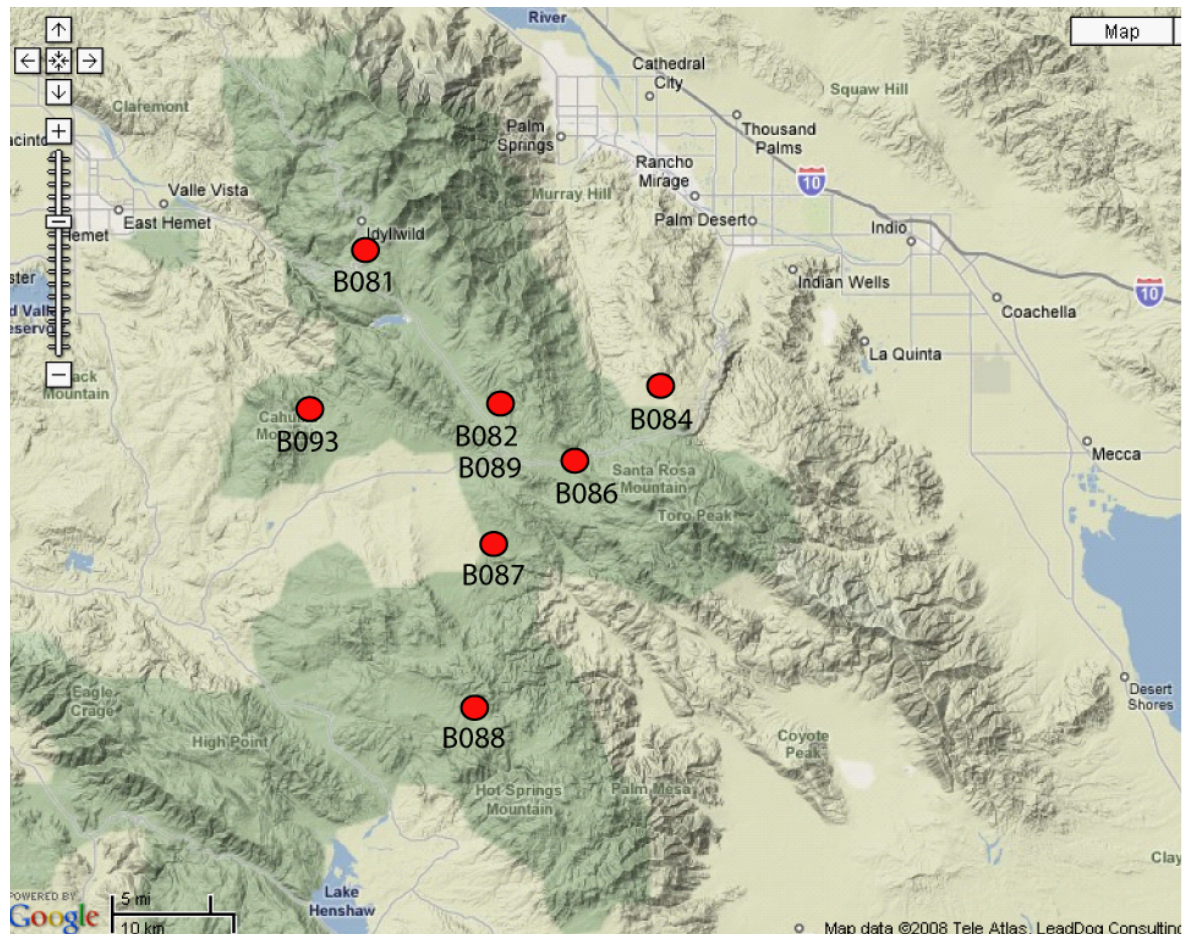


Station Notes for B084, pinyon084bcs2006

Latitude: 33.61157 (WGS 84)
Longitude: 116.45637 (WGS 84)
Elevation: 1271 m / 4170 ft
Install Depth: 158.6 m / 520 ft
Orientations: CH0=197, CH1=137, CH2=77, CH3=47
Install Date: 15 September 2006
GTSM Technologies #: US18
Executive Process Version 1.14
Software:
Logger Software: Version 2.02.2
Home Page: www.unavco.org/instrumentation/networks/status/pbo/overview/B084
Notes Last Updated: July 15, 2020

