



SOUTHWEST RESEARCH INSTITUTE®

6220 Culebra Road, P.O. Drawer 28510
Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-4834



Calibration Laboratory
Certificate #0972-01

Certificate of Calibration

Cost Center: DIV20

Mail Stop: B51

Customer: DON BANNON

Manufacturer/Model: PAROSCIENTIFIC / 740-45A

Description: PRESSURE GAGE, DIGITAL

Serial Number: 60999

Asset Number: 003972

Procedure: PRESSURE, DIGITAL GAGES - 15 MAR 06

Work Order: 303087135

Date Issued: 13-Apr-2009

Date Calibrated: 13-Apr-2009

***Date Due :** 13-Oct-2009

****Results:** FOUND-LEFT

Temperature: 66°F

Humidity: 37 %

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NC SL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance. See Remarks or attached Measurement Report with the same Work Order number for data.

Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks: Accuracy +/-0.025% of Full Scale

Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
002856	RUSKA	2468-714-69900	WEIGHT SET, CLASS N/S	17-Jul-2008	17-Jul-2010
003048	RUSKA	2468-758	DEAD WEIGHT PISTON (2 - 50) psi	23-May-2007	23-May-2009
003220	HASTINGS	VT-6B	VACUUM GAUGE	30-Oct-2008	30-Oct-2009
003949	TROEMNER	5MG-100G	WEIGHT SET, CLASS 1	16-Apr-2008	16-Apr-2009
013203	HASTINGS	DV-6M	VACUUM GAUGE	14-Jan-2009	14-Jan-2010

Reviewed By: () srk () mar (x) wgh

Laboratory Quality Manager

m\A2LA OCT_08.rpt

Calibrated By: Perry Carpenter

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303087135	Mfr:	Paroscientific	Technician:	PWC
Asset No:	003972	Model:	740-45A	Type Data:	Found-left
Serial No:	60999	Type:	Pressure Indicator	Cal Date:	13-Apr-09

Remarks:

Function/Range	Test Point	TI Reading	Difference	+/- Limit	+/- Uncertainty	Result	% Limit
Pressure	psia	psia	psia	psia	psia		
	0.0011	-0.0008	-0.0019	0.0113	0.0023	Pass	17%
	4.5039	4.5004	-0.0035			Pass	31%
	9.0039	9.0024	-0.0015			Pass	13%
	13.5039	13.5036	-0.0003			Pass	3%
	18.0039	18.0043	0.0004			Pass	4%
	22.5039	22.5045	0.0006			Pass	5%
	27.0039	27.0044	0.0005			Pass	4%
	31.5039	31.5042	0.0003			Pass	3%
	36.0039	36.0042	0.0003			Pass	3%
	40.5039	40.5045	0.0006			Pass	5%
	45.0039	45.0055	0.0016			Pass	14%
	40.5039	40.5050	0.0011			Pass	10%
	36.0039	36.0042	0.0003			Pass	3%
	31.5039	31.5046	0.0007			Pass	6%
	27.0039	27.0047	0.0008			Pass	7%
	22.5039	22.5050	0.0011			Pass	10%
	18.0039	18.0049	0.0010			Pass	9%
	13.5039	13.5049	0.0010			Pass	9%
	9.0039	9.0044	0.0005			Pass	4%
	4.5039	4.5037	-0.0002			Pass	2%
	0.0011	-0.0011	-0.0022			Pass	19%

END OF REPORT