APPLICATION FOR REGISTRATION AS A REGISTERED SERVICE COMPANY

Public Service Commission
SFN 51277 (4/2013)

TYPE OR PRINT - AN INCOMPLETE OR ILLEGIBLE APPLICATION WILL BE REJECTED

Name of Company	**Email Address**	**Application Date**	
Kinder Morgan	eugene_drewlow@kindermorgan.com	5/1/2013	
Mailing Address	**City**	**State**	**Zip Code**
Box 34	Carrington	ND	58421
Telephone Number	**Cell Phone Number**	**Fax Number**	
701-674-3318	701-652-5227	701-674-3423	

Select below all device types your company will certify:

Scales (include maximum capacity, if applicable)	**Liquid** (include maximum flow rate, if applicable)
☐ 1. Rail	☐ 1. Retail Fuel (less than 20 gal. per minute)
☐ 2. Truck	☐ 2. High Flow Retail Fuel (20 gal. per minute or greater)
☐ 3. Livestock	☐ 3. Vehicle Tank: Max. Flow Rate: _____
☐ 4. Hopper: Max. Capacity: _____	☐ 4. Stationary Bulk (fuel or oil): Max. Flow Rate: _____
☐ 5. Belt	☐ 5. LPG
☐ 6. Over 30 lbs.: Max. Capacity: __ _____	☐ 6. Stationary LPG
☐ 7. 30 lbs. or less	☐ 7. Fertilizer: Max. Flow Rate: _____
☐ 8. Class II **(indicate on your calibration report which weight kit is Class II certified)**	☐ 8. Chemical
☐ 9. Other: Please List:	☐ 9. Anhydrous
	☒ 10. Loading Rack
	☐ 11. Other: Please List:

List below all persons employed by your company as a North Dakota Registered Service Person and the device types they are registered to certify (attach a separate sheet to list additional employees):

Permit No.	**Employee**	**Device Types Registered to Certify (list using device type numbers from above)**
e.g. 1001	*e.g. John Doe*	*e.g. Scales – 2, 3, 6, 8; e.g. Liquid – 1, 2, 6*
1603	Eugene M. Drewlow	Liquid-10
1673	Eugene M. Hartl	Liquid-10
1674	Paul R. Reimer	Liquid-10

Continued on Page 2

List below all field standards (attach current calibration reports):

See inclosed report	

Include the following additional items with this application:

- A sample of your standardized test report as required by North Dakota Administrative Code Section 69-10-04-05.
- A sample of your "tested and approved" sticker as required by North Dakota Administrative Code Section 69-10-01-03.
- A photocopy of each side of your crimped lead wire seal.

Public Company Listing:

Include my company information on your registered service company list for public contact.
☐ Yes ☒ No

I am Eugene M Roulo, and have authority to represent this company. By signing this application, I declare that I have examined this form and accompanying documentation, and to the best of my knowledge and belief, the facts stated and documentation provided is true, correct, and complete.

Signature

Send Completed Application and Related Documents To:

Public Service Commission
600 E Boulevard Ave Dept 408
Bismarck ND 58505-0480
Telephone: (701) 328-2400
Fax: (701) 328-2410

Meter Engineers, Inc.

Customer	Kinder Morgan
Location	Carrington, ND
Designation	Carrington Terminal Propane
Serial	E-6409
Prover Type	Unidirectional

Certificate of Calibration

Jun 19, 2013

This is to certify that Meter Engineers, Inc. calibrated subject Unidirectional meter prover and established the volume at 60 degrees fahrenheit and atmospheric pressure for a one way trip of the displacer to be:

Average One Way Volume: 7.2736 bbl

The calibrating medium used was water and the calibration was performed in accordance with the latest edition of the API Standards Chapters 4, 11, & 12 by Gary Clark and certified by the undersigned. Test performed using trailer unit number 134.

Certified Test Measures Used:

Measure #	Gal	NIST #
1	100	6996
2	100	6997
3	50	6998
6	5	7002

Signed

File Source: Waterdraws


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JUL 11 2013
MO Public
Service
Commission

Printed 6/19/2013

Meter Engineers, Inc.

Customer	Kinder Morgan
Location	Carrington, ND
Designation	Carrington Terminal Propane
Serial	E-6409
Prover Type	Unidirectional

UniDirectional Run Comparisons

Run 1 = 70,567.6734

0.0014 %

Run 2 = 70,566.6881 **0.0047 %**

0.0061 %

Run 3 = 70,570.9943

Previous Volume was 7.27191 barrels Previous Volume was 70552.07082 inches

This WaterDraw 7.2736 barrels .0232 % Diff from Previous Volume
This WaterDraw 70,568.4519 inches

(1.156390 cubic meters)

File Source: Waterdraws

Meter Engineers, Inc. 316-721-4214 7718 W. 53rd St. North Maize, KS 67101
www.meterengineers.com

Meter Engineers, Inc.

Printed 6/19/2013

Customer	Kinder Morgan
Location	Carrington, ND
Designation	Carrington Terminal Propane
Serial	E-6409
Prover Type	Unidirectional

Prover Information

Prover Type	Unidirectional
Designation	Carrington
Serial	E-6409
Pipe I.D.	7.981
ANSI	
Ball Percent Oversize	3 %
Ball Composition	Yellow
Pipe Wall Thickness	.322
Mfg of Prover	F. H. Maloney
Mfg of Interchange	F. H. Maloney
Mfg of SwitchBase	F. H. Maloney
Mfg of Switches	F. H. Maloney
First Detector Switch Seal Number	
Second Detector Switch Seal Number	
Coated?	Yes
Insulated?	No
Metallic Composition	Carbon Steel
Coefficient of Cubical Expansion	.0000186
Modulus of Elasticity	30000000
Unit Number	134
Above or Below Ground	Above
Notes	new switch kit installed this water draw

Methodology

CTL Temperature Correction Factor is based on API Petroleum Measurement manual Chapter 11.2.3

CTS Metal Correction Factor =(1 + ((Can Temp in F - 60) times the Can Coefficient of Expansion)) divided by (1 + ((Prover Temp in F - 60) times the Prover Coefficient of Expansion))

CPS =1 + (Pressure times thePipe ID divided by the Modulous of Elasticity times the Prover Pipewall Thickness)

CPL =1 divided by {1- (Compressibility Constant of Water times Prover Pressure)}

File Source: Waterdraws

Meter Engineers, Inc.

