GEOVision
geophysical services

SEISMOGRAPH CALIBRATION DATA SHEET REV 4/6/06

INSTRUMENT DATA

SYSTEM MFR: OYO		MODEL NO.:	3403
SERIAL NO.:	160024	CALIBRATION DATE:	01/25/2008
BY:	ROBERT STELLER	DUE DATE:	01/25/2009
COUNTER MFR: HEWLETT PACKARD		MODEL NO.:	5335A
SERIAL NO.:	2626A09881	CALIBRATION DATE:	12/28/2007
BY:	SCE #S1-01252	DUE DATE:	6/28/2008
FCTN GEN MFR: HEWLETT PACKARD		MODEL NO.:	3325A
SERIAL NO.:	2652A25647	CALIBRATION DATE:	10/9/2007
BY:	SCE #S1-01347	DUE DATE:	4/9/2008

SYSTEM SETTINGS:

GAIN:	10
FILTER:	20 KHZ
RANGE:	100 MILLISEC
DELAY:	0
STACK: 1 (STD)	1
PULSE:	1.6
DISPLAY:	NA
SYSTEM: DATE = CORRECT DATE & TIME	01/25/2008, 12:20PM

PROCEDURE:

SET FREQUENCY TO 100.0HZ SQUAREWAVE WITH AMPLITUDE APPROXIMATELY 0.25 VOLT PEAK. RECORD BOTH ON DISK AND PAPER TAPE, IF AVAILABLE. ANALYZE AND PRINT WAVEFORMS FROM ANALYSIS UTILITY. ATTACH PAPER COPIES OF PRINTOUT AND PAPER TAPES, IF AVAILABLE, TO THIS FORM. AVERAGE FREQUENCY MUST BE BETWEEN 99.0 AND 101.0 HZ.

AS FOUND 100.0 AS LEFT 100.0

WAVEFORM	FILE NO	FREQUENCY	TIME FOR 9 CYCLES Hn	TIME FOR 9 CYCLES Hr	TIME FOR 9 CYCLES V	AVERAGE FREQ.
SQUARE	401	100.0	90.0	90.0	90.0	100.0
SQUARE	402	100.0	90.0	90.0	90.0	100.0
SINE	403	100.0	90.0	90.0	90.0	100.0
SINE	404	100.0	90.1	90.0	90.0	100.0

CALIBRATED BY: ROBERT STELLER 1/25/2008 Robt Steller
NAME DATE SIGNATURE

Page 2 of 2

Seismic recorder/Logger Calibration Data Sheet Rev 1.30 4-6-06

EDISON ESI
A SOUTHERN CALIFORNIA EDISON Company
Metrology
7300 Fenwick Lane
Westminster, CA 92683
Phone: 866-723-2257

Calibration Report

NVLAP Accredited
Calibration

GEOVision Geophysical Services
1151 Pomona Road, Unit P
Corona, CA 92882

TEST NUMBER
550389

NVLAP
Lab Code:105014-0

Manufacturer:	Geometrics	**Condition As Found:**	In Tolerance
Model Number:	GEODE	**Condition As Left:**	In Tolerance
Description:	Siesmograph,	**Calibration Date:**	01/25/2008
Asset Number:	3458	**Calibration Due Date:**	01/25/2009
Serial Number:	3458	**Calibration Interval:**	12 Months
PO Number:	8200-080122-01		

Remarks:

The UUT (unit under test) was calibrated using the customer's procedure. The UUT was operated by the customer's personnel and data collection was observed by SCE personnel. The UUT was found to be in tolerance to customer supplied specifications. The reference standards used are in compliance with ISO/IEC 17025:1999 and laboratory accreditation criteria established by NIST/NVLAP under the specific scope of accreditation for lab code 105014-0. Frequency is accredited. Measurement uncertainity is 0.2 x E-12 Hz. Please see attached data.

Standards Utilized

I.D. No.	Mfg.	Model No.	Description	Cal. Date	Due Date
S1-01252	Hewlett Packard	5335A OPT 010,203040	Counter, Universal,	12/28/2007	06/28/2008
S1-01347	Hewlett Packard	3325A	Generator, Function, Synthesizer	10/09/2007	04/09/2008
S1-03686	Fluke	910	Standard, Frequency, Controlled, Gps	01/22/2008	01/22/2009

Procedure: Customer
Temperature: 23° C
Humidity: 37% RH
Test No.: 550389

Calibration Performed By:			Quality Reviewer:	
Branson, Craig A	Metrologist	714-895-0714		
Name	Title	Phone	Name	Date

