



APPLICATION FOR REGISTRATION AS A REGISTERED SERVICE COMPANY

Public Service Commission
SFN 51277 (2/2014)



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

Name of Company T & T Measurements	Email Address Travis@hugobest.com	Application Date 8-1-16	
Mailing Address 10671 43rd St. NW	City Newtown	State ND	Zip Code 58763
Telephone Number 701-675-2373	Cell Phone Number 701-421-1352	Fax Number	

Select below all device types your company will certify:

Scales (include maximum capacity, if applicable)	Liquid (include maximum flow rate, if applicable)
<input type="checkbox"/> 1. Rail <input type="checkbox"/> 2. Truck <input type="checkbox"/> 3. Livestock <input type="checkbox"/> 4. Hopper: Max. Capacity: _____ <input type="checkbox"/> 5. Belt <input type="checkbox"/> 6. Over 30 lbs.: Max. Capacity: _____ <input type="checkbox"/> 7. 30 lbs. or less <input type="checkbox"/> 8. Class II (indicate on your calibration report which weight kit is Class II certified) <input type="checkbox"/> 9. Other: Please List:	<input checked="" type="checkbox"/> 1. Retail Fuel (less than 20 gal. per minute) <input checked="" type="checkbox"/> 2. High Flow Retail Fuel (20 gal. per minute or greater) <input checked="" type="checkbox"/> 3. Vehicle Tank: Max. Flow Rate: <u>506 gpm</u> <input checked="" type="checkbox"/> 4. Stationary Bulk (fuel or oil): Max. Flow Rate: <u>100 gpm</u> <input checked="" type="checkbox"/> 5. LPG <input checked="" type="checkbox"/> 6. Stationary LPG <input checked="" type="checkbox"/> 7. Fertilizer: Max. Flow Rate: <u>60 gpm</u> <input checked="" type="checkbox"/> 8. Chemical <input type="checkbox"/> 9. Anhydrous <input checked="" type="checkbox"/> 10. Loading Rack <input type="checkbox"/> 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
1609	TRAVIS THOMPSON	Liquid 1, 2, 3, 4, 5, 6, 7, 8, 10
1712	DEREK THOMPSON	Liquid 1, 2, 3, 4, 5, 6, 7, 8, 10



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

5 GAL. CAN - Refined	
100 GAL. Refined CAN	
3 - 5 GAL. Refined CAN	
25 GAL. LPG	
100 GAL. LPG	
500 GAL Refined CAN	
12 - 50 lb. weights	

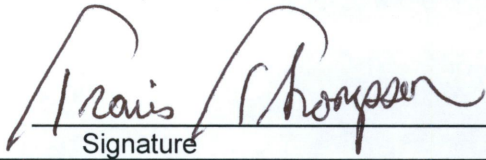
Additional Application Items (initial where appropriate):

Standardized Test Report	<input checked="" type="checkbox"/> Copy enclosed <input checked="" type="checkbox"/> No change in report filed previously
Tested and Approved Sticker	<input checked="" type="checkbox"/> Copy enclosed <input checked="" type="checkbox"/> No change in sticker filed previously
Photocopy of Crimped Lead Wire Seal	<input checked="" type="checkbox"/> Copy enclosed <input checked="" type="checkbox"/> No change in crimped lead wire seal filed previously

Public Company Listing:

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

I am Travis Thompson, 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

North Dakota

nd.gov Official Portal for
North Dakota State GovernmentNorth Dakota
LEGENDARY

SECRETARY OF STATE NORTH DAKOTA


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T & T MEASUREMENTS, INC.

Corporation Details

System ID: 24873500 **Phone:** (701) 675-2373
Type: BUSINESS CORPORATION
Status: Active & Good Standing
Original File Date: 05/30/2008 **Effective Date:** 07/01/2008
State of Origin: North Dakota

Nature of Business

CERTIFICATION OF REPAIR OF METERS, LIQUID & GAS

Principal Office

10671 43RD ST NW NEW TOWN, ND 58763-9027

Registered Agent

TRAVIS THOMPSON
 10671 43RD ST NW
 NEW TOWN, ND 58763-9027
 Established Date: Jul 01, 2008

Authorized Shares

Class	Number	Par Value
	50000.000000	\$.000000

Generate an Annual Report To File

To Generate a Annual Report form to be filed with the Secretary of State, select the appropriate year of the report you intend to file. This report does not contain details of a report previously filed with the Secretary of State. The annual report years reflected are an indication of the various report forms available in this site and is not an indication that an entity needs to file reports for all years. Missing years indicate that the forms for the missing year have not yet been deployed to the website, or have already been removed, and can be obtained by contacting the Secretary of State.

