Biax Experiment

For current calibrations – `gpfs/group/cjm38/default/Calibrations/`

Revised: 30 Nov. 2021

Exp. Name: p5728
Operator(s): Wood, Roth
Temperature (°C):
Relative Humidity (%):

Date/Time: 12/05/2022
Hydraulics start: 5314.6
Hydraulics end: 5320.9
Data Logger/Control File: 16-chan

Purpose/Description: Measure changes in perm in response to NS/PP oscillations of sawcut sample roughened with 120/80 grit. Use PpA upstream.
Sample Block Used and Thickness with **no** Sample: SDS Vessel 5x5 cm

Material: Westerly Granite
Benchtop Sample Thickness (mm): 32.5

Load Cells: Contact Area: 0.0022231311 m^2

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, 18	0.038	1.19389, 2.71099, 5.23949
44mm Solid Vert	120.364 (V/MPa): 0.2676	0	0	0.

Vessel Pressures: Pore Fluid:H2O

Calibrations (V/MPa)	**Pressures (MPa)**	**Init. Voltage**	**Volt. @ load**
Pc: 0.1456	2, 8.25, 12	0.027	0.3182, 1.2282, 1.7742
PpA: 1.5177	2.6, 1.4	0.112	4.05802, 2.23678
PpB: 1.483	2.6, 1.4	-0.096	3.7598, 1.9802

Displacement Transducers

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

Horizontal Servo Settings	
P:	D_{atten}:
I:	Feedback:
D:	E-gain:
Vertical Servo Settings	
P:	D_{atten}
I:	Feedback:
D:	E-gain:

Chilled water at HPS	*Chiller Unit*	*Proc. water @ Chiller*
1. Temp In (°F):	6. Panel Temp (°F):	10. Temp In (°F):
2. Pres. In (psi):	7. Panel Pres. (psi):	11. Pres. In (psi):
3. Temp Out (°F):	8. Near Pres. In (psi):	12. Temp Out (°F):
4. Pres. Out (psi):	9. Near Pres. Out (psi):	13. Pres. Out (psi):
5. Flow (lpm):		
Hyd. Power Supply (HPS)		
14. Tank Temp (°C):	15. Temp. Out (°C):	16. Pres. Out (psi):

Experiment Notes

300 NS to 10 kN

2430 Pc to 2 MPa

4370 saturate, PpA to 1 MPa

10000 NS to 9.25 MPa, 8.25 MPa

11700 PpA to 2.6 MPa, PpB to 1.4 MPa

24500 PpA oscillation. [0.1, 1, 10] Hz, 1MPa. Repeat osc. set.

109530 PpB to 2.6, PpA to 1.4

110000 PpB oscillation. [0.1, 1, 10] Hz, 1MPa. Repeat oscillation set. PpB PID settings not great – tried to tune during run, not much improvement.

216000 remove PpA/B

219600 Pc to 0, NS to 10 kN