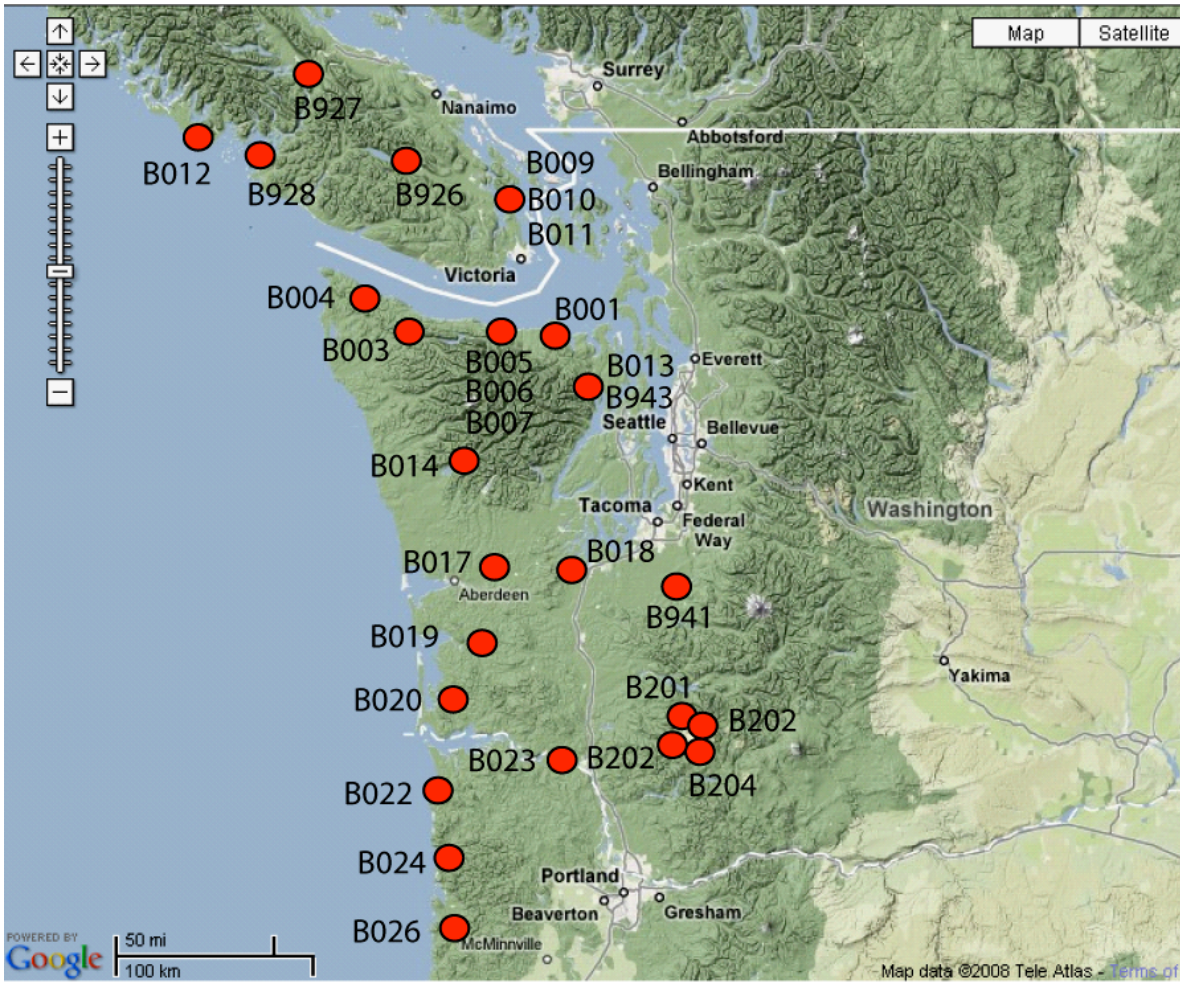
Station Notes for B011, Pacific Geoscience Centre 3, pacgeosi3bbc2005