Customer	Kinder Morgan
Location	Carrington, ND
Designation	Carrington Terminal Propane
Serial	E-6409
Prover Type	Unidirectional

Run Calculation Summary

Gary Clark

Run # 1 Elapsed Time 5 : 23 min GPM 56.76 Pressure 42

Measure		Certified Volume	Scale Reading	Actual Volume	Prover Temp	Can Temp	CTL Temp Correction	CTS Metal Correction	Adjusted Volume
Can # 3	50gal	11,549.47	100	11,649.47	57.4	57.5	0.999992	0.999982	11,649.1671
Can # 1	100gal	23,090.34	0	23,090.34	57.4	57.5	0.999992	0.999982	23,089.7397
Can # 2	100gal	23,091.12	1	23,092.12	57.4	57.6	0.999984	0.999984	23,091.3811
Can # 3	50gal	11,549.47	47	11,596.47	57.4	57.8	0.999969	0.999990	11,595.9945
Can # 6	5gal	1,153.39	0	1,153.39	57.4	58.2	0.999937	1.000000	1,153.3173

Volume This Run	70,579.5997
Divided by CPS	1.000035
Divided by CPL	1.000134

Pressure & Temperature Adjusted Volume This Run 70,567.6734

Run # 2 Elapsed Time 7 : 18 min GPM 41.85 Pressure 42

Measure		Certified Volume	Scale Reading	Actual Volume	Prover Temp	Can Temp	CTL Temp Correction	CTS Metal Correction	Adjusted Volume
Can # 3	50gal	11,549.47	100	11,649.47	57.8	58	0.999984	0.999988	11,649.1438
Can # 1	100gal	23,090.34	0	23,090.34	57.8	58	0.999984	0.999988	23,089.6935
Can # 2	100gal	23,091.12	0	23,091.12	57.8	58.3	0.999959	0.999996	23,090.0809
Can # 3	50gal	11,549.47	47	11,596.47	57.8	58.4	0.999951	0.999999	11,595.8902
Can # 6	5gal	1,153.39	.5	1,153.89	57.8	58.8	0.999918	1.000009	1,153.8058

File Source: Run LI

Run Calculation Summary (cont)

Volume This Run	70,578.6142
Divided by CPS	1.000035
Divided by CPL	1.000134

Pressure & Temperature Adjusted Volume This Run 70,566.6881

Run # 3 Elapsed Time 5 : 22 min GPM 56.94 Pressure 42

Measure		Certified Volume	Scale Reading	Actual Volume	Prover Temp	Can Temp	CTL Temp Correction	CTS Metal Correction	Adjusted Volume
Can # 3	50gal	11,549.47	100	11,649.47	59.1	58.9	1.000017	0.999988	11,649.5282
Can # 1	100gal	23,090.34	0	23,090.34	59.1	59.1	1.000000	0.999993	23,090.1784
Can # 2	100gal	23,091.12	1	23,092.12	59.1	59.3	0.999983	0.999998	23,091.6813
Can # 3	50gal	11,549.47	49	11,598.47	59.1	59.4	0.999975	1.000001	11,598.1916
Can # 6	5gal	1,153.39	0	1,153.39	59.1	59.7	0.999949	1.000009	1,153.3416

Volume This Run	70,582.9211
Divided by CPS	1.000035
Divided by CPL	1.000134

Pressure & Temperature Adjusted Volume This Run 70,570.9943

Meter Engineers, Inc.

WaterDraw Calibration Worksheet

Customer	Kinder Morgan
Location	Carrington, ND
Designation	Carrington Terminal Propane
Serial	E-6409
Prover Type	Unidirectional

Technician: Gary Clark
Scale Reading: 118.3 cubic inches
Tolerance: 14.1 cubic inches

S/GW

Date: 6-19-13

Run	Prv Temp	Pres	Time	Run	Prv Temp	Pres	Time	Run	Prv Temp	Pres	Time
1	57.4	42	5:23	2	57.8	42	7:18	3	59.1	42	5:22

Measure		Scale Reading	Temp	Scale Reading	Temp	Scale Reading	Temp
Can # 3	50 gal	3 100	57.5	3 100	58	3 100	58.9
Can # 1	100 gal	1 0	57.5	1 0	58	1 0	59.1
Can # 2	100 gal	2 +1	57.6	2 0	58.3	2 +1	59.3
Can # 3	50 gal	3 47	57.8	3 47	58.4	3 49	59.4
Can # 6	5 gal	6 0	58.2	6 .5	58.8	6 0	59.7
		148	Total	147.5	Total	150	Total

Thermometer Numbers: 4J1555 1630273

Witnesses:	(Company)	Witnesses:	(Company)
[signature]	MEI		
[signature]	Kinder Morgan		

NIST

National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

REPORT OF CALIBRATION

FOR

A ONE-HUNDRED (100) GALLON VOLUME PROVER
(Graduated Neck Type)

March 31, 2009

Manufacturer: Seraphin
Rancocas, NJ

NIST Seal Number: 6996
Material: Stainless Steel
Serial Number: 2470-A

submitted by

Meter Engineers, Inc.
7718 W. 53rd St. N.
Mazie, KS 67101

(Reference: Purchase Order Number 003680, dated January 15, 2009

The internal volume of the prover described above has been determined by the gravimetric method [1]. The gravimetric method requires weighing the vessel dry and empty and re-weighing it when filled with a fluid of known density. The internal or contained volume was determined in this way and the value is given in Table 1 using the requested units. The fluid used was distilled water and the prover was leveled before determining the volume.

To determine the delivered volume, the contained volume is poured from the prover by opening the valve at the bottom of the vessel. When this flow finishes, the valve is held open for 30 seconds to complete the drain procedure. Subsequent re-weighing completes the gravimetric procedure and enables calculation of the delivered volume, also given in Table 1. Both the contained and delivered volumes are given for the scale reading of zero (0) and have been corrected for the reference temperature of 15.56 °C (60 °F), assuming a volumetric coefficient of expansion of 0.0000477 per °C (0.0000265 per °F).

[1] Bean, V. E., Espina, R. L., Wright, J. D., Houser, J. F., Sheckels, S. D., and Johnson, A. N., "NIST Calibration Services for Liquid Volume," NIST Special Publication 250-72, National Institute of Standards and Technology, March 24, 2006.

