



Receipt Date: July 3, 2017
Cal. Date: July 3, 2017
Report Date: July 3, 2017



Report No.: 337922
Serial No.: 00-50785
Barcode: 202324

Calibration Certificate

BINSTOCK INSPECTION SERVICE
2421 CROCUS DRIVE NORTH
MANDAN, ND 58554
Contact: CASEY BINSTOCK
Phone: 701-400-0763
PO Number: NONE
Procedure: NIST SOP 19
Technician ID: 11

Item(s) Submitted: 5 Gallon Measure
Manufacturer: Seraphin
Material: Mild Steel
Type: Measure
Condition: Good
Temperature: 24.2 °C
Pressure: 739.5 mmHg
Relative Humidity: 46.3 %
Standard H₂O Temp.: 22.9 °C
Artifact H₂O Temp.: 22.9 °C

Nominal		Calibrated				
Volume (gal)		Volume (gal)	Error (in ³)	<i>k</i>	U (in ³)	CCE (°F)
5	As Found	5.00015	0.03	2.06	0.25	0.0000186
	As Left	5.00015	0.03			

Neck Calibration: No neck calibration was performed at this time.

This measure has been calibrated as a "to contain after wet down" vessel with a pour time of 30 seconds followed by a drain time of 10 seconds after cessation of full flow.

The vessel listed above has been compared by volumetric transfer methods to the standards of the State of Minnesota using water as the calibration medium. The standards are traceable to the SI through NIST. Statistical process control charts indicate standards are currently in control. All gauges were sealed in place.

All tolerances and specifications were evaluated according to NIST Handbook 105-3 (2010). Uncertainty calculations contain the components in NIST SOP 19 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to item identified in this report only.

CCE is the cubical coefficient of thermal expansion, and the reference temperature is 60 °F
Conversion to SI unit: 1 gallon = 231 in³ = 0.00378541 m³.

Pete Whebbe

Metrologist

Reviewed by:

Erik Alfvin

Metrologist



Receipt Date: July 3, 2017
Cal. Date: July 3, 2017
Report Date: July 3, 2017

Report No.: 337923
Serial No.: 2999731-04
Barcode: 202325

Calibration Certificate

BINSTOCK INSPECTION SERVICE
2421 CROCUS DRIVE NORTH
MANDAN, ND 58554
Contact: CASEY BINSTOCK
Phone: 701-400-0763
PO Number: NONE
Procedure: NIST SOP 19
Technician ID: 11

Item(s) Submitted: 100 Gallon Prover
Manufacturer: Determan
Material: Stainless Steel
Type: No Bottom Zero
Condition: Excellent
Temperature: 24.3 °C
Pressure: 739.6 mmHg
Relative Humidity: 45.2 %
Standard H₂O Temp.: 16.5 °C
Artifact H₂O Temp.: 16.6 °C

Nominal		Calibrated				
Volume (gal)		Volume (gal)	Error (in ³)	<i>k</i>	U (in ³)	CCE (°F)
100	As Found	99.9961	-0.9	2.00	2.3	0.0000265
	As Left	99.9961	-0.9			

Neck Calibration: No neck calibration was performed at this time.

This prover has been calibrated as a "to contain after wet down" vessel with a drain time of 30 seconds after cessation of full flow.

The vessel listed above has been compared by volumetric transfer methods to the standards of the State of Minnesota using water as the calibration medium. The standards are traceable to the SI through NIST. Statistical process control charts indicate standards are currently in control. All gauges were sealed in place.

All tolerances and specifications were evaluated according to NIST Handbook 105-3 (2010). Uncertainty calculations contain the components in NIST SOP 19 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to item identified in this report only.

CCE is the cubical coefficient of thermal expansion, and the reference temperature is 60 °F
Conversion to SI unit: 1 gallon = 231 in³ = 0.00378541 m³.

Pete Whebbe

Metrologist

Reviewed by:

Erik Alfvin

Metrologist



Receipt Date: July 3, 2017
Cal. Date: July 3, 2017
Report Date: July 3, 2017

Report No.: 337924
Serial No.: 8861610
Barcode: 202326

Calibration Certificate

BINSTOCK INSPECTION SERVICE
2421 CROCUS DRIVE NORTH
MANDAN, ND 58554
Contact: CASEY BINSTOCK
Phone: 701-400-0763
PO Number: NONE
Procedure: NIST SOP 21
Technician ID: 11

Item(s) Submitted: 100 Gallon LPG Prover
Manufacturer: Wheeler / Brownie
Material: Mild Steel
Description: Zero Bottom
Condition: Good
Temperature: 24.5 °C
Pressure: 739.4 mmHg
Relative Humidity: 44.8 %
Standard H₂O Temp. 16.5 °C
Artifact H₂O Temp.: 16.8 °C

Nominal		Calibrated				
Volume (gal)		Volume (gal)	Error (in ³)	<i>k</i>	U (in ³)	CCE (°F)
100	As Found (at 100 psig)	99.9131	-20.1	2.02	5.3	0.0000186
	As Left (at 100 psig)	99.9131	-20.1			

Neck Calibration: No neck calibration was performed at this time.

This prover has been calibrated as a "to contain after wet down" vessel with a drain time of 30 seconds after cessation of full flow. The prover listed above has been compared by volumetric transfer methods to the standards of the State of Minnesota using water as the calibration medium. The standards are traceable to the SI through NIST. Statistical process control charts indicate standards are currently in control. All gauges were sealed in place.

All tolerances and specifications were evaluated according to NIST Handbook 105-4 (2016). Uncertainty calculations contain the components in NIST SOP 21 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to item identified in this report only.

