

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

REPORT OF CALIBRATION

LAB TEST NUMBER: MP3288 Amended DATE OF REPORT: 10/17/2013 DATE RECEIVED: 10/15/2013 DATE OF TEST: 10/16/2013

Submitted By: K-SCALE

Contact: Kevin

Mailing Address: 1701 W MADISON

City, State, Zip: SIOUX FALLS, SD 57104

Phone: 605-334-8003

S/A Number: 90

Standards Submitted:

1 -WEIGHTS CARTS

25 -1000 LB TEST WEIGHTS

-500 LB TEST WEIGHTS

62 -50 LB TEST WEIGHTS

26 -25 LB TEST WEIGHTS

-AVOIRDUPOIS WEIGHT KITS

-METRIC WEIGHT KITS

-5 GALLON TEST MEARSURES

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard, the standard uncertainty for the measurement process, and a component of uncertainty to account for any observed deviations from values that are less than surveillance limits. The combined standard uncertainty is multiplied by a coverage factor of k = 2 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 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. All established Uncertainties are less than 1/3 applicable Class "F" tolerances.

Traceability statement:

The Standards of the SD Metrology Laboratory are traceable to the International System of Units (SI) through the National Institute of Standards and Technology recognized/traceable lab in the State of Minnesota, (Test Reports: 327678, 327681, 327682, 327683, 327684, 327685, 327686, 327687, 327813) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The laboratory test number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only.

The artifacts submitted for calibration have been examined by the State of South Dakota and found to be appropriate for the intended use and to be accurate within Class "F" Tolerances as established by the National Institute of Standards and Technology-Weights and Measures Division.

Test methods are in accordance with NIST Handbook 145 and NIST IR 6969.

This document does not represent or imply endorsement by NIST Office of Weights and Measures, NMI, or any agency of the State and/or national governments. The reported test values relate only to the observations made at the time and conditions of the test. 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.

Ron Peterson, Metrologist

10/29/13 Date

Phone: 605-773-3697

FAX: 605-773-6631

www.dps.sd.gov

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

Submitted by:

K-SCALE

Report Number: MP3288

Mailing Address:

1701 W MADISON

Date Received: 10/15/13

City, State, Zip:

SIOUX FALLS, SD 57104

Date tested: 10/16/13 Condition of Cart:

Poor

Manufacturer: Serial Number:

NA

Temperature (c):

23.0 40.0%

Test Method Used

SOP 33/ Double Sub.

Humidity:

Nominal (lb): Tolerance (lb): 3000 1.00

Pressure (mm/Hg):

716.4

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

As Found (lb)	As Left (lb)	Uncertainty-lb. (K=2)
-0.79	0.14	0.13

The weight cart was cleaned and painted (if needed) and allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted, as needed and noted above, as close as possible to zero error. All fluid levels were adjusted as close as possible to the full/reference marks. Liquid 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 calibration of the weight cart prior to subsequent use.

The above weight cart was compared with standards of the State of South Dakota, which are traceable the National Institute of Standards and Technology(NIST) Weights and Measures Division and have known values. The assigned test number provides documented evidence for measurement traceability

Ron Peterson, Metrologist

Office of Weights and Measures

10/17/2013 Date of Report

Phone: 605-773-3697

118 W. Capitol Ave. Pierre, SD 57501

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Fax: 605-773-6631 www.dps.sd.gov

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

K-SCALE Report Number: MP3288 Submitted by: 1701 W MADISON Date Received: 10/15/13 Mailing Address: Date tested: 10/16/13 SIOUX FALLS, SD 57104 City, State, Zip: 1000 lb Bulk Weights Condition of Weights: Good **Artifacts Submitted** Temperature (c): 20.8 Manufacturer: NA SOP 8/ MODIFIED SUB Humidity: 41.0% Test Method Used: Russell Balance/ Vaisala PTU301 Equipment Used: Pressure (mm/Hg): 715.8

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab 1000 Lb Working Standard.

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

			Tolerance=0.10 lb	Uncertainty/lb= 0.025	(K=2)
	Nominal	Serial	As Received	As Left	
	Value	Number	lb	lb	
In the second	1000 lb	01	0.025	0.025	
	1000 lb	02	-0.016	-0.016	
	1000 lb	03	-0.028	-0.028	
	1000 lb	04	-0.011	-0.011	
	1000 lb	05	0.032	0.032	
	1000 lb	06	-0.089	0.019	
	1000 lb	07	-0.002	-0.002	
	1000 lb	08	0.040	0.040	
	1000 lb	09	0.078	0.007	
	1000 lb	10	-0.011	-0.011	
	1000 lb	11	0.005	0.005	
	1000 lb	12	0.058	0.058	
	1000 lb	13	0.135	0.012	
	1000 lb	14	0.116	0.014	
	1000 lb	15	-0.038	-0.038	
	1000 lb	16	-0.027	-0.027	
	1000 lb	17	-0.057	-0.057	
	1000 lb	19	0.009	0.009	
	1000 lb	21	0.075	0.075	
	1000 lb	23	-0.040	-0.040	
	1000 lb	24	0.018	0.018	
	1000 lb	25	0.133	0.008	

