

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

P.O. BOX 336220 • GREELEY, CO 80633 • (970) 353-7299 • FAX (970) 353-7712



COGCC Operator Guidance

RULE #308.A.B(2)A.ii

| | | |
|---------------------------------|------------------------------|----------|
| CLIENT: Great Western Operating | Cementor's FIELD TICKET # | 334032-D |
|---------------------------------|------------------------------|----------|

Requested Operator Guidance:

| | | | | |
|---------------------------|--|------------------|----------------------------|------------|
| Well Name & Number | Lease | County Line 3107 | Well No. | 11H |
| Well API Number | 05-123-51170 | | | |
| Job Date | 8/25/21 | Time on | 17:30 | 24 hr time |
| Job Type | New Well Surface | | | |
| Cementing Company | Cementor's Well Service, Inc | Contact | Nate Kvamme - 303-324-4296 | |
| Ambient conditions | clear / rain / snow / other | 82 | temp deg F | |
| Slurry Description | | | | |
| a) Purpose | Surface - 9 5/8" 40# CSG, 13 1/2" hole | | | |
| b) Cement Class | Type I / II | | | |
| c) Cement Yield | 1.61 | cuft / sk | | |
| d) Cement Density | 13.9 | PPG | | |
| e) Number of sks | 781 | sks (94# equiv) | | |
| f) Mix Fluid Type | | | | |
| Water / Cement | 8.5 | Gal / sk | | |
| g) Slurry mixed | 223.9 | BBLs slurry | | |
| h) Additives used | 1.50% CaCl2 | 3.00% Bentonite | | |
| Total Water Used | 307.0 | BBLs H2O | | |
| i) Displacement Fluid Vol | 129.0 | BBLs H2O | | |
| j) Method of Placement | | | | |
| k) Set Depth | 1,715 | feet (ft) | | |
| l) Stage tool depth | n/a | | | |
| m) Float Collar Depth | 1,669 | feet (ft) | | |
| n) Designed Top of Cement | n/a | to surface | feet (ft) | |
| o) Centralizer depths | 0 | | | |

Charts - (pressure, density, pump rate)

| | | | | | |
|--|------|-----|-----------------------|-----|-----|
| Landed Plug @ | 1710 | psi | Final Lift Pressure @ | 425 | psi |
| Cement Density (as weighed during job) @ | 13.9 | PPG | | | |

Job notes

| | | | | |
|---------------------------|-------|------------------|-----------------|------------|
| a) Plug down | Y / N | Time | 20:36 | 24 hr time |
| b) Floats held | Y / N | | 8/25/21 | |
| c) Full Returns | Y / N | Lost Circulation | Y / N | |
| d) Cement to surface | Y / N | 12.0 | BBLs to surface | |
| e) If no returns, top off | n/a | BBLs | | |
| f) Top off detail | - | | | |

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Lease: County Line 3107

API# 05-123-51170



| | |
|-------------------|------------------|
| Date & Time On | 8/25/21 17:30 |
|-------------------|------------------|