Table 1. Contained and delivered volumes for the tested vessel for a scale reading* of zero.

	Volume Contained	Volume Delivered
gal at 60 °F	99.9755	**99.9582**
in^3 at 60 °F	23094.35	**23090.34**

The volume measurement procedure was repeated 5 times with the neck scale filled approximately to zero each time. The repeatability of the 5 measurements was 22 parts in 10^6 and the expanded uncertainty in the measured volume is ±0.007 %. It was calculated according to References [1] and [2] with a 95 % confidence level† and is traceable to NIST mass, temperature, pressure, and humidity standards, and a NIST distilled water density determination.

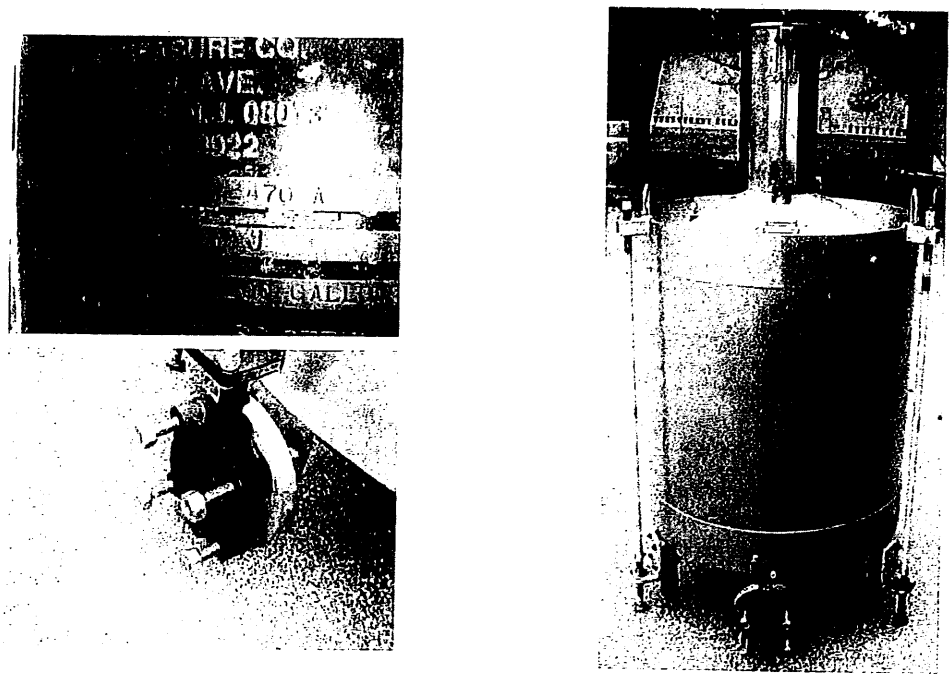

Figure 1. Photographs of the volume prover.

The input data used for calculation of the prover volume are given in the spreadsheet attached to this report.

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* The scale reading is determined by the intersection of the horizontal plane, tangent to the bottom of the meniscus reading on the gauge tube. For this vessel, the scale range was from –175 and +200 and each division is equivalent to 5 in^3.

[2] Taylor, B. N. and Kuyatt, C. E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, National Institute of Standards and Technology (January 1993).

† Coverage factor of 2.09 for 20 effective degrees of freedom.

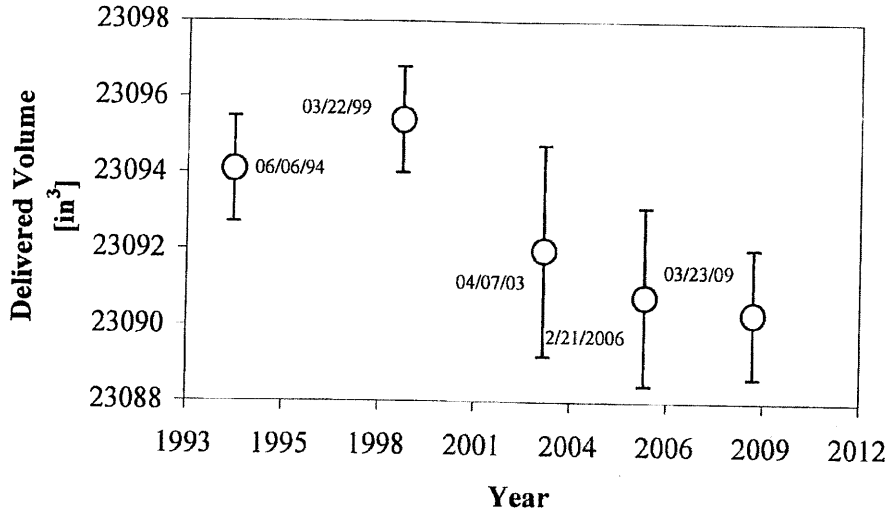

Figure 2. Calibration control chart for 100 gallon graduated neck test measure SN 2470-A.

Table 2. Results of prior calibrations for the delivered volume.

Date	Delivered Volume [in^3]	Difference from Prior [in^3]	Degree of Equivalence [-]
03/23/09	23090.34	-0.43	-0.07
02/21/06	23090.77	-1.20	-0.20
04/07/03	23091.97	-3.43	-0.58
03/22/99	23095.40	1.30	0.22
06/06/94	23094.10	-	-

For the Director,
National Institute of Standards and Technology

Dr. John D. Wright
Project Leader, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

Sherry Sheckels
Calibration Technician, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

NIST

National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

REPORT OF CALIBRATION

FOR

A ONE-HUNDRED (100) GALLON VOLUME PROVER
(Graduated Neck Type)

March 31, 2009

Manufacturer: Seraphin
Rancocas, NJ

NIST Seal Number: 6997
Material: Stainless Steel
Serial Number: 2470-B

submitted by

Meter Engineers, Inc.
7718 W. 53rd St. N.
Mazie, KS 67101

(Reference: Purchase Order Number 003680, dated January 15, 2009

The internal volume of the prover described above has been determined by the gravimetric method [1]. The gravimetric method requires weighing the vessel dry and empty and re-weighing it when filled with a fluid of known density. The internal or contained volume was determined in this way and the value is given in Table 1 using the requested units. The fluid used was distilled water and the prover was leveled before determining the volume.