Ron Peterson, Metrologist

10/17/2013 Date of Report

Office of Weights and Measures 118 W. Capitol Ave. Pierre, SD 57501

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 1000 lb Bulk weights **Artifacts Submitted** Condition of Weights: Good Manufacturer: NA Temperature (c): 20.8 SOP 8/ MODIFIED SUB Test Method Used: **Humidity:** 41.0% Equipment Used: Russell Balance/ Vaisala PTU301 Pressure (mm/Hg): 715.8

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab 1000 Lb Working Standard.

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

		Tolerance=0.10 lb	Uncertainty/lb= 0.025	(K=2)
Nominal	Serial	As Received	As Left	
Value	Number	lb	lb	
1000 lb	26	-0.048	-0.480	
1000 lb	R17	0.162	0.000	
1000 lb	122	0.042	0.042	

Ron Peterson, Metrologist

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No **Condition of Weights:** NA Good Manufacturer: NA Temperature (c): 20.3 **Test Method Used:** SOP 8/ MODIFIED SUB **Humidity:** 45.6% Equipment Used: Mettler KA-30/ Vaisala PTU301 Pressure (mm/Hg): 715.6

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration. Several weights did not meet the handbook 105-1 design requirements and were rejected. The applicable portion of HB 105-1 is included.

Standards Used: SD Lab 50 Lb Working Standard.

The values reported below relate only to those observations made at the time and conditions of the test. This test report, so numbered, may not

Nominal=50 lb	As	Aş	Tolerance-mg	Uncertainty-mg (K=2)
	Received (mg)	Left (mg)	2300	262
Serial Number				
20	-410	-410		
97	-960	-960		
1	-1670	-1670		
2	265	265		
13	475	475		
48	170	170		
8	335	335		
44	535	535		
4	-540	-540		
34	-725	-725		
7	-1260	-1260		
21	-535	-535		
9	-260	-260		
40	-30	-30		
41	-450	-450		
91	-1110	-1110		
24	-1130	-1130		

Ron Peterson, Metrologist

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

Submitted by: K-SCALE Report Number: MP3288 **Mailing Address:** 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Condition of Weights: Good Weight Kit Serial No NA Temperature (c): 20.3 NA Manufacturer: Humidity: 45.6% SOP 8/ MODIFIED SUB Test Method Used: 715.6 Pressure (mm/Hg): Mettler KA-30/ Vaisala PTU301 Equipment Used:

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration. Several weights did not meet the handbook 105-1 design requirements and were rejected. The applicable portion of HB 105-1 is included.

Standards Used: SD Lab 50 Lb Working Standard.

The values reported below relate only to those observations made at the time and conditions of the test. This test report, so numbered, may not

Nominal=50 lb	As	As	Tolerance-mg	Uncertainty-mg (K=2)
	Received (mg)	Left (mg)	2300	262
Serial Number				
28	610	610		
51	105	105		
32	550	550		
10	-1780	-320		
11	-3505	-620		
333	1005	1005		
14	-85	-85		
25	-630	-630		
17	1215	1215		
321	-305	-305		
18	-950	-950		
99	1015	1015		
98	710	710		
22	-1045	-1045		
5	-1380	-1380		

Ron Peterson, Metrologist

10/17/2013

Date of Report

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

Submitted by:	K-SCALE	Report Number:	MP3288
Mailing Address:	1701 W MADISON	Date Received:	10/15/13
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	10/16/13
Weight Kit Serial No:	3100X FALLS, 3D 37 104	Condition of Weights:	Good
Manufacturer:	NA	Temperature (c):	20.9
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	48.4%
Equipment Used:	Mettler KA-30/ Vaisala PTU301	total and the second se	714.3
Equipment 03ed.	Weller IVA-307 Valsala P 1 0 30 1	Pressure (mm/Hg):	114.3

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration. Several weights did not meet the handbook 105-1 design requirements and were rejected. The applicable portion of HB 105-1 is included.

Standards Used: SD Lab 25 Lb Working Standard.

