-Tolerance
200 g		17.4	17.4	40	3.6	2.1	In-Tolerance
200 g	.	16.4	16.4	40	3.6	2.1	In-Tolerance
100 g		2.0	2.0	20	1.8	2.1	In-Tolerance
50 g		2.39	2.39	10	0.89	2.1	In-Tolerance
20 g		0.98	0.98	4.0	0.36	2.1	In-Tolerance
20 g	.	0.62	0.62	4.0	0.36	2.1	In-Tolerance
10 g		0.88	0.88	2.0	0.18	2.1	In-Tolerance
5 g		0.21	0.21	1.5	0.14	2.1	In-Tolerance
2 g		0.46	0.46	1.1	0.10	2.1	In-Tolerance
2 g	.	0.34	0.34	1.1	0.10	2.1	In-Tolerance
1 g		0.086	0.086	0.90	0.084	2.1	In-Tolerance

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

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

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 44.3 % **Pressure:** 658.6 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **22 piece Metric Class F Kit** **SN 080602B**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
2 kg	1	88	88	200	18	2.1	In-Tolerance
2 kg	2	89	89	200	18	2.1	In-Tolerance
2 kg	3	78	78	200	18	2.1	In-Tolerance
2 kg	4	89	89	200	18	2.1	In-Tolerance
2 kg	5	73	73	200	18	2.1	In-Tolerance
1 kg		41.1	41.1	100	8.9	2.1	In-Tolerance
500 g	1	34.4	34.4	70	6.3	2.1	In-Tolerance
500 g	2	32.4	32.4	70	6.3	2.1	In-Tolerance
500 g	3	16.4	16.4	70	6.3	2.1	In-Tolerance
500 g	4	30.4	30.4	70.0	6.3	2.1	In-Tolerance
500 g	5	32.4	32.4	70.0	6.3	2.1	In-Tolerance
200 g		12.8	12.8	40.0	3.6	2.1	In-Tolerance
200 g	.	11.0	11.0	40.0	3.6	2.1	In-Tolerance
100 g		9.8	9.8	20.0	1.8	2.1	In-Tolerance
50 g		4.24	4.24	10.0	0.89	2.1	In-Tolerance
20 g		1.218	1.218	4.00	0.36	2.1	In-Tolerance
20 g	.	1.84	1.84	4.0	0.36	2.1	In-Tolerance
10 g		0.97	0.97	2.0	0.18	2.1	In-Tolerance
5 g		0.90	0.90	1.5	0.14	2.1	In-Tolerance
2 g		0.49	0.49	1.1	0.10	2.1	In-Tolerance
2 g	.	-0.02	-0.02	1.1	0.10	2.1	In-Tolerance
1 g		-0.439	-0.439	0.9	0.084	2.1	In-Tolerance

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

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

10/27/2021

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 44.3 % **Pressure:** 658.6 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **14 piece Metric Class F Kit** **SN O1AY**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
2 kg		93	93	200	18	2.1	In-Tolerance
1 kg		43.1	43.1	100	8.9	2.1	In-Tolerance
500 g		35.4	35.4	70	6.3	2.1	In-Tolerance
200 g		16.5	16.5	40	3.6	2.1	In-Tolerance
200 g	.	15.5	15.5	40	3.6	2.1	In-Tolerance
100 g		7.5	7.5	20	1.8	2.1	In-Tolerance
50 g		3.32	3.32	10	0.89	2.1	In-Tolerance
20 g		1.13	1.13	4	0.36	2.1	In-Tolerance
20 g	.	1.00	1.00	4	0.36	2.1	In-Tolerance
10 g		0.90	0.90	2.0	0.18	2.1	In-Tolerance
5 g		0.43	0.43	1.5	0.14	2.1	In-Tolerance
2 g		0.18	0.18	1.1	0.10	2.1	In-Tolerance
2 g	.	0.32	0.32	1.1	0.10	2.1	In-Tolerance
1 g		-0.544	-0.544	0.9	0.084	2.1	In-Tolerance

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

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

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 436 % **Pressure:** 659.7 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **18 piece Avoirdupois Class F Kit** **SN 081500C**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
10 lb		119	119	450	40	2.1	In-Tolerance
10 lb	.	130	130	450	40	2.1	In-Tolerance
5 lb		81	81	230	20	2.1	In-Tolerance
2 lb		32.2	32.2	91	8.2	2.1	In-Tolerance
2 lb	.	27.2	27.2	91	8.2	2.1	In-Tolerance
1 lb		10.4	10.4	70	6.4	2.1	In-Tolerance
0.5 lb		11.2	11.2	45	4.1	2.1	In-Tolerance
0.2 lb		0.5	0.5	18	1.6	2.1	In-Tolerance
0.2 lb	.	3.3	3.3	18	1.6	2.1	In-Tolerance
0.1 lb		3.26	3.26	9.1	0.82	2.1	In-Tolerance
0.05 lb		1.43	1.43	4.5	0.40	2.1	In-Tolerance
0.02 lb		0.46	0.46	1.8	0.17	2.1	In-Tolerance
0.02 lb	.	0.45	0.45	1.8	0.17	2.1	In-Tolerance
0.01 lb		0.39	0.39	1.5	0.13	2.1	In-Tolerance
0.005 lb		0.719	0.719	1.2	0.11	2.1	In-Tolerance
0.002 lb		0.308	0.308	0.87	0.079	2.1	In-Tolerance
0.002 lb	.	0.328	0.328	0.87	0.079	2.1	In-Tolerance
0.001 lb		0.416	0.416	0.7	0.063	2.1	In-Tolerance

