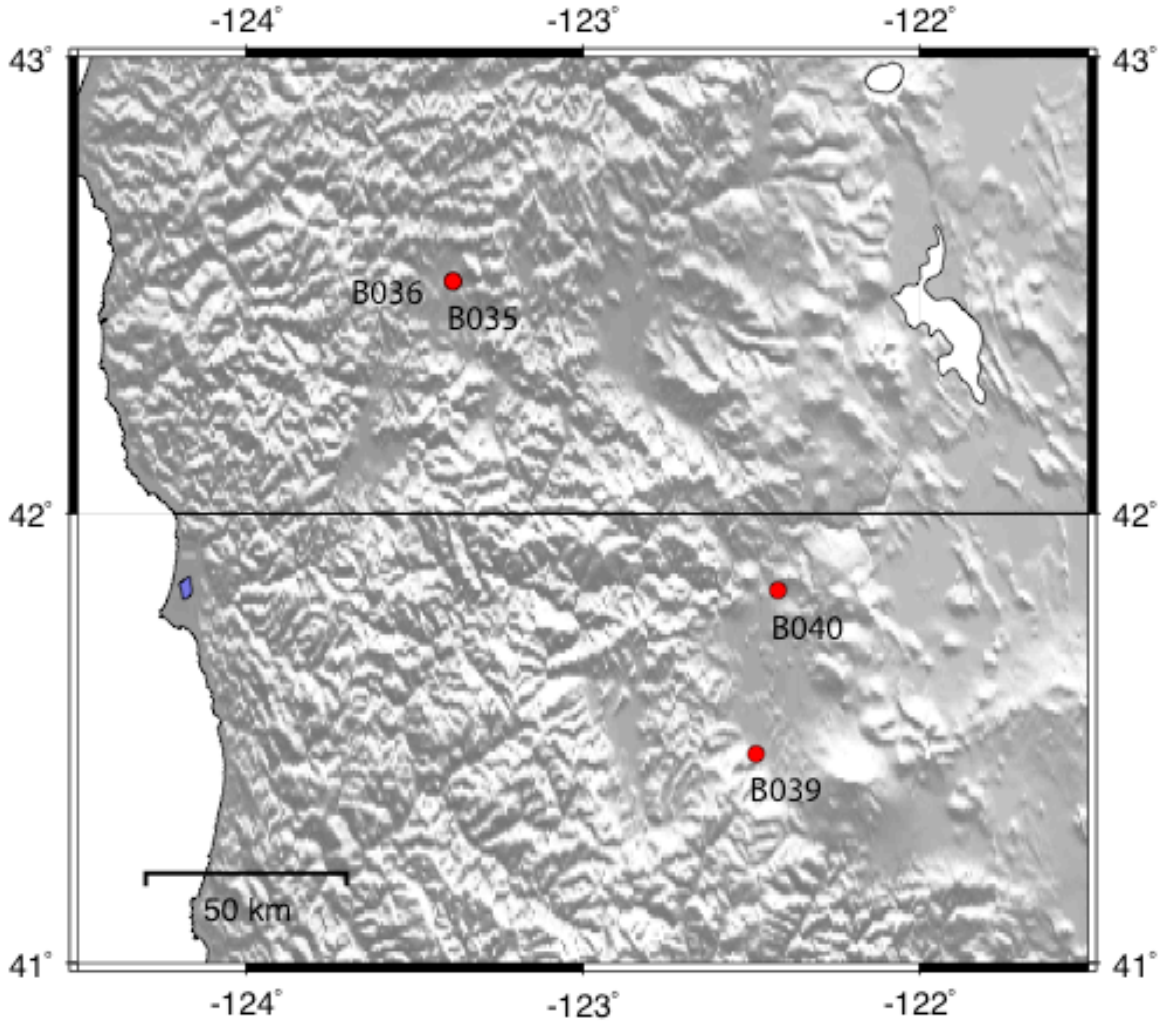
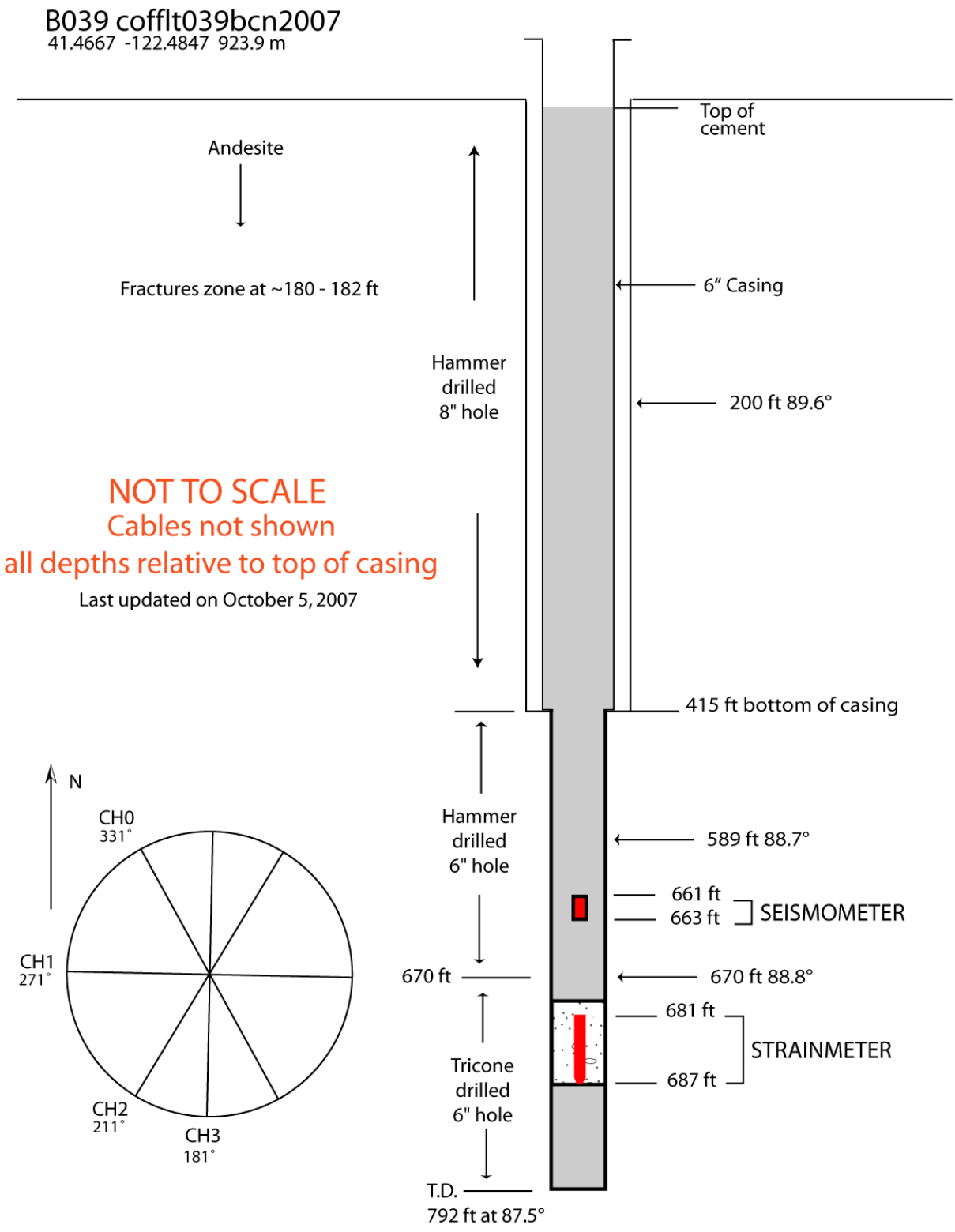
Station Notes for B039, cofflt039bcn2007