Latitude:	48.650 (WGS 84)
Longitude:	-123.448 (WGS 84)
Elevation:	20 m / 66 ft
Install Depth:[1]	225.3 m / 739 ft
Orientations:[2]	Unknown
Install Date:	13 September 2005
GTSM Technologies #:	US06
Executive Process Software:	Version 1.14
Logger Software:	Version 2.02.2
Home Page:	http://pboweb.unavco.org/stations/?checkkey=B011
Notes Last Updated:	March 7, 2017

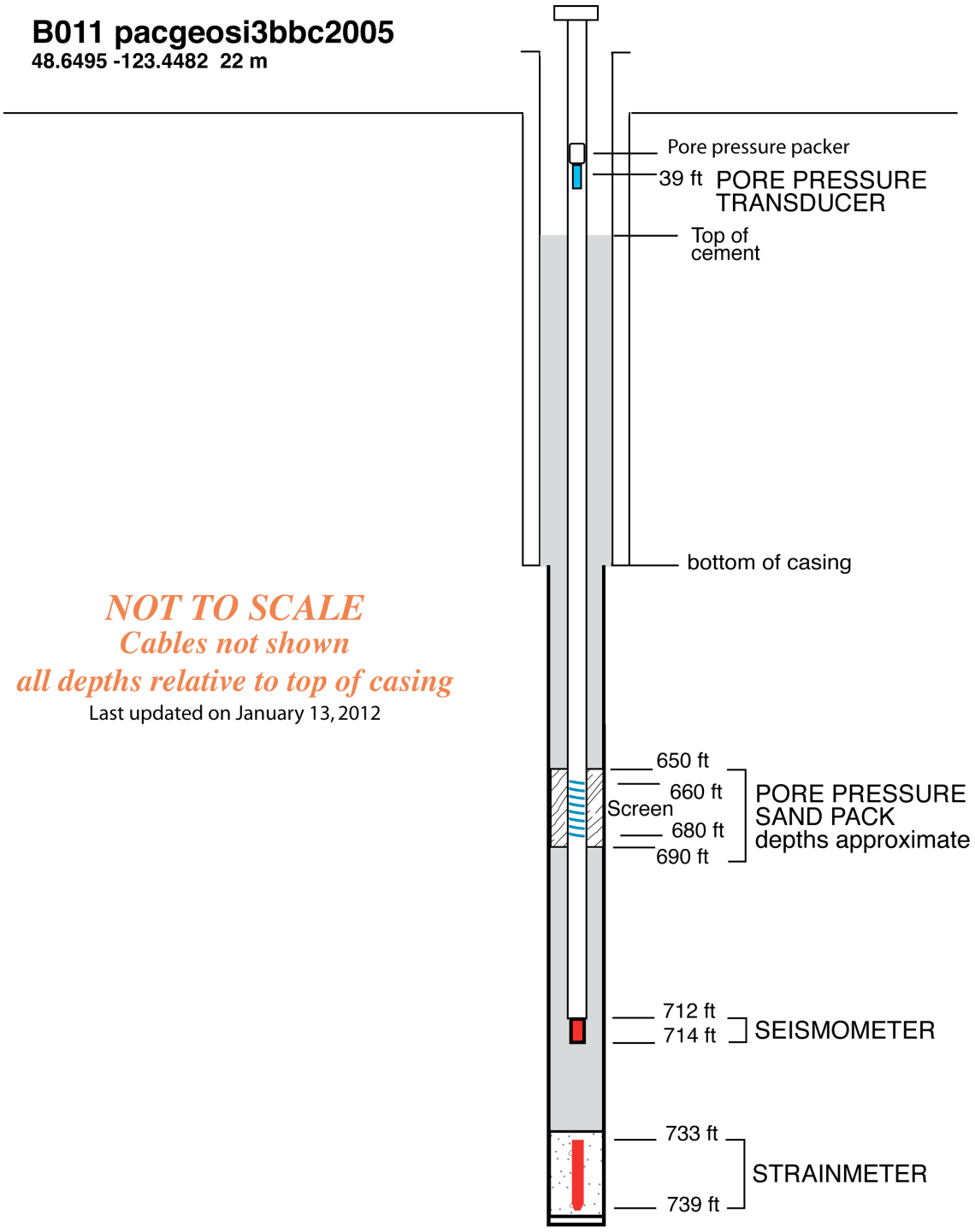
[1]Install depth is from the top of the casing to the bottom of the strainmeter.
[2]Orientations are in degrees East of North.



