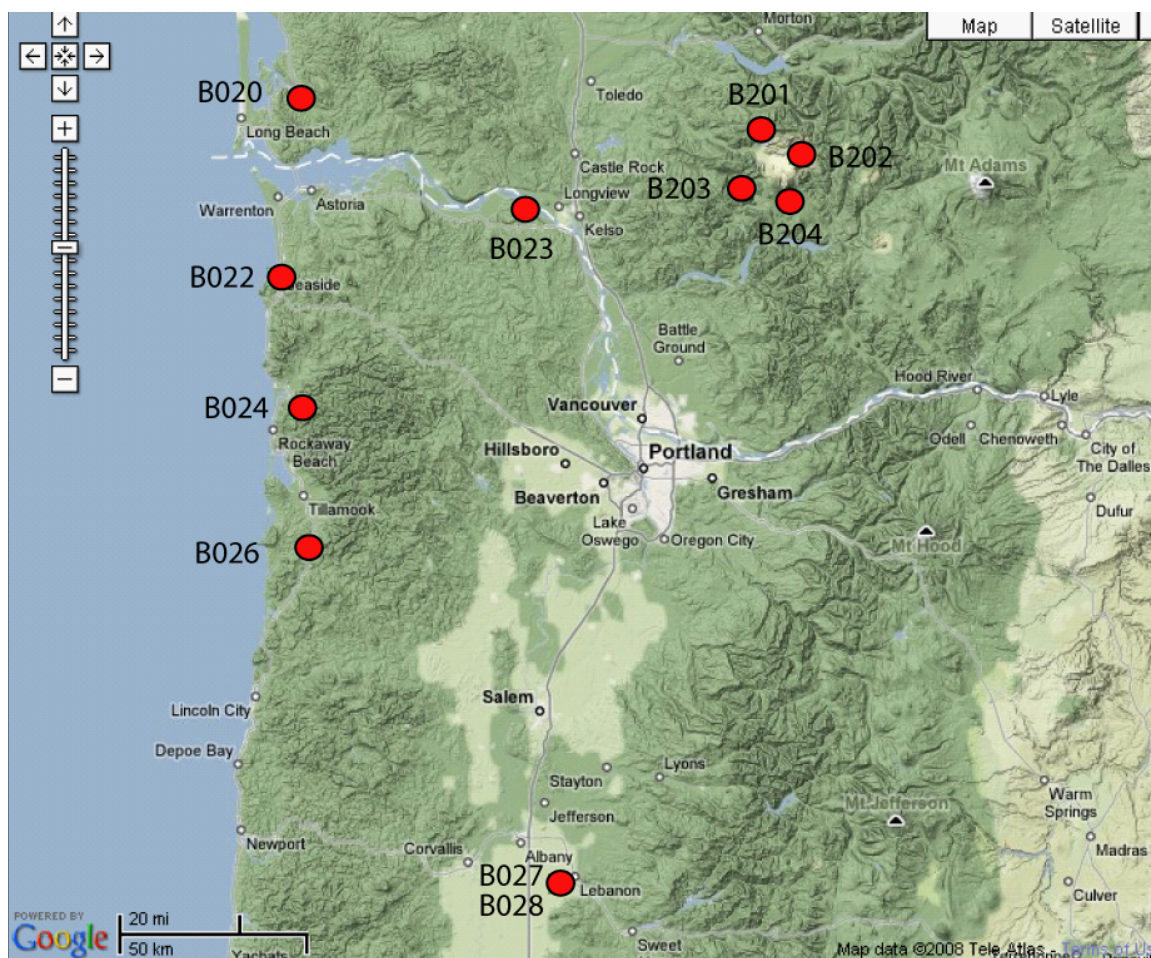


Station Notes for B026, roosbc026bor2007

Latitude:	45.309351 (WGS 84)
Longitude:	-123.823049 (WGS 84)
Elevation:	232 m / 761 ft
Install Depth:	230.7 m / 757 ft
Orientations:	CH0=13.6, CH1=313.6, CH2=253.6, CH3=223.6
Install Date:	24 February 2007
GTSM Technologies #:	US24
Executive Process	Version 1.14
Software:	
Logger Software:	Version 2.02.2
Home Page:	www.unavco.org/instrumentation/networks/status/nota/overview/B026
Notes Last Updated:	27 August 2020

·Install depth is from the top of the casing to the bottom of the strainmeter.

