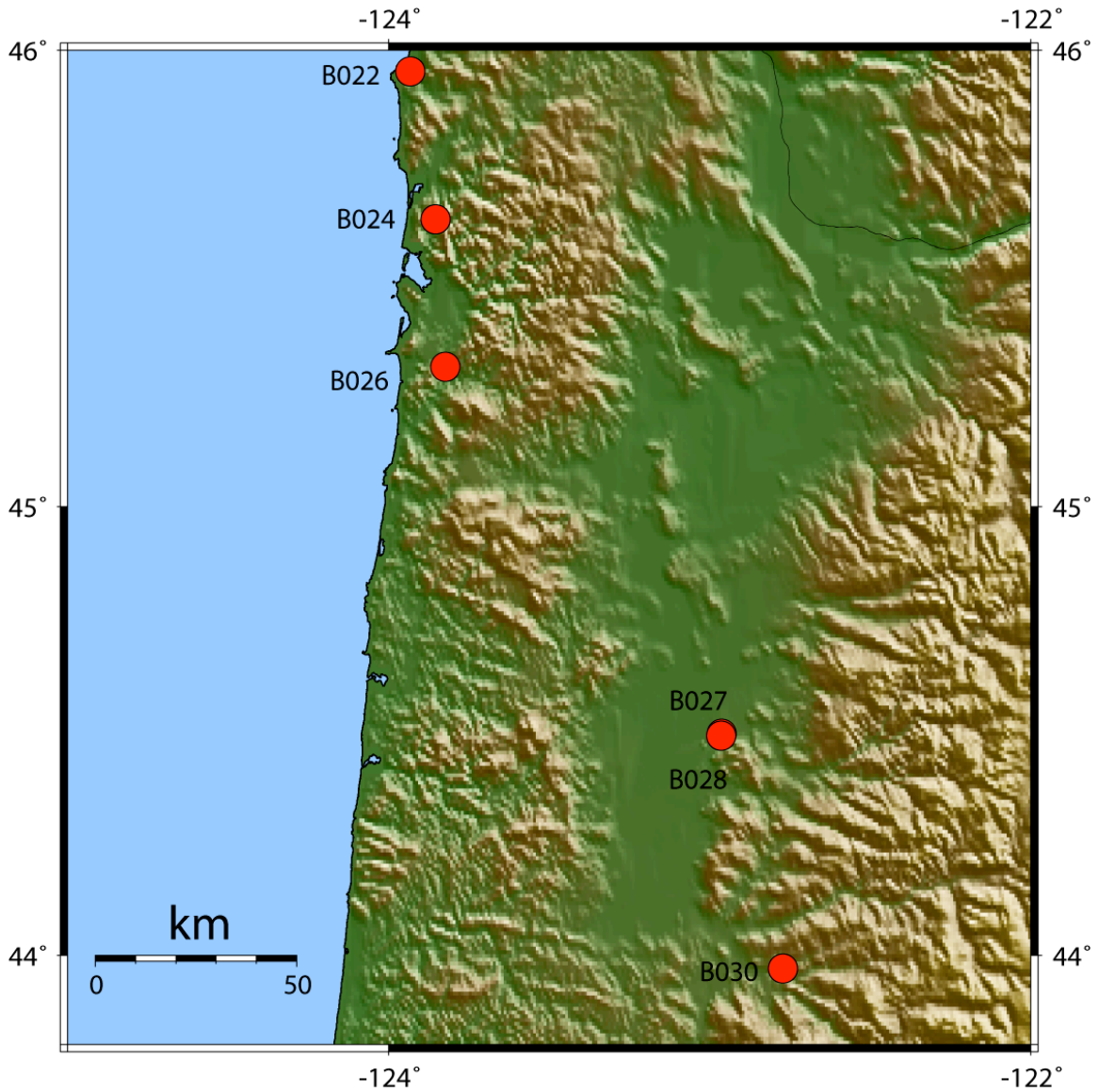
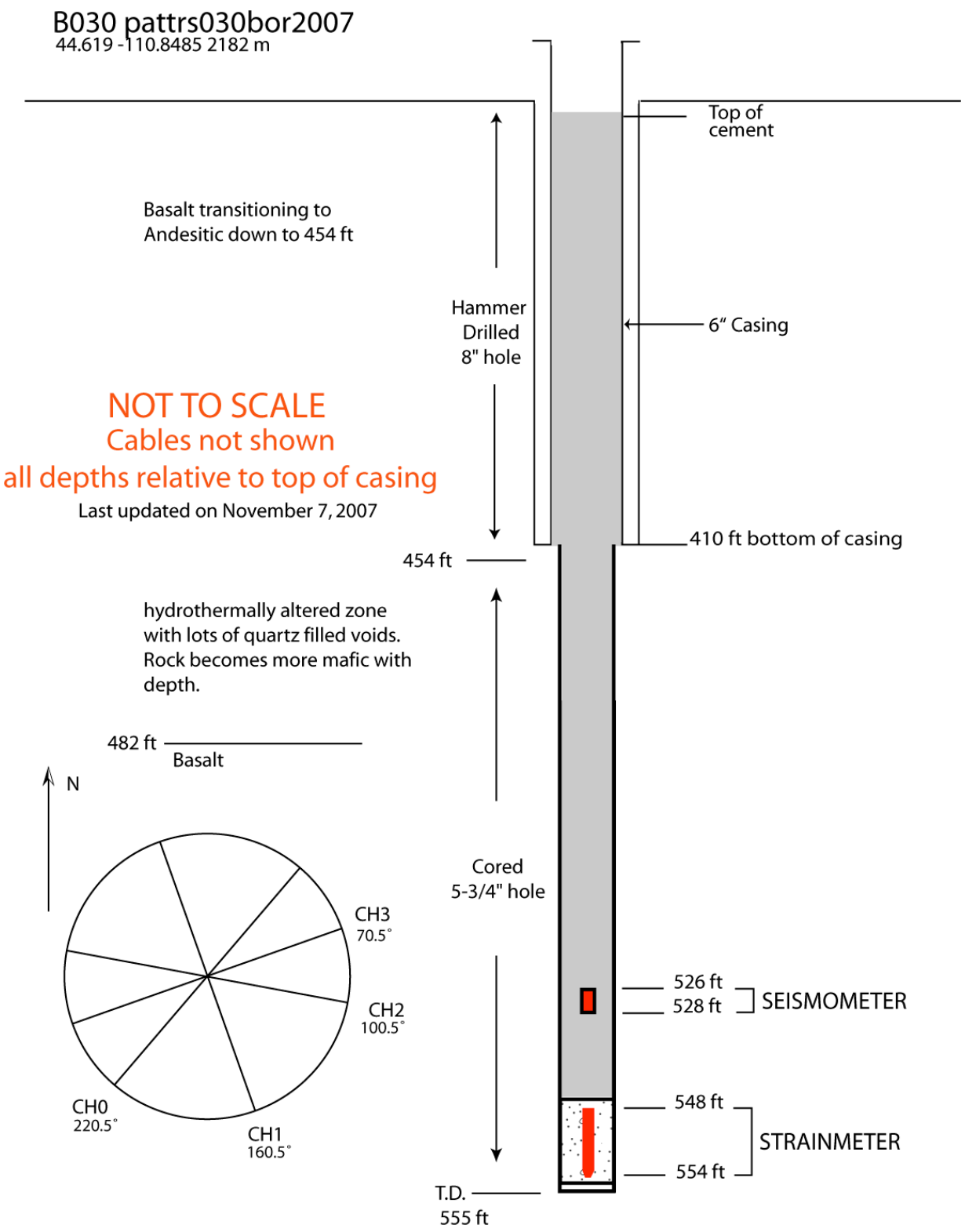
Station Notes for B030, pattrs030bor2007