CCE is the cubical coefficient of thermal expansion, and the reference temperature is 60 °F.

Pete Whebbe

Metrologist

Reviewed by:

Erik Alfvén

Metrologist



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Report No.:
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Pressure Correction Chart

BINSTOCK INSPECTION SERVICE
 2421 CROCUS DRIVE NORTH
 MANDAN, ND 58554
 Contact: CASEY BINSTOCK
 Phone: 701-400-0763
 PO Number: NONE
 SOP: NIST SOP 21
 Technician ID: 11

Item(s) Submitted: 100 Gallon LPG Prove
 Manufacturer: Wheeler / Brownie
 Material: Mild Steel
 Description: Zero Bottom
 Condition: Good
 Temperature: 24.5 °C
 Pressure: 739.4 mmHg
 Relative Humidity: 44.8 %

Pressure Gauge Reading (psig)	Corrected Volume (gal)
0	99.763
10	99.781
20	99.799
30	99.817
40	99.835
50	99.853
60	99.865
70	99.877
80	99.889
90	99.901
100	99.913
110	99.923
120	99.933
130	99.943
140	99.953
150	99.963
160	99.974
170	99.985
180	99.996
190	100.007
200	100.018

Pete Whebbe

Metrologist
NVLAP[®]

CALIBRATION

NVLAP LAB CODE 105003-0



Receipt Date: August 11, 2017
Cal. Date: August 11, 2017
Report Date: August 11, 2017

Report No.: 338096
Serial No.: 1101-1
Barcode: 202343

Calibration Certificate

BINSTOCK INSPECTION SERVICE
2421 CROCUS DRIVE NORTH
MANDAN, ND 58554
Contact: CASEY BINSTOCK
Phone: 701-400-0763
PO Number: None
Procedure: NIST SOP 19
Technician ID: 19

Item(s) Submitted: 500 Gallon Prover
Manufacturer: Warner Lewis
Material: Mild Steel
Type: Bottom Zero
Condition: Good
Temperature: 23.2 °C
Pressure: 740.7 mmHg
Relative Humidity: 57.2 %
Standard H₂O Temp.: 17.1 °C
Artifact H₂O Temp.: 17.3 °C

Nominal		Calibrated				
Volume (gal)		Volume (gal)	Error (in ³)	<i>k</i>	U (in ³)	CCE (°F)
500	As Found	499.126	-202	2.01	25	0.0000186
	As Left	499.938	-14			

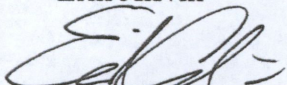
Neck Calibration: No neck calibration was performed at this time.
Adjusted scale plate as far as possible.

This prover has been calibrated as a "to contain after wet down" vessel with a drain time of 30 seconds after cessation of full flow. The vessel listed above has been compared by volumetric transfer methods to the standards of the State of Minnesota using water as the calibration medium. The standards are traceable to the SI through NIST. Statistical process control charts indicate standards are currently in control. All gauges were sealed in place.

All tolerances and specifications were evaluated according to NIST Handbook 105-3 (2010). Uncertainty calculations contain the components in NIST SOP 19 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to item identified in this report only.

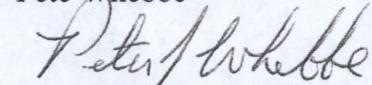
CCE is the cubical coefficient of thermal expansion, and the reference temperature is 60 °F
Conversion to SI unit: 1 gallon = 231 in³ = 0.00378541 m³.

Erik Alfvin


Metrologist

Reviewed by:

Pete Whebbe


Metrologist


United States Department of Commerce

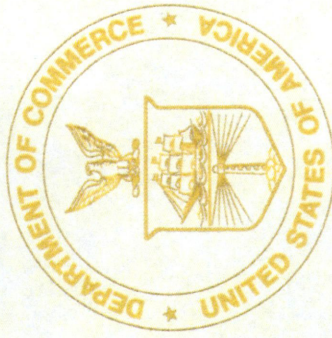
National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Minnesota

This laboratory has demonstrated evidence of an unbroken chain of metrological traceability of its standards to the international system of units (SI), documented measurement uncertainties, uses documented measurement procedures, successfully completed training and proficiency tests, documented calibration intervals, submitted a quality management system, and demonstrated suitable measurement assurance for the Scope listed on this certificate.

The Office of Weights and Measures Program assesses laboratories to NIST Handbook 143 - Program Handbook for State Weights and Measures Laboratories and ISO/IEC 17025:2005.



2017

Scope

Mass Echelon I
10 kg to 1 mg

Mass Echelon II
50 kg to 1 mg
1000 lb to 0.001 lb
4 oz to 0.03125 oz

Mass Echelon III
50 kg to 1 mg
5000 lb to 0.001 lb
4 oz to 0.03125 oz

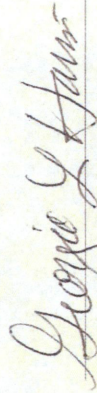
Weight Carts
10 000 lb to 2000 lb

Wheel Load Weighers
20 000 lb to 2000 lb

Railroad Test Cars
110 000 lb to 80 000 lb

Volume Gravimetric, I
20 L to 10 mL
100 gal to 0.25 qt

Volume Transfer, II
1500 gal to 5 gal
100 gal to 25 gal LPG


Georgia L. Harris, Acting Chief
NIST Office of Weights and Measures

Effective Dates: 2017-01-01 to 2017-12-31

Amended: 2016-12-31
Scope modified for 2017.