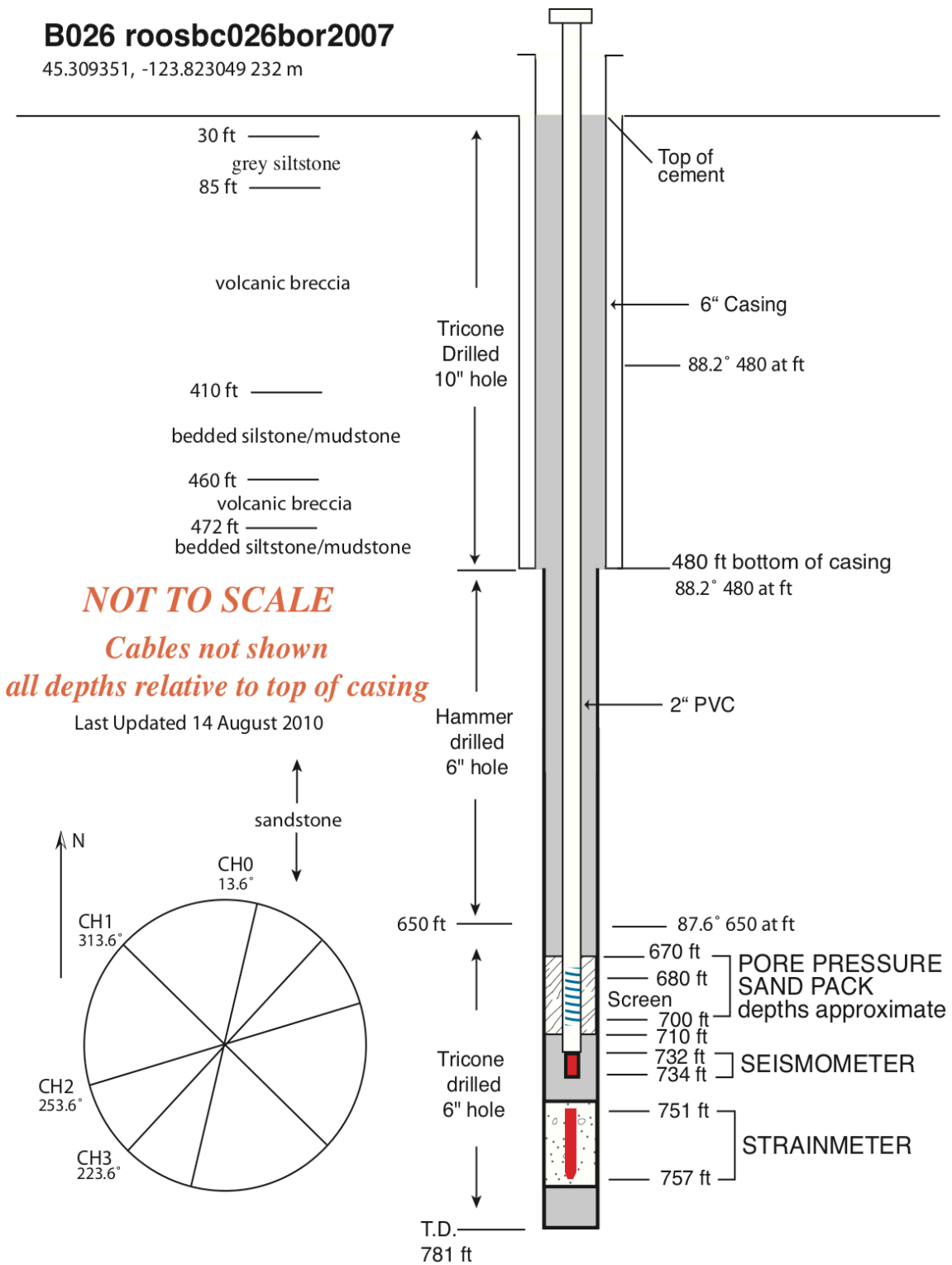
·Orientations are in degrees East of North.