Latitude:	41.4667 (WGS 84)
Longitude:	-122.4847 (WGS 84)
Elevation:	923.9 m / 3031 ft
Install Depth:[1]	209.40 m/ 687 ft
Orientations:[2]	CH0= 331, CH1= 271, CH2= 211, CH3= 181
Install Date:	2007-10-15
GTSM Technologies #:	US46
Executive Process Software:	1.14
Logger Software:	2.02.2
Home Page:	www.unavco.org/instrumentation/networks/status/nota/overview/B039
Notes Last Updated:	February 3, 2020

[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 California and southern Oregon PBO strainmeters, October 2007.


B039 cofflt039bcn2007
41.4667 -122.4847 923.9 m
Andesite
Fractures zone at ~180 - 182 ft
Hammer drilled 8" hole
Top of cement
6" Casing
200 ft 89.6°
NOT TO SCALE
Cables not shown
all depths relative to top of casing
Last updated on October 5, 2007
415 ft bottom of casing
N
CH0 331°
CH1 271°
CH2 211°
CH3 181°
Hammer drilled 6" hole
589 ft 88.7°
661 ft
663 ft
SEISMOMETER
670 ft
670 ft 88.8°
681 ft
687 ft
STRAINMETER
Tricone drilled 6" hole
T.D.
792 ft at 87.5°

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. Install Notes

2007-10-13 UTC
Setup to raise bottom of the hole. Camera images were very cloudy. Total depth was 792', pumped 15x94lbs neat cement to raise the bottom. The target installation zone was between 695' and 679'. US46 was placed on test.

2007-10-14 UTC
Instrument looks good on test, TD is now 713'. Lowered 4x94lbs neat cement using two dump bailer runs.

2007-10-15 UTC
15:30 On site, tag bottom (soft); run dump bailer tests several times (after 1 bad trip), seems to work fine after first, add 1/3 bucket of gravel for hard trip surface. TD = 687' .
19:50 Compass test Xmin 2.086 Xmax 2.473 Ymin 1.872 Ymax 2.437.
20:20 Start mixing grout, MasterFlow 1341 Batch 161613428T7.
20:28 Last grout added.
20:30 Last water added (16 gals total, ~5% more than previous installs as per M. Gladwin's request); grout was runnier.
20:41 Stop mixing.
20:46 Lowering dump bailer.
20:51 Dump bailer on bottom.
21:20 GTSM on bottom; tied off to wellhead using 2 lengths of 1/2" polyethlene braided cord (again, per M. Gladwin's request).
21:29 GTSM turned on; looks good! compass x=2.109 y=1.902.
22:24 Shut down logger to reset DH temp; set to 0.9V.
22:29 Restart GTSM.
23:00 Off site to set up propane for B040's TEG and put B040 on charge via generator.

2007-10-18 UTC
15:00 On site; GTSM shut down, voltage at 12.36V, put on load and still at 12.36V.
15:38 Restart GTSM, charging on generator.
16:00 Lower seismometer #111.
16:30 Seismometer lowered to 662.5', start tripping in 1.5".
17:44 Tripped in.

18:30 Start pumping; ~ 2 yrds in one of the 1.5" joints breaks; lose tremi string; trip in replacement tremi.

21:00 Stop pumping (~5 yrds).
22:14 Shutdown GTSM, bury cable, and pour pad.
2007-10-19
00:00 Finished pad, restart GTSM, and clean up.
01:00 Off site.

2007-10-19 UTC
15:45 Turn off GTSM to set up in enclosure.
18:30 Restart GTSM; Channel 0 and 2 at G2. Install and wire uphole electronics.
21:00 Point VSAT; program q330, marmot, and GTSM IP's.
2007-10-20 UTC
00:08 Shutdown GTSM to adjust DH temp. Set to 0.936V (highest possible value), voltage is not constant for some reason. (Bounces between 0.89-0.94)
01:15 Confirm Comms are working and system is online. Pack up and leave site.

