



Caerus

SURFACE POST JOB REPORT

Chevron 21C-17 05-045-23238
S:17 T:6S R:96W Garfield CO

CallSheet #: 925
Proposal #: 13405



SURFACE Post Job Report

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com
Caerus
600 17th Street Suite 1600N | Denver, CO 80202

Dear Mr. Schmitz,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

Zen Keith

Technical Specialist-II | (307) 757-7178 | Zen.Keith@bjservices.com

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1 Job Details & Summary

1.1 Geometry

| Type | Function | OD (in) | ID (in) | Weight (lb/ft) | Thread | Top (ft) | Bottom (ft) | Excess (%) |
|-----------|----------|---------|---------|----------------|--------|----------|-------------|------------|
| Open Hole | Outer | n/a | 13.5 | n/a | n/a | 100 | 700 | 10 |
| Open Hole | Outer | n/a | 13.5 | n/a | n/a | 700 | 1020 | 0 |
| Open Hole | Outer | n/a | 15.5 | n/a | n/a | 0 | 100 | 0 |
| Casing | Inner | 9.625 | 8.921 | 36 | LTC | 0 | 1006 | 0 |

1.2 Equipment / People

| Unit Type | Unit | Employee #1 | Employee #2 | Mileage |
|-----------------|--------|------------------|----------------|---------|
| Cement Pump | 104 | Chaparro, Hector | | 60 |
| Cement Chemical | 401 | Boyd, Brian | Roush, James | 60 |
| Bulk Trailer | 501 | Gilliam, Glen | Gonzalez, Omar | 60 |
| Plug Container | 150519 | | | 60 |
| Swage | 150541 | | | |
| Bulk Trailer | E535 | | | |

1.3 Timing

| Event | Date/Time |
|-----------------|-----------------|
| Call Out | 6/18/2017 22:00 |
| Depart Facility | 6/18/2017 23:00 |
| On Location | 6/19/2017 00:00 |
| Rig Up Iron | 6/19/2017 00:15 |
| Job Started | 6/19/2017 02:30 |
| Job Completed | 6/19/2017 04:00 |
| Rig Down Iron | 6/19/2017 04:15 |
| Depart Location | 6/19/2017 05:30 |

1.4 General Job Information

| Metrics | Value |
|-------------------------|-----------|
| Well Fluid Density | 9 lb/gal |
| Well Fluid Type | WBM |
| Rig Circulation Vol | 170 bbls |
| Rig Circulation Time | 1 hours |
| Calculated Displacement | 74.5 bbls |
| Actual Displacement | 74.5 bbls |
| Total Spacer to Surface | 20 bbls |
| Total CMT to Surface | 5 bbls |
| Well Topped Out | No |

1.5 Well Fluid Details

| Metrics | Value |
|-------------------|-------|
| Plastic Viscosity | 16 |
| Yield Point | 14 |
| 10 sec. SGS | 8 |
| 10 min. SGS | 22 |
| 30 min. SGS | 41 |
| Filtrate | 0.1 |
| Flow Line Temp. | 128 |

1.6 Job Details

| Metrics | Value |
|--------------------------------|----------|
| Flare Prior to Job | No |
| Flare During Job | No |
| Flare at End of Job | No |
| Well Full Prior to Job | Yes |
| Well Fluid Density Into Well | 9 lb/gal |
| Well Fluid Density Out of Well | 9 lb/gal |

1.7 Job Details (cont.)

| Metrics | Value |
|---------|--------|
| BHCT | 86 °F |
| BHST | 109 °F |



1.8 Circulation

| Lost Circulation Experienced |
|------------------------------|
| No |

1.9 Job Execution Information

| Job | Fluid | Product | Function | Density (lb/gal) | Yield (ft ³ /sk) | Water Rq. (gal/sk) | Water Rq. (gal/bbl) | Volume (sks) | Volume (bbl) | Top (ft) |
|-----|-------|----------------|-------------------|------------------|-----------------------------|--------------------|---------------------|--------------|--------------|----------|
| 1 | 1 | Water | Flush | 8.33 | | | 42.00 | | 20.00 | 0 |
| 1 | 2 | ALTCem S100-12 | Lead | 12.00 | 2.53 | 14.85 | | 118.00 | 53.00 | 0 |
| 1 | 3 | ALTCem S100-12 | Tail | 12.50 | 2.22 | 12.58 | | 118.00 | 46.73 | 506 |
| 1 | 4 | Water | DisplacementFinal | 8.33 | | | 42.00 | | 90.00 | 0 |

