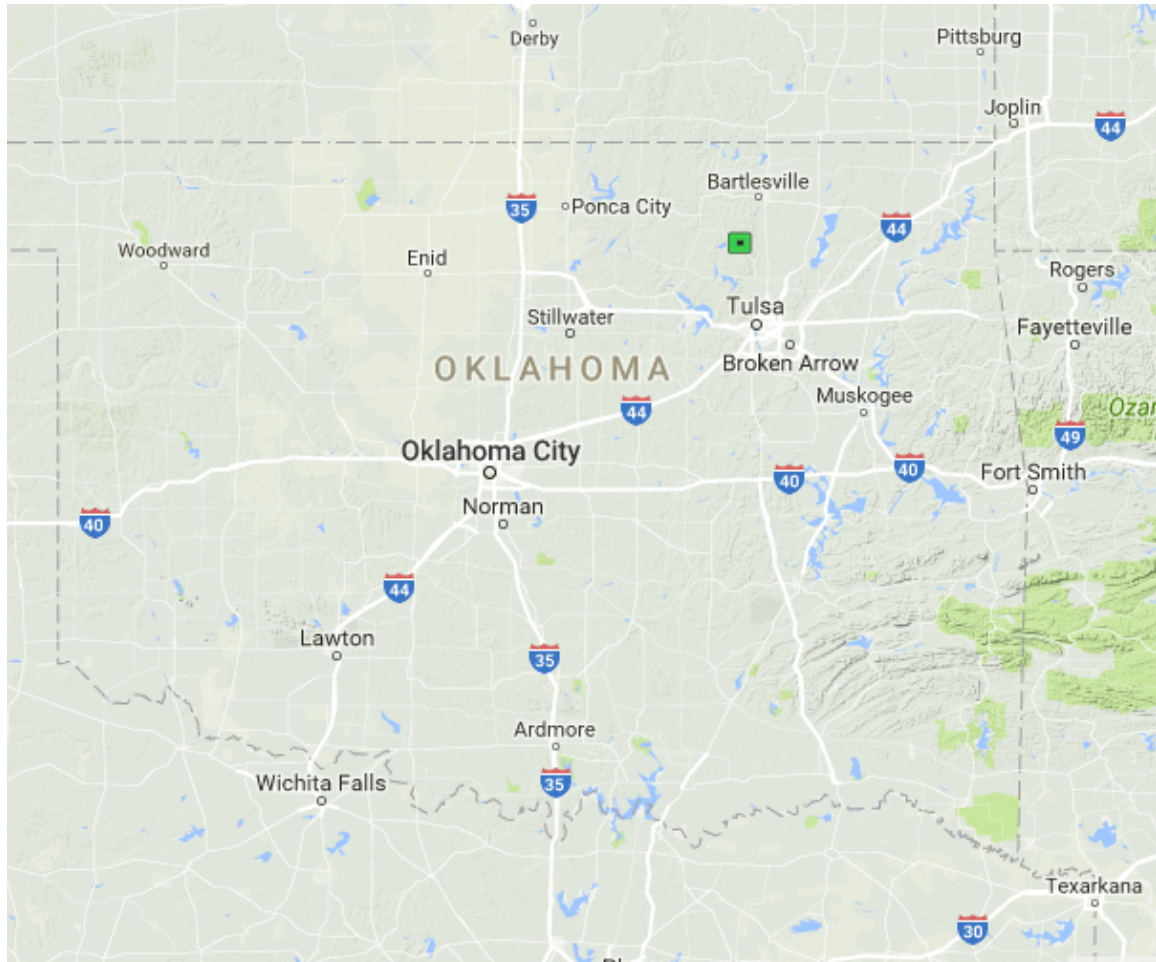


Station Notes for AVN2, marmabuy1btr2014

Latitude: 36.53212 (WGS 84)
Longitude: -96.081021 (WGS 84)
Elevation: 261 m
Install Depth: 29.3 m
Orientations: CH0=230.5, CH1=170.5 CH2=110.5 CH3=80.5
Install Date: 2016 September 10
GTSM Technologies #: US90
Executive Process Software: Version 1.14
Logger Software: Version 2.02.2
Home Page: www.unavco.org/instrumentation/networks/status/pbo/overview/AVN2
Notes Last Updated: March 26, 2020