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

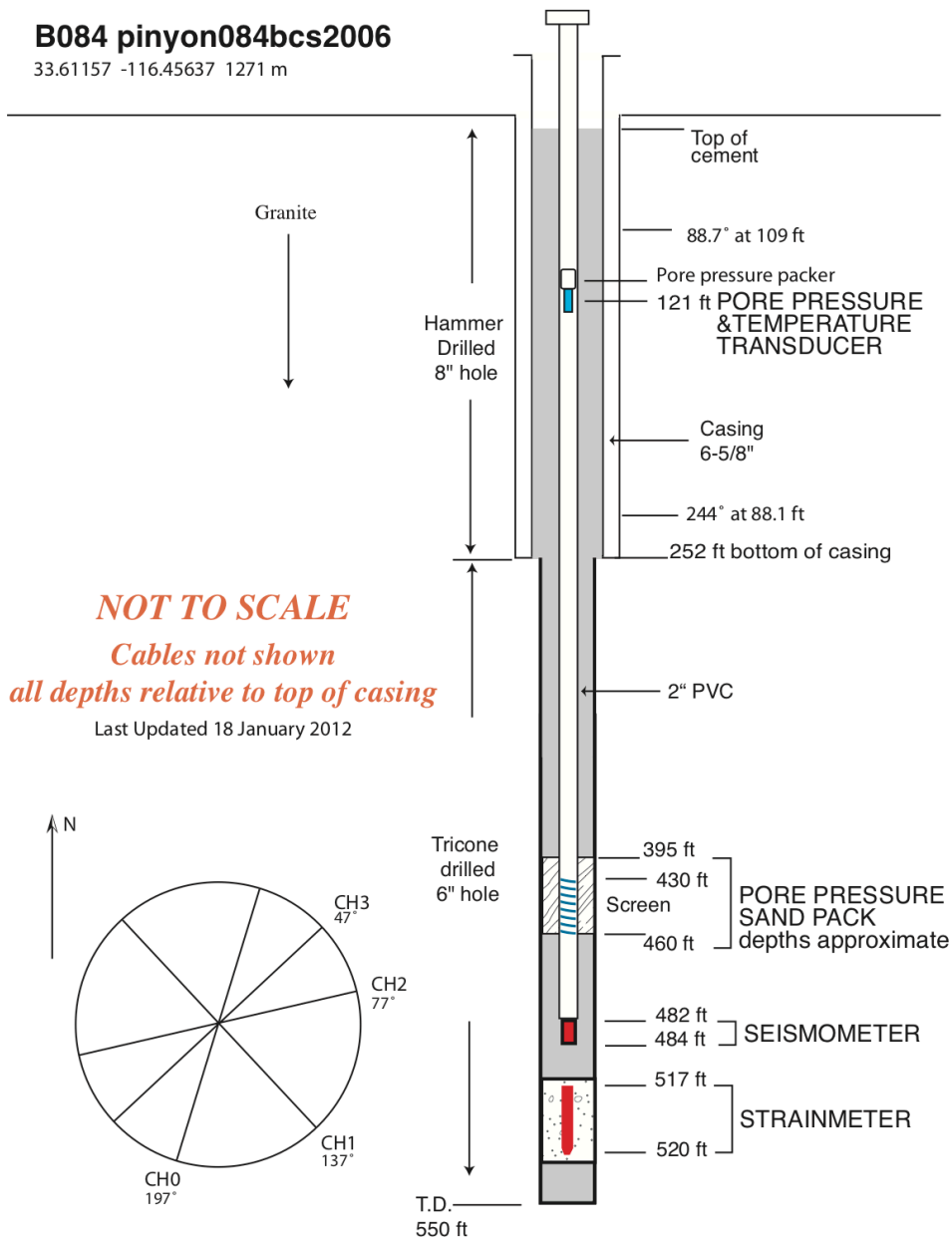
• Orientations are in degrees East of North.



Anza PBO strainmeter network, February 2008.

B084 pinyon084bcs2006

33.61157 -116.45637 1271 m



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	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	Not installed at this time	

1. Installation notes

This is the 4th BSM hole drilled for this install. All previous holes deviated out of specification.

The hole was raised 30 feet to an acceptable installation zone, and installation went smoothly.

9 gallons of water were used with 8 bags of set grout.

There was a short across the strainmeter batteries during installation, which did not seem to affect the strainmeter.

The hole is cemented to 148 ft below the top of the casing.

2. General Information

- 17 November 2006 – Logger is showing a date that is 4 days in the future.
- 9 January 2007 – GPS timing has been fixed
- Logger entering standby and restarted Sept 18, 25 (2 times), Nov 12, 2006
- Logger shut down and restarted on Sept 25 (2 times), Nov 12, Dec 3 & 11, 2006
- The pore pressure sensor is installed at 121 feet with the packer inflated directly above the sensor.

3. Strainmeter Maintenance

- 15 Nov 2006 - clock antenna installed was installed on Wednesday afternoon around 4pm.
- 9 January 2007 - Mike Hasting visited the site. He upgraded the RT Control boards to Version 1.17, and installed a new power box, US301PB. He upgraded the GPS firmware to 135_309.s3. He also checked the timing, and the logger time is now correct but needs to be checked against the data. There should be a large offset as there was a few days drift on the clock. Mike also adjusted the downhole temperature, and set RV1 voltage such that TP7 = 1.25V. The

barometric sensor was adjusted to read 2.726V since the station is above 5,000MSL. We should now be getting barometric data for this site.