The values reported below relate only to those observations made at the time and conditions of the test. This test report, so numbered, may

_	NOMINAL=25 lb	As	As	Tolerance-mg	Uncertainty-mg/k=2	
	Serial Number	Received (mg)	Left (mg)	1100	131	
	1PJG	820	820	1100	131	
	1PJ9	1495	625	1100	131	
	1PJ8	125	125	1100	131	
	1PJF	930	520	1100	131	
	1PJW	1070	375	1100	131	
	1PKN	45	45	1100	131	
	1PKJ	-420	-420	1100	131	
	1PJQ	140	140	1100	131	
	1PJH	1110	395	1100	131	
	1PK4	380	380	1100	131	
	1PKD	510	510	1100	131	
	1PKH	215	215	1100	131	
	1PJP	725	725	1100	131	
	1PJ4	785	785	1100	131	
	1PK0	950	450	1100	131	
	1PJX	570	570	1100	131	
	1PKE	10	10	1100	131	
	1PJJ	120	120	1100	131	
	1PK8	-60	-60	1100	131	
	1PJZ	735	735	1100	131	
	JPJ8	405	405	1100	131	
	1PK	130	130	1100	131	

Ron Peterson, Metrologist

10/17/2013 Date of Report

Office of Weights and Measures 118 W. Capitol Ave. Pierre, SD 57501 Phone:605-773-3697

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No: 081500C Condition of Weights: Good Kit Manufacturer: Rice Lake Temperature (c): 20.6 Test Method Used: SOP 8/ MODIFIED SUB Humidity: 47.1% **Equipment Used:** Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301 Pressure (mm/Hg): 717.1

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab for a period of

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

The values reported below relate only to those observations made at the time and conditions of the test. This test report, so numbered, may

Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2	
5 lb	9	30	230	16	
2 lb	5	12	91	11	
2 lb	6	30	91	11	
1 lb	4	11.2	70	6.7	
0.5 lb	3	3.8	45	4.9	
0.2 lb	1	8.6	18	1.4	
0.2 lb	2	8.3	18	1.4	
0.1 lb		8.35	9.1	0.60	
0.05 lb		2.43	4.5	0.39	
0.02 lb		1.48	1.8	0.26	
0.02 lb	-	0.96	1.8	0.26	
0.01 lb	missing		1.5	0.17	
0.005 lb		0.79	1.2	0.11	
0.002 lb		0.44	0.87	0.14	
0.002 lb		0.63	0.87	0.14	
0.001 lb		-0.04	0.7	0.15	

Ron Peterson, Metrologist

Office of Weights and Measures 118 W. Capitol Ave. Pierre, SD 57501

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No: 081500B Condition of Weights: Good Kit Manufacturer: Rice Lake Temperature (c): 20.5 **Test Method Used:** SOP 8/ MODIFIED SUB **Humidity:** 47.0% Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301 Equipment Used: Pressure (mm/Hg): 717.1

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab for a period of time

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

The values reported below relate only to those observations made at the time and conditions of the test. This test report, so numbered, may

Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2	
 10 lb	1	-135	450	30	
10 lb		-115	450	30	
5 lb		28	230	16	
1 lb	1	-5.8	70	6.7	
1 lb	2	0.2	70	6.7	
1 lb	3	6.2	70	6.7	
1 lb	4	-20.8	70	6.7	
1 lb	5	15.2	70	6.7	
4 oz	1	7.4	23	1.5	
4 oz	2	10.8	23	1.5	
4 oz	3	0.2	23	1.5	
1 oz	1	1.27	5.4	0.38	
1 oz	2	2.35	5.4	0.38	
1 oz	3	1.77	5.4	0.38	
1/2 oz		1.34	2.8	0.29	
1/2 oz		0.21	2.8	0.29	
1/4 oz		0.80	1.7	0.16	
1/4 oz	*	0.02	1.7	0.16	

Ron Peterson, Metrologist

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

Submitted by:	K-SCALE	Report Number:	MP3288
Mailing Address:	1701 W MADISON	Date Received:	10/15/13
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	10/16/13
Weight Kit Serial No:	081910A	Condition of Weights:	Good
Kit Manufacturer:	Rice Lake	Temperature (c):	21.1
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	44.3%
Equipment Used:	Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301	Pressure (mm/Hg):	717.3

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

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

Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2	
10 lb		123	450	30	
10 lb	7	132	450	30	
5 lb		82	230	16	
2 lb		34	91	11	
2 lb	2	28	91	11	
1 lb		10.2	70	6.7	
8 oz		10.8	45	4.9	
0.2 lb		0.5	18	1.4	
0.2 lb		3.3	18	1.4	
0.1 lb		2.87	9.1	0.60	
0.05 lb		1.50	4.5	0.39	
0.02 lb		0.46	1.8	0.26	
0.02 lb		0.43	1.8	0.26	
0.01 lb		0.65	1.5	0.17	
0.005 lb		0.48	1.2	0.11	
0.002 lb		0.24	0.87	0.14	
0.002 lb		0.33	0.87	0.14	
0.001 lb		0.41	0.7	0.15	
200 g		1.67	40	3.30	

