Biax Experiment *(rev. 27 March 2009)*

Exp. Name: q239454ar002038002 Date: 04/09/09
Operator: Hopath carpenter johnson

Sample Block Thickness w/ no gouge:
__New Small (5.0x5.0), xxxx mm
X Old Large (10x10), 89.4mm lapECB 113.78mm
__New Large (10x10 Grooved), 68.8mm
__New Large (10x10 Smooth), 64.68 mm
__Large Titanium (15x15 Grooved), xx.xmm
__Vessel (5x5 Grooved) Frits used: _____

Vertical Servo:
__Old: Air Actuated 504
X New: Electrically Actuated 760

Block + frits: _____ mm

For Current Calibrations see: ~barre/data/calibrations/CalibrationsFile.txt

Vertical Load Cell:
X 62mm hollow (17.82 mV/kN)
__44mm solid red-white wire (11.02mV/kN)
__44mm hollow (113.4mV/kN)

Horizontal Load Cell:
X 62mm hollow (**Low Gain**:18.08 mV/kN; **High Gain**: 173.877mV/kN)
__44mm solid orange wire (**Low Gain**: 11.46 mV/kN; **High Gain**:110.212 mV/kN)
__44mm hollow (**Low Gain**: 130.3mV/kN; **High Gain**: 1.2531V/kN))

Example conversion to stress (e.g., 62 mm Horizontal Cell, Low Gain, 5cm x 5cm sample)
(18.08mV/kN)(1000kN/MN)*(1V/1000mV) = 18.08V/MN; 0.05531MN/V)/(2.5e-3m^2) = 22.124 MPa/V or 0.0452 V/MPa*

Layer Thickness (total on bench): _____ Under Load:_____ @sample____
Material (Qtz, Granite, ?): glass beads
Particle Size, Size Distribution: 105-149 μm

Vert. Load Initial Voltage -4.443
DPM readouts (kN)
Vertical @ Zero Load: 31
Horizontal @ Zero Load: 29

Horz. Load Initial Voltage -48012
Normal Stress(es):_____(MPa)
Voltage(s) at load: _____
Gain: (High)/Low 1.73877 V/MPa

Vessel Pressure:
(0.1460 V/MPa) *Pore Pressure A:* _____ *Initial Voltage:*_____ *Voltage at load:* _____
High gain: 1.4959 V/MPa Gain: High/Low
(0.1435 V/MPa) *Pore Pressure B:* _____ *Initial Voltage:*_____*Voltage at load:* _____
High gain: 1.4574 V/MPa Gain: High/Low
(0.1471 V/MPa) *Confining Pressure:* _____ *Initial Voltage:*_____*Voltage at load:* _____

Data Logger Used: 8chan
Volt Range Used: 10V
Servo Gain Adjusted: _____
Velocity Steps: ✓
DCDT Offsets _____
Sliding Velocity: 10→5
Vert. Disp Gain: High/(Low) Transtek Long 2"

Temperature (°C): 25.5 Relative Humidity (%): 19.6

Comments:

LT_I: 4mm

DAC Run in 5mm @ 10um/s 2 4 8min 20s

5um/s 1 4

ACC Gain
31.6

Mass

LAYER I

418.34g − 348.44g = 69.90g

LAYER II

348.44g − 279.73g = 68.71g

Techron 7520 Amp

Rec	OW
126	2
13844	3
20924	4
27544	5
34694	6
41404	7
47814	8
54174	7
60774	6
67124	5
73834	4
78684	3
82194	2

61 Horiz to load

126 OW to 2 → -1.32366

1041 Vert Bump

1131 Vert offset

1209 LT = 122.06 (1140 cal/gage)

1602 DAC Run in @ 10. mils 2 4

6624 End

6634 Vert offset

6944 5 cm/s 1 4

Pulse

TARGET	OW	Rec #	Voltage
-1.32366	2	9964	4.2
0.41511	3	17514	
2.15388	4	24264	
3.89265	5	30694	
V = -.35723 Horiz Load offset			
1.73877 → Δ V	-1.8333	6	37774
3.47754 →	-0.09476	7	44514
5.21631 →	1.64401	8	50814
	-0.09476	7	57454
Stop, Lock + Vert offset →	-1.8333	6	63674
Horiz Load offset	3.89265	5	70694
	2.15388	4	76774
85774 Voffset	0.41511	3	80404
86224 Horiz Voffset	1.36366	2	84034
86444 Run it again		2	87514

66484 End

67264 Vert offset

67554 5 cm/s

85774 Voffset

86224 Horiz Voffset

86444 Run it again

88624 End

88734 Vert offset

88974 Vert to 0

89184 Horiz to load

89421 Horiz to 0