[2016](#) (generates a forms-fillable pdf in a new pop-up window)

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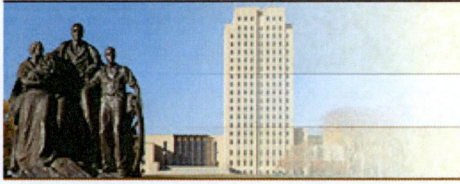
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T & T MEASUREMENTS

Trade Name

System ID: 19606700**Phone:** (701) 675-2373**Status:** Active**Original File Date:** 08/29/2003**Last Renewal Date:** 08/29/2013

Nature of Business

PROVING AND REPAIR OF OILFIELD METERING EQUIPMENT AND TESTING AND REPAIR OF BULK PETROLEUM AND GAS PUMP METERING EQUIPMENT

Owners

LISA THOMPSON

10671 43RD ST NW

NEW TOWN, ND 58763-9027

TRAVIS THOMPSON

10671 43RD ST NW

NEW TOWN, ND 58763-9027

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We use Secure Sockets Layer (SSL) encryption technology to ensure your information is secure and protected.

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Certificate of Volume Calibration
Montana Department of Labor & Industry Metrology Laboratory
2801 N Cooke St. Helena, Montana 59601
(406)449-2582 FAX (406)443-8163

Company Name & Address: Travis Thompson
T & T Measurements
10621 43rd Street Northwest
Newtown, ND 58763
Date of Test: 7/11/2016
Test Number: 2016-V021
Prover #: 34768-2
MT Cal Report #: 060405001

All results contained within this report only relate to the item(s) listed in this report. This calibration report must not be used to claim product endorsement by the State of Montana or any other government agency.

Date these weights were received: 7/11/2016
Description and condition of artifacts received: Item was in good shape and clean. Tightened bottom gasket.

Environmental Conditions at Time of Test:

Temperature °C	Relative Humidity %
20.2	35.2

Final Volume at 60 °F: Material: *Stainless Steel* CCE of Test Measure: *0.000 0186*

Nominal	Serial No.	As Found (gallons)	As Left (gallons)	Uncertainty ± (gallons)	NIST 105-3 Tolerance ± (gallons)	k factor
500 gallon	1430	500.015	500.015	0.056	0.25	2.00

Standards and Procedures used for testing:

The Standards used for this comparison are continuously monitored by a measurement control program for ensuring continued accuracy and traceability within the level of uncertainty reported. These standards were calibrated by a nationally accredited laboratory on 10/2009 (Reports on File) and are traceable to the SI. The test number listed above is traceable to National Standards through an unbroken chain of comparison each having stated uncertainties. This information is on file and available upon request.

Procedure Used: SOP-19 (To Deliver)

All procedures used in this laboratory are in accordance to National Institute of Standards and Technology Intermediate Report (NISTIR) 6969, issue February 2012, and the *Quality Assurance of Metrological Measurements*.

Traceability Statement:

The equipment in this report has been compared to the standards of the State of Montana. The States equipment complies with the specifications and tolerances listed in NIST 105-3. The standards of the State of Montana are traceable to the SI through the National Institute of Standards and Technology.

Uncertainty Statement:

The expanded uncertainty presented in this report is consistent with the 1993 *ISO Guide to Expression of Uncertainty in Measurement* and follows *NISTIR 6969*, issue February 2012, SOP-29. The reported uncertainty is calculated by combining the uncertainty of the standard used, with the uncertainty of the measurement process in a root sum square formula using a calculated *k* factor, for a confidence level of 95.45%.

State Metrologist: *Dave Fraser*

David Fraser

Email: dafraser@mt.gov

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United States Department of Commerce

National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Montana

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 III	Volume Transfer, II
30 kg to 1 mg	1500 gal to 5 gal
3000 lb to 0.001 lb	100 gal LPG to 25 gal LPG
8 oz to 0.03125 oz	
Weight Carts	
5000 lb to 2000 lb	



2016

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

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

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



Wyoming Department of Agriculture
Weights and Measures Laboratory
6607 Campstool Rd
Cheyenne, WY 82002
(307)777-7556



REPORT OF CALIBRATION

Issued To:

T&T Measurements Inc.
10671 23rd St Northwest
Newtown, ND 58723

Point of Contact:

Travis Thompson
Ph. (701)421-1352

Purchase Order Number:

N/A

Report Number:

16059

Calibration Date: July 21, 2016

This is to certify that the information contained in this report is true and correct as of the date of calibration.

Robert Weidler, State Metrologist

7-22-16

Date of Issue



Wyoming Department of Agriculture
 Weights and Measures Laboratory
 6607 Campstool Road
 Cheyenne, WY 82002
 (307)777-7556



Test No.: 16058
 Page 1 of 2



Calibration Certificate

For

Three-5 gallon Stainless Steel Provers,
 One-5 gallon Test Measure
 and
 One-100 gallon Stainless Steel Prover

Manufacturer: Listed on Following Table
 Serial No.: Listed on Following Table

Submitted by
 T&T Measurements Inc.
 Travis Thompson
 10671 23rd St Northwest
 Newtown, ND 58763
 (701)421-1352

Manufacturer	Model Number	Serial Number	Nominal (gal)	Prover Volume (gal)	Prover Error (gal)	Expanded Uncertainty (gal)
Gas Service and Supply	GSB5	1427	5	4.9999*	-0.0001	0.0012
Gas Service and Supply	GSB5	1428	5	4.9998*	-0.0002	0.0012
Gas Service and Supply	GSB5	1429	5	4.9999*	-0.0001	0.0012
Seraphin	E3	11-88455	5	5.0000**	0.0000	0.0012
Gas Service and Supply	100 USG	1425	100	99.9923*	-0.0077	0.0055

The data in this table applies only to those items specifically listed on this report.

* Prover Volume is Volume to Deliver after the cessation of flow and 30 second drain time at a reference temperature of 60° F.

** Prover Volume is Volume to Deliver after a 30 second pour and 10 second drain time at a reference temperature of 60° F.

Uncertainty Statement:

The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor of 2.02 (5 gal) and 2.05 (100 gal) to give an expanded uncertainty, which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 1993 ISO Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application.

Traceability Statement:

Standards used for comparison are traceable to United States national standards at NIST and are part of a comprehensive measurement assurance program for ensuring continued accuracy and traceability reported by this laboratory. The laboratory test number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only. Traceability to the SI is maintained using the conversion factor: 1 gallon = 231 in³ = 3.785412 L = 0.003785412 m³.

Supplemental Information

Description of artifacts submitted for testing:

Three-5 gallon stainless steel provers, one-5 gallon stainless steel test measure and one-100 gallon stainless steel prover; Cubical Coefficient of Thermal Expansion 0.0000265/°F.

Conditions of artifacts submitted for testing:

Artifacts were in good condition and for the type and class; no adjustments were made.

Treatment of artifacts prior to testing:

Artifacts were degreased and thoroughly rinsed prior to calibration.

Equipment and Standards:

Standard	Range
NBS4214	5 gallons
SP100	100 gallons

Procedure used:

Volume Transfer Method (NISTIR 7383, SOP 19)

Environmental conditions are maintained within the following parameters:

Temperature	Relative Humidity
18 °C to 27 °C	40.0% to 60%

Date Artifacts Received: July 21, 2016

Date of test: July 21, 2016 and July 22, 2016

Test performed by:



Date of Report Preparation: July 22, 2016

Robert Weidler
WDA State Metrologist

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WDA Weights and Measures Metrology Laboratory

Report Number: 16059

Calibration Date: July 21, 2016

Artifact(s) Description

Test Item:	25 gal LPG Prover	Date Received:	July 21, 2016
Serial Number:	2105	Manufacture:	Gas Service and Supply
Material:	Steel, Pressure Vessel, Low Carbon	Material CCE:	0.000016 / °F
Condition:	Good	Specification:	NIST HB 105-4

Calibration Information

Job Order #:	N/A	Temperature:	20.6 °C
Metrologist:	Robert Weidler	Humidity:	52.9 % RH
Procedure:	NISTIR 7383, SOP 21	Water Temperature:	21.1 °C

Laboratory Reference Standards Used

Description	Serial Number	Cert. Number	Cal Date	Cal Due
25 gallon Slicker Plate	14-56567	NC1410-039-GV	10/16/2014	10/16/2024

Traceability Statement

The artifact(s) described in this report have been compared to the Standards of the State of Wyoming. The Standards of the State of Wyoming are traceable to the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The International System of Units (SI) for volume is the cubic meter (m³) (see Conversion Factors on page 3). The report number for this report is the only unique report number to be used in referencing measurement traceability for the artifact(s) described in this report.

