DEPARTMENT OF COMMERCE
WEIGHTS & MEASURES DIVISION

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Receipt Date:	October 17, 2017	Report No.:	338331
Cal. Date:	November 1, 2017	Serial No.:	12-90054
Report Date:	November 1, 2017	Barcode:	202392

Calibration Certificate

SENECA COMPANIES
4821 SOUTH SAMANTHA DRIVE
SIOUX FALLS, SD 57106

Contact:	CHRIS CUMMINGS
Phone:	800-369-5500
PO Number:	NONE
Procedure:	NIST SOP 19
Technician ID:	11

Item(s) Submitted:	5 Gallon Measure
Manufacturer:	Seraphin
Material:	Stainless Steel
Type:	Measure
Condition:	Good
Temperature:	19.2 °C
Pressure:	731.4 mmHg
Relative Humidity:	38.4 %
Standard H_2O Temp.:	17.0 °C
Artifact H_2O Temp.:	17.1 °C

Nominal Volume (gal)		Calibrated Volume (gal)	Error (in^3)	k	U (in^3)	CCE (/°F)
5	As Found	4.99944	-0.13	2.05	0.25	0.0000265
	As Left	4.99944	-0.13			

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 in^3 = 0.00378541 m^3.

Pete Whebbe
Peter J Whebbe
Metrologist

Reviewed by:
Erik Alfvin
Metrologist

NVLAP® CALIBRATION
NVLAP LAB CODE 105003-0