| Item | | Event | Date | Time (24 hr) | Density (PPG) | Pump Rate (BPM) | Incremental (Line Item) Volume (BBLs) | Cumulative Volume (BBLs) | Pressure (PSI) | Comment | | | |
|-------------------------|----|------------------------|---------|-----------------|------------------|-----------------------|--|--------------------------------|-------------------|---|--|-------------|-----|
| Pre-job | 1 | Call Out | 8/25/21 | 13:30 | | | | | | Verdad Resources call out w/ 4 hr notice | | | |
| | 2 | Leave Yard | 8/25/21 | 23:45 | | | | | | Cementer's leaves yard to travel to location | | | |
| On Location: Pre-job | 3 | Arrive On Location | 8/25/21 | 17:30 | | | | | | Arrive on location | | | |
| | 4 | Spot Trucks | 8/25/21 | 17:35 | | | | | | Spot trucks on location | | | |
| | 5 | Rig Up | 8/25/21 | 17:37 | | | | | | Rig up water & Cementer's Bulk Truck, prep pump and mixing operation | | | |
| | 6 | Safety Meeting | 8/25/21 | 17:42 | | | | | | Pre-job safety meeting with IKON12 rig crew, Verdad company man & Cementer's crew | | | |
| | 7 | Rig Up | 8/25/21 | 17:47 | | | | | | Rig up cement head w/plug | | | |
| | 8 | Fill Lines | 8/25/21 | 17:49 | | | | | | 8.34 | 2.00 | | |
| Initial Job Start | 9 | Pressure Test | 8/25/21 | 0:00 | 8.34 | - | | | - | Pressure test pumps and lines | | | |
| | 10 | Pump Spacer | 8/25/21 | 18:58 | 8.34 | 4.00 | 20 | 20 | - | Pump dye fresh water @ | 20 | BBLs | |
| Cementing | 11 | Pump Cement | 8/25/21 | 19:03 | 13.90 | 4.00 | 223.90 | 243.90 | 45 | Pump Cement @ | 781 | SKS | |
| | | | | | | | | | | Type I/II cement with 1.5% CaCl2 & 3.0% Bentonite @ 1.61 cuft/sk & 13.9 PPG | 223.90 | BBLs slurry | |
| Displacement | 12 | Drop Plug | 8/25/21 | 20:04 | n/a | | | | | | Shut down cementing operation & release top plug | | |
| | 13 | Initial Displacement | 8/25/21 | 20:06 | 8.34 | 2.00 | 4.00 | 247.90 | - | Send plug with 4.0 BBLs H2O @ 2.0 BPM | | | |
| | 14 | Plug Drop Verification | 8/25/21 | 20:10 | n/a | | | | | | Visual verification plug released from head | | |
| | 15 | Displacement | 8/25/21 | 20:12 | 8.34 | 5.00 | 103.01 | 346.92 | 80-450 | Continued Displacement with total fresh water @ | 129.0 | BBLs H2O | |
| | 16 | Spacer To Surface | 8/25/21 | 20:26 | 8.34 | 5.00 | 107.01 | 350.92 | 385 | Identified Spacer, looking for Cement / green water | | | |
| | 17 | Cement To Surface | 8/25/21 | 20:29 | 8.34 | 5.00 | 117.01 | 360.92 | 390 | Identify Cement to surface w/ | 12 | BBLs back | |
| | 18 | Drop Rate | 8/25/21 | 20:34 | 8.34 | 2.50 | 119.01 | 362.92 | 400 | Drop rate to 2.5 BPM for last 10 BBLs of Displacement to land plug | | | |
| | 19 | Land Plug | 8/25/21 | 20:36 | 8.34 | 2.50 | 129.01 | 372.92 | 1,710 | Land Plug @ | 1,710 | PSI | |
| | | | | | | | | | | with final lift pressure @ | 425 | PSI | |
| Casing Test | 20 | Casing Test | 8/25/21 | 20:36 | n/a | 0 | 0 | 0 | 1,710 | Start 30 min casing test w/ pressure @ | | 1,710 | PSI |
| | 21 | | 8/25/21 | 20:46 | n/a | 0 | 0 | 0 | 1,698 | 10 min into casing test, pressure @ | | 1,698 | PSI |
| | 22 | | 8/25/21 | 20:56 | n/a | 0 | 0 | 0 | 1,675 | 20 min into casing test, pressure @ | | 1,675 | PSI |
| | 23 | | 8/25/21 | 21:06 | n/a | 0 | 0 | 0 | 1,660 | 30 min into casing test, pressure @ | | 1,660 | PSI |
| Post Job & Testing | 24 | Check Floats | 8/25/21 | 21:07 | n/a | 0 | 0 | 0 | 1.00 | BBLs back (.25-1BBL expected) | | | |
| | 25 | End Job | 8/25/21 | 21:09 | | | | | | Bleed off pressure, job complete | | | |
| | 26 | Safety Meeting | 8/25/21 | 21:11 | | | | | | Pre-rig down safety meeting, wash up equipment | | | |
| | 27 | Rig Down | 8/25/21 | 21:14 | | | | | | Rig down Cementer's Equipment, leave location | | | |

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Verdad Resources

Surface Cement Job Graph

COMPANY DETAILS

| | | | | | |
|--------|---------|-------|--------------|----------|------------------|
| Date | 8/25/21 | API # | 05-123-51170 | Well No. | 11H |
| County | Weld | State | CO | Lease | County Line 3107 |

Client Verdad Resources

Contact / email

JOB DETAILS

| | | | | | | | | |
|------------|-------|---------|-------------------|-------|-------|-----------------|-------|-----|
| TIME ON | 17:30 | 24 hr | Depth | 1,729 | ft. | Pressure Test @ | 1,710 | psi |
| START TIME | 18:40 | 8/25/21 | Bottom of Surface | 1,715 | ft. | 10 min | 1,698 | psi |
| END TIME | 21:15 | 8/25/21 | Plug Landed @ | 1,669 | ft. | 20 min | 1,675 | psi |
| | | | Plug Landed @ | 20:36 | 24 hr | 30 min | 1,660 | psi |

SUMMARY GRAPH