GEOVision geophysical services

SEISMOGRAPH CALIBRATION DATA SHEET REV 4/6/06

INSTRUMENT DATA

SYSTEM MFR:	GEOMETRICS	MODEL NO.:	GEODE
SERIAL NO.:	3458	CALIBRATION DATE:	01/25/2008
BY:	ROBERT STELLER	DUE DATE:	01/25/2009
COUNTER MFR:	HEWLETT PACKARD	MODEL NO.:	5335A
SERIAL NO.:	2626A09881	CALIBRATION DATE:	12/28/2007
BY:	SCE #S1-01252	DUE DATE:	6/28/2008
FCTN GEN MFR:	HEWLETT PACKARD	MODEL NO.:	3325A
SERIAL NO.:	2652A25647	CALIBRATION DATE:	10/9/2007
BY:	SCE #S1-01347	DUE DATE:	4/9/2008

SYSTEM SETTINGS:

GAIN:	24 Db
FILTER:	NONE
RANGE:	SAMPLE = 62.5 MICROSEC, RECORD = 0.1 SEC
DELAY:	0
STACK: 1 (STD)	1
PULSE:	NA
DISPLAY:	NA
SYSTEM: DATE = CORRECT DATE & TIME	01/25/2008, 1:10PM

PROCEDURE:

SET FREQUENCY TO 100.0HZ SQUAREWAVE WITH AMPLITUDE APPROXIMATELY 0.25 VOLT PEAK. RECORD BOTH ON DISK AND PAPER TAPE, IF AVAILABLE. ANALYZE AND PRINT WAVEFORMS FROM ANALYSIS UTILITY. ATTACH PAPER COPIES OF PRINTOUT AND PAPER TAPES, IF AVAILABLE, TO THIS FORM. AVERAGE FREQUENCY MUST BE BETWEEN 99.0 AND 101.0 HZ.

AS FOUND 100 AS LEFT 100

WAVEFORM	FILE NO	FREQUENCY	TIME FOR 9 CYCLES Hn	TIME FOR 9 CYCLES Hr	TIME FOR 9 CYCLES V	AVERAGE FREQ.
SQUARE	601	100.0	90	90	90	100
SQUARE	602	100.0	90	90	90	100
SINE	603	100.0	90	90	90	100
SINE	604	100.0	90	90	90	100

CALIBRATED BY: ROBERT STELLER 1/25/2008 Rob Steller

NAME DATE SIGNATURE

Page 2 of 2

Seismic recorder/Logger Calibration Data Sheet Rev 1.30 4-6-06

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Southern California Edison Company
7300 Fenwick Lane
Westminster, CA 92683
Ms. Jennifer E. Smith
Phone: 714-895-0133 Fax: 714-895-0781
E-mail: Jennifer.Smith@sce.com
URL: http://www.edisonmetrology.com

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

NVLAP Code:		
20/A01	ANSI/NCSL Z540-1-1994; Part 1	Compliant

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks

Nominal Length in in	*Best Uncertainty (±) in µin* [note 1]
0.01 to < 0.05	1.9
0.05 to < 0.1	1.7
0.1 to < 1.0	1.2
1.0	1.4
2.0	1.8
3.0	2.2
4.0	2.9
5.0	5.4
6.0	5.6
7.0	5.8
8.0	6.0
10.0	6.8
12.0	7.2
16.0	8.1
20.0	9.4

2007-04-01 through 2008-03-31
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP® **National Voluntary Laboratory Accreditation Program**

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

Nominal Length in mm	*Best Uncertainty (±) in nm note 1*
0.5 to < 1.0	52
1.0 to < 2.5	44
2.5 to < 25.0	39
25.0	44
50.0	47
75.0	60
100.0	80

NVLAP Code: 20/D11
Spherical Diameter; Ring Gages

Range in inches	*Best Uncertainty (±) in µin note 1*	*Remarks*
0.040 to 0.825	10	Comparison to gage blocks
> 0.825 to 1.510	8	Comparison to gage blocks
> 1.510 to 2.510	9	Comparison to gage blocks
> 2.510 to 4.510	14	Comparison to gage blocks
> 4.510 to 6.510	21	Comparison to gage blocks
> 6.510 to 9.010	29	Comparison to gage blocks
> 9.010 to 12.010	40	Comparison to gage blocks
> 12.010 to 13.25	44	Comparison to gage blocks

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E02
AC Current

	Best Uncertainty (±) in ppm note 1 Frequency in Hz			
Range	*10*	*20*	*40*	*400 to 10 k*
10 mA	278	209	142	132
20 mA	278	209	142	132
30 mA	278	209	142	132
50 mA	300	202	124	109
100 mA	278	209	142	132

2007-04-01 through 2008-03-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology