



Dave Heineman
Governor

State of Nebraska

DEPARTMENT OF AGRICULTURE
GREGORY A. IBACH
Director

*Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524*

CERTIFICATION FOR STANDARDS OF MEASUREMENT

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Date: 6/13/2011
Agency ID: 60
NE Cert No: 20110072
P.O. No:

Submitted By: Todd Blaske

Electronic Copy Page 1

<u>Denomination</u>	<u>Serial Number</u>	<u>Weight Number</u>	<u>Tolerance</u>	<u>Accept/Reject</u>
5 gal	05-41609-15	1	VL	A
5 gal	05-41610-03	1	VL	A
5 gal	05-41610-08	1	VL	A
5 gal	06-01161	1	VL	A
5 gal	06-01165	1	VL	A
0.3 lb	10-OPI-10A	1	F	A
0.2 lb	10-OPI-10A	2	F	A
0.1 lb	10-OPI-10A	3	F	A
0.05 lb	10-OPI-10A	4	F	A
0.03 lb	10-OPI-10A	5	F	A
0.02 lb	10-OPI-10A	6	F	A
0.01 lb	10-OPI-10A	7	F	A
0.005 lb	10-OPI-10A	8	F	A
0.003 lb	10-OPI-10A	9	F	A
0.002 lb	10-OPI-10A	10	F	A
0.001 lb	10-OPI-10A	11	F	A
0.001 lb*	10-OPI-10A	12	F	A
2 lb	14A9	1	F	A
2 lb	14A9	2	F	A
2 lb	14A9	3	F	A
2 lb	14A9	4	F	A
2 lb	14A9	5	F	A
2 lb	14A9	6	F	A
2 lb	14A9	7	F	A
2 lb	14A9	8	F	A

Department of Agriculture, 301 Centennial Mall South
Web Site: www.agr.ne.gov

Administration
P.O. Box 94947
Lincoln, NE 68509-4947
(402) 471-2341
FAX: (402) 471-6876

Agriculture Laboratories
3703 South 14th Street
Lincoln, NE 68502-5399
(402) 471-2176
FAX: (402) 471-0091

Bureau of Animal Industry
P.O. Box 94987
Lincoln, NE 68509-4787
(402) 471-2351
FAX: (402) 471-6893

Bureau of Dairies & Foods
P.O. Box 95064
Lincoln, NE 68509-5064
(402) 471-2536
FAX: (402) 471-2759

Bureau of Plant Industry
P.O. Box 94956
Lincoln, NE 68509-4756
(402) 471-2394
FAX: (402) 471-6892

Weights and Measures
P.O. Box 94757
Lincoln, NE 68509-4757
(402) 471-4292
FAX: (402) 471-2759

Submitted By: Todd Blaske

Electronic Copy Page 2

<u>Denomination</u>	<u>Serial Number</u>	<u>Weight Number</u>	<u>Tolerance</u>	<u>Accept/Reject</u>
2 lb	14A9	9	F	A
2 lb	14A9	10	F	A
2 lb	14A9	11	F	A
2 lb	14A9	12	F	A
2 lb	14A9	13	F	A
2 lb	14A9	14	F	A
1 lb	14A9	15	F	A
1 lb	14A9	16	F	A
8 oz	14A9	17	F	A
4 oz	14A9	18	F	A
2 oz	14A9	19	F	A
1 oz	14A9	20	F	A
0.5 oz	14A9	21	F	A
0.25 oz	14A9	22	F	A
0.125 oz	14A9	23	F	A
0.0625 oz	14A9	24	F	A
0.0625 oz*	14A9	25	F	A
15 lb	WM15-15	1	6	A
15 lb	WM15-16	1	6	A
25 lb	WM25-105	1	F	A
25 lb	WM25-107	1	F	A
25 lb	WM25-108	1	F	A
25 lb	WM25-109	1	F	A
25 lb	WM25-111	1	F	A
25 lb	WM25-112	1	F	A
25 lb	WM25-120	1	F	A
25 lb	WM25-123	1	F	A
25 lb	WM25-126	1	F	A
25 lb	WM25-128	1	F	A
25 lb	WM25-129	1	F	A
25 lb	WM25-130	1	F	A
25 lb	WM25-134	1	F	A
25 lb	WM25-25	1	F	A
25 lb	WM25-32	1	F	A
25 lb	WM25-36	1	F	A
25 lb	WM25-40	1	F	A