Portland strainmeter network and surrounding area, June, 2008

B026 roosbc026bor2007

45.309351, -123.823049 232 m



Instrumentation at Strainmeter

Instrument	Units	Bottle/ASCII Scale Factor	SEED Scale Factor
Pore Pressure	Hecto Pascals	1.0 (not installed yet)	N/A
GTSM Barometer	Kilopascals	1.0	0.0001
Rain Gauge	Millimeters/hour	1.0 (not installed yet)	0.252
Down hole Temperature Sensor	Degrees Celsius	1.0	0.0001
Logger Temperature Sensor	Degrees Celsius	1.0	0.0001
Setra Barometer	Hecto Pascals	1.0	

1. Installation notes

- February 20, 2007 – Borehole was sounded (775.33') and the bottom was brought up with 3 94lb bags of cement using the dump baler. This should bring the bottom of the hole to ~759'. B026 (US24) was put on test. There were hail showers throughout the day. The biggest piece of hail found was 2cm.
- February 24, 2006 – B026 (US24) was been installed at 757 feet, ~3ft above the bottom of the hole. There didn't seem to be any stretch to the cable. Tim Dittman leant on the cable removing what was considered only "slack". The depth was within 4 inches of the target depth. They then pulled the strainmeter 1m up with the capstan. The strainmeter is between 0.5 and 1 m off the bottom of the hole and out of the rubbish on the bottom. The grout is calculated to be up to approx 743 feet.
- February 26, 2007 – Seismometer was installed at 734 feet and the pore pressure screen section at 680-700 feet. The top of the grout was at 738 feet. The engineers found there was a problem with the CDMA. The cable was buried, pad pored and hole cemented up to surface.

2. General Information

- Rain gauge and pore pressure monitor are not installed yet.
- Sensitivities of all EH channels corrected in the dataless on March 4, 2010.

3. Strainmeter Maintenance

- March 2, 2007 – Tim Dittmann visited the site. He checked battery voltages upon arrival-- GTSM batteries were at 11.9V and the TEG/Comms batteries were at 13.6V. All instrumentation was running except the GTSM datalogger and strainmeter. He inspected the power isolation box running into GTSM power supply-breaker was in "off" position. Switched breaker to "on" and GTSM battery voltage jumped to 12.2 V. He reset GTSM power supply and the GTSM started up.
- March 14, 2007 – Wade Johnson visited the site to hook it up to a VSAT.
- April 3, 2007 – Andy T was on site and paid for a load of propane. The site should be back online by the end of the week. The billing for the propane at this site got messed up, so the tank ran dry. The AC for the site is in the works.

- April 5, 2007 – Andrew Tiedeman made a site visit to Roos, B026, to re-start the TEG due to propane running out a few days ago. A fuse was blown in TEG isolation box, so he replaced it and the site is now working. The strainmeter batteries were charging at 11.73V, and the batteries directly hooked up to the TEG were charging at 12.12V when he left. The power system will be upgraded as soon as possible to avoid the blown fuse problem in the Power box.
- April 6, 2007 – Andrew Tiedeman went to B026 to reboot the Cisco and V-Sat, due to it being down. When he arrived at the site all electronics were on, but Warren could not communicate with the site. Battery voltages were 12.9V for the Strainmeter and 11.6V on the three batteries hooked up to TEG. He checked the fuses, and all were good, but a little warm. The site should probably have 10amp fuses instead of 6amp 125v.
- December 14, 2007 UTC – Chuck Kurnik visited the site.
19:00 Onsite. Chuck discovered that the AC had been connected. This was verified to be true. The site was running on TEG when he arrived. He changed site power from TEG to AC, removed GFI outlet, and replaced it with a standard outlet. This outlet needs to be changed again. The replacement outlet only has screw terminals, and the power wire is stranded. This results in a non-robust connection. Chuck will replace it with the proper outlet Monday morning. He also removed TEG from the site. The TEG conduit is currently in place in case there is a need to install another instrument such as a met pack, but can be removed if necessary. An Isobar surge suppressor and Marmot still need to be installed. No surge suppressor is currently installed.
Offsite at 00:30 UTC on December 15, 2007
- December 17, 2007 UTC – Chuck Kurnik visited the site to change the power outlet.
16:11 Onsite, change outlet to more robust non-GFI.
17:15 Offsite.
- February 6, 2008 UTC - Chuck Kurnik visited the site.
16:21 - Onsite.
- Remove TEG conduit.
- Pickup TEG pole stand.
16:50 - Offsite.
- July 10, 2008 - Reason for visit: GTSM not communicating.
16:15 (local) - On site.
16:30 - Swapped in new fiber optic modems.
17:00 - Strainmeter back online.
17:20 - Off site.
- March 27, 2009 – Logger software upgraded to 2.02.2
- July 17, 2009 – Korey Dausz visited the site. RT software was upgraded to 1.20, and a marmot data logger installed. He also installed a rain gauge and Setra barometer.
- June 9, 2011 - The power box was replaced. RT Board Chan 2 was on G2. The board was taken out and the connection was checked. It returned to G2 after being reseated in the environmental box.