To determine the delivered volume, the contained volume is poured from the prover by opening the valve at the bottom of the vessel. When this flow finishes, the valve is held open for 30 seconds to complete the drain procedure. Subsequent re-weighing completes the gravimetric procedure and enables calculation of the delivered volume, also given in Table 1. Both the contained and delivered volumes are given for the scale reading of zero (0) and have been corrected for the reference temperature of 15.56 °C (60 °F), assuming a volumetric coefficient of expansion of 0.0000477 per °C (0.0000265 per °F).

[1] Bean, V. E., Espina, P. I., Wright, J. D., Houser, J. F., Sheckels, S. D., and Johnson, A. N., "NIST Calibration Services for Liquid Volume," NIST Special Publication 250-72, National Institute of Standards and Technology, March 24, 2006.

Table 1. Contained and delivered volumes for the tested vessel for a scale reading* of zero.

	Volume Contained	Volume Delivered
gal at 60 °F	99.9812	**99.9615**
in^3 at 60 °F	23095.67	**23091.12**

The volume measurement procedure was repeated 5 times with the neck scale filled approximately to zero each time. The repeatability of the 5 measurements was 28 parts in 10^6 and the expanded uncertainty in the measured volume is ±0.008 %. It was calculated according to References [1] and [2] with a 95 % confidence level† and is traceable to NIST mass, temperature, pressure, and humidity standards, and a NIST distilled water density determination.

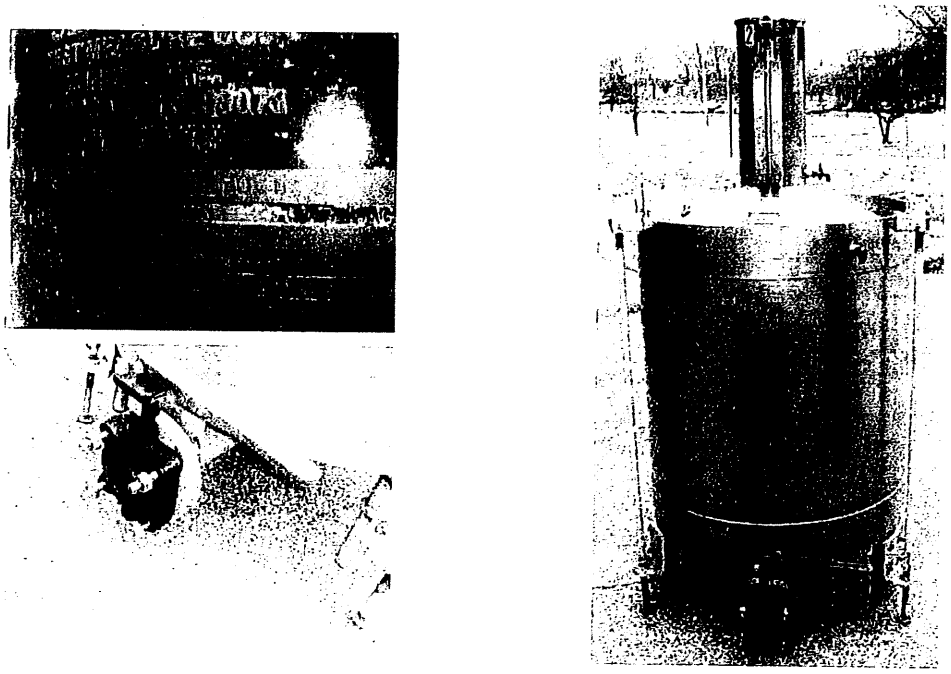

Figure 1. Photographs of the volume prover.

The input data used for calculation of the prover volume are given in the spreadsheet attached to this report.

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* The scale reading is determined by the intersection of the horizontal plane, tangent to the bottom of the meniscus reading on the gauge tube. For this vessel, the scale range was from –200 and +200 and each division is equivalent to 5 in^3.

[2] Taylor, B. N. and Kuyatt, C. E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, National Institute of Standards and Technology (January 1993).

† Coverage factor of 2.14 for 15 effective degrees of freedom.

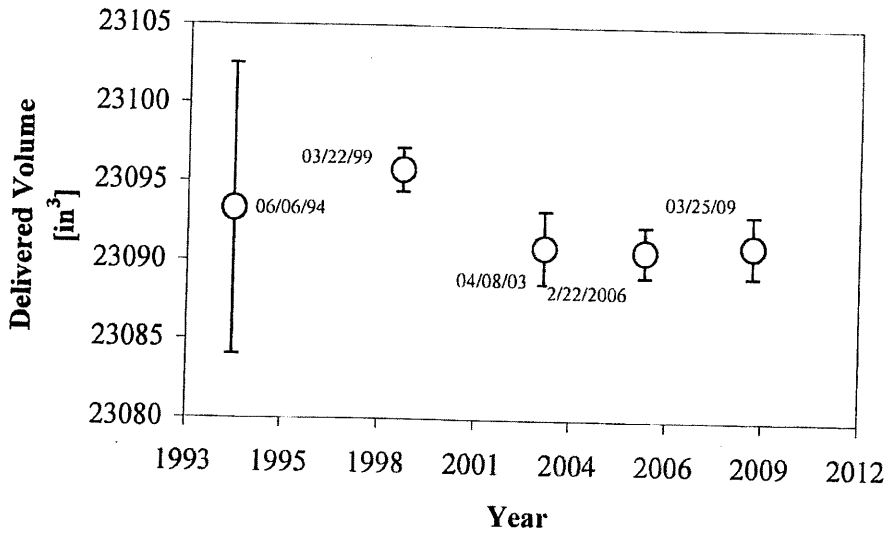

Figure 2. Calibration control chart for 100 gallon graduated neck test measure SN 2470-B.

Table 2. Results of prior calibrations for the delivered volume.