Submitted By: Todd Blaske

Electronic Copy Page 3


Denomination	Serial Number	Weight Number	Tolerance	Accept/Reject
25 lb	WM25-51	1	F	A
25 lb	WM25-52	1	F	A
25 lb	WM25-53	1	F	A
4 kg	WM-8	1	F	A
300 g	WM-G89-6	1	4	A
200 g	WM-G89-6	2	4	A
100 g	WM-G89-6	3	4	A
50 g	WM-G89-6	4	4	A
30 g	WM-G89-6	5	4	A
20 g	WM-G89-6	6	4	A
10 g	WM-G89-6	7	4	A
5 g	WM-G89-6	8	4	A
3 g	WM-G89-6	9	4	A
2 g	WM-G89-6	10	4	A
1 g	WM-G89-6	11	4	A
500 mg	WM-G89-6	12	4	A
200 mg	WM-G89-6	13	4	A
200 mg*	WM-G89-6	14	4	A
100 mg	WM-G89-6	15	4	A
50 mg	WM-G89-6	16	4	A
20 mg	WM-G89-6	17	4	A
20 mg*	WM-G89-6	18	4	A
10 mg	WM-G89-6	19	4	A
5 mg	WM-G89-6	20	4	A
2 mg	WM-G89-6	21	4	A
2 mg*	WM-G89-6	22	4	A
1 mg	WM-G89-6	23	4	A

These field standards have been compared with our reference standards and found to be within the tolerances for their class, or condemned, as prescribed by the National Institute of Standards and Technology. These field standards also meet the required specifications.

The reference standards used are traceable to the National Institute of Standards and Technology (NIST). Our traceability is maintained through control charts, regional inter-comparisons and periodic recertifications. This certificate is issued by the Nebraska Department of Agriculture / Division of Weights and Measures. Reproduction of this certificate must include the entire document (including all attached papers).

See 'Test Results' attached

See report/letter attached



Craig E. Olsen

Nebraska State Metrologist

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 8 - Modified Substitution Test Results

Form No.: NE04LF9-R00

Agency ID: 60
 Agency: Dept of Ag. - Weights & Measures
 254 East 14th Street
 Wahoo, NE 68066-