Uncertainty Statement

The combined standard uncertainty includes uncertainties reported for the standard, uncertainties associated with the measurement process, uncertainties for any observed deviations from reference values which are less than surveillance limits, and other uncertainties associated with the particular artifact (i.e., material cubical coefficient of expansion, reading meniscus, etc.). The combined standard uncertainty is multiplied by k, a coverage factor of 2, to give the expanded uncertainty (which defines an interval with an approximate 95 percent level of confidence). The expanded uncertainty presented in this report is consistent with NIST Technical Note 1297.

WDA Weights and Measures Metrology Laboratory

Report Number: 16059

Calibration Date: July 21, 2016

Pertinent Information

- In accordance with ISO/IEC FDIS 17025, General Requirements for the Competence of Testing and Calibration Laboratories, paragraph 5.10.4.4 'A calibration certificate (or calibration label) shall not contain any recommendation on the calibration interval except where this has been agreed with the client. This requirement may be superseded by legal regulations.'
- The artifact is considered in-tolerance when the error is equal to or less than the specified tolerance minus the measurement uncertainty. **RED** print indicates an out-of-tolerance reading.
- The LPG Prover 'As Left' volume is 'In-Tolerance', the LPG Prover may be used in meter testing without a correction.
- Enter the Pressure Correction from Table 1 that corresponds with the pressure being tested on your LPG Meter Test form.
- The calibration item was calibrated in a "wet down" condition using water. The calibration data above applies when the prover is drained for a 30 (\pm 5) second period after cessation of the main flow.
- The results listed in this report relate only to the artifacts described and extent of calibrations performed.

Conversion Factors

From NIST Special Publication 811, *Guide for the Use of the International System of Units (SI)*

Factors in **boldface** are exact

To convert from	to	multiply by
gallon (U.S.) (gal)	to cubic meter (m ³)	3.875 412 E-03
cubic inch (in ³)	to cubic meter (m ³)	1.638 706 4 E-05
liter (L)	to cubic meter (m ³)	1.0 E-03

WDA Weights and Measures Metrology Laboratory

Report Number: 16059
 Calibration Results

Calibration Date: July 21, 2016

Nominal Volume (at zero mark on gauge)	Prover Volume As Found @ 60 °F and 100 psig (gal)	Prover Volume As Left @ 60 °F and 100 psig (gal)	NIST HB 105-4 Specification Tolerance ± (gal)	Uncertainty k=2 ± (gal)
25 gal	24.9979	24.9979	0.0500	0.0099

Table 1 - LPG Prover Corrections @ 60 °F

psig	Prover Scale Reading (gal)	Pressure Correction (Pcorr) (gal) ²	Prover Error (gal)	Prover Volume (gal)
0	0.035	-0.028549071	-0.030694643	24.96930536
10	0.0314	-0.025594164	-0.027739736	24.97226026
20	0.0278	-0.022639257	-0.024784829	24.97521517
30	0.0242	-0.01968435	-0.021829922	24.97817008
40	0.0206	-0.016729443	-0.018875015	24.98112499
50	0.017	-0.013774535	-0.015920108	24.98407989
60	0.0136	-0.011019628	-0.013165201	24.9868348
70	0.0102	-0.008264721	-0.010410293	24.98958971
80	0.0068	-0.005509814	-0.007655386	24.99234461
90	0.0034	-0.002754907	-0.004900479	24.99509952
100	0	0	-0.002145572	24.99785443
110	-0.0028	0.002154907	9.33487E-06	25.00000933
120	-0.0056	0.004309814	0.002164242	25.00216424
130	-0.0084	0.006464721	0.004319149	25.00431915
140	-0.0112	0.008619628	0.006474056	25.00647406
150	-0.014	0.010774535	0.008628963	25.00862896
160	-0.017	0.013129443	0.01098387	25.01098387
170	-0.02	0.01548435	0.013338777	25.01333878
180	-0.023	0.017839257	0.015693684	25.01569368
190	-0.026	0.020194164	0.018048592	25.01804859
200	-0.029	0.022549071	0.020403499	25.0204035

¹Gauge scale was adjusted for nominal volume at 100 psig.

