



SOUTHWEST RESEARCH INSTITUTE®

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

Certificate of Calibration

Cost Center / Customer: DIV20 / DON BANNON

Mail Stop: B57

Manufacturer/Model: LEICA / Disto D2

Description: LASER RANGE FINDER

Serial Number: 0691823620

Asset Number: 016425

Procedure: HANDHELD LASER DISTANCE METERS - 30 NOV 09

Work Order: 303091230

Date Issued: 30-Nov-2009

Date Calibrated: 30-Nov-2009

*** Date Due :** 30-Nov-2010

**** Results:** FOUND-LEFT

Temperature: 67.5 °F

Humidity: 39 %RH

Barometer: N/A

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 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. **Data type found in this certificate or attached measurement report must be interpreted as: Found-left - adjustment and/or repair was not performed, As-found - data is before unit is adjusted and/or repaired, As-left - data is after adjusted and/or repaired was performed. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance.

Measurement uncertainty calculated in accordance with the method described in the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM), for a confidence level of approximately 95 percent using a coverage factor of $k=2$.

Remarks: None

Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
006423	STARRETT	80710	GRANITE SURFACE PLATE	3-Apr-2009	3-Apr-2012
007705	STARRETT	SS8A1X	GAGE BLOCK WORKING SET	12-Feb-2009	12-Feb-2011
010920	TAFT-PEIRCE	9192G	ANGLE PLATE	21-May-2008	21-May-2010
012493	TAFT-PEIRCE	9192G	ANGLE PLATE	28-Oct-2009	28-Oct-2011

Walt Hill
Laboratory Manager

Thomas Wallace
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303091230	Mfr:	Leica	Technician:	tew
Asset No:	016425	Model:	DISTO D2	Type Data:	Found-left
Serial No:	0691823620	Type:	Laser Distance Meter	Cal Date:	30-Nov-09

Remarks: TI Range is 0.05 to 60 meters, typically ± 0.0015 meter with good target surface and room temperature up to 10 meters. In intense sunshine, poorly reflecting target surface or high temperature variations, ± 0.15 mm/meter above 10 meters.

Range/Function	Test Point	TI Reading	Difference	\pm Limit	\pm Uncertainty	Result	% Limit
Distance	meter	meter	meter	meter	meter		
	1.016	1.016	0.0000				
		1.017	0.0010				
		1.016	0.0000				
		1.017	0.0010				
		1.016	0.0000				
		1.016	0.0000				
		1.017	0.0010				
		1.017	0.0010				
		1.016	0.0000				
		1.016	0.0000				
	Average =	1.016	0.0004	0.00075	0.00058	Pass	53%
	$2\sigma =$	0.00103		0.0015	0.00058	Pass?	69%

END OF REPORT