

Cement Verification Report - Cementer's Well Service, Inc.

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COGCC Operator Guidance **RULE #308.A.B(2)A.ii**



| | | |
|---|------------------------------|---------------|
| CLIENT: PDC - Petroleum Development Corp | Cementer's FIELD TICKET # | 210170 |
|---|------------------------------|---------------|

Requested Operator Guidance:

| | | | | |
|--|--|------------------|--|------------|
| 1) Well Name & Number | Lease | Elkhead | Well No. | 3N |
| 2) Well API Number | 05-1234-8492-0000 | | | |
| 3) Job Date | 8/23/20 | Time on | 10:00 | 24 hr time |
| 4) Job Type | New Well Surface | | | |
| 5) Cementing Company | Cementer's Well Service, Inc | Contact | Nate Kvamme - 303-324-4296 | |
| 6) Ambient conditions | clear / rain / snow / other | temp deg F | | |
| 7) Slurry Description | | | | |
| a) Purpose | Surface - 9 5/8" CSG, 12 1/4" hole | | | |
| b) Cement Class | Type I / II | | | |
| c) Cement Yield | 1.61 | cuft / sk | | |
| d) Cement Density | 13.9 | PPG | | |
| e) Number of sks | 530 | sks (94# equiv) | | |
| f) Cement Volume (dry) | 530 | cuft (ft^3) | | |
| g) Mix Fluid Type | | | | |
| Water / Cement | 8.5 | Gal / sk | | |
| h) Slurry mixed | 151.9 | BBLs slurry | | |
| i) Additives used | 1.50% | CaCl2 | | |
| | 3.00% | Bentonite | | |
| j) Displacement Fluid Vol | 127.4 | BBLs H2O | | |
| k) Method of Placement | | | | |
| l) Set Depth | 1,690 | feet (ft) | | |
| m) Stage tool depth | n/a | | | |
| n) Float Collar Depth | 1,649 | feet (ft) | | |
| o) Designed Top of Cement | n/a | to surface | | |
| p) Centralizer depths | 81 / 284 / 487 / 691 / 891 / 1,096 / 1,302 / 1,507 | | | feet (ft) |
| 8) Charts - (pressure, density, pump rate) | | | | |
| Landed Plug @ | 700 | psi | Final Lift Pressure @ | 500 psi |
| Cement Density (as weighed during job) @ | 13.8 | PPG | | |
| 9) Job notes | | | | |
| a) Plug down | <input checked="" type="radio"/> Y / <input type="radio"/> N | Time | 1:50 | 24 hr time |
| b) Floats held | <input checked="" type="radio"/> Y / <input type="radio"/> N | | | |
| c) Full Returns | <input checked="" type="radio"/> Y / <input type="radio"/> N | Lost Circulation | <input checked="" type="radio"/> Y / <input type="radio"/> N | |
| d) Cement to surface | <input checked="" type="radio"/> Y / <input type="radio"/> N | 20 | BBLs to surface | |
| e) If no returns, top off | BBLs | | | |
| f) Top off detail | | | | |