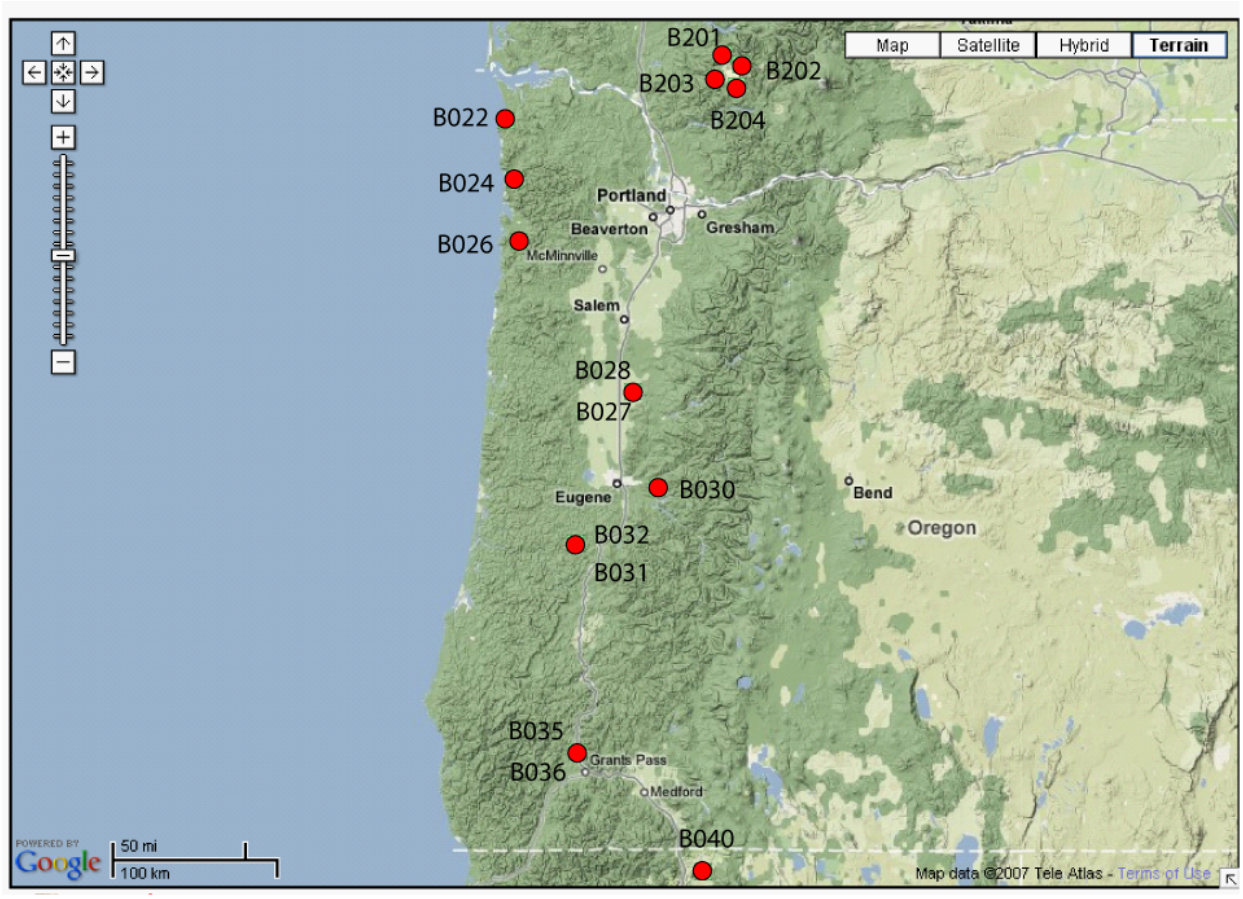
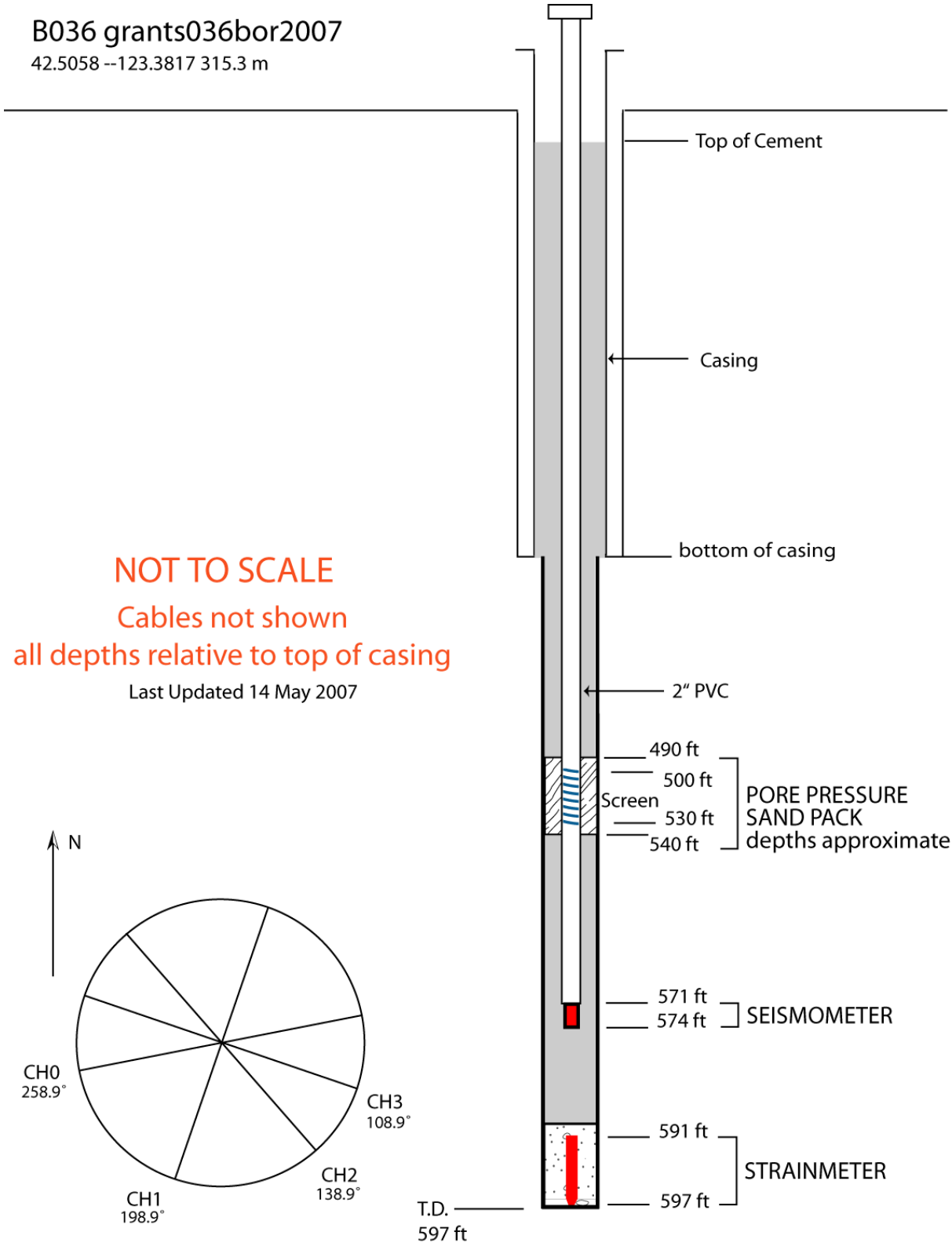
Station Notes for B036, Grants Pass 2, grants036bor2007