- January 15, 2007 – Michael Hasting installed a marmot
- February 15 – The equipment rack was upgraded. Seismic were offline for about an hour. The GTSM stayed powered during the upgrade.
- April 20, 2007 – Station was configured to record pore pressure, and began recording data at 00:08 UTC
- April 24, 2007 – Mike Hasting visited the site. He found one of the horizontal seismometer wires was broken and fixed it. He also found two of the Vertical seismometer wires were broken and fixed them. He also put tape around the wires to the accelerometers power so they can not short out. He also found out that the wires to the rain gauge were disconnected from the power box, and connected them. He upgraded firmware on controller boards to 1.18
- February 20, 2008 UTC – Tim Dittmann visited the site.
17:10 On site.
17:15 Replaced old fiber modems with new blue modems.
17:30 Install and configure marmot #331.
17:40 Vacuum hut and caulk base.
17:45 Adjust GTSM quadratures.
18:00 Off site.
- July 24, 2008 UTC – Heidi Willoughby & Liz Van Boskirk visited the site.
22:00 Opened enclosure. Removed pore pressure serial from NetRS port #2 and placed it into Q330 serial #1. The NetRS and attached antenna were removed.
22:20 Replaced Marmot and collected V-Sat metadata.
22:30 Locked up enclosure and call Otina Fox about switching Pore Pressure to Q330.
Notes: Batteries inside enclosure are covered with sand.
- March 17, 2009 – Logger firmware upgraded to version 2.02.2 at 9:20 PST.
- June 22, 2009. Mike Gottlieb at site. Upgraded RTs to 1.20 on 6/17/09 at 0910 pst. Powerbox is US301PB. Also moved the GTSM charging from a vicor flatpack to our standard backpanel isolation.
- March 31, 2010 – Mike and Tim installed a metpack at this station to collect 1hz pressure data. The Marmot still needs to be set up for data collection from this device.
- September 8, 2011 – Replaced the metpack cable with a functional one. Marmot is now collecting MET data.
- June 20, 2013 – Mike Gottlieb sent the cold start command to fix the GPS time.
- June 23, 2014 – Replaced 6 batteries with 10 new ones. Replaced the powerbox to fix GPS time and hopefully remove voltage spikes.

- June 11, 2015 – Marmot had failed and was replaced.
- June 16, 2015 – Marmot was rebooted.
- December 27, 2016 – Confirmed RT firmware was 1.20. Adjusted quadrature and chop delays. Both were significantly off on all channels. Turned on event mode, set trigger/aftershock to 300/60. Checked strain-logger.conf settings for this powerbox, Determined they were incorrect. Powerbox was fully upgraded, but pressure_pot was enabled. Changed pressure_pot to disabled, with an offset of 83.1.
- March 24, 2017 – Swapped oscillator board.
- November 29, 2017 – Installed a new Marmot.
- January 24, 2018 – Rebooted router (site was online but there was no telnet access) in order to migrate to ASA. It was migrated, but an error during a firmware upgrade caused the router to crash with no firmware. It was replaced with a different cisco 831. There had been no met data since 2015. Confirmed met pack was communicating, turned on met script in recently replaced marmot. There is now met data for this site showing up on pore.
- July 25, 2018 – Visited to migrate site from HPWREN to Verizon RV50. Removed afar radio from station. Installed Verizon RV50 to replace HPWREN used 4G redbull antenna. Set quads, ch2 and ch3 were pretty far off. Brought ch3 from G2 to G3.
- August 23, 2018 – Station showed dropping voltages starting in late July. Found breaker to Iota charge controller had tripped. Batteries were low. Mains was at 9.6 V, gtsm was at 6V. Batteries should be replace. Turned breaker back on, everything came back up.
- June 27, 2019 – On site to tune GTSM. Found quad box may be failing. Could not tune CH2 and CH3. Tried swapping RT cards around without any help. Down hole instrument looked fine. Will need new GTSM back plane.
- December 30, 2019 – CH2 fatal error, CH1 and CH3 had lots of gain changes. CH2/3 large trend changes since 2018. Tried new oscillator board. CH0 and CH1 looked good. Ch2 and Ch3 could not set quads. CH2 was in G0, CH3 in G1. Tried silver dummy cell. There esd an issue with the dummy load, so didn't trust test results (no quad control on any channel). Replaced environmental backplane. Came back next day, no improvement in CH2 or Ch3. Reinstalled original oscillator board so we can use spare elsewhere. Left new backplane in place.