Date	Delivered Volume [in³]	Difference from Prior [in³]	Degree of Equivalence [-]
03/25/09	23091.12	0.39	0.07
02/22/06	23090.74	-0.19	-0.03
04/08/03	23090.93	-4.87	-0.83
03/22/99	23095.80	2.50	0.42
06/06/94	23093.30	-	-

For the Director,
National Institute of Standards and Technology

John D. Wright

Dr. John D. Wright
Project Leader, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

Sherry Sheckels

Sherry Sheckels
Calibration Technician, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

NIST

National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

REPORT OF CALIBRATION

FOR

A FIFTY (50) GALLON VOLUME PROVER
(Graduated Neck Type)

March 31, 2009

Manufacturer: Seraphin
Rancocas, NJ

NIST Seal Number: 6998
Material: Stainless Steel
Serial Number: 7293-C

submitted by

Meter Engineers, Inc.
7718 W. 53rd St. N.
Mazie, KS 67101

(Reference: Purchase Order Number 003680, dated January 15, 2009

The internal volume of the prover described above has been determined by the gravimetric method [1]. The gravimetric method requires weighing the vessel dry and empty and re-weighing it when filled with a fluid of known density. The internal or contained volume was determined in this way and the value is given in Table 1 using the requested units. The fluid used was distilled water and the prover was leveled before determining the volume.

To determine the delivered volume, the contained volume is poured from the prover by opening the valve at the bottom of the vessel. When this flow finishes, the valve is held open for 30 seconds to complete the drain procedure. Subsequent re-weighing completes the gravimetric procedure and enables calculation of the delivered volume, also given in Table 1. Both the contained and delivered volumes are given for the scale reading of zero (0) and have been corrected for the reference temperature of 15.56 °C (60 °F), assuming a volumetric coefficient of expansion of 0.0000477 per °C (0.0000265 per °F).

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[1] Bean, V. E., Espina, P. I., Wright, J. D., Houser, J. F., Sheckels, S. D., and Johnson, A. N., "NIST Calibration Services for Liquid Volume," NIST Special Publication 250-72, National Institute of Standards and Technology, March 24, 2006.

Table 1. Contained and delivered volumes for the tested vessel for a scale reading* of zero.

	Volume Contained	Volume Delivered
gal at 60 °F	50.0078	**49.9977**
in^3 at 60 °F	11551.80	**11549.47**

The volume measurement procedure was repeated 5 times with the neck scale filled approximately to zero each time. The repeatability of the 5 measurements was 8 parts in 10^6 and the expanded uncertainty in the measured volume is ±0.009 %. It was calculated according to References [1] and [2] with a 95 % confidence level† and is traceable to NIST mass, temperature, pressure, and humidity standards, and a NIST distilled water density determination.

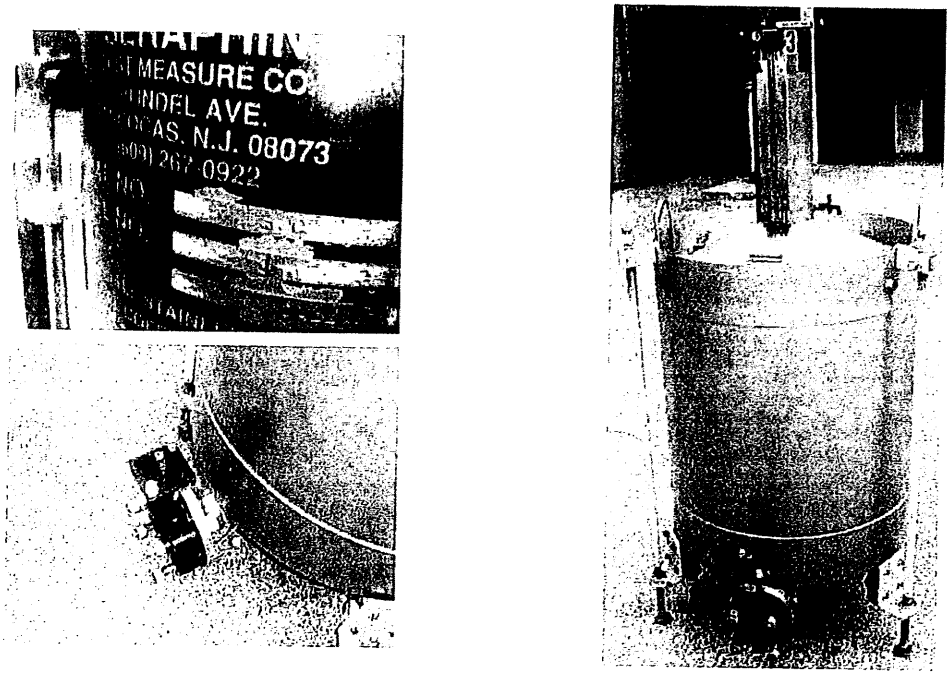

Figure 1. Photographs of the volume prover.

The input data used for calculation of the prover volume are given in the spreadsheet attached to this report.

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* The scale reading is determined by the intersection of the horizontal plane, tangent to the bottom of the meniscus reading on the gauge tube. For this vessel, the scale range was from –110 and +100 and each division is equivalent to 2 in^3.

[2] Taylor, B. N. and Kuyatt, C. E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, National Institute of Standards and Technology (January 1993).

† Coverage factor of 1.96 for 5227 effective degrees of freedom.

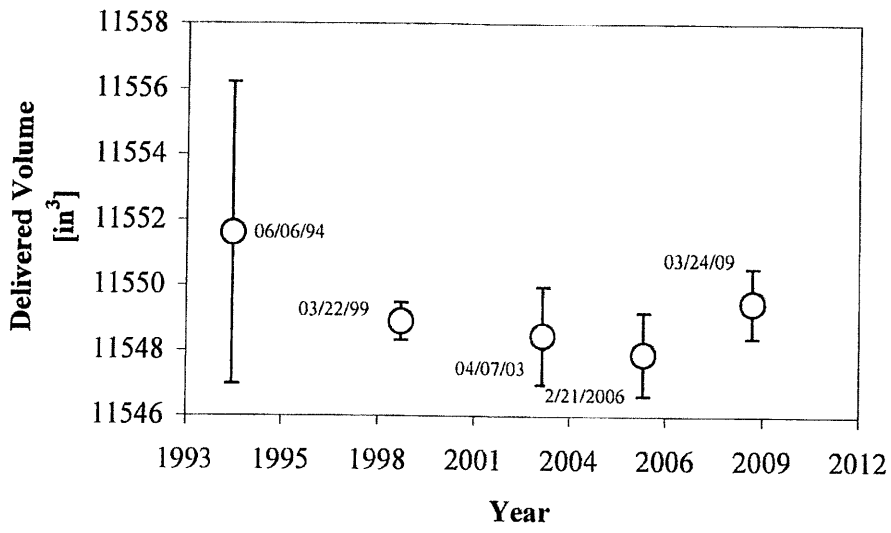

Figure 2. Calibration control chart for 50 gallon graduated neck test measure SN 7293-C.