Latitude:	42.5058 (WGS 84)
Longitude:	-123.3817 (WGS 84)
Elevation:	315.3 m / 1034 ft
Install Depth:[1]	182 m / 597 ft
Orientations:[2]	CH0 = 258.9, CH1 = 198.9, CH2 = 138.9, CH3 = 108.9
Install Date:	May 8, 2007
GTSM Technologies #:	US36
Executive Process Software:	Version 1.14
Logger Software:	Version 2.02.2
Home Page:	www.unavco.org/instrumentation/networks/status/nota/overview/B036
Notes Last Updated:	January 21, 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.



Oregon PBO strainmeters, December 2007


B036 grants036bor2007
42.5058 --123.3817 315.3 m
Top of Cement
Casing
bottom of casing
NOT TO SCALE
Cables not shown
all depths relative to top of casing
Last Updated 14 May 2007
2" PVC
490 ft
500 ft
Screen
530 ft
540 ft
PORE PRESSURE
SAND PACK
depths approximate
N
CH0
258.9°
CH3
108.9°
CH2
138.9°
CH1
198.9°
571 ft
574 ft
SEISMOMETER
591 ft
597 ft
STRAINMETER
T.D.
597 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**

May 8, 2007 – US36 was installed at B036/Grants Pass Airport 2 at a depth of 597 ft. This was the best depth to install. There are a few minor healed fractures at ~592 ft. 10 bags of Masterflow 1341 cablegrout, at 1.7 gallons of water per sack, were mixed for 11 minutes. Trip mechanism successfully dumped on bottom 7 minutes later. The strainmeter was successfully lowered the bottom 29 minutes after that. Instrument was behaving soundly and called a success 49 minutes after mixing.

May 9, 2007 – The seismometer was installed at 574 ft. The 1341 grout was up to 575 ft. The pore pressure screen section was placed at 530-500 ft.

