



**SOUTH DAKOTA DEPARTMENT OF  
PUBLIC SAFETY**

Office of Weights & Measures

**SOUTH DAKOTA OFFICE OF WEIGHTS AND MEASURES METROLOGY LAB**

**REPORT OF TEST # M3207**

**DATE OF REPORT: 10/05/2011**

**DATE RECEIVED: 09/26/2011**

**DATE OF TEST: 09/27-29/2011**

The field standards described below 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. Laboratory working standards used were calibrated by the NIST recognized/traceable metrology lab in the States of Minnesota and Michigan (MN Test Report numbers 320684, 320685, 320686, 320687, 320688, 320693, 320858. Calibration date Sept./Oct. 2006, MI Test Report number MI-01-09-9674. Calibration date Jan. 2009.) Test methods are in accordance with NIST Handbook 145 and NIST IR 6969. All established Uncertainties are less than 1/3 applicable Class "F" tolerances.

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.

**Submitted By:** K-SCALE  
**Mailing Address:** 1701 W MADISON  
**City, State, Zip:** SIOUX FALLS, SD 57104  
**Phone:** 605.334.8003  
**S/A Number:** 90

**Standards Submitted:**

1-WEIGHT CART  
20-1000 lb TEST WEIGHTS  
42-50 lb TEST WEIGHTS  
37-25 lb TEST WEIGHTS  
1-20 lb TEST WEIGHT  
4-WEIGHT KITS

  
Brad Stover, Metrologist



  
10-5-11  
Date

# SOUTH DAKOTA 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

Submitted by:	K-SCALE	Report Number:	M3207
Mailing Address:	1701 W MADISON	Date Received:	09/26/11
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Manufacturer:	NA	Condition of Cart:	POOR
Serial Number:	NA	Temperature (F):	21.5
Test Method Used:	SOP 33/ Double Sub.	Humidity:	43%
Nominal (lb):	3000	Pressure (mm/Hg):	721.2
		Tolerance (lb):	1.00

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As Found (lb)	As Left (lb)	Uncertainty-lb. (K=2)
0.70	0.02	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*



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10/05/2011

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Pierre, SD 57501

Submitted by:	K-SCALE	Report Number:	M3207
Mailing Address:	1701 W MADISON	Date Received:	09/26/11
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	NA	Condition of Weights:	FAIR
Manufacturer:	NA	Temperature (F):	21.4
Test Method Used:	SOP B/ MODIFIED SUB	Humidity:	45%
		Pressure (mm/Hg):	721.00

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Nominal Value	Serial Number	As Received lb	As Left lb
1000 lb	01	0.054	0.054
	02	0.050	0.050
	03	0.013	0.013
	04	0.012	0.012
	05	-0.033	-0.033
	06	0.094	-0.008
	07	0.019	0.019
	08	0.071	0.071
	10	0.055	0.055
	11	0.064	0.064
	12	0.071	0.071
	14	0.017	0.017
	15	0.000	0.000
	16	0.145	0.003
	17	0.000	0.000
	19	-0.009	-0.009
	23	0.086	-0.001
	24	0.071	0.071
	25	0.045	0.045
	26	-0.001	-0.001

  
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City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	NA	Condition of Weights:	Fair
Manufacturer:	NA	Temperature (C):	20.5
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	48%
		Pressure (mm/Hg):	714.1

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Nominal=50 lb	As Received (mg)	As Left (mg)	Tolerance-mg 2300	Uncertainty-mg (K=2) 260
Serial Number				
24	-340	-340		
26	150	150		
17	1415	1415		
2	-510	-510		
15	-1115	-1115		
53	-2155	40		
51	455	455		
11	-1815	-1815		
3	-450	-450		
28	840	840		
14	650	650		
8	-300	-300		
13	-95	-95		
38	-1115	-1115		
39	635	635		
25	-605	-605		
7	-1415	-1415		
4	-830	-830		
40	2175	15		
99	1040	1040		
18	-565	-565		
41	-915	-915		
32	545	545		
321	635	635		
KSC44	1990	655		
1	-1180	-1180		
47	-570	-570		
16	-2120	-35		
19	-245	-245		
10	-135	-135		
33	775	775		
96	1035	1035		
27	-1000	-1000		

  
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Mailing Address:	1701 W MADISON	Date Received:	09/26/11
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	NA	Condition of Weights:	Fair
Manufacturer:	NA	Temperature (C):	20.5
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	48%
		Pressure (mm/Hg):	714.1

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Nominal=50 lb	As	As	Tolerance-mg	Uncertainty-mg (K=2)
Serial Number	Received (mg)	Left (mg)	2300	260
45	580	580		
97	-1400	-1400		
34	310	310		
29	235	235		
43	570	570		
21	-220	-220		
31	1265	1265		
333	895	895		
KSC21	905	905		

  
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City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	NA	Condition of Weights:	Good
Manufacturer:	NA	Temperature (C):	21.3
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	48%
		Pressure (mm/Hg):	714.1