Pacific Northwest PBO strainmeter network, April 23, 2008

B011 pacgeosi3bbc2005

48.6495 -123.4482 22 m



NOT TO SCALE

Cables not shown

all depths relative to top of casing

Last updated on January 13, 2012

Instrumentation at Strainmeter

Instrument	Units	Bottle/ASCII Scale Factor	SEED Scale Factor
Pore Pressure	Hecto Pascals	1.0	N/A
GTSM Barometer	Kilopascals	1.0	0.0001
Rain Gauge	Millimeters/hour	N/A	N/A
Down hole Temperature Sensor	Degrees Celsius	1.0	0.0001
Logger Temperature Sensor	Degrees Celsius	1.0	0.0001
Setra Barometer	Hecto Pascals	N/A	N/A

1. General Information

- The pore pressure sensor is installed at 39 feet with the packer inflated directly above the sensor.

- October 4, 2005 - Automatic data download begins

- January 30, 2006 - First set of processed data released January 27 2006. Orientation of strainmeter is unknown, therefore, shear strain are not calculated. When an orientation is available the shear strains will be calculated for the entire data set.

- August 10 , 2006 - Tidal analysis shows that the phase and amplitude of the M2 and O1 tides are varying with time in data collected on CH2. For this reason no tidal correction is computed for CH2 in xml files writtenn after the 1 August 2006.

PERIOD	M2 Phase	M2 Amplitude (nanostrain)
2005 10 5 19.0 - 2005 12 4 18.0	5.048 (0.500)	43.846 (0.382)
2005 12 4 19.0 - 2006 2 2 18.0	-9.920 (0.541)	37.213 (0.351)
2006 2 2 19.0 - 2006 4 3 18.0	-21.424 (0.313)	34.215 (0.187)
2006 4 3 19.0 - 2006 6 2 18.0	-28.655 (0.142)	33.937 (0.084)

- November 9, 2006 - Record amounts of rain fell on the Olympic Peninsula between the 1st and 9th November 2006.

- Logger restarted on Oct 27, June 1, Aug 17-18, 2005

- Logger shut down on January 6, 2007 at 8:41:06 UTC, and restarted on January 17, 2007 at 15:45:39 UTC. The Environmental door was never opened.

- Sensitivities of all EH channels corrected on March 4, 2010.

- Roadwork near B011 to widen the road by about 3m and add a bike path occurred between the end of October 2012 and the beginning of January 2013. In preparation for the new 3 meters of pavement on the B011 side of the road, there were efforts related to soil excavation and subsequent filling with roadbed material. Given the proximity to B011, it might not be surprising to see some unusual signals on the gauges.

2. Strainmeter Maintenance

- Engineers on site September 24-30, 2005

- December 13-14, 2005 - Mick Gladwin visits B011. Upgrades diode protection. Resets downhole temperature.

- August 10, 2006 - Mike Hasting visited B011. Performed RT and GPS upgrades.

- January 27, 2007 at 18:29 UTC the environmental door was opened for 8 seconds. GFI outlet was replaced.