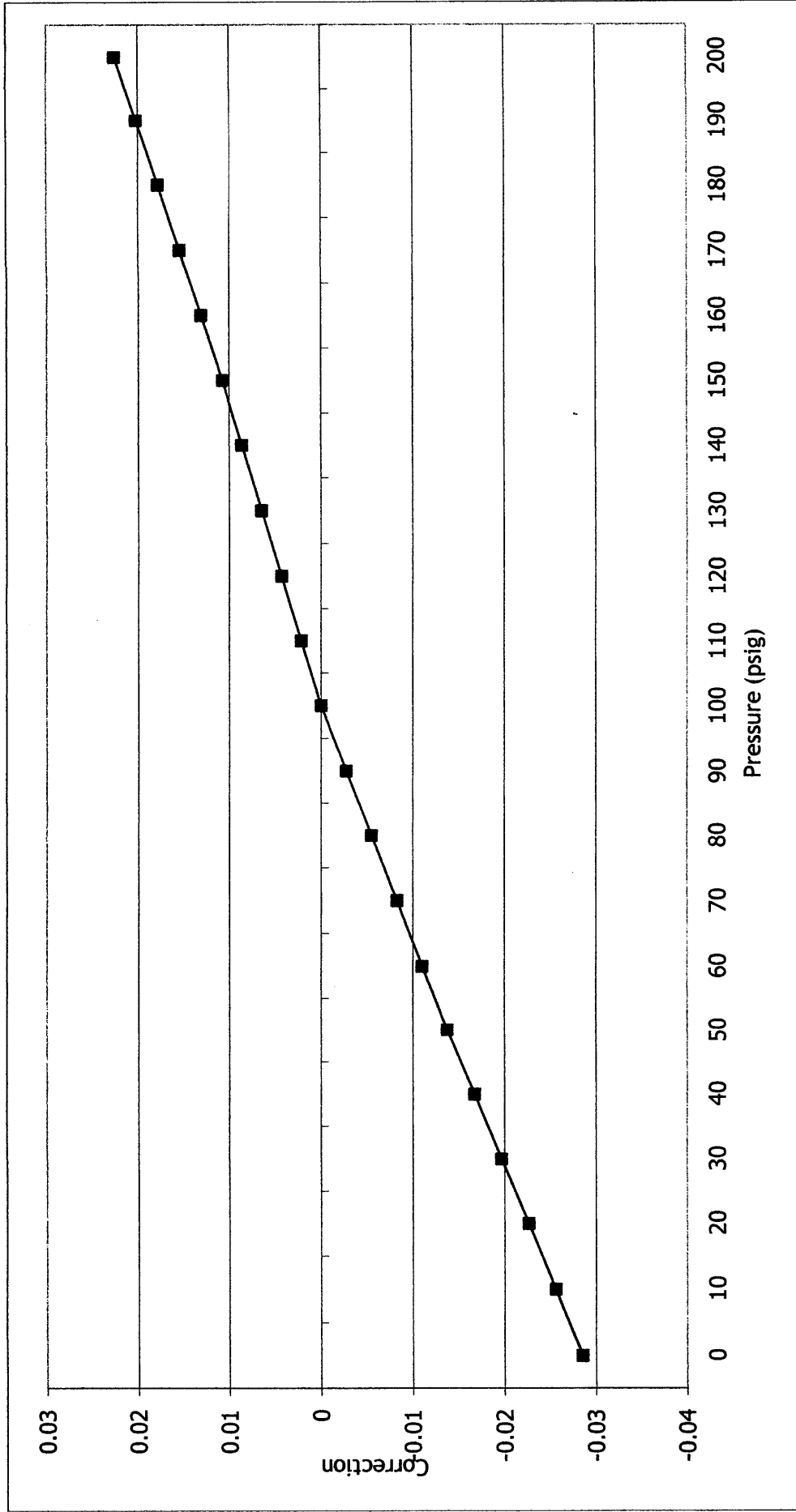
²Gauge scale could not be adjusted or did not need to be adjusted.

WDA Weights and Measures Metrology Laboratory

Report Number: 16059

Calibration Date: July 21, 2016

Chart 1 - LPG Pressure Corrections (gal) @ 60 °F





Wyoming Department of Agriculture
Weights and Measures Laboratory
6607 Campstool Rd
Cheyenne, WY 82002
(307)777-7556



REPORT OF CALIBRATION

Issued To:

T&T Measurements Inc.
10671 23rd St Northwest
Newtown, ND 58763

Point of Contact:

Travis Thompson
Ph. (701)421-1352

Purchase Order Number:

N/A

Report Number:

16060

Calibration Date: July 22, 2016

This is to certify that the information contained in this report is true and correct as of the date of calibration.

