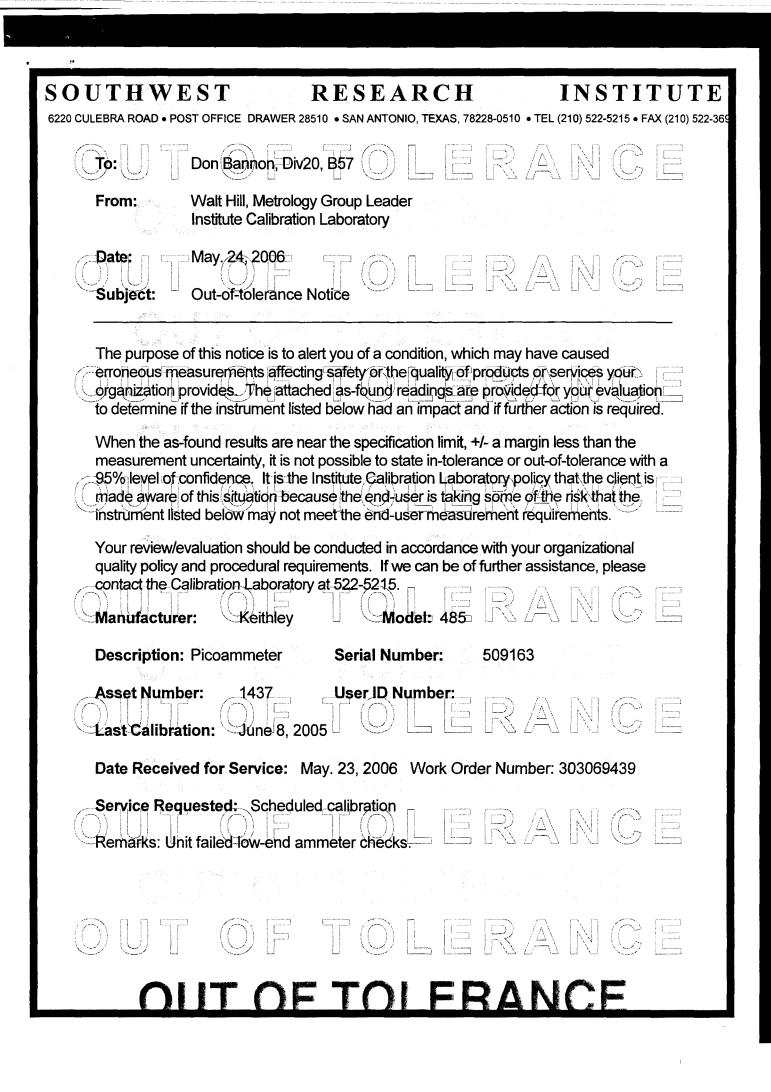
GEOSCIENCES AND ENGINEERING DIVISION NONCONFORMANCE REPORT

Project No20.OHD20.131	NCR No. 2006-13						
	63, AN001437) was found to be out of tolerance per SwRI erence was greater than \pm 0.077 at 19 nA and greater than						
Initiated by: Don Bannon	Date: <u>25 May 2006</u>						
Action Required by: <u>Xihua He</u>	Response Due Date: <u>09 JUNE 2006</u>						
PART 2: PROPOSED DISPOSITION AND CORRECTIV							
Disposition: No measurements were affected by this ou	t of tolerance condition.						
Basis of Disposition: The picoammeter was found to be out of tolerance in nano-Amp range. At 19 nA and 1.9 nA the picoammeter had measurement errors of -0.126 nA and -0.0108 nA, respectively. The picoammeter was not used to collect data for Geosciences and Engineering Division projects since the last calibration.							
	Action to Correct Nonconformance: Picoammeter was adjusted to within tolerance by SwRI Calibration Lab. Instrument is placed into service. If the instrument is not used and continues fail calibration, it will be removed from the system.						
Proposed by: Xihua He Target	date for completion: <u>09 JUNE 2006</u> Date: <u>6 / I / o 6</u>						
PART 3: APPROVAL Manager: Director of QA: Comments/Instructions:	Date: <u> </u>						
PART 4: CLOSE OUT Comments:	Distribution: Original–CENTER QA Records ORIGINATOR PRINCIPAL INVESTIGATOR メーHe						
Comments: no additional verification is neded	MANAGER V.JAIN ASSISTANT DIRECTOR S. MOKANA						
Verified by: A Suit Date: 6/1/26							

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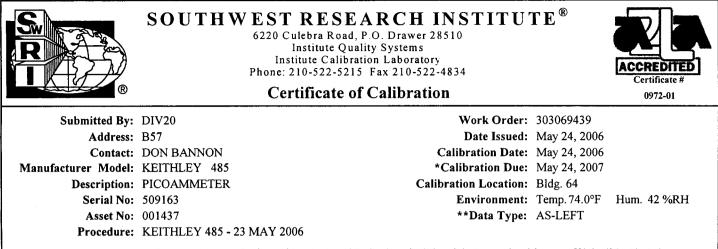


Southwest Research Institute Calibration Laboratory Measurement Report

Work Order: Asset No:	303069439 001437	Mfr: Model:	Keithley 485		Technician:	PRD
Serial No:	509163	Туре:	Picoammeter		Cal Date:	24-May-06
Remarks:						
Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found
DC Current	mAmp	mAmp	mAmp	mAmp	mAmp	Result
20 0000	1.9000	1.9002	0.0002	0.0020	0.00012	Pass
	uAmp	uAmp	uAmp	uAmp	uAmp	
	190.00	190.04	0.04	0.20	0.013	Pass
	19.000	19.003	0.003	0.020	0.0013	Pass
	1.9000	1.9005	0.0005	0.0030	0.00013	Pass
	nAmp	nAmp	nAmp	nAmp	nAmp	
	190.00	190.07	0.07	0.39	0.012	Pass
	19.000	18.874	-0.126	0.077	0.0018	Fail
	1.9000	1.8892 END (-0.0108 OF REPORT	0.0080	0.0014	Fail

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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, 1999, 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: None

Standards Used

Ā	Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
0	00101	86052	BIDDLE	72-5346-1	DECADE RESISTOR	Jan 05, 07
0	00182	5200003	FLUKE	5700A/EP	CALIBRATOR	Jun 15, 06

Reviewed by: blt () jr (pwc (Metrology Technicia m:\a2la1.rpt Rev date ugust 15, 2005

Measurements by: Paul/Depmore Metrology Technician/ Page 1 of 1

Southwest Research Institute Calibration Laboratory Measurement Report

Work Order:	303069439	Mfr:	Keithley		Technician:	PRD
Asset No:	001437	Model:	485			
Serial No:	509163	Туре:	Picoammeter		Cal Date:	24-May-06
Remarks:						
				<u> </u>		·
Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Left
DC Current	mAmp	mAmp	mAmp	mAmp	mAmp	Result
	1.9000	1.9002	0.0002	0.0020	0.00012	Pass
	uAmp	uAmp	uAmp	uAmp	uAmp	
	190.00	190.04	0.04	0.20	0.013	Pass
	19.000	19.003	0.003	0.020	0.0013	Pass
	1.9000	1.9005	0.0005	0.0030	0.00013	Pass
	nAmp	nAmp	nAmp	nAmp	nAmp	
	190.00	190.07	0.07	0.39	0.012	Pass
	19.000	19.000	0.000	0.077	0.0018	Pass
	1.9000	1.9009 END (0.0009 DF REPORT	0.0080	0.0014	Pass

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