Latitude:	43.9713 (WGS 84)
Longitude:	-122.7717 (WGS 84)
Elevation:	263.6 m / 865 ft
Install Depth:[1]	168.9 m / 554 ft
Orientations:[2]	CH0=220.5, CH1=160.5, CH2=100.5, CH3=70.5
Install Date:	October 22, 2007
GTSM Technologies #:	US42
Executive Process Software:	Version 1.13
Logger Software:	Version 1.15
Home Page:	pbo.unavco.org/station/overview/B030
Notes Last Updated:	December 18, 2018

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



Northern and central Oregon PBO strainmeters, October 2007.


B030 pattrs030bor2007
44.619 -110.8485 2182 m
Top of cement
Basalt transitioning to Andesitic down to 454 ft
Hammer Drilled 8" hole
6" Casing
NOT TO SCALE
Cables not shown
all depths relative to top of casing
Last updated on November 7, 2007
410 ft bottom of casing
454 ft
hydrothermally altered zone with lots of quartz filled voids. Rock becomes more mafic with depth.
482 ft
Basalt
N
CH3 70.5°
CH2 100.5°
CH0 220.5°
CH1 160.5°
Cored 5-3/4" hole
526 ft
528 ft
SEISMOMETER
548 ft
554 ft
STRAINMETER
T.D. 555 ft

Instrumentation at Strainmeter

Instrument	Units	Bottle/ASCII Scale Factor	SEED Scale Factor
Pore Pressure	Hecto Pascals	None Installed	---
GTSM Barometer	Kilopascals	1.0	0.0001
Rain Gauge	Millimeters/hour	1.0	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	None Installed	---

1. Installation notes

October 21, 2007 UTC
05:00 Put US42 on test in box truck. It is running on AC power from the Patterson's house. Site is inaccessible due to recent rains.