Handwritten signature of Robert Weidler in cursive.

Robert Weidler, State Metrologist

7-22-16

Date of Issue

WDA Weights and Measures Metrology Laboratory

Report Number: 16060

Calibration Date: July 22, 2016

Artifact(s) Description

Test Item:	100 gal LPG Prover	Date Received:	July 21, 2016
Serial Number:	2006	Manufacture:	Gas Service and Supply
Material:	Steel, Pressure Vessel, Low Carbon	Material CCE:	0.000016 / °F
Condition:	Good	Specification:	NIST HB 105-4

Calibration Information

Job Order #:	N/A	Temperature:	20.4 °C
Metrologist:	Robert Weidler	Humidity:	55.3 % RH
Procedure:	NISTIR 7383, SOP 21	Water Temperature:	21.0 °C

Laboratory Reference Standards Used

Description	Serial Number	Cert. Number	Cal Date	Cal Due
100 gallon Slicker Plate	11-53192	NC1203-117-GV	3/23/2012	3/23/2022

Traceability Statement

The artifact(s) described in this report have been compared to the Standards of the State of Wyoming. The Standards of the State of Wyoming are traceable to the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The International System of Units (SI) for volume is the cubic meter (m^3) (see Conversion Factors on page 3). The report number for this report is the only unique report number to be used in referencing measurement traceability for the artifact(s) described in this report.

Uncertainty Statement

The combined standard uncertainty includes uncertainties reported for the standard, uncertainties associated with the measurement process, uncertainties for any observed deviations from reference values which are less than surveillance limits, and other uncertainties associated with the particular artifact (i.e., material cubical coefficient of expansion, reading meniscus, etc.). The combined standard uncertainty is multiplied by k , a coverage factor of 2, to give the expanded uncertainty (which defines an interval with an approximate 95 percent level of confidence). The expanded uncertainty presented in this report is consistent with NIST Technical Note 1297.

WDA Weights and Measures Metrology Laboratory

Report Number: 16060

Calibration Date: July 22, 2016

Pertinent Information

- In-accordance-with ISO/IEC FDIS 17025, General Requirements for the Competence of Testing and Calibration Laboratories, paragraph 5.10.4.4 'A calibration certificate (or calibration label) shall not contain any recommendation on the calibration interval except where this has been agreed with the client. This requirement may be superseded by legal regulations.'
- The artifact is considered in-tolerance when the error is equal to or less than the specified tolerance minus the measurement uncertainty. RED print indicates an out-of-tolerance reading.
- The LPG Prover 'As Left' volume is 'In-Tolerance', the LPG Prover may be used in meter testing without a correction.
- Enter the Pressure Correction from Table 1 that corresponds with the pressure being tested on your LPG Meter Test form.
- The calibration item was calibrated in a "wet down" condition using water. The calibration data above applies when the prover is drained for a 30 (\pm 5) second period after cessation of the main flow.
- The results listed in this report relate only to the artifacts described and extent of calibrations performed.

Conversion Factors

From NIST Special Publication 811, *Guide for the Use of the International System of Units (SI)*

Factors in **boldface** are exact

To convert from	to	multiply by
gallon (U.S.) (gal)	to cubic meter (m ³)	3.875 412 E-03
cubic inch (in ³)	to cubic meter (m ³)	1.638 706 4 E-05
liter (L)	to cubic meter (m ³)	1.0 E-03

WDA Weights and Measures Metrology Laboratory

Report Number: 16060
Calibration Results

Calibration Date: July 22, 2016

Nominal Volume (at zero mark on gauge)	Prover Volume As Found @ 60 °F and 100 psig (gal)	Prover Volume As Left @ 60 °F and 100 psig (gal)	NIST HB 105-4 Specification Tolerance ± (gal)	Uncertainty k=2 ± (gal)
100 gal	100.015	100.015	0.200	0.022