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NOMINAL=25 lb	As	As	Tolerance-mg	Uncertainty-mg/k=2
	Received (mg)	Left (mg)	1100	127
Serial Number				
1PJC	-870	100		
1PK4	-385	-385		
1PKK	-950	125		
1PJQ	-230	-230		
1PK7	115	115		
1PJB	610	610		
1PK6	620	620		
1PK9	-385	-385		
1PK5	125	125		
1PKI	260	260		
1PKF	155	155		
1PJ3	-620	-620		
1PJW	-405	-405		
1PJI	-685	-685		
1PKJ	-70	-70		
1PJY	-1030	125		
1PJH	175	175		
1PJL	650	650		
1PJF	-145	-145		
1PKN	130	130		
1PK8	360	360		
1PJJ	-195	-195		
1PKE	-405	-405		
1PJ9	-20	-20		
1PJE	290	290		
1PJS	310	310		
1PKH	250	250		
QPJX	-560	-560		
1PJA	-300	-300		
1PK2	165	165		

  
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City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:		Condition of Weights:	Good
Manufacturer:	NA	Temperature (C):	21.3
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	48%
		Pressure (mm/Hg):	714.1

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NOMINAL=25 lb	As	As	Tolerance-mg	Uncertainty-mg/k=2
	Received (mg)	Left (mg)	1100	127
Serial Number				
1PJG	1625	350		
1PKM	1155	-460		
1PJV	215	215		
1PKG	-785	90		
KS-D2	365	365		
1PJZ	-420	-420		
1PJN	505	505		



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Weight Kit Serial No:	NA	Condition of Weights:	Good
Manufacturer:	NA	Temperature (C):	21.3
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	48%
		Pressure (mm/Hg):	714.1

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NOMINAL=25 lb	As	As	Tolerance-mg	Uncertainty-mg/k=2
	Received (mg)	Left (mg)	1100	135
Serial Number				
57	-1035	40		



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Mailing Address:	1701 W MADISON	Date Received:	09/26/11
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
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:	47%
		Pressure (mm/Hg):	711.40

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Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2
10 lb		124	450	30
10 lb	.	133	450	30
5 lb		82	230	16
2 lb		34	91	11
2 lb	.	29	91	11
1 lb		10.2	70	6.8
0.5 lb		11.8	45	5.0
0.2 lb		0.4	18	1.4
0.2 lb	.	3.1	18	1.4
0.1 lb		2.93	9.1	0.61
0.05 lb		1.42	4.5	0.39
0.02 lb		0.51	1.8	0.26
0.02 lb	.	0.49	1.8	0.26
0.01 lb		0.67	1.5	0.17
0.005 lb		0.52	1.2	0.11
0.002 lb		0.25	0.87	0.17
0.002 lb	.	0.33	0.87	0.17
0.001 lb		0.39	0.70	0.19
200 g		1.9	40	3.3

  
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City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	081500C	Condition of Weights:	GOOD
Kit Manufacturer:	RICE LAKE	Temperature (C):	21.1
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	47%
		Pressure (mm/Hg):	714.1

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Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2
5 lb	9	31	230	16
2 lb	5	13	91	11
2 lb	6	30	91	11
1 lb	4	11.2	70	6.8
0.5 lb	3	31.8	45	5.0
0.2 lb	1	8.8	18	1.4
0.2 lb	2	8.2	18	1.4
0.1 lb		8.45	9.1	0.61
0.05 lb		2.46	4.5	0.39
0.02 lb		1.45	1.8	0.26
0.02 lb	.	0.90	1.8	0.26
0.01 lb	missing			
0.005 lb		0.76	1.2	0.11
0.002 lb		0.48	0.87	0.17
0.002 lb	.	0.66	0.87	0.17
0.001 lb		0.02	0.70	0.19



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Mailing Address:	1701 W MADISON	Date Received:	09/26/11
City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	20BD	Condition of Weights:	Good
Kit Manufacturer:	RICE LAKE	Temperature (C):	21.1
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	47%
		Pressure (mm/Hg):	714.1

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Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2
5 kg		131	500	31
2 kg		92	200	14
2 kg		87	200	14
1 kg		54.1	100	7.5
500 g		25.5	70	5.7
200 g		17.7	40	3.3
200 g		17.1	40	3.3
100 g		1.8	20	1.3
50 g		2.99	10	0.66
20 g		1.00	4.0	0.27
20 g		0.72	4.0	0.27
10 g		0.67	2.0	0.17
5 g		0.18	1.5	0.12
2 g		0.497	1.1	0.098
2 g		0.367	1.1	0.098
1 g		-0.444	0.90	0.080



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City, State, Zip:	SIOUX FALLS, SD 57104	Date tested:	09/27-29/2011
Weight Kit Serial No:	080602B	Condition of Weights:	Good
Kit Manufacturer:	RICE LAKE	Temperature (C):	21.1
Test Method Used:	SOP 8/ MODIFIED SUB	Humidity:	47%
		Pressure (mm/Hg):	714.1

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Nominal	Identifier	Cx (mg)	Tolerance/mg	Uncertainty-mg/k=2
2 kg	1	87	200	14
2 kg	2	92	200	14
2 kg	3	79	200	14
2 kg	4	88	200	14
2 kg	5	74	200	14
1 kg		40.1	100	7.5
500 g	1	32.5	70	5.7
500 g	2	28.5	70	5.7
500 g	3	13.5	70	5.7
500 g	4	28.5	70	5.7
500 g	5	29.5	70	5.7
200 g		12.7	40	3.3
200 g	.	10.7	40	3.3
100 g		8.8	20	1.3
50 g		4.23	10	0.66
20 g		1.13	4.0	0.27
20 g	.	1.73	4.0	0.27
10 g		0.93	2.0	0.17
5 g		0.85	1.5	0.12
2 g		0.487	1.1	0.098
2 g	.	0.027	1.1	0.098
1 g	Missing			

  
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