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

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

10/27/2021

Ron Peterson, Metrologist

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 436 % **Pressure:** 659.7 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **16 piece Avoirdupois Class F Kit** **SN 081500B**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
10 lb	KS	-121	-121	450	40	2.1	In-Tolerance
10 lb	12	35	35	450	40	2.1	In-Tolerance
5 lb		24	24	230	20	2.1	In-Tolerance
1 lb	8	-6.6	-6.6	70	6.4	2.1	In-Tolerance
1 lb	3	5.4	5.4	70	6.4	2.1	In-Tolerance
1 lb	5	-16.6	-16.6	70	6.4	2.1	In-Tolerance
1 lb	1	16.4	16.4	70	6.4	2.1	In-Tolerance
1 lb	4	1.4	1.4	70	6.4	2.1	In-Tolerance
4 oz	2	7.1	7.1	23	2.1	2.1	In-Tolerance
4 oz	3	10.0	10.0	23	2.1	2.1	In-Tolerance
4 oz	1	-0.1	-0.1	23	2.1	2.1	In-Tolerance
1 oz	3	2.04	2.04	5.4	0.49	2.1	In-Tolerance
1 oz		1.80	1.80	5.4	0.49	2.1	In-Tolerance
1/2 oz		1.32	1.32	2.8	0.26	2.1	In-Tolerance
1/2 oz	.	0.19	0.19	2.8	0.26	2.1	In-Tolerance
1/4 oz		0.24	0.24	1.7	0.15	2.1	In-Tolerance

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

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

10/27/2021

Ron Peterson, Metrologist

Ver 20210927

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: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 436 % **Pressure:** 659.7 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **17 piece Avoirdupois Class F Kit** **SN 081500C**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
10 lb		-155	-155	450	40	2.1	In-Tolerance
5 lb	9	28	28	230	20	2.1	In-Tolerance
2 lb	5	12.2	12.2	91	8.2	2.1	In-Tolerance
2 lb	6	29.2	29.2	91	8.2	2.1	In-Tolerance
1 lb	4	10.4	10.4	70	6.4	2.1	In-Tolerance
0.5 lb	3	4.2	4.2	45	4.1	2.1	In-Tolerance
0.2 lb	1	8.5	8.5	18	1.6	2.1	In-Tolerance
0.2 lb	2	8.2	8.2	18	1.6	2.1	In-Tolerance
0.1 lb		7.26	7.26	9.1	0.82	2.1	In-Tolerance
0.05 lb		2.26	2.26	4.5	0.40	2.1	In-Tolerance
0.02 lb		1.39	1.39	1.8	0.17	2.1	In-Tolerance
0.02 lb	.	0.83	0.83	1.8	0.17	2.1	In-Tolerance
0.01 lb		0.54	0.54	1.5	0.13	2.1	In-Tolerance
0.005 lb		1.02	1.02	1.2	0.11	2.1	In-Tolerance
0.002 lb		0.588	0.588	0.87	0.079	2.1	In-Tolerance
0.002 lb	.	0.733	0.733	0.87	0.079	2.1	In-Tolerance
0.001 lb		0.056	0.056	0.7	0.063	2.1	In-Tolerance

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

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

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CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** **Certificate number:** **MP4219**

Calibration Date: 10/27/2021 Purchase Order Number: **0**

Environmental conditions at time of test:

Temperature: 21.7 °C **Humidity:** 436 % **Pressure:** 659.7 mmhg

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

Test equipment used: Lab standards traceable to the SI, Mettler AX205, Mettler XPR5003SC, Mettler AX206, Vaisala PTU301

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

Artifact(s): **10 piece Avoirdupois Class F Kit** **SN SD180711**

Nominal		Correction as Found	Correction as Left	NIST Class F	Uncertainty		Condition
	SN/ID	mg	mg	Tolerance (mg)	mg	*k*	As Left
8 oz	1	9.2	9.2	45	4.1	2.1	In-Tolerance
8 oz	2	13.2	13.2	45	4.1	2.1	In-Tolerance
8 oz	3	20.2	20.2	45	4.1	2.1	In-Tolerance
8 oz	4	24.2	24.2	45	4.1	2.1	In-Tolerance
8 oz	5	18.2	18.2	45	4.1	2.1	In-Tolerance
8 oz	6	23.2	23.2	45	4.1	2.1	In-Tolerance
8 oz	7	21.2	21.2	45	4.1	2.1	In-Tolerance
8 oz	8	19.2	19.2	45	4.1	2.1	In-Tolerance
8 oz	9	15.2	15.2	45	4.1	2.1	In-Tolerance
8 oz	10	13.2	13.2	45	4.1	2.1	In-Tolerance

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

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

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