Table 1 - LPG Prover Corrections @ 60 °F

psig	Prover Scale Reading (gal)	Pressure Correction (Pcorr) (gal) ²	Prover Error (gal)	Prover Volume (gal)
0	0.15	-0.124196283	-0.109230523	99.89076948
10	0.135	-0.111776655	-0.096810895	99.9031891
20	0.12	-0.099357027	-0.084391267	99.91560873
30	0.105	-0.086937398	-0.071971638	99.92802836
40	0.09	-0.07451777	-0.05955201	99.94044799
50	0.075	-0.062098142	-0.047132382	99.95286762
60	0.06	-0.049678513	-0.034712753	99.96528725
70	0.045	-0.037258885	-0.022293125	99.97770687
80	0.03	-0.024839257	-0.009873497	99.9901265
90	0.015	-0.012419628	0.002546132	100.0025461
100	0	0	0.01496576	100.0149658
110	-0.012	0.009419628	0.024385388	100.0243854
120	-0.024	0.018839257	0.033805017	100.033805
130	-0.036	0.028258885	0.043224645	100.0432246
140	-0.048	0.037678513	0.052644273	100.0526443
150	-0.06	0.047098142	0.062063902	100.0620639
160	-0.068	0.05251777	0.06748353	100.0674835
170	-0.076	0.057937398	0.072903158	100.0729032
180	-0.084	0.063357027	0.078322787	100.0783228
190	-0.092	0.068776655	0.083742415	100.0837424
200	-0.1	0.074196283	0.089162043	100.089162

¹Gauge scale was adjusted for nominal volume at 100 psig.

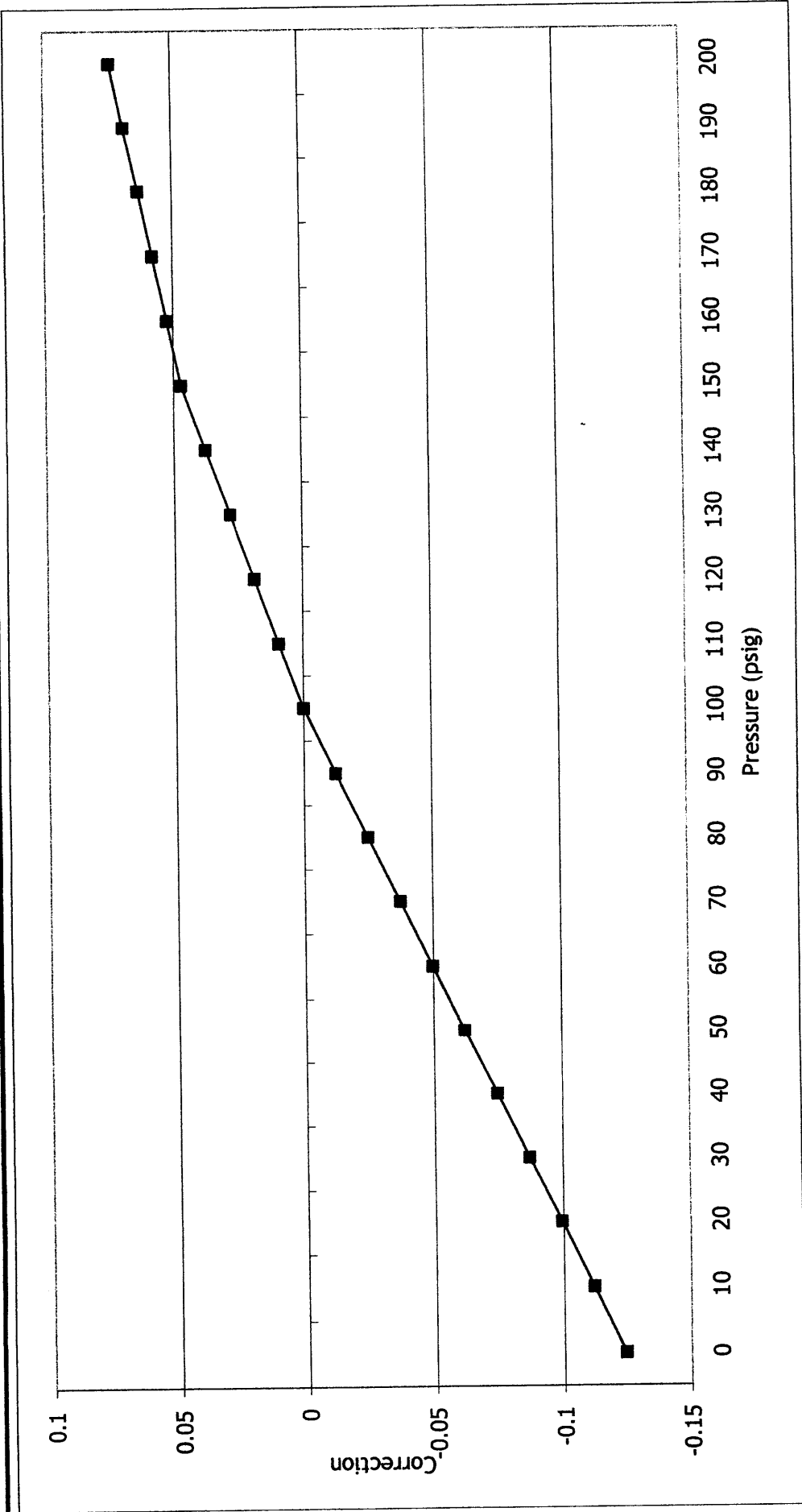
²Gauge scale could not be adjusted or did not need to be adjusted.