2. General Information

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

3. Strainmeter Maintenance

- July 16, 2008 PDT
  15:33 - Kurnik and Williams onsite. Williams took photos for a potential GPS install.
  15:48 - Offsite.

- September 19, 2008 - Warren Gallaher upgraded the GTSM logger software from version 1.15 to 2.02.2. The site was offline from about 18:00 until about 18:30 UTC.

- April 28, 2009 – Rain gage funnel was replaced at 15:30 PST. A layer of silicone was added to non-permanently glue it on.

- August 8, 2009 – The marmot was rebooted.

- February 20, 2010 – Korey visited the site to get it back online. The ODU and the transmitter on the IDU had failed.

- January 6, 2010 – Chad Pyatt deployed a temporary broadband sensor at the site to get seismic data to orient the borehole seismometer. He also collected Birddog data from the borehole seismometer.

- October 21, 2011 – The lights on the IDU were all off on arrival. Liz first replaced the power supply, which had no result. She then disconnected the cables, but even the power light did not return. The IDU should be replaced.

- November 4, 2011 – The old IDU did not display any lights on the front (not even the power light) and was replaced. During the VSAT adjustment the receive registered, however during the cross pole test, an error occurred at every attempt. The ODU was replaced. The cross pole test passed. The router was updated with the new IP's in the hotel earlier that morning. The proxicast was tested at the site. Sprint service registered as poor, with one bar.

- March 26, 2012 – Modified GSTM barometer configuration to try and stop barometer bottoming out. The offset was change, but no improvement with the barometer was seen.

- March 29, 2012 – The marmot was power cycled.

- April 1, 2012 – The Marmot was power cycled and Otina was contacted afterwards. She could log onto the Marmot again.

- August 7-8, 2012 – A temporary broadband seismometer was deployed.

- October 13, 2012 – The station had lost GPS time. Liz used the cold start command to reset the GPS. The station has GPS time again.

- November 29, 2012 – The IDU had no lights and would not power on. It was replaced with a new IDU. The VSAT antenna only had a transmit of 67%. The site was experiencing winds of 20-40 mph, making repointing very difficult (also heavy rain). Liz left the site with the router and update the IP.

- November 30, 2012 – The weather was clear and the wind had calmed. The VSAT was repointed and the IDU was set-up (as installer) and updated. The mount on the VSAT dish had yellow jackets living in it. It was cold, so they were of no concern. ATT service was excellent, and the comms should be switched to a LanCell III so that comm repairs will be safe in the summer (heat).

- December 19, 2013 – Liz visited the site and added diatomaceous earth, secured equipment, and adjusted quads and chops.

- June 15, 2014 – Station was hit by lighting.

- June 16, 2014 – Liz visited the site to fix lightning damage. When she arrived on site, CH0 had a bad screen, CH1 and CH2 were on gain 1, and CH3 was on gain 3. She power cycled the GTSM and replaced RT board 0. All channels returned to gain 3. The quads were very noisy and the oscillator board sine wave showed signs of damage. Liz replaced the oscillator board and set quads and chops. When Liz left all channels were working properly again.

- January 14, 2015 – Marmot had failed and was replaced.

- April 5, 2016 – Visited station to update comms from VSAT to CDMA. Installed new VZW 4G LTE Sierra Wireless RV50 modem.

- October 4, 2016 – Visited station to remove VSAT dish for redeployment at P659.

- March 20, 2017 – Adjusted pressure pot to 3.178V since site is over 800m. Replaced 6 old batteries with 8 new batteries. Adjusted GTSM chops and quads.

- March 22, 2017 – Replaced the Marmot

- August 21, 2018 – Added low altitude 800-1100 Setra to site. Turned on CH4 on Q330. Confirmed Setra output was reasonable.

- December 18, 2019 – Compact flash card upgraded from 256 MB to 4 GB, updated settings. Added earthquake straps to environmental box and set quads.