Table 2. Results of prior calibrations for the delivered volume.

Date	Delivered Volume [in^3]	Difference from Prior [in^3]	Degree of Equivalence [-]
03/24/09	11549.47	1.57	0.46
02/21/06	11547.90	-0.56	-0.16
04/07/03	11548.46	-0.44	-0.13
03/22/99	11548.90	-2.70	-0.78
06/06/94	11551.60	-	-

For the Director,
National Institute of Standards and Technology

Dr. John D. Wright
Project Leader, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

Sherry Sheckels
Calibration Technician, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

NIST

National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

REPORT OF CALIBRATION

FOR

A FIVE (5) GALLON VOLUME PROVER
(Graduated Neck Type)

March 31, 2009

Manufacturer: Seraphin
Rancocas, NJ

NIST Seal Number: 7002
Material: Stainless Steel
Serial Number: 7293F

submitted by

Meter Engineers, Inc.
7718 W. 53rd St. N.
Mazie, KS 67101

(Reference: Purchase Order Number 003680, dated January 15, 2009

The internal volume of the prover described above has been determined by the gravimetric method [1]. The gravimetric method requires weighing the vessel dry and empty and re-weighing it when filled with a fluid of known density. The internal or contained volume was determined in this way and the value is given in Table 1 using the requested units. The fluid used was distilled water and the prover was leveled before determining the volume.

To determine the delivered volume, the contained volume is poured from the vessel by tilting it through a continuously increasing angle so that the poured flow is smooth and not oscillating. When this flow finishes, the vessel is held for 10 seconds at an angle of 70° with the horizontal to complete the drain procedure. Subsequent re-weighing completes the gravimetric procedure and enables calculation of the delivered volume, also given in Table 1. Both the contained and delivered volumes are given for the scale reading of zero (0) and have been corrected for the reference temperature of 15.56 °C (60 °F), assuming a volumetric coefficient of expansion of 0.0000477 per °C (0.0000265 per °F).

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[1] Bean, V. E., Espina, P. I., Wright, J. D., Houser, J. F., Sheckels, S. D., and Johnson, A. N., "NIST Calibration Services for Liquid Volume," NIST Special Publication 250-72, National Institute of Standards and Technology, March 24, 2006.

Table 1. Contained and delivered volumes for the tested vessel for a scale reading* of zero.

	Volume Contained	Volume Delivered
gal at 60 °F	4.9965	**4.9930**
in^3 at 60 °F	1154.20	**1153.39**

The volume measurement procedure was repeated 5 times with the neck scale filled approximately to zero each time. The repeatability of the 5 measurements was 272 parts in 10^6 and the expanded uncertainty in the measured volume is ±0.075 %. It was calculated according to References [1] and [2] with a 95 % confidence level† and is traceable to NIST mass, temperature, pressure, and humidity standards, and a NIST distilled water density determination.

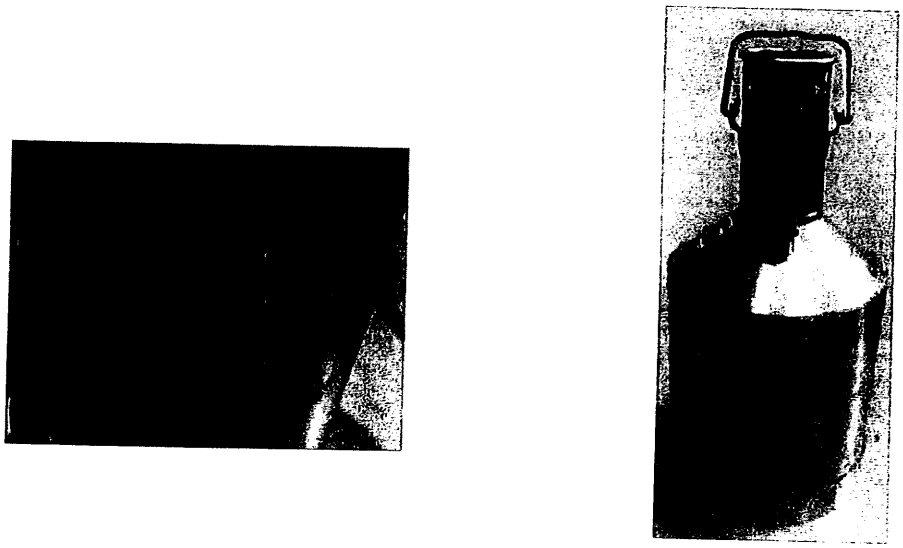

Figure 1. Photographs of the volume prover.

The input data used for calculation of the prover volume are given in the spreadsheet attached to this report.

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* The scale reading is determined by the intersection of the horizontal plane, tangent to the bottom of the meniscus reading on the gauge tube. For this vessel, the scale range was from –20 and +20 and each division is equivalent to 1 in^3.

[2] Taylor, B. N. and Kuyatt, C. E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, National Institute of Standards and Technology (January 1993).

† Coverage factor of 2.45 for 6 effective degrees of freedom.

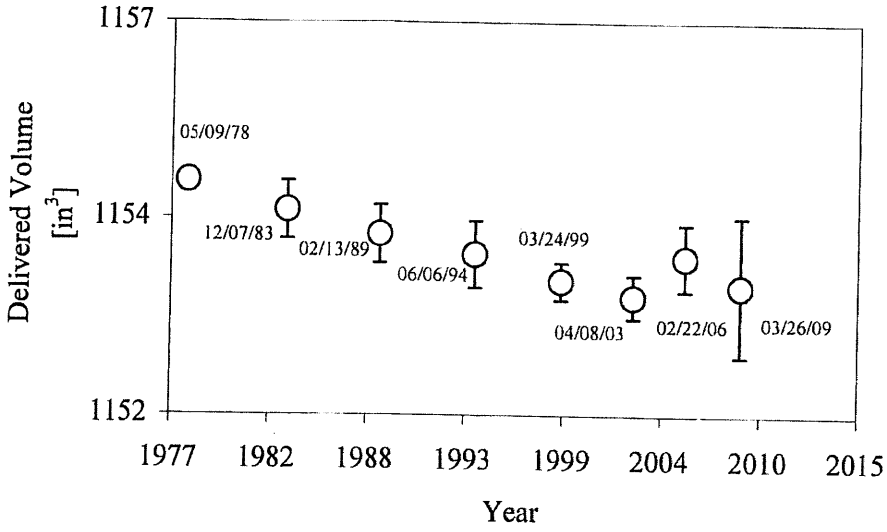

Figure 2. Calibration control chart for 5 gallon graduated neck test measure SN 7293F.