NE Cert No: 20110072
 Date: 6/13/2011
 P.O. No:
 Observer: CEO

Submitted By: Todd Blaske

Electronic Copy

Page 1 of 3

Serial Number	Wt. No.	Retest No.	Denom.	Comparator used	Standard Used	Error of test weight	Tolerance	Uncertainty	Accepted or Rejected
10-OPI-10A	1	0	0.3 lb	CC1201-lb	NSL-WK1	-0.0085100 g	0.027 g	0.0023334 g	A
10-OPI-10A	2	0	0.2 lb	AT106-lb	NSL-WK2	-0.0033721 g	0.018 g	0.0000660 g	A
10-OPI-10A	3	0	0.1 lb	AT106-lb	NSL-WK3	-0.0028973 g	0.0091 g	0.0000599 g	A
10-OPI-10A	4	0	0.05 lb	AT106-lb	NSL-WK4	0.0017141 g	0.0045 g	0.0000585 g	A
10-OPI-10A	5	0	0.03 lb	AT106-lb	NSL-WK5	0.0000443 g	0.0027 g	0.0000543 g	A
10-OPI-10A	6	0	0.02 lb	AT106-lb	NSL-WK6	0.0003394 g	0.0018 g	0.0000556 g	A
10-OPI-10A	7	0	0.01 lb	CCE6_lb	NSL-WK7	-0.0006875 g	0.0015 g	0.0000090 g	A
10-OPI-10A	8	0	0.005 lb	CCE6_lb	NSL-WK8	-0.0002332 g	0.0012 g	0.0000075 g	A
10-OPI-10A	9	0	0.003 lb	CCE6_lb	NSL-WK9	-0.0007068 g	0.00099 g	0.0000070 g	A
10-OPI-10A	10	0	0.002 lb	CCE6_lb	NSL-WK10	-0.0007141 g	0.00087 g	0.0000063 g	A
10-OPI-10A	11	0	0.001 lb	CCE6_lb	NSL-WK11	0.0000319 g	0.0007 g	0.0000061 g	A
10-OPI-10A	12	0	0.001 lb*	CCE6_lb	NSL-WK11	-0.0004564 g	0.0007 g	0.0000061 g	A
14A9	1	0	2 lb	CC1201-lb	NSL-2-1	-0.0577957 g	0.091 g	0.0023481 g	A
14A9	2	0	2 lb	CC1201-lb	NSL-2-1	-0.0168957 g	0.091 g	0.0023481 g	A
14A9	3	0	2 lb	CC1201-lb	NSL-2-1	-0.0595957 g	0.091 g	0.0023481 g	A
14A9	4	0	2 lb	CC1201-lb	NSL-2-1	-0.0255957 g	0.091 g	0.0023481 g	A
14A9	5	0	2 lb	CC1201-lb	NSL-2-1	-0.0400957 g	0.091 g	0.0023481 g	A
14A9	6	0	2 lb	CC1201-lb	NSL-2-1	-0.0273957 g	0.091 g	0.0023481 g	A
14A9	7	0	2 lb	CC1201-lb	NSL-2-1	-0.0139957 g	0.091 g	0.0023481 g	A
14A9	8	0	2 lb	CC1201-lb	NSL-2-1	-0.0270957 g	0.091 g	0.0023481 g	A
14A9	9	0	2 lb	CC1201-lb	NSL-2-1	-0.0572957 g	0.091 g	0.0023481 g	A
14A9	10	0	2 lb	CC1201-lb	NSL-2-1	-0.0032957 g	0.091 g	0.0023481 g	A
14A9	11	0	2 lb	CC1201-lb	NSL-2-1	-0.0188957 g	0.091 g	0.0023481 g	A
14A9	12	0	2 lb	CC1201-lb	NSL-2-1	-0.0419957 g	0.091 g	0.0023481 g	A
14A9	13	0	2 lb	CC1201-lb	NSL-2-1	-0.0569957 g	0.091 g	0.0023481 g	A
14A9	14	0	2 lb	CC1201-lb	NSL-2-1	-0.0359957 g	0.091 g	0.0023481 g	A

Retest number - 0 indicates "as received" error / 1 indicates "adjusted to" error

The uncertainty of measurement is determined using the uncertainty of the reference standard(s), standard deviation of the process, environmental factors and bias using a RSS calculation. Uncertainty values are calculated using a K factor of 2.

"As received" values for weights may not be a true "as found" value because these weights could have been cleaned and/or repainted prior to submission to this lab. Due to handling, storage and/or environmental factors; the reported values are valid only while test items are within our control. No calibration period or interval is given with this report. We can not guarantee accuracy of results beyond the controls of our laboratory.

Agency ID: 60
 Agency: Dept of Ag. - Weights & Measures
 254 East 14th Street
 Wahoo, NE 68066-

