

Phelps 11-32NHZ (API 05-123-37687)

Operational History

Initial Construction & Completion

The Phelps 11-32NHZ was spud on 11/10/2013 by Synergy Resources Corporation. Well was drilled, cased and cemented successfully with the configuration seen below.

Surface Casing

- 9-5/8" 36# J-55 set at 1180'
- 390 sx of cement from 1180' to surface

Intermediate Casing

- 7" 26# P-110 set at 7801' (90° inc.)
- 730 sx of cement from 7828' to 1950' (CBL)

Production Liner

- 4-1/2" 13.5# P-110 set 12,050' with liner top at 7640' (61° inc.)
- 280 sx of cement from 12,050' to 7640'

Stimulation began 4/14/2014 with the 27 stage frac successfully being completed. Well had first production on 4/25/2014 and is currently still on production today.

Bradenhead History

2019 Bradenhead NTO test performed 10/14/2019 had initial pressures of 180 psi on tubing, 410 psi on casing, and 375 psi on the bradenhead. Bradenhead had continuous gas flow through the 30 min test with ending pressures of 180 psi on tubing, 410 psi on casing, and 350 psi on the bradenhead. This met the NTO threshold and required mitigation. Gas sample was collected on 11/1/2019, and results submitted and accepted by the COGCC 12/31/2019. Results showed the gas to be thermogenic in nature.

Mitigation method was determined to be the installation of an abatement system to relief bradenhead pressure and route the gas to the facilities emission control device to be incinerated. Sundry to install the abatement system was submitted 12/11/2019 and approved 12/19/2019.

The abatement system was installed and to be commissioned the second week of January 2020. Upon commissioning it was decided to first test the wells 7" casing due to the nature of the bradenhead flow.

1/8/2020 a workover rig mobilized onto the well. Tubing was pulled and a 7" packer was set at 314'. The casing between packer and rig BOP's was pressure tested and began seeing communication with the bradenhead at 500 psi. Packer was removed, and production tubing re-ran and landed with a production packer set at 2992' to isolate the 7" casing from reservoir pressure below. Packer was confirmed to be holding and the workover rig was de-mobilized 1/10/2020.

After well work was completed bradenhead was successfully blown down and abatement system commissioned. Abatement system is continuing to operate to relieve any bradenhead pressure build up, and 7" packer is continuing to isolate the 7" casing from 2992' and above.