SOUTHWEST RESEARCH INSTITUTE®

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Institute Quality Systems
Institute Calibration Laboratory
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ACCREDITED
Calibration Laboratory
Certificate #0972-01

Certificate of Calibration

Submitted By: DIV20
Address: B51
Contact: DON BANNON
Manufacturer / Model: OMEGA / Type K
Description: THERMOCOUPLE
Serial No: 11117
Asset No: 011117
Procedure: TEMPERATURE PROBES - 5 JUN 06

Work Order: 303083088
Date Issued: Aug 28, 2008
Calibration Date: Aug 28, 2008
***Calibration Due:** Feb 28, 2009
Calibration Location: Bldg. 64
Environment: Temp. 74.0°F Hum. 40 %RH
****Data Type:** FOUND-LEFT
DivID/Location: 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/NCSL 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 client 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: Cal'd at 900,1000,and1100 °C

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
010814	A44625	HART SCIENTIFIC	1529	THERMOCOUPLE THERMOMETER	Oct 16, 08
011449	11449	OMEGA	TJ36-CAXL-14U-2	THERMOCOUPLE	Feb 13, 09

Reviewed by: (√) srk ( ) mar ( ) wgh

Measurements by: Bob Trollinger
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303083088	Mfr:	Omega	Technician:	blt
Asset No:	011117	Model:	Type K		
Serial No:	11117	Type:	Thermocouple	Cal Date:	28-Aug-08
Remarks:					

Limits are based on ASTM E230-02

Function/Range	Test Point	TI Reading	Difference	+/-Limits	+/-Uncertainty	Found/Left
Temperature	°C	°C	°C	°C	°C	Result
	897.090	898.7	-1.570	6.7	0.79	Pass
	997.600	997.6	0.000	7.5	0.79	Pass
	1096.994	1096.2	0.794	8.2	0.79	Pass

END OF REPORT