

Van Den Heuvel #1 Short Procedure

API: 077-05092

All cement plugs are based on 1.15 yield for Class G

Well History

- Plugged well that is leaking gas. Location ID: 390849, API: 30-077-05092
- Well is plugged in 1968.
- Surface access agreement in place with Laramie Energy, LLC
- Forward plan agreed upon with COGCC Aaron Katz, Craig Burger on 9/24. Subject to change after accessing well and determining leak path of gas.
- Wasatch formation top at 60' – has been source of shallow gas in offsets
- Form 42 rig notification required 48 hours prior to moving rig
- FSR Doug Sparks preparing well and location for rig arrival

Rig Scope of Work

1. Contact COGCC engineer Aaron Katz 24 hours in advance.
2. MIRU laydown rig.
3. N/U BOP to wellhead assembly
4. Pressure test BOP to 250 psi low and 1,000 psi or MASP (whichever is larger) for 5 minutes each.
 - a. On a chart, no bleed off accepted.
5. P/U drilling out assembly
 - a. 8-3/4" bit
 - b. Drill collars – length, # of joints to be determined
 - c. XO sub
 - d. Workstring
6. Mill out abandonment plug #1:
 - a. 10 sacks cement in top of surface pipe (appx 20')
 - b. 10-3/4" to 265'
 - c. 25 sacks cement at 265' (appx 50')
7. Clean out 9" open hole from 10-3/4" shoe at 265' to top of 7" stub at 780'
 - a. Document and communicate tag depth to COGCC, engineer
8. Circulate well clean with a minimum of two bottoms up.
 - a. Monitor returns, document any cuttings returned to surface, etc.
9. Conduct 30-minute bubble test on 10-3/4" and 10-3/4" x 15" OH annulus
 - a. Confirm if gas leak is rising through or behind 10-3/4" casing
10. If gas leak is coming from behind 10-3/4" surface casing, discuss changes to forward plan with engineer and COGCC
11. If gas leak is rising through 10-3/4" surface casing, proceed with forward plan below

12. Establish injection rate into open hole to determine how much cement can be squeezed away.
Align with engineer on volume of cement to squeeze away. Adjust forward plan as necessary.
13. Spot cement from tag depth to inside of 10-3/4" casing. Squeeze away volume previously agreed upon with engineer.
 - a. 198 sacks Class G cement from 780' to 265'
 - b. 102 sacks* Class G cement from 265' to 165' includes squeezing away 50 sacks of cement into open hole or 10-3/4" x 15" annulus.
 - i. Squeeze volume subject to change pending injection test
 - c. Displace cement to +/- 50' above 10-3/4" shoe depth 265'
14. WOC, tag, pressure test
15. Conduct bubble test for 30 minutes
 - a. If bubble test fails, discuss forward plan with engineer, COGCC
 - b. Potential to drill-out cement plug pending leak path
 - c. Potential options for leaking open hole: drill-out cement, spot and squeeze additional cement
 - d. Potential options for leaking annulus: drill-out cement, squeeze 10-3/4" shoe, perforate and squeeze contingency cement plug, explore additional sustained casing pressure remediation.
16. Once gas leak path has been isolated and verified, fill wellbore to surface with Class G cement
 - a. 84 sacks Class G cement from 165' assumed tag depth to surface
17. Verify cement to surface.
18. N/D BOP
19. RDMO.
20. Handover well to Doug Sparks FSR to cut off wellhead, secure location

Regulatory Contacts:

- Aaron Katz:
 - Office: 303-894-2100 ext. 5691
 - Cell: 970-765-6300
 - aaron.katz@state.co.us
- Craig Burger:
 - Office: 303-894-2100 ext. 5687
 - Cell: 970-319-4194
 - craig.burger@state.co.us