- December 24, 2011 – Chad visited the site, replaced the logger board, and updating the file headers/IP.
- January 3, 2012 – The Cold Start Commands were used remotely, restoring the clock/GPS tracking.
- April 18, 2013 – The IDU transmit and receive were low. The VSAT dish is readjusted and the transmit horn on the ODU was replaced. The Receive is now 90% and transmit in the 50%. The site had a total of five batteries (2GTSM X 3Main Bank). These were replaced with 4 for the GTSM and two banks of 3 for the Main bank. The site now has ten batteries. All have the dates of the swap written on them.
- July 18, 2013 – Cleaned out enclosure and added diatomaceous earth. Adjusted the GTSM chops and quads, and replaced the GTSM desiccants. Rearranged site wiring during the battery swap. Rearranged equipment on the equipment rack and secured all BSM and GPS equipment. Tested the LVD off and on points. And too images of site and equipment.
- October 23, 2013 – Mike Gottlieb visited the site to get it back online. When he arrived the VSAT transmit light was out and he could not run the crosspole test. He re-terminated the transmit cable on the ODU side, and weatherproofed the connection. The VSAT came back online.
- April 9, 2014 – Added BSM standard power strip/surge protector. Made minor adjustments to GTSM chops and quads. Removed soil and grass from the sides of the enclosure. Floor was damp, so more diatomaceous earth was placed inside to help.
- May 11, 2014 – Power cycled the IDU. The transmit and system lights were off. The film on the ODU was coming off.
- May 16, 2014 – Receiver was at 91% and the cross-pole barely passed at 46%. The ODU should be replaced.
- July 8, 2014 - Replace ODU feed horn, re-terminate ODU cable connectors, and re-pointed VSAT dish for optimal signal strength. VSAT signal strength: 89-93% cross pole: 57-62%. Moved shelf on rack up so that IDU fits.
- July 16, 2014 – Chad visited the site to reboot the VSAT IDU. Site came back online with 88 signal strength, but slow comms.
- August 8, 2014 – CH3 stopped recording data on July 28, 2014. Chad swapped the CH3 RT board. He also checked the quads and chop.
- September 28, 2014 – VSAT IDU was rebooted.
- July 17, 2015 – Install Sierra LS 300 w/ Verizon service.
- January 14, 2016 – Adjusted quads and chop. Cleaned out clogged rain gauge.

- August 3, 2016 – Tested capacitance and resistance of downhole instruments. An electric wire fence had been set up around the site. PNSN added a seismic site next to the strainmeter.
- August 9, 2016 – Rebooted Marmot remotely.
- March 17, 2017 – Adjusted GTSM chops and quads. Removed VSAT dish. Only the pole is left at the site.
- September 15, 2017 – Rebooted cell modem. After powering back up, the LS300 had reset to factory defaults. Re-configured modem and re-established VPN. Remotely checked in site.
- April 11, 2018 – Chad deployed a Basalt at the site, replacing the task of the Marmot and Q330. It was decided to pull the Marmot and Q330 to have on the shelf in Boulder as spares. Chad pulled the equipment a month ago and shipped the Q330 back to Boulder and the Marmot was left in the PDX storage for PNW Marmot failures.
- December 27, 2018 – Replaced LS300 with Verizon RV50.
- January 31, 2020 – Breaker had flipped, and it appears that a power surge damaged the RV50. Swapped out the RV50 and verified that equipment was online.
- April 7, 2020 – Co-located GPS site upgrade for ShakeAlert. Swapped the RV50 with another. After a firmware update, the old CDMA didn't connect to the Verizon network. Moved the cell antenna outside the enclosure.
- July 14, 2020 – Swapped out logger that was upgraded to FW2.4 in Feb. This logger has been generating ~1 bad 20hz data point per day, and a bad 1hz file every few weeks. It will be put on test in Boulder for Mick to examine. The new logger is also FW2.4 (1GB), and was upgraded by GTSM during a parts repair.
- July 31, 2020 – New logger hung after a week. After rebooting logger could log in again. Nothing obvious in log files as to why it hung.
- August 17, 2020 – Turned on 3 sec bottles to stress test NRT firmware.