

LB-021M (Rev. 03/2011)
(In accordance with Act 380
Public Acts 1965, as amended)

**MICHIGAN DEPARTMENT OF AGRICULTURE
& RURAL DEVELOPMENT**
LABORATORY DIVISION



E.C. HEFFRON METROLOGY LABORATORY

NVLAP

NVLAP Lab Code 2000408-0

940 Venture Lane
Williamston, Michigan 48895
517/655-8202
517/655-8303 (Fax)

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Calibration Report

TEST NO: MI-12-13-11684

TEST DATE: 12/11/2013

Page 1 of 2

CALIBRATED FOR:

NuStar Pipeline Operating Partnership, L.P.
2608 East Highway 50
Yankton, SD 57078

CALIBRATED BY:

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

CONTACT: Neil Schmidt
P.O. NO: 4501381802
S/N: 8201-12849-1-1

PHONE: (605) 655-7477

FAX: N/A

MODEL NO: N/A

MFG: Brooks

TEST ITEM: One 15-Gallon, Bi-Directional Small Volume Prover

DATE OF ARRIVAL: 12/10/2013

TEST ITEM CONDITION ON ARRIVAL: Good

TEST METHOD: MI-14SVP, a gravimetric calibration procedure for use with small volume provers

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/NCSL Z540-1.

The prover was not adjusted.

Calibration processes were monitored and found to be in control. Uncertainty calculations conform to NIST Technical Note 1297. Components attributed to the effects of viscosity of the water were not included in the uncertainties. 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: 20°C - 23°C ± 2°C; maximum change 1°C/h.
Relative Humidity (maximum per 4 hours): 40% to 60% ± 10%.

CALIBRATED FOR:
NuStar Pipeline Operating Partnership, L.P.
2608 East Highway 50
Yankton, SD 57078

TEST NO: MI-12-13-11684

S/N: 8201-12849-1-1

TEST DATE: 12/11/2013

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)	$1.24 \times 10^{-5} / ^\circ\text{F}$
Detector Thermal Expansion Coef. (GI)	$8.0 \times 10^{-7} / ^\circ\text{F}$
Modulus of Elasticity (E)	3.00×10^7
Inside Diameter (ID)	12.25 in.
Wall Thickness (WT)	0.875 in.

The following volumes were determined:

NOMINAL VALUE	DOWN-STREAM VOLUME	UNCERTAINTY \pm K = 2
15 gal	15.0514 gal	0.0015 gal

Signed:

Nicholas A. Santos

12/13/2013

[Signature]

12/13/2013

Calibrating Metrologist

Date Approved Signatory

Date

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Michigan

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.

Scope

Mass Echelon I		
20 kg to 1 mg		
Mass Echelon II		
20 kg to 1 mg		
50 lb to 1 µlb		
8 oz to 0.03125 oz		
Mass Echelon III		
500 kg to 1 mg		
5000 lb to 0.001 lb		
8 oz to 0.03125 oz		
Weight Carts		
6000 lb to 3000 lb		
Wheel Load Weighers		
≤ 20 000 lb		
	Volume Gravimetric, I	
	2 L to 100 mL	
	25 gal to 0.5 pt	
	Volume, SVP	
	30 gal to 5 gal	
	Volume Transfer, II	
	2000 gal to 5 gal	
	100 gal to 20 gal LPG	



2016 to 2017

A handwritten signature in black ink, appearing to read "Carol T. Hockett".

Carol T. Hockett, Chief
NIST Office of Weights and Measures

Effective Dates: 2016-01-01 to 2017-12-31

Bauske, Shelly A.

From: Buentello, Marc <Marc.Buentello@nustarenergy.com>
Sent: Tuesday, March 22, 2016 9:32 AM
To: Bauske, Shelly A.
Cc: White, Jaime
Subject: RE: Information Needed as Required by the Temporary Variance Permit
Attachments: Brooks 15 gal SVP 8201-12849-1-1 Calibration Report 12-11-2013.pdf

Shelly,

Attached is the certification for the small volume prover. The U-type sphere prover was removed from service and physically disconnected from the pipeline in August 2015. The SVP prover is being used to prover meters at this location.

Thank you,

Marc Buentello
Sr Manager, Dynamic Flow Measurement



19003 IH-10 West
San Antonio, TX 78257
Office: 210-918-2105
RightFax: 210-918-5658
✉ Marc.Buentello@nustarenergy.com

-----Original Message-----

From: Bauske, Shelly A. [<mailto:sbauske@nd.gov>]
Sent: Friday, March 18, 2016 3:08 PM
To: White, Jaime
Cc: Buentello, Marc
Subject: Information Needed as Required by the Temporary Variance Permit

Good Afternoon

I'm just checking on the status of the request below.

Thank you.

Shelly Bauske
Public Service Commission
600 E Boulevard Ave Dept 408
Bismarck ND 58505-0480
701-328-4070
701-328-2410 (fax)

sbauske@nd.gov

-----Original Message-----

From: Bauske, Shelly A.

Sent: Tuesday, March 01, 2016 12:46 PM

To: 'jaime.white@nustarenergy.com'

Subject: Information Needed as Required by the Temporary Variance Permit

Good Afternoon Jaime

Attached is the Temporary Variance Permit issued to Nustar on August 14, 2015. One of the requirements of the variance was the bidirectional U-type sphere prover and the bidirectional small volume prover would be tested by August 21, 2015 by a third party. To date, I have not received a copy of the prover metrology. Please file the metrology as soon as possible.

If you have any questions, please contact me. Thank you!

Shelly Bauske
Public Service Commission
600 E Boulevard Ave Dept 408
Bismarck ND 58505-0480
701-328-4070
701-328-2410 (fax)
sbauske@nd.gov

-----Original Message-----

From: White, Jaime [mailto:Jaime.White@nustarenergy.com]

Sent: Friday, August 14, 2015 4:24 PM

To: Bauske, Shelly A.

Cc: Buentello, Marc

Subject: RE: Temporary Variance Permit Approval - Permit Expires August 14, 2018

Great! Thank you so much for your assistance on this.

We greatly appreciate the opportunity to speak with you and Josh regarding our specific circumstance.

Thanks again,
Jaime

Jaime White
Lead Environmental Specialist-Regulatory Affairs NuStar Energy -HQ
19003 IH-10 W
San Antonio, TX 78257
Phone: 210-918-2103

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-----Original Message-----

From: Bauske, Shelly A. [mailto:sbauske@nd.gov]

Sent: Friday, August 14, 2015 3:07 PM

To: White, Jaime

Subject: Temporary Variance Permit Approval - Permit Expires August 14, 2018

Good Afternoon Jaime

Attached is the Temporary Variance Permit Approval for Nustar Pipeline Operating Partnership L.P.

I will be mailing the original to:

Nustar Pipeline Operating Partnership L.P.

PO Box 781609

San Antonio TX 78278

If you have any questions, please let me know.

Thank you.

Shelly Bauske

Public Service Commission

600 E Boulevard Ave Dept 408

Bismarck ND 58505-0480

701-328-4070

701-328-2410 (fax)

sbauske@nd.gov

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