- May 16, 2007 – Wade Johnson visited the site. NetRS's power cable was not properly hooked up to the back panel, which caused the power to be intermittent and prevented the NetRS from fully booting up. He hooked the cable back up and the NetRS came online with out any problems.

- September 24, 2007 – Steve Smith visited the site.
  10:48 - Doors open at B011.
  10:49 - Take pictures.
  10:54 - Desiccant white again.
  10:57 - Data backup begun using 1GB Sandisk keychain.
  Voltages:
  GTSM Batts @ 13.98

Lab PS @ 15.98 V
Lab PS @ 1.84A
11:05 - Data backup complete.
Copied data to mac.
11:13 - Flexcharge is cycling quickly.
Cycle is 2A steadily down to 0.8A, then OFF, then back to 2A.
Once cycle takes about 5 seconds, cycles are intermittent.
Network side is 13.54V.
11:15 - Doors closed at B011

- September 25, 2007 – Steve Smith continued his work at the site.
10:40 - Onsite at B011.
10:45 - NetRS unplugged.
10:46 - Status report generated for B010.
10:48 - Doors closed at B011.

- February 13, 2009 Mike Gottlieb visited the site from 10:00-10:30 local time to replace the fiber optic modems and adjusted the quadrature.

- May 29, 2009. Pumping started at Pendray Farms. The wells are about 1 km from the strainmeters.

- July 20, 2009. Mike Gottlieb installed blue marmot and moved pore pressure to serial port on Q330.

- September 9, 2010 - Put out broadband seismometer at 358 deg magnetic for seismic orientation.

- September 11, 2010 - Took out broadband seismometer. Ran birddog to calibrate geophone. Set quadrature on RT0 RT1 RT2.

- December 29, 2011 – Brian Schoeffield power cycled the master radio this afternoon, which has restored coms to the station.

- June 7, 2012 – Brian Schoeffield at PGC rebooted the master radio PGC3, and coms were restored.

- July 11, 2012 – The hut was upgraded and a Belkin electronics rack was installed. The quads and chop were set. 5 year old batteries were replaced with 8 new batteries (2 gtsm, 2x3 mains), and 4 gauge jumpers were installed.

- July 16, 2012 – There was a lightning storm on Vancouver Island on July 14, 2012 that has affected B009 B010 and B011. Lisa from PGC went and rebooted the equipment, but there are still a number of problems that will require attention. After the reboot 3 channels were ok, and RT1 was still flatlined. Mike Gottlieb plans on going up there in early August with spare uphole electronics to see what he can do.

- August 21, 2012 – RT1 and RT3 failed, boards were replaced. RT0, RT2, and RT3 appear ok. RT1 is flatlined at 50000xx. All tests implied a failed downhole sensor for that channel. Tap-step is 0.00 for RT1

- October 29, 2015 – Adjusted chops and quads.

- September 20, 2016 – Completed down hole test procedure on GTSM. Adjusted chops and quads. CH3 rebooted in G0, could not fix with quadrature adjustment. tried a new RT board, which didn't help. Left the original board in place. Rebooted marmot, still unresponsive, need to replace marmot

- November 21,2016 – Mike Gottlieb visited site with Mick Gladwin to look at CH1 and CH3. CH3 has been noisy and stuck at G1 since September. CH1 was damaged by a lightning strike in 2012. CH3 was fixed after some restarts and reseating the instrument cable. CH1 was determined to be irreparable and was left turned off. This determination was made as follows: Data from CH1 was totally flat at 5000000x, fluctuating only in the 8th place. Checked Amp I/P. With shorted input, zero voltage as expected. With instrument input: G2 - 100 mV, G3 1900 mV, totally stable signal. Quadrature resistor adjustments had no effect. Quadrature is dominating the signal. Tried to manually set RT using Amp o/p, could not balance, but got closest at 99999, which is the limit of RT. Totally unreasonable result for a geophysical signal. With dummy load attached, channel electronics worked as expected. Tap steps on all four gains on dummy CH1 were ~360.