

Black Hills Gas Resources
Jicarilla 464-32 #15

1890' FSL and 980' FEL, Section 32, T-30-N, R-3-W
Rio Arriba County, NM
API #30-039-29305

Plug and Abandonment Report
Notified Jicarilla BLM, BLM & NMOCD on 11/13/15

Plug and Abandonment Summary:

- Plug #1** with 42 sxs (49.56 cf) Class B cement from 3278' to 2908'. Tag TOC at 2920'.
- Plug #2** with 28 sxs (33.04 cf) Class B cement with 2% CaCl₂ from 1902' to 1655' to cover the Nacimiento top. Tag TOC at 1714'.
- Plug #3** with 48 sxs (56.64 cf) Class B cement with 2% CaCl₂ from 1021' to 598' to cover the San Jose perforations. Tag TOC at 654'.
- Plug #4** with 46 sxs (54.28 cf) Class B cement from 326' to surface to cover the 8 5/8" casing shoe and surface. 1) Pump 40 sxs to circulate good cement out casing valve. 2) TOH. RU pump to 5-1/2" casing valve. 3) Pump 6 sxs to refill 5-1/2" casing.
- Plug #5** with 17 sxs Class B cement top off casings and install P&A Marker at 36° 45' 58" N / 107° 10' 3" W.

Plugging Work Details:

- 11/13/15 MIRU A-Plus #14 & McGuire H₂S safety equipment. SWI. SDFD.
- 11/17/15 SITP 50 psi, SICP 50 psi, SIBHP 0 psi. No H₂S monitored. Blow down well. ND WH. NU BOP and function test. TOOH and LD 2 3/8" production tubing. TIH with 2 3/8" workstring. Tag at 3278'. Receive OK from R. Velarde, Jicarilla BLM, V. Lucero, BLM, & B. Powell, NMOCD to pump plug #1 from 3278'. Pump 40 bbls wtr, did not establish circulation. Pump 3 bbls. Spot **Plug #1** with calculated TOC at 2908'. TOH. SWI. SDFD.
- 11/18/15 SICP 0 psi, SIBHP 0 psi. Function test BOP. TIH & tag TOC at 2920'. TOOH to 1902'. Spot **Plug #2** with calculated TOC at 1655'. TOH. SWI. WOC. TIH. Tag TOC at 1714'. TOH to 1021'. Load BH with less than 1/8 bbl. Pressure test BH with 300 psi, held OK. Spot **Plug #3** with calculated TOC at 598'. TOH. SWI. SDFD.
- 11/19/15 SICP 0 psi, SIBHP 0 psi. Function test BOP. TIH and tag TOC at 654'. TOH to 326'. Pressure test casing to 800 psi, held OK. Spot **Plug #4** with TOC at surface. ND BOP. Cut off WH. Found cement at cut off point in 5-1/2" and 8-5/8" casings. Spot **Plug #5** and install P&A Marker at 36° 45' 58" N / 107° 10' 3" W. RDMOL.

Rod Velarde, Jicarilla BLM representative, was on location.
Stephen Charley, McGuire representative, was on location.