Table 2. Results of prior calibrations for the delivered volume.

Date	Delivered Volume [in^3]	Difference from Prior [in^3]	Degree of Equivalence [-]
03/26/09	1153.3879	-0.36	-0.29
02/22/06	1153.7442	0.48	0.39
04/08/03	1153.2600	-0.19	-0.15
03/24/99	1153.4500	-0.33	-0.27
06/06/94	1153.7800	-0.25	-0.20
02/13/89	1154.0300	-0.30	-0.24
12/07/83	1154.3300	-0.36	-0.29
05/09/78	1154.6900	-	-

For the Director,
National Institute of Standards and Technology

Dr. John D. Wright
Project Leader, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

Sherry Sheckels
Calibration Technician, Fluid Metrology Group
Process Measurements Division
Chemical Science and Technology Laboratory
National Institute of Standards and Technology

JGI
Phone 316.943.7662 Fax 316.944.6256
Calibration Lab
Cert #2820.01

Certificate of Calibration

Report Number: 122131B
Page 1 of 1
Form 2511
REV C 12-01-11

Customer: METER ENGINEERS, INC.

7718 W. 53rd ST. NORTH
MAIZE KS 67101

Item: MERCURY THERMOMETER
Unit Number: 4J1555
Model Number: MILLER & WEBER T-3426
Serial Number: 4J1555
Location: PRODUCTION

Inspector: WM
Date Calibrated: Jan 17, 2013
Recalibration Date: Jan 17, 2014
Temperature: 69.4 °F
Relative Humidity: 32 %

****

Item Range: 30°F/124°F
Resolution: 0.05°F
Tolerance: ±0.2°F
Class: N/A
Controlling Specification(s): ISO 10012, ANSI/NCSL Z540-1
Calibration/Inspection Procedure(s): WP4001
Tolerance Source: R See Below

****

Standard Value	Test Result	Deviation	Uncertainty @k=2
32.00°F	32.00°F	NONE	0.12°F
76.00°F	76.00°F	NONE	0.12°F
120.00°F	120.00°F	NONE	0.12°F

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95%. This estimate was performed in accordance with guidelines set forth in ANSI/NCSL Z540-2. The acceptance or rejection of the item(s) is based on the actual test values shown, without adjustment for measurement uncertainty. All testing performed using standards traceable to NIST or to intrinsic standards. This document shall not be reproduced except in full, without the written permission of Johnson Gage and Inspection. Tolerance source key: C = Customer; S = Specification; M = Manufacturer; R = JGI Recommended.

****

Comments: FOUND IN TOLERANCE. NO ADJUSTMENT REQUIRED.

ADDITIONAL STANDARD: HP34420A SN:US36001770; CERTIFIED:12-18-12; DUE:12-18-13; TN:58056AT

Condition: USED

RESULTS: ACCEPTED

****

CALIBRATION STANDARD

Manufacturer/type: BURNS ENGINEERING PRT
Model Number: 3925
Date Certified: Jul 27, 2011
Serial Number: 496142
Date Due: Jul 27, 2013
TRACEABILITY NUMBER: U187370

JGI
Phone 316.944.7654 Fax 316.944.6256
Cert #2820.01

Certificate of Calibration

Report Number: 122403N Page 1 of 1 Form 2511
Customer: METER ENGINEERS, INC. REV C 12-01-11

7718 W. 53rd ST. NORTH
MAIZE KS 67101

Item: DIGITAL THERMOMETER
Unit Number: 1630273
Model Number: MARTEL BETA PROBE T1
Serial Number: 1630273
Location: PRODUCTION

Inspector: WM
Date Calibrated: Jan 30, 2013
Recalibration Date: Jan 30, 2014
Temperature: 71.8 °F
Relative Humidity: 36 %

****

Item Range: -58°F/320°F Resolution: 0.01°F
Tolerance: ±0.2°F Class: N/A
Controlling Specification(s): ISO 10012, ANSI/NCSL Z540-1
Calibration/Inspection Procedure(s): WP4001 Tolerance Source: R See Below

****

Standard Value	Test Result	Deviation	Uncertainty @k=2
32.00°F	31.98°F	-0.02°F	0.12°F
76.00°F	76.00°F	NONE	0.12°F
120.00°F	120.00°F	NONE	0.12°F

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95%. This estimate was performed in accordance with guidelines set forth in ANSI/NCSL Z540-2. The acceptance or rejection of the item(s) is based on the actual test values shown, without adjustment for measurement uncertainty. All testing performed using standards traceable to NIST or to intrinsic standards. This document shall not be reproduced except in full, without the written permission of Johnson Gage and Inspection. Tolerance source key: C = Customer; S = Specification; M = Manufacturer; R = JGI Recommended.

****

Comments: FOUND IN TOLERANCE. NO ADJUSTMENT REQUIRED. NOTE: TEST POINTS PER CUSTOMER REQUEST.

ADDITIONAL STANDARD: HP34420A SN:US36001770; CERTIFIED:12-18-12; DUE:12-18-13; TN:58056AT

RESOLUTION AVAILABLE FROM 0.001°F TO 0.1°F

Condition: USED

RESULTS: ACCEPTED AS NOTED

****

CALIBRATION STANDARD

Manufacturer/type: BURNS ENGINEERING PRT Model Number: 3925
Date Certified: Jul 27, 2011 Serial Number: 496142
Date Due: Jul 27, 2013 TRACEABILITY NUMBER: U187370

Unit 134

PO BOX 248
WICHITA KS 67201-0248
Phone: (316) 267-2893

ARROW LABORATORY, INC.