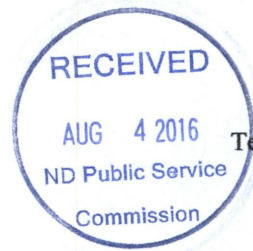
WDA Weights and Measures Metrology Laboratory

Calibration Date: July 22, 2016

Report Number: 16060

Chart 1 - LPG Pressure Corrections (gal) @ 60 °F





Test No.: 16061
Page 1 of 2



**Wyoming Department of Agriculture
Weights and Measures Laboratory
6607 Campstool Rd
Cheyenne, WY 82002
(307)777-7556**



**Calibration Certificate
For**

Twelve – 50 lb Class F Test Weights

Manufacturer: Various
Serial No.: Listed on Following Table

Submitted by
T&T Measurements Inc.
10671 23rd St Northwest
Newtown, ND 58763
(701)421-1352

Serial Number	Nominal (lb)	Conventional Mass Correction (mg)		Tolerance (g)	Expanded Uncertainty (g)
		As Found	As Left		
1	50	-0.44	-0.44	2.3	0.20
2	50	-0.50	-0.50	2.3	0.20
3	50	0.17	0.17	2.3	0.20
4	50	-0.72	-0.72	2.3	0.20
5	50	0.28	0.28	2.3	0.20
6	50	-1.21	-1.21	2.3	0.20
6G9E	50	0.88	0.88	2.3	0.20
6G9F	50	1.01	1.01	2.3	0.20
6G9G	50	0.99	0.99	2.3	0.20
6G9H	50	0.85	0.85	2.3	0.20
6G9I	50	1.13	1.13	2.3	0.20
6G9J	50	0.40	0.40	2.3	0.20

The data in this table applies only to those items specifically listed on this report.

Uncertainty Statement:

The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor of 2.02 to give an expanded uncertainty, which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 1993 ISO Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application.

Traceability Statement:

Standards used for comparison are traceable to United States national standards at NIST and are part of a comprehensive measurement assurance program for ensuring continued accuracy and traceability reported by this laboratory. The laboratory test number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only. Traceability is maintained to the SI using the following conversion: 1 lb = 0.45359237 kg.

Supplemental Information

Description of artifacts submitted for testing:

Twelve-50 lb Class F Cast Iron Test Weights with and assumed density of 7.20 g/cm³.

Conditions of artifacts submitted for testing:

Artifacts bearing serial numbers 1 through 6 were in poor condition. Remaining artifacts were in good condition for the type and class.

Treatment of artifacts prior to testing:

Artifacts were clean upon arrival with no further treatment needed.

Equipment and Standards:

<u>Balance</u>	<u>Range</u>	<u>Standards Used</u>
Mettler XP5003	0 kg – 32.1 kg	WY WS

Procedure used:

Single Substitution Method (NISTIR 6969, SOP 7)


Environmental conditions are maintained within the following parameters:

<u>Temperature</u>	<u>Relative Humidity</u>
18 °C to 27 °C	40.0% to 60%

Date Artifacts Received: July 21, 2016

Date of test: July 22, 2016

Test performed by:



Date of Report Preparation: July 22, 2016

Robert Weidler
WDA State Metrologist

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United States Department of Commerce
National Institute of Standards and Technology

Certificate of Metrological Traceability For:

Wyoming

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 III
- 3000 lb to 0.001 lb
- 8 oz to 0.03125 oz
- Weight Carts
- 5000 lb to 2000 lb
- Volume Transfer, II
- 1000 gal to 5 gal
- 100 gal to 25 gal LPG



2016 to 2017

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

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