NE Cert No: 20110072
 Date: 6/13/2011
 P.O. No:
 Observer: CEO

Submitted By: Todd Blaske

Electronic Copy

Page 2 of 3

Serial Number	Wt. No.	Retest No.	Denom.	Comparator used	Standard Used	Error of test weight	Tolerance	Uncertainty	Accepted or Rejected
14A9	15	0	1 lb	CC1201-lb	NSL-1-1	-0.0162727 g	0.07 g	0.0023373 g	A
14A9	16	0	1 lb	CC1201-lb	NSL-1-1	-0.0251727 g	0.07 g	0.0023373 g	A
14A9	17	0	8 oz	CC1201-lb	NSL-8-1	0.0128329 g	0.045 g	0.0023351 g	A
14A9	18	0	4 oz	CC1201-lb	NSL-Z	0.0081960 g	0.023 g	0.0023325 g	A
14A9	19	0	2 oz	AT106-lb	NSL-Y	0.0082332 g	0.011 g	0.0000631 g	A
14A9	20	0	1 oz	AT106-lb	2A9-1oz	-0.0004491 g	0.0054 g	0.0003670 g	A
14A9	21	0	0.5 oz	AT106-lb	2A9-1.2oz	-0.0002731 g	0.0028 g	0.0003669 g	A
14A9	22	0	0.25 oz	AT106-lb	2A9-1.4oz	0.0008135 g	0.0017 g	0.0000549 g	A
14A9	23	0	0.125 oz	AT106-lb	2A9-1.8oz	-0.0005857 g	0.0013 g	0.0000529 g	A
14A9	24	0	0.0625 oz	AT106-lb	2A9-1.16oz	0.0005111 g	0.0011 g	0.0000529 g	A
14A9	25	0	0.0625 oz*	AT106-lb	2A9-1.16oz	0.0006400 g	0.0011 g	0.0000529 g	A
WM15-15	1	0	15 lb	KA30-3_25lb	NEBR-STD-15	-0.3957971 g	0.68 g	0.0328026 g	A
WM15-16	1	0	15 lb	KA30-3_25lb	NEBR-STD-15	0.3092029 g	0.68 g	0.0328026 g	A
WM25-105	1	0	25 lb	KA30-3_25lb	NSL-25-1	-0.0331902 g	1.1 g	0.0353136 g	A
WM25-107	1	0	25 lb	KA30-3_25lb	NSL-25-1	-0.1231902 g	1.1 g	0.0353136 g	A
WM25-108	1	0	25 lb	KA30-3_25lb	NSL-25-1	-0.2581902 g	1.1 g	0.0353136 g	A
WM25-109	1	0	25 lb	KA30-3_25lb	NSL-25-1	-0.0031902 g	1.1 g	0.0353136 g	A
WM25-111	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.2118098 g	1.1 g	0.0353136 g	A
WM25-112	1	0	25 lb	KA30-3_25lb	NSL-25-1	-0.1481902 g	1.1 g	0.0353136 g	A
WM25-120	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.4418098 g	1.1 g	0.0353136 g	A
WM25-123	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.0668098 g	1.1 g	0.0353136 g	A
WM25-126	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.6718098 g	1.1 g	0.0353136 g	A
WM25-128	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.0368098 g	1.1 g	0.0353136 g	A
WM25-129	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.8318098 g	1.1 g	0.0353136 g	A
WM25-130	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.4018098 g	1.1 g	0.0353136 g	A
WM25-134	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.5068098 g	1.1 g	0.0353136 g	A
WM25-25	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.4868098 g	1.1 g	0.0353136 g	A
WM25-32	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.2068098 g	1.1 g	0.0353136 g	A
WM25-36	1	0	25 lb	KA30-3_25lb	NSL-25-1	-0.0131902 g	1.1 g	0.0353136 g	A
WM25-40	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.6568098 g	1.1 g	0.0353136 g	A
WM25-51	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.6818098 g	1.1 g	0.0353136 g	A
WM25-52	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.7668098 g	1.1 g	0.0353136 g	A
WM25-53	1	0	25 lb	KA30-3_25lb	NSL-25-1	0.1268098 g	1.1 g	0.0353136 g	A

Retest number - 0 indicates "as received" error / 1 indicates "adjusted to" error

The uncertainty of measurement is determined using the uncertainty of the reference standard(s), standard deviation of the process, environmental factors and bias using a RSS calculation. Uncertainty values are calculated using a K factor of 2.

"As received" values for weights may not be a true "as found" value because these weights could have been cleaned and/or repainted prior to submission to this lab. Due to handling, storage and/or environmental factors; the reported values are valid only while test items are within our control. No calibration period or interval is given with this report. We can not guarantee accuracy of results beyond the controls of our laboratory.

Agency ID: 60
Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

NE Cert No: 20110072
Date: 6/13/2011
P.O. No:
Observer: CEO

Submitted By: Todd Blaske

Electronic Copy

Page 3 of 3

Serial Number	Wt. No.	Retest No.	Denom.	Comparator used	Standard Used	Error of test weight	Tolerance	Uncertainty	Accepted or Rejected
WM-8	1	0	4 kg	CC10000S-5 kg	4kg	0.0572082 g	0.4 g	0.0007797 g	A

Retest number - 0 indicates "as received" error / 1 indicates "adjusted to" error

The uncertainty of measurement is determined using the uncertainty of the reference standard(s), standard deviation of the process, environmental factors and bias using a RSS calculation. Uncertainty values are calculated using a K factor of 2.

"As received" values for weights may not be a true "as found" value because these weights could have been cleaned and/or repainted prior to submission to this lab. Due to handling, storage and/or environmental factors; the reported values are valid only while test items are within our control. No calibration period or interval is given with this report. We can not guarantee accuracy of results beyond the controls of our laboratory.