Metallurgical Analysis and Testing

1333 N MAIN ST
WICHITA KS 67203
Fax: (316) 267-0171

Attn: DEB JACOBS
METER ENGINEERS
7718 W 53rd St North
WICHITA KS 67101

12-28-12

LABORATORY REPORT #d90mm654
PRESSURE GAGE CALIBRATION

One 4.5 inch WIKA XSEL pressure gage, S/N 586, 0-60 psi capacity with 0.5 psi subdivisions, was received in usable condition and calibrated as shown below. The gage was checked with our Ashcroft dead weight gage tester. Testing was performed in accordance with ASME B40.100-2005, ISO 10012-2003, and ANSI/NCSL Z540.3-2006.
Calibration Data:

LOAD psi	Average GAGE READING as Left
5	4.8 psi
15	14.6
25	24.5
35	34.4
45	44.3
55	54.3

Maximum Error center 1/2 of scale: 1.3% of span
Max Error upper and lower 1/4 of scale: 1.3% of span
Maximum Friction: 2.5% of span
Repeatability: +/- 0.2% of span
Accuracy: +/- 1.3% of span
Adjustments: none Limitations of use: none
Calibrated: 12-27-12 Temperature: 74°F
Client Provided Confirmation Interval: Annual

These results meet ASME B40.100 grade B accuracy requirements.

Ashcroft Gage Tester: S/N DWT 11436, Uncertainty: +/- 0.07%
Weights: Tester weights were compared with weights calibrated on NIST. Test #'s 822/262551-0 and 822/268214-03. Cal Due: 5-31-13
Piston Assembly:
The piston diameter and cylinder bore were measured by Dresser Industries Test# IR700547 and certified to +/- 0.05% using masters traceable to NIST. Cal Due: 2-28-13

DER/dr
Rec'd 12-27-12

Project Supervisor
Dale Roark
Dale E. Roark

Kinder Morgan

Carrington Terminal

Carrington, ND

July 9 2013

Public Service Commission

Enclosed is the final report for the water draw at Carrington. This includes the reports of calibration and certificates of calibration. If there is anything else I can provide let me know.

Thank you

Eugene M. Drewlow

Carrington Terminal Supervisor

LIQUID TEST REPORT

Kinder Morgan Cochin Pipeline LLC

Invoice Number

Operator No.	Date	Date Last Tested

Name of Business	Kinder Morgan Cochin Pipeline LLC
Location of Device	Carrington Propane Terminal
Mailing Address	P. O. Box 34

City	State	Zip Code
Carrington	ND	58421

County	Telephone Number
Foster	(701) 674-3318

Check All That Apply

- ■ Self-Certification
- ☐ New Installation
- ■ Routine Service ☐ Annual ☐ Semi Annual ■ Monthly
- ☐ Equipment Repaired
- ☐ Rejected Equipt. Attach Tag

Standard Used	Size	date last cal. 6-20-13
MALONEY PIPE PROVER	8 INCH 7.2736 bbl	

TYPE OF DEVICE / PSC CODE

Retail Pump	Mobile Delivery	LPG Propane	Liquid Fert./Agri Chemical	Pipeline/Transport	CNG
16	19	21G	21F	20	21C

Device Code	Pump/ Hose#	Product	Serial #	VARIANCE, % Short Term	VARIANCE, % Long Term	Meter Factor Before	Meter Factor After	Approved (A) Rejected (R)
20	1	LPG	S/N 7709 -					
			14958 - 6A					

KINDER MORGAN

Cochin Pipeline
P.O. Box 34
Carrington, ND 58421
701-674-3318

TESTED and APPROVED

JAN	FEB	MAR
APR	MAY	JUN
JUL	AUG	SEP
OCT	NOV	DEC

11	12	13
14	15	16

License# _____

I hereby declare the statements made here are correct:

REMARKS & ADJUSTMENTS MADE

Are there any other jurisdictional devices at this location that require testing?
☐ YES ☐ NO

HAS SECURITY SEAL AND STICKER BEEN APPLIED?
☐ YES ☐ NO

Approved ☐	Rejected ☐	Service Agency (Print)

Inspector/Permit Holder Signature	Permit No.

Owner - Operator Signature

1 Copy to Public Service Commission, 600 E. Boulevard Avenue, Bismarck, ND 58505 / 1 Copy to Owner/Operator

METER PROVING REPORT

Kinder-Morgan Cochin Pipeline LLC.

LOCATION	ELEV.	DATE	Amb. T.	Accumulators: Previous	Open	Close
CARRINGTON	1520					

PROVER				METER			
Make	MALONEY	Vol.	7.2736	Make	BROOKS	S/N 7709 -	14958 - 6A
S/N	E-6409	Inside Dia.	7.981	Size"	6"	Design K-Factor	
T. coef.(GP)	0.0000186	W.T."	0.322	T. coef.(GM)		DKF	4200
b rod a (GD)		Elasticity	30000000	Temp. cmp.?		Meter I.D.	
b rod T				Last ATC Cal		T, 1 or 2 ?	1

PRODUCT (STD CONDITIONS)				TICKET	
TYPE	spgr@60F	Vapor Pres	Density	Batch No.	Ticket No.
PROPANE	0.501	183	175.502805		

FIRST RUN DATA

run	Total Pulses	Prover Temp	Prover Pres	Meter Temp	Meter Press	Flow Rate
1						
2						
3						
4						
5						
avg						

E V P Prover	
Fact A Prover	
Fact B Prover	
F Prover	
E V P Meter	
Fact A Meter	
Fact B Meter	
F Meter	

CTSP	CTLP	CPSP	CPLP	CTLM	CPLM	Average Meter Factor M F

Net Prover Volume	Net Meter Volume	New Meter Factor	@ Oper. Conditions MF*CPLM

SECOND RUN DATA

run	Total Pulses	Prover Temp	Prover Pres	Meter Temp	Meter Press	Flow Rate
1						
2						
3						
4						
5						
avg						

E V P Prover	
Fact A Prover	
Fact B Prover	
F Prover	
E V P Meter	
Fact A Meter	
Fact B Meter	
F Meter	

CTSP	CTLP	CPSP	CPLP	CTLM	CPLM	NEW K FACTOR DKF/MF

Net Prover Volume	Net Meter Volume	New Meter Factor	LINEARITY (<0.16%)

HISTORICAL DATA						REPEATABILITY	
date					Long Aver	5 PASS @ <0.025%	
fact							
flow					Aver Factor	10 PASS @ <0.05%	
temp							

COMMENTS

Report by

Checked by

Version 1.2 ALK