October 22, 2007 UTC
14:00 Borehole installation zone teleconference. Based on core and logs, decide to install on the bottom.
15:30 Onsite. Get pump hoist back to site (with the use of chains).
18:05 Download test data, looks quite good.
19:00 Shutdown GTSM to move over to borehole. Setup for install, and sound hole (554').
22:16 Compass test (Xmin 2.604 Xmax3.142 Ymin 2.700 Ymax 3.206).
22:35 Start mixing.
22:38 Last grout added (9 bags MF 1341 batch#161613428T7).
22:39 Last H20 added (16 gal total).
22:49 Stop mixing.
22:53 Dump bailer lowering.
23:06 Dump bailer out of grout.
23:30 GTSM on bottom and tied off.
23:35 GTSM turned on.
23:45 Instrument responding nicely, looks good. Renamed B030. X is 2.746 Y is 3.219
October 23, 2007 UTC
00:15 Offsite.

October 23, 2007 UTC
16:00 Onsite. Dig pit for cable and unpack enclosure.
19:30 Shutdown GTSM.
20:30 Bury cable and pour pad.
21:05 Restart GTSM.

October 24, 2007 UTC
15:30 Onsite.
16:00 Test out seismometer #106.
16:46 Start lowering seismometer on 3/32" coated cable to 528'.
17:30 Start tripping in.
18:30 Tag grout at a depth of 533'. Mount and point VSAT, perform rig maintenance, then head into Eugene to FedEx freight and dump garbage.

October 25, 2007 UTC
14:30 Onsite.
16:00 Start pumping cement.
17:45 Finished pumping, ~ 3.5 yards.
18:09 Shutdown GTSM, anchor enclosure, and program Cisco.
19:58 Restart GTSM.
20:29 Program Q330 #2596.
20:45 Assign GTSM IP.
21:28 Final compass values: X 2.743 Y3.229.
21:50 Shutdown logger to adjust down hole temperature to 1.257V.
21:59 Restart GTSM. There is a missing screw on logger pull-handle.

October 26, 2007 UTC
Clean up cement from pumper, and install fence. Offsite.

2. General Information

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3. Strainmeter Maintenance

- December 4, 2008 – Wade Johnson visited the site to replace the fiber optic modem.

- April 28, 2009 – GTSM powerbox had failed. There is no power going to the instrument, despite fully charged batteries. Mike did not have a spare powerbox on hand, and was unable to fix the failure.

- June 3, 2009 – All boards were dead again, and a new logger board didn't help like last time. By moving the chassis around with the original logger US54LG the boards powered up. It appears to be a loose connection on the backplane. Mike tightened the input power screw connectors, and the station appears to be staying on. If it fails again, it will require a new environmental box.

- July 8, 2009 – Marmot was rebooted.

- June 4, 2009 – Logger Software Version upgraded from 1.16 to 2.02.2.

- August 4, 2011 – Arriving on site, the IDU only had the transmit light on. The VSAT dish pointing had to be readjusted. The IDU power supply/converter failed during trouble shooting the VSAT and had to be replaced. For receive, I could only get 56%, but for transmit it was 80%.

- January 9, 2013 – Liz power cycled the Marmot and tested two Lancell III's with an ATT and Verizon card. Verizon had 100% signal strength and ATT had 35% signal strength. The marmot failed a few days later.

- February 22, 2013 – Mike and Liz visited the site to replace the Marmot. Velcro straps and tape were used to secure the equipment, and expansive foam was used to fill the VSAT mount.

- June 18, 2014 – Liz visited the site. Adjusted chops and quads, refreshed GTSM desiccants and added diatomaceous earth to the site.

- July 15, 2015 – Moved comms from VSAT to CDMA. GTSM was off on arrival. Swapped GTSM power box and powered up system. The quads would not adjust for all channels.

- July 20, 2015 – Updated strain_logger.conf file on logger.

- June 15, 2017 – Swapped out 6 batteries and installed 8 new batteries. Tidied up site wires and secured equipment. Adjust GTSM chops and quads. Replaced desiccants and took picture of inside of GTSM power box. Removed VSAT dish. Left pole for possible met pack install. Cleaned up vegetation around the site.

- June 19, 2017 – Reviewed GTSM Power Box inside photos with strain_logger.conf settings. Disabled Pressure Pot and set to 84.36.

- May 16, 2018 – Installed Setra barometer.

- November 29, 2018 – Upgraded LS300 to RV50, swapped out white Rebull with black Redbull antenna. Placed new CDMA farther away from Setra because of possible noise. Adjusted GTSM chops and quads, minor adjustments.