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 1 of 12

Serial #: 05-41609-15
Retest #: 0
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	60.4 °F	0.998977	0 in3

Test Measure Information

Water Temperature: 60.4 °F
Water Density: 0.998977 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 2 of 12

Serial #: 05-41609-15
Retest #: 1
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	59.4 °F	0.999064	0 in3

Test Measure Information

Water Temperature: 59.4 °F
Water Density: 0.999064 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 3 of 12

Serial #: 05-41610-03
Retest #: 0
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	59.5 °F	0.999056	0 in3

Test Measure Information

Water Temperature: 59.5 °F
Water Density: 0.999056 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 4 of 12

Serial #: 05-41610-03
Retest #: 1
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	59.1 °F	0.999090	0 in3

Test Measure Information

Water Temperature: 59.1 °F
Water Density: 0.999090 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 5 of 12

Serial #: 05-41610-08
Retest #: 0
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	60.7 °F	0.998950	0 in3

Test Measure Information

Water Temperature: 60.7 °F
Water Density: 0.998950 g/cm³
Scale Reading: -0.3 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0004 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 6 of 12

Serial #: 05-41610-08
Retest #: 1
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	60.2 °F	0.998995	0 in3

Test Measure Information

Water Temperature: 60.2 °F
Water Density: 0.998995 g/cm³
Scale Reading: -0.3 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0004 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 7 of 12

Serial #: 06-01161
Retest #: 0
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	57.5 °F	0.999220	0 in3

Test Measure Information

Water Temperature: 57.5 °F
Water Density: 0.999220 g/cm³
Scale Reading: -0.5 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0013 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 8 of 12

Serial #: 06-01161
Retest #: 1
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp		Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265	/°F	57.9 °F	0.999188	0 in3

Test Measure Information

Water Temperature: 57.9 °F
Water Density: 0.999188 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 9 of 12

Serial #: 06-01161
Retest #: 2
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp		Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265	/°F	57.3 °F	0.999235	0 in3

Test Measure Information

Water Temperature: 57.3 °F
Water Density: 0.999235 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Form No.: NE03LF12-R00

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 10 of 12

Serial #: 06-01165
Retest #: 0
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	60.4 °F	0.998977	0 in3

Test Measure Information

Water Temperature: 60.4 °F
Water Density: 0.998977 g/cm³
Scale Reading: 0 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 4.9991 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Form No.: NE03LF12-R00

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 11 of 12

Serial #: 06-01165
Retest #: 1
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	58.7 °F	0.999123	0 in3

Test Measure Information

Water Temperature: 58.7 °F
Water Density: 0.999123 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 19 - Volume Transfer Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

Form No.: NE03LF12-R00

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Submitted By: Todd Blaske

Page 12 of 12

Serial #: 06-01165
Retest #: 2
Denomination: 5 gal
Observer: CEO

Eq Vol/cu.in.: 1155 cu.in.
Tolerance Class: VL
Material: SS
Coef of Expansion: 0.0000265 °F

Test Data

Del#	Std ID	Delivery	Material	Coef of Exp	Water Temp	Water Density	Delta
1	5gal	4.9991	SS	0.0000265 /°F	59.8 °F	0.999030	0 in3

Test Measure Information

Water Temperature: 59.8 °F
Water Density: 0.999030 g/cm³
Scale Reading: -0.25 cu.in.

Test Results

Test Measure Volume @ 60° F at zero scale reading: 5.0002 gal.
Tolerance: 0.0025 gal.
Uncertainty: 0.0012 gal.
Accepted/Rejected: A

**Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087**

SOP 4 - Double Substitution - Summary Of Test Results

Agency ID: 60
Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

NE Cert No: 20110072
Date: 6/13/2011
P.O. No:
Observer: CEO

Form No.: NE04LF7-R00

Submitted By: Todd Blaske

Electronic Copy

Page 1 of 2

Denom.	Serial Number	Wt. No.	True Mass (g)	Conventional Mass (g)	Uncertainty (g)	Comparator used	Standard used
300 g	WM-G89-6	1	300.00403136	300.00311285	0.00014956	CC1201 / 1 kg	300gd
200 g	WM-G89-6	2	200.00182288	200.00121054	0.00014876	CC1201 / 1 kg	200gd
100 g	WM-G89-6	3	100.00075720	100.00045103	0.00006764	AT106_100G	100grl
50 g	WM-G89-6	4	50.00041343	50.00026035	0.00004616	AT106_100G	50grl
30 g	WM-G89-6	5	30.00008585	29.99999400	0.00003999	AT106_100G	30grl
20 g	WM-G89-6	6	20.00022059	20.00015936	0.00003508	AT106_100G	20grl
10 g	WM-G89-6	7	10.00028875	10.00025813	0.00001808	AT106_10G	10grl
5 g	WM-G89-6	8	5.00011819	5.00010289	0.00000721	CCE6_5G	5grl
3 g	WM-G89-6	9	3.00027889	3.00026970	0.00000632	CCE6_5G	3grl
2 g	WM-G89-6	10	2.00010177	2.00009565	0.00000632	CCE6_5G	2grl
1 g	WM-G89-6	11	1.00005663	1.00005357	0.00000607	CCE6_5G	1grl
500 mg	WM-G89-6	12	0.49995274	0.49995121	0.00000271	CCE6_1G	500mgrl
200 mg	WM-G89-6	13	0.20000666	0.20000604	0.00000235	CCE6_1G	200mgrl
200 mg*	WM-G89-6	14	0.19996040	0.19995979	0.00000235	CCE6_1G	200mgrl
100 mg	WM-G89-6	15	0.09995944	0.09995913	0.00000227	CCE6_1G	100mgrl
50 mg	WM-G89-6	16	0.04999371	0.04999356	0.00000208	CCCE6_100MG	50mgrl
20 mg	WM-G89-6	17	0.02003809	0.02003219	0.00000205	CCCE6_100MG	20mgrl
20 mg*	WM-G89-6	18	0.02001213	0.02000624	0.00000205	CCCE6_100MG	20mgrl
10 mg	WM-G89-6	19	0.01000916	0.01000621	0.00000205	CCE6_10MG	10mgrl
5 mg	WM-G89-6	20	0.00501322	0.00501174	0.00000204	CCE6_10MG	5mgrl

Due to handling, storage and/or environmental factors, the reported values are valid only while test items are within our control. No calibration periods or intervals are given with this report. We can not guarantee accuracy of results beyond the controls of our laboratory.

True Mass is the mass value in a vacuum. Conventional Mass is the mass value in a normal air environment. All values are "as found" unless stated differently in an attachment to the certification.

The uncertainty of measurement is determined using the uncertainty of the reference standard(s), standard deviation of the process, environmental factors and bias using a RSS calculation. Uncertainty values are calculated using a K factor of 2.

Nebraska Standards Laboratory
3721 West Cuming Street
Lincoln, NE 68524
(402) 471-2087

SOP 4 - Double Substitution - Summary Of Test Results

Agency ID: 60

Agency: Dept of Ag. - Weights & Measures
254 East 14th Street
Wahoo, NE 68066-

NE Cert No: 20110072

Date: 6/13/2011

P.O. No:

Observer: CEO

Form No.: NE04LF7-R00

Submitted By: Todd Blaske

Electronic Copy

Page 2 of 2

Denom.	Serial Number	Wt. No.	True Mass (g)	Conventional Mass (g)	Uncertainty (g)	Comparator used	Standard used
2 mg	WM-G89-6	21	0.00199028	0.00198970	0.00000204	CCE6_10MG	2mgrl
2 mg*	WM-G89-6	22	0.00199539	0.00199480	0.00000204	CCE6_10MG	2mgrl
1 mg	WM-G89-6	23	0.00100064	0.00100035	0.00000203	CCE6_10MG	1mgrl

Due to handling, storage and/or environmental factors, the reported values are valid only while test items are within our control. No calibration periods or intervals are given with this report. We can not guarantee accuracy of results beyond the controls of our laboratory.

True Mass is the mass value in a vacuum. Conventional Mass is the mass value in a normal air environment. All values are "as found" unless stated differently in an attachment to the certification.

The uncertainty of measurement is determined using the uncertainty of the reference standard(s), standard deviation of the process, environmental factors and bias using a RSS calculation. Uncertainty values are calculated using a K factor of 2.