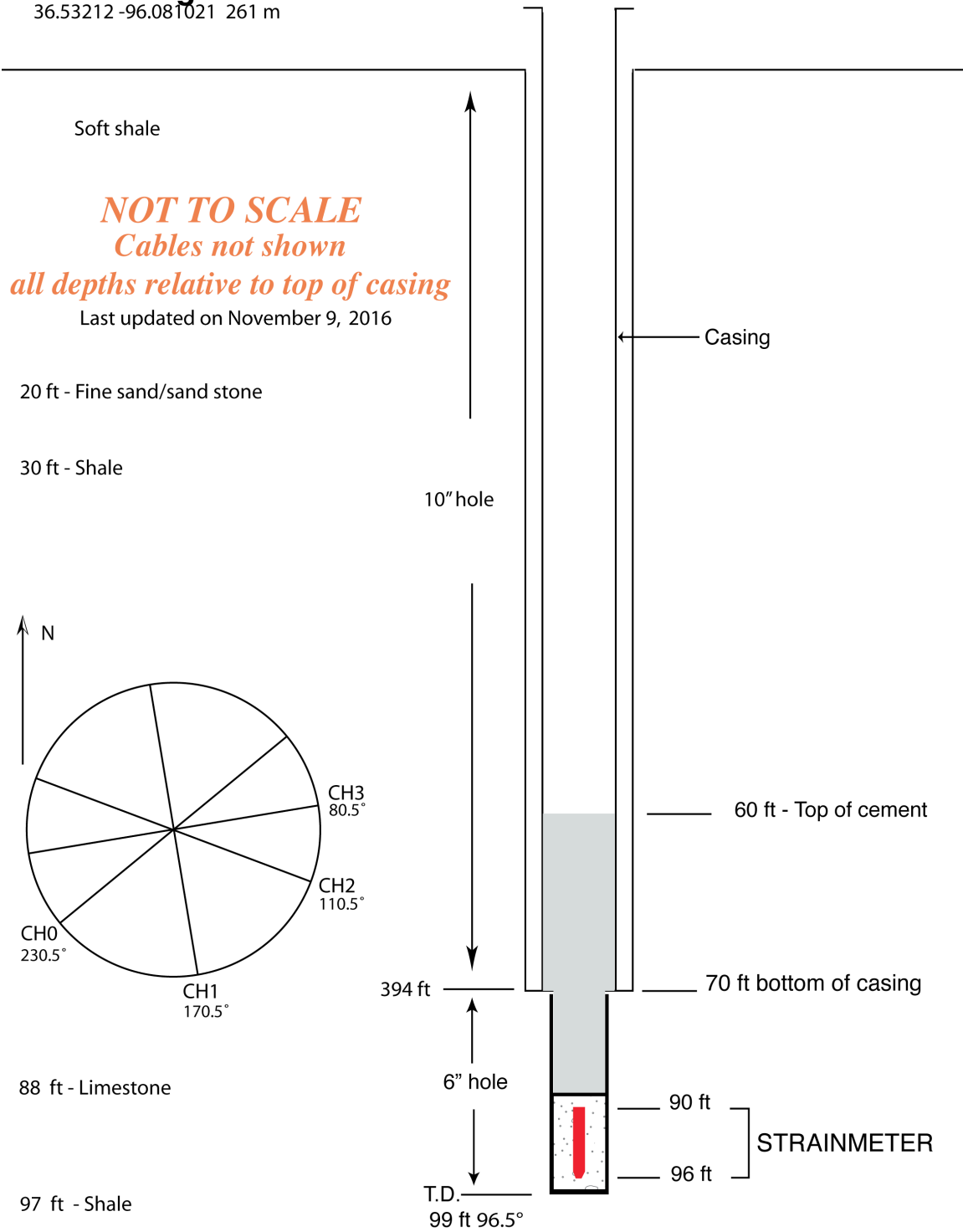
·Install depth is from the top of the casing to the bottom of the strainmeter.

·Orientations are in degrees East of North.



AVN2 osageavn2bok2016

36.53212 -96.081021 261 m



Instrumentation at Strainmeter

| Instrument | Units | Bottle/ASCII Scale Factor | SEED Scale Factor |
|------------------------------|------------------|---------------------------|-------------------|
| Pore Pressure | Hecto Pascals | | |
| 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

September 10, 2016

On Site: Mike Gottlieb, Liz van Boskirk, Kathleen Hodgkinson, Charlie Sievers, Larry Murdoch (Clemson), Scott Dewolf(Clemson), Leonid Germanovich(GA Tech), Martin Robinowitz (Grand Resources)

Sounded borehole at 99'1". Water level was at 85'.

Instrument US90 had been on test since yesterday afternoon, data looked good.

Spent the morning moving trucks, preparing equipment for install, and getting water.

Compass Test:

X min - 1.021 X max - 1.810

Y min - 0.548 Y max - 1.386

Started mixing grout at 2:30 pm local time. 7 bags of MF1206 with 12 gals of water -> just over 1.7 gallons per bag.

2:38 Last water.

2:46 Stop mixing for one minute.

2:47 Mix one more minute.

2:48 Done mixing, pouring buckets.

2:53 3 section bailer is full of grout.

2:55 Bailer tripped on bottom at 99' mark

2:58 Bailer out of the hole.

3:02 GTSM lowering in the hole.

3:08 GTSM tied off at 96 ft. mark.

3:20 Turned on GTSM, renamed AVN2.

Started in G1/G2, reached G3 in all channels after about 30 minutes, responded to quadrature adjustments.

Downhole temperature was dropping slowly for ~6 hours, then turned around.

Final compass numbers - x 1.725.

y 0.667

Around 5:30 pm, the oscillator board (part of the uphole electronics) appeared to have failed for unknown reasons. It was replaced around 7:30 pm with US950S, and the instrument has been working fine since.

September 11, 2016

On Site: Mike Gottlieb, Liz van Boskirk, Charlie Sievers, Scott Dewolf (Clemson)

Water level 58', lost very little water into formation overnight.
Taged grout with 1.5" pvc at 82' (grout plus instrument 17 ft)
11:00 Added 3.5 bags of portland cement (40 gallons) to hole with tremmie pipe, which brought the cement up to roughly 60', inside the casing.
Dug large pit
Turned of GTSM at 13:00 to move cable.
Buried 700' of cable.
Poured pad.
Moved hut onto pad.
Turned on GTSM in hut around 16:00.
Cemented in 2 solar panel posts.
Cleaned up site.

September 12, 2016

Set up 6 80w solar panels and 6 100Ah gel cell batteries, and a verizon cell modem.
There was a tipping bucket rain gauge and barbed wire fence installed.

2. General Information

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3. Strainmeter Maintenance

- October 4, 2016 – Wade visited the site to get it back online.
- March 5, 2019 – Site had a failing logger board, power system needed repairs. Replaced 2 failed GTSM batteries. Replaced failed isolation block. Rewired power system to have isolated GTSM side again. Now 4 mains batteries and 2 GTSM. Replaced logger board. Set quads and chop on strainmeter.
- March 18, 2020 – Shipped an RV50 to Tim Woodard at Grand Resources, he swapped in the new unit and removed the old one.