

MICHIGAN DEPARTMENT OF AGRICULTURE  
& RURAL DEVELOPMENT  
LABORATORY DIVISION



E.C. HEFFRON METROLOGY LABORATORY

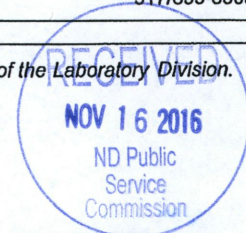


NVLAP Lab Code 200408-0

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## Calibration Report



Page 1 of 2

TEST NO: MI-11-16-12950

TEST DATE: 11/2/2016

**CALIBRATED FOR:**

Westmor Fluid Solutions  
14044 West Freeway Drive  
Columbus, MN 55038

**CALIBRATED BY:**

Michigan Dept. of Agriculture  
E.C. Heffron Metrology Laboratory  
940 Venture Lane  
Williamston, MI 48895

CONTACT: Scott Fish

PHONE: (763) 571-8110

FAX: (763) 502-9862

S/N: 000045

MODEL NO: H44025  
(LR)IA251AAWWE

MFG: Flow MD

TEST ITEM: One 20-Gallon Small Volume Prover.

DATE OF ARRIVAL: 11/1/2016

TEST ITEM CONDITION ON ARRIVAL: Good

TEST METHOD: NISTIR 7383 SOP 26, For Gravimetric Calibration of Dynamic Volume Systems  
Used as Standards

This prover has been compared to the Standards of the State of Michigan which are traceable to the National Institute of Standards and Technology. NIST test numbers are on file.

The prover was calibrated to determine the volume of water delivered at 60 °F from one run of the piston between two optical switches.

The volume for the item in this report is as found or as left at the time of calibration. The result applies only to the item calibrated.

The process used for calibrating this item meets the requirements of ANSI/NC SL Z540-1.

The prover was not adjusted.

Calibration processes were monitored and found to be in control. The expanded uncertainty presented in this report is consistent with the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008). The combined standard uncertainty is multiplied by a coverage factor of  $k = 2$  to report the expanded uncertainty, which defines an interval with a confidence level of approximately 95 %.

The environmental conditions in the laboratory are maintained at:  
Temperature: 18 °C to 27 °C; Maximum changes:  $\pm 5$  °C/12 hr and  $\pm 3$  °C/hr  
Relative Humidity: 40 % to 60%  $\pm 20$  %/4 hr

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This report shall not be used to claim endorsement by NIST, WMD, NVLAP, or any agency of the U.S. Government or the State of Michigan.

Prover Constants:

Area Thermal Expansion Coef. (Ga)	$1.92 \times 10^{-5} / ^\circ\text{F}$
Detector Thermal Expansion Coef. (G1)	$9.60 \times 10^{-6} / ^\circ\text{F}$
Modulus of Elasticity (E)	$2.8 \times 10^7$ psi
Inside Diameter (ID)	17 in
Wall Thickness (WT)	0.582 in

The following volume was determined:

NOMINAL VALUE	VOLUME	UNCERTAINTY $\pm$ (k=2)
20 gal	20.0112 gal	0.0036 gal
5 gal	4.98786 gal	0.00065 gal

Signed:



11/4/2016



11/4/2016

Calibrating Metrologist

Date Approved Signatory

Date