Ron Peterson, Metrologist

10/17/2013 Date of Report

Office of Weights and Measures 118 W. Capitol Ave. Pierre, SD 57501 Phone:605-773-3697 Fax:605-773-6631 www.dps.sd.gov

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

Submitted by: K-SCALE Report Number: MP3288 **Mailing Address:** 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No: Condition of Weights: 20BD Good Kit Manufacturer: Rice Lake Temperature (c): 20.7 **Test Method Used:** SOP 8/ MODIFIED SUB **Humidity:** 46.2% **Equipment Used:** Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301 Pressure (mm/Hg): 717.3

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

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Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2
5 kg		132	500	31
2 kg		86	200	14
2 kg		91	200	14
1 kg		55.1	100	7.5
500 g		26.5	70	5.7
200 g		17.5	40	3.3
200 g		16.8	40	3.3
100 g		9.1	20	1.3
50 g		2.8	10	0.66
20 g		0.88	4	0.27
20 g		0.76	4	0.27
10 g		0.63	2	0.17
5 g		0.14	1.5	0.12
2 g		0.46	1.1	0.10
2 g		0.29	1.1	0.10
1 a	missing		0.9	0.08

Ron Peterson, Metrologist

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No: 080602B Condition of Weights: Good Kit Manufacturer: Rice Lake Temperature (c): 20.7 Test Method Used: SOP 8/ MODIFIED SUB Humidity: 46.8% **Equipment Used:** Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301 Pressure (mm/Hg): 717.3

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

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

Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2	
2 kg	1	87	200	14	-
2 kg	2	90	200	14	
2 kg	3	78	200	14	
2 kg	4	88	200	14	
2 kg	5	74	200	14	
1 kg		43.1	100	7.5	
500 g	1	33.5	70	5.7	
500 g	2	30.5	70	5.7	
500 g	3	16.5	70	5.7	
500 g	4	30.5	70	5.7	
500 g	5	31.5	70	5.7	
200 g		13.0	40	3.3	
200 g	18	10.5	40	3.3	
100 g		2.0	20	1.3	
50 g		4.17	10	0.66	
20 g		1.21	4	0.27	
20 g	¥.	1.77	4	0.27	
10 g		0.93	2	0.17	
5 g		0.86	1.5	0.12	
2 g		0.01	1.1	0.10	
2 g	¥	0.47	1.1	0.10	
1 g		-0.44	0.9	0.08	

Ron Peterson, Metrologist

10/17/2013

Office of Weights and Measures 118 W. Capitol Ave. Pierre, SD 57501

Date of Report

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No: Condition of Weights: 01AY Good Kit Manufacturer: Temperature (c): Rice Lake 20.7 **Test Method Used:** SOP 8/ MODIFIED SUB **Humidity:** 45.7% Equipment Used: Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301 Pressure (mm/Hg): 717.3

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

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

Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2
2 kg		95	200	14
1 kg		44.1	100	7.5
500 g		34.5	70	5.7
200 g		16.1	40	3.3
200 g	1993	15.4	40	3.3
100 g		7.4	20	1.3
50 g		3.74	10	0.66
20 g		0.78	4	0.27
20 g		1.02	4	0.27
10 g	missing		2	0.17
5 g		0.38	1.5	0.12
2 g		0.13	1.1	0.10
2 g		0.25	1.1	0.10
1 g		-0.56	0.9	0.08

Ron Peterson, Metrologist

10/17/2013

Date of Report

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

Submitted by: K-SCALE Report Number: MP3288 Mailing Address: 1701 W MADISON Date Received: 10/15/13 City, State, Zip: SIOUX FALLS, SD 57104 Date tested: 10/16/13 Weight Kit Serial No: Loose Condition of Weights: Fair Kit Manufacturer: Rice Lake Temperature (c): 20.6 Test Method Used: SOP 8/ MODIFIED SUB **Humidity:** 47.1% Equipment Used: Mettler AX 205 DR/ Mettler PR503/ Vaisala PTU301 Pressure (mm/Hg): 717.1

Treatment of artifacts prior to testing: Thermal equalibrium time/conditions were obtained by placing the artifacts in the lab overnight.

Compliance Statement: These weights and associated uncertainties were evaluated against NIST Handbook 105-1 NIST Class F tolerances and the weights were within tolerance at the time of calibration.

Standards Used: SD Lab Working Standards.

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

Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2	
5 lb	9	-179	230	16	-
3 lb	5	-33	140	12	

Ron Peterson, Metrologist

10/17/2013

Date of Report

Office of Weights and Measures 118 W. Capitol Ave. Pierre, SD 57501

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