Biax Experiment

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

Revised: 30 Nov. 2021

Exp. Name: p5641WGSawtoothPerm
Operator(s): Wood, Borate, Ke
Temperature (°C): 22.4
Relative Humidity (%): 12

Date/Time: 14/02/2022
Hydraulics start: 5015.4
Hydraulics end: 5017.4
Data Logger/Control File: 16-chan

Purpose/Description: Measure permeability of L-block of Westerly Granite with machined roughness. 1mm wavelength, 0.5mm amp, 0.05mm 'random' roughness (laser). Load up to 10 kN, check acoustics, then flow-through test.
Sample Block Used and Thickness with **no** Sample: SDS Vessel 5x5 cm

Material: Westerly Granite. Sawtooth profile.

Load Cells: Contact Area: 0.0022231311 m^2

Load cell name	Calibrations (mV/kN)	Target stress (MPa)	Init. Voltage	Volt. @ load
44mm Solid Horiz	129.954 (V/MPa): 0.2889	9.25	-1.0236	1.64877
44mm Solid Vert	120.364 (V/MPa): 0.2676	0	0	0.

Vessel Pressures: Pore Fluid:DI H2O

Calibrations (V/MPa)	Pressures (MPa)	Init. Voltage	Volt. @ load
Pc: 0.1456	8.25	-0.2202	0.981
PpA: 1.5177	2.6, 2.4, 2, 1.4	-0.134	3.81202, 3.50848, 2.9014 , 1.99078
PpB: 1.483	2.6	-0.576	3.2798

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: 850	D_{atten}: 10
I: 80	Feedback: 512
D: 10	E-gain: 800
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

225 go to 10 kN, hold and check acoustics

1610 fill PpA, PpB

1750 NS to 9.25 MPa

1950 DCDT offset

3250 Pc to 8.25 MPa

3560 PpB to 1 MPa

4434 PpA to 2.4 MPa – seems very permeable

5974 PpA to $\approx$ 2.0 MPa

7600 PpA to 1.4 MPa

8200 PpB, PpA to 0 MPa

9550 Remove Pc, NS