

Biax Experiment

For current calibrations – [gps/group/cjm38/default/Calibrations/](#)
Revised: 30 Nov. 2021

Exp. Name: p5607WGSawcut600NSosc
Operator(s): Wood
Temperature (°C):
Relative Humidity (%):

Date/Time: 04/01/2022
Hydraulics start: 4864.4
Hydraulics end: 4896.1
Data Logger/Control File: 16-chan

Purpose/Description: DAET oscillate NS. Effect of roughness on nonlinear elasticity of dynamically-stressed rock.
Sample Block Used and Thickness with **no** Sample: SDS Vessel 5x5 cm

Material: Westerly Granite. Sawcut. 600 grit Benchtop Sample Thickness (mm): 32.5
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Load Cells:

Contact Area: 0.0022231311 m²

Load cell name	Calibrations (mV/kN)	Target stress (MPa)	Init. Voltage	Volt. @ load
44mm Solid Horiz	129.984 (V/MPa): 0.289	4, 9.25, 11, 13, 15, 18	-0.986	0.16989, 1.68699, 2.19269, 2.77063, 3.34857, 4.21549
44mm Solid Vert	120.364 (V/MPa): 0.2676	0	3.704	3.704

Vessel Pressures:

Pore Fluid:DI H2O

Calibrations (V/MPa)	Pressures (MPa)	Init. Voltage	Volt. @ load
<i>Pc</i> : 0.1456	2, 8.25, 10.5, 12, 13.5, 12	-0.2463	0.0449, 0.9549, 1.2825, 1.5009, 1.7193, 1.5009
<i>PpA</i> : 1.5177	2.6, 1.4	-0.1315	3.81452, 1.99328
<i>PpA</i> : 1.483	2.6	-0.595	3.2608

Displacement Transducers

Name	Gain (mm/V)
Horiz. Load-point	0.658
Vert. Load-point	3.51
Horiz. On-Board	0.416

Horizontal Servo Settings		Chilled water at HPS	Chiller Unit	Proc. water @ Chiller
P: 900	D _{atten} : 10	1. Temp In (°F): 58	6. Panel Temp (°F): 66	10. Temp In (°F): 80
I: 80	Feedback: 512	2. Pres. In (psi): 6	7. Panel Pres. (psi): 46	11. Pres. In (psi): 2
D: 10	E-gain: 800	3. Temp Out (°F): 76	8. Near Pres. In (psi): 2	12. Temp Out (°F): 48
Vertical Servo Settings		4. Pres. Out (psi): 2	9. Near Pres. Out (psi): 5	13. Pres. Out (psi): 5
P: –	D _{atten} –	5. Flow (lpm): 15		
I: –	Feedback: –	Hyd. Power Supply (HPS)		
D: –	E-gain: –	14. Tank Temp (°C): 49	15. Temp. Out (°C): 15	16. Pres. Out (psi): 2700

Experiment Notes

4000 Int. DCDT Offset (We are looking for an area where the core will not be sticking)

5400 Int. DCDT Offset (we once again are looking for an area where the core will not be locked) Near 6V had the best response.

77000 begin saturation

139000 NS to 9.25 MPa, Pc to 8.25 MPa.

143000 PpB to 2.6. PpA to 2.6, 1.4 MPa.

146000 practice NS oscillation. 0.2, 1 MPa.

149700 begin flow-through, 10 Hz

155700 run1, run2

2795000 NS to 11 MPa, Pc to 10.5 MPa

2795500 run3, run4

5480500 NS to 13 MPa, Pc to 12 MPa.

5480830 run5, run6

8135900 NS to 15 MPa, Pc to 13.5 MPa.

8136300 run7, run8

10788380 NS to 18 MPa, Pc to 12 MPa.

10788800 run9, run10

13443800 Pc to 13.5 MPa, Ns to 15 MPa

13444000 run11

14069100 Pc to 12 MPa, NS to 13 MPa

14069300 run12

14684500 Pc to 10.5 MPa, NS to 11 MPa

14684600 run13

15008600 VSX computer crashed, restarted.

15009070 run14. same stresses as run13. restart osc protocol

15624100 Pc to 8.25, NS to 9.25 MPa

15624300 run15

15775000 random Horiz. lock.

16219350 PpB, PpA Pc, NS to 0. end experiment