



Receipt Date: November 18, 2015
Test Date: November 23, 2015
Report Date: November 23, 2015

State Test No.: 335098
Serial No.: 07-05341
Barcode: 200667

Calibration Report

WESTMOR FLUID SOLUTIONS LLC
14044 W. FREEWAY DRIVE
COLUMBUS, MN 55038
Contact: Ryan Hartin
Phone: 763-502-9613
PO Number: None
SOP: 32
Technician ID: 19

Item(s) Submitted: 5 Gallon Measure
Manufacturer: Seraphin
Material: Stainless Steel
Equipment Number: None
Condition: Excellent
Temperature: 18.5 °C
Pressure: 737.4 mmHg
Relative Humidity: 35.0 %
Standard H₂O Temp.: 16.3 °C
Artifact H₂O Temp.: 16.3 °C

Nominal Volume (gal)		Error (in ³)	Volume at Zero Line (gal)	Uncertainty (in ³)	Coefficient of Expansion (1/°F)
5	As Found	0.15	5.0007	0.62	0.0000265
	As Left	0.15	5.0007	0.62	

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

This measure or prover has been calibrated as a "to contain after wet down" vessel with a pour time of 30 seconds, a drain time of 10 seconds after cessation of full flow and at a reference temperature of 60 °F.

The measure or 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.

The reported uncertainty conforms to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008). The confidence interval is 95%.

Erik Alfvin

Metrologist

Reviewed by:
Mark Nicollet

Quality Manager



Receipt Date: November 18, 2015
Test Date: November 23, 2015
Report Date: November 23, 2015

State Test No.: 335099
Serial No.: 7312 B
Barcode: 200758

Calibration Report

WESTMOR FLUID SOLUTIONS LLC
14044 W. FREEWAY DRIVE
COLUMBUS, MN 55038
Contact: Ryan Hartin
Phone: 763-502-9613
PO Number: None
SOP: 32
Technician ID: 19

Item(s) Submitted: 5 Gallon Measure
Manufacturer: Seraphin
Material: Mild Steel
Equipment Number: None
Condition: Good
Temperature: 18.5 °C
Pressure: 737.4 mmHg
Relative Humidity: 35.0 %
Standard H₂O Temp.: 16.9 °C
Artifact H₂O Temp.: 16.9 °C

Nominal Volume (gal)		Error (in ³)	Volume at Zero Line (gal)	Uncertainty (in ³)	Coefficient of Expansion (1/°F)
5	As Found	0.01	5.0000	0.62	0.0000186
	As Left	0.01	5.0000	0.62	

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

This measure or prover has been calibrated as a "to contain after wet down" vessel with a pour time of 30 seconds, a drain time of 10 seconds after cessation of full flow and at a reference temperature of 60 °F.

The measure or 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.

The reported uncertainty conforms to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008). The confidence interval is 95%.

Erik Alfvín

Metrologist

Reviewed by:
Mark Nicollet

Quality Manager



Receipt Date: November 18, 2015
Test Date: November 23, 2015
Report Date: November 23, 2015

State Test No.: 335100
Serial No.: 46801
Barcode: 200668

Calibration Report

WESTMOR FLUID SOLUTIONS LLC
14044 W. FREEWAY DRIVE
COLUMBUS, MN 55038
Contact: Ryan Hartin
Phone: 763-502-9613
PO Number: None
SOP: 32
Technician ID: 19

Item(s) Submitted: 5 Gallon Measure
Manufacturer: Seraphin
Material: Mild Steel
Equipment Number: None
Condition: Good
Temperature: 18.5 °C
Pressure: 737.4 mmHg
Relative Humidity: 35.0 %
Standard H₂O Temp.: 16.8 °C
Artifact H₂O Temp.: 16.8 °C

Nominal Volume (gal)		Error (in ³)	Volume at Zero Line (gal)	Uncertainty (in ³)	Coefficient of Expansion (1/°F)
5	As Found	0.06	5.0002	0.62	0.0000186
	As Left	0.06	5.0002	0.62	

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

This measure or prover has been calibrated as a "to contain after wet down" vessel with a pour time of 30 seconds, a drain time of 10 seconds after cessation of full flow and at a reference temperature of 60 °F.

The measure or 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.

The reported uncertainty conforms to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008). The confidence interval is 95%.

Erik Alfvin

Metrologist

Reviewed by:
Mark Nicollet

Quality Manager



Receipt Date: November 18, 2015
Test Date: November 20, 2015
Report Date: November 20, 2015

State Test No.: 335101
Serial No.: 3978131-4
Barcode: 018636

Calibration Report

WESTMOR FLUID SOLUTIONS LLC
14044 W. FREEWAY DRIVE
COLUMBUS, MN 55038
Contact: Ryan Hartin
Phone: 763-502-9613
PO Number: None
SOP: 33
Technician ID: 19

Item(s) Submitted: 100 Gallon Prover
Manufacturer: Brownie
Material: Stainless Steel
Description: Dry Bottom
Condition: Good
Temperature: 17.5 °C
Pressure: 742.5 mmHg
Relative Humidity: 37.7 %
Standard H₂O Temp.: 14.6 °C
Artifact H₂O Temp.: 14.7 °C

Nominal Volume (gal)		Tested Volume (gal)	Error (in ³)	Uncertainty (in ³)	Coefficient of Expansion(°F)
100	As Found	99.991	-2.2	3.0	0.0000265
	As Left	99.991	-2.2	3.0	

Neck Calibration: No neck calibration was done 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 and at a reference temperature of 60 °F.

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.

The reported uncertainty conforms to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008). The confidence interval is 95%.

Erik Alfvin

Metrologist

Reviewed by:

Mark Nicollet

Quality Manager



Receipt Date: November 18, 2015
Test Date: November 19, 2015
Report Date: November 20, 2015

State Test No.: 335102
Serial No.: 5956670-01
Barcode: 019278

Calibration Report

WESTMOR FLUID SOLUTIONS LLC
14044 W. FREEWAY DRIVE
COLUMBUS, MN 55038
Contact: Ryan Hartin
Phone: 763-502-9613
PO Number: None
SOP: 33
Technician ID: 19

Item(s) Submitted: 500 Gallon Prover
Manufacturer: Brownie
Material: Mild Steel
Description: Dry Bottom
Condition: Good
Temperature: 18.6 °C
Pressure: 731.9 mmHg
Relative Humidity: 39.6 %
Standard H₂O Temp.: 13.4 °C
Artifact H₂O Temp.: 13.3 °C

Nominal Volume (gal)		Tested Volume (gal)	Error (in ³)	Uncertainty (in ³)	Coefficient of Expansion(/°F)
500	As Found	500.155	35.7	14	0.0000186
	As Left	500.010	2.3	14	

Neck Calibration: No neck calibration was done 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 and at a reference temperature of 60 °F.

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.

The reported uncertainty conforms to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008). The confidence interval is 95%.

Erik Alfvin

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Reviewed by:

Mark Nicollet

Quality Manager