2. General Information

- This station is part of a cluster that includes B035, grants035bor2006**.**
- B036 was installed in a rotary section. It was not cored or reamed.
- Sensitivities of all EH channels corrected on March 4 ,2010.

3. Strainmeter Maintenance

- May 11, 2007. When the strainmeter was first installed it was not collecting the state of health (SOH) channels. Wade Johnson reported that the Viper PC on the logging board was not properly secured, the retaining nuts were all missing and that the Viper had partially unseated. He reseated the Viper, reinserted the board, and it is now logging the SOH channels properly.

- October 6, 2007 UTC - Mick Gladwin visited the site. October 6
  00:00 - Onsite.
  This station has a temporary solar power system. System has been in shutdown mode each day since October 1. This is due to inadequate power available.
  Solar regulator noise at 800 mV. He was unable to improve isolation because there was only one solar feed. No change applied.
  01:55 - Offsite.

- December 15, 2007 UTC – Chuck Kurnik visited the site.
  19:04 - Onsite.
  - Site has 4 solar panels and is under-powered
  - GTSM battery voltage: 12.7 V
  - Other battery bank voltage: 11.5 V

- LVD was exhibiting strange behavior. In full sun, power was provided to both channels. As the sun goes behind the cloud, LVD CH2 powers off and CH1 starts to rapidly turn on and off. After discussing with Warren, this is what may happen in a low power situation.
- moved radio to LVD CH2
20:20 – Offsite

- December 16, 2007 UTC – Chuck Kurnik visited the site to further investigate power issues.
18:35 - Onsite.
Voltage check:

With UNAVCO Load breaker off
PV-GND: 12.5
PV-UNAVCO Loads, measured at bottom of breaker terminal: 11.3
PV-LVD CH1 12.3
PV-LVD CH2 11.8

With UNAVCO Load breaker off
Batt-PV: 0
Batt-GND: 13.3
Batt-UNAVCO Load, bottom of breaker terminal: 13.0
Batt-LVD CH1: 13.9
Batt-LVD CH2: 13.3

19:23 – Offsite.

- August 19. 2008 – The GTSM was upraded from ver. 1.15 to 2.02.2.

- July 21, 2009 – GTSM converted to AC power. Solar panels and mount removed. Marmot rebooted

- 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.

- May 25, 2010 - Swapped radio, cable, and antenna to get B035 back online, and replaced the fiber modems.

- January 4, 2010 – Chad Pyatt deployed a temporary broadband sensor at the site to get seismic data to orient the borehole seismometer. He also collected Bird Dog data from the borehole seismometer.

- October 15, 2012 – Liz issued the Cold Start command to fix the GPS time.

- February 19, 2013 – Site visited to take photos and record Unavco Id's. 10 batteries were added to the site, 2 for the GTSM and 8 for the main battery bank. The equipment was secured with Velcro strips and diatomaceous earth was added to the floor of the enclosure. Expansive foam was used to fill the void in the VSAT mount.

- June 6, 2013 – The gate chain had been cut, and was replaced. Adjusted quads and chops and dried out DTSM desiccants.

- August 8, 2013 – The IDU had all lights on but the transmit and system lights. The IDU had an AC adapter so the IDU could not be power cycled by a timer. Liz power cycled the IDU and comms return. She connected to the IDU, and VSAT pointing signal strength was the same as last time R 86%, CP 52%. Could only ping the IDU and outside router IP using a Verizon card from the truck. The router was hung. Liz had to restart the router twice for the VPN to be restored.

- June 19, 2014 – Airport maintenance cut back the brush that had overgrown the VSAT dish.

- June 24, 2014 – Filled VSAT mount with expansive foam. IDU signal strength was at 87%, but cross-pole was listed as ACP error. Swapped cables on ODU and IDU to test cables. Swapped out power supply. Replaced ODU, but it only had a signal strength of 55%. Swapped out feed horn from the spare ODU and placed it on the old ODU. Re-terminated all cable connections. Swapped out IDU. Receive signal strength went up to 90%, cross-pole 63%, secured VSAT dish.

- June 25, 2014 – Updated file on router to add new IPs. VSAT receiver strength dropped to 83% in the rain.

- June 28, 2015 – Adjusted chops and quad.

- April 20, 2016 – Comms upgrade from VSAT to RV50 CDMA. GTSM chops and quads adjusted.

- January 31, 2018 – Replaced RB-6 connectors, cabling, and whip antenna. Improved placement of antenna within site. Went from receive rate of 19% to 50-70%. Can now remotely log onto the GTSM remotely. Power cycled all radios (B035 and B036) and GTSM before leaving site. Lots of back and forth between B035 and B036 to improve radio link.

- December 17, 2019 – Upgraded radio to nanostation loco M900. Replaced 5 port fiber optic modem. Upgraded clock speed from 100 mhz to 400 mhz.