1.10 Job Fluid Details

| Job | Fluid | Type | Fluid | Product | Function | Conc. | Uom |
|-----|-------|------|----------------|---------|-----------------|--------|-------|
| 1 | 2 | Lead | ALTCem S100-12 | AC3-10 | Cement | 100.00 | % |
| 1 | 2 | Lead | ALTCem S100-12 | ACL-10 | Accelerator | 2.00 | lb/sk |
| 1 | 2 | Lead | ALTCem S100-12 | ACL-20 | Accelerator | 5.00 | %BWOB |
| 1 | 2 | Lead | ALTCem S100-12 | ADF-11 | Defoamer | 0.30 | %BWOB |
| 1 | 2 | Lead | ALTCem S100-12 | ALC-10 | LostCirculation | 0.13 | lb/sk |
| 1 | 2 | Lead | ALTCem S100-12 | AXE-30 | Extender | 2.00 | lb/sk |
| 1 | 3 | Tail | ALTCem S100-12 | AC3-10 | Cement | 100.00 | % |
| 1 | 3 | Tail | ALTCem S100-12 | ACL-10 | Accelerator | 2.00 | lb/sk |
| 1 | 3 | Tail | ALTCem S100-12 | ACL-20 | Accelerator | 5.00 | %BWOB |
| 1 | 3 | Tail | ALTCem S100-12 | ADF-11 | Defoamer | 0.30 | %BWOB |
| 1 | 3 | Tail | ALTCem S100-12 | ALC-10 | LostCirculation | 0.13 | lb/sk |
| 1 | 3 | Tail | ALTCem S100-12 | AXE-30 | Extender | 2.00 | lb/sk |

2 Job Logs

| Line | Event | Date (MM/DD/YY) | Time (HH:MM) | Density (lb/gal) | Pump Rate (bpm) | Pump Volume (bbls) | Pipe Pressure (psi) | Comment |
|------|--------------------|-----------------|--------------|------------------|-----------------|--------------------|---------------------|--|
| 1 | Call Out | 6/18/2017 | 22:00 | | | | | Customer requested crew to be on location at 2:00 |
| 2 | Depart Shop | 6/18/2017 | 23:00 | | | | | Crew departs shop after journey management |
| 3 | Arrive On Location | 6/19/2017 | 00:00 | | | | | Crew arrives on location meet with customer get numbers |
| 4 | STEACS briefing | 6/19/2017 | 00:05 | | | | | Crew has STEACS briefing over rigging up iron |
| 5 | Rig Up Iron | 6/19/2017 | 00:15 | | | | | Crew rigs up iron and hoses |
| 6 | Waiting | 6/19/2017 | 00:55 | | | | | Waiting on rig to run casing |
| 7 | Lands Casing | 6/19/2017 | 01:55 | | | | | Rig lands casing and recirculates |
| 8 | STEACS briefing | 6/19/2017 | 02:10 | | | | | STEACS briefing with BJ crew, rig crew and company man over job and hazards |
| 9 | Fill Lines | 6/19/2017 | 02:39 | 8.33 | 3 | 5 | 50 | Fill pumps and lines |
| 10 | Pressure Test | 6/19/2017 | 02:40 | 8.33 | 0.5 | 0.5 | 3000 | Pressure test iron to 3000 PSI |
| 11 | Pump Water Spacer | 6/19/2017 | 02:43 | 8.33 | 15 | 4 | 50 | Pump fresh water spacer ahead |
| 12 | Pump Lead Cement | 6/19/2017 | 02:50 | 12 | 53 | 4 | 110 | Pump 53 bbls of 12 PPG lead cement (118 Sks, 2.53 Yield, 14.85 Gals/Sks) |
| 13 | Pump Tail Cement | 6/19/2017 | 03:05 | 12.5 | 46.7 | 4.5 | 160 | Pump 46.7 bbls of 12.5 PPG tail cement (118 Sks, 2.22 Yield, 12.58 Gals/Sks) |
| 14 | Shut Down | 6/19/2017 | 03:18 | | | | | Shut down pumping |
| 15 | Drop Plug | 6/19/2017 | 03:19 | | | | | Drop top plug and have company man verify plug went downhole |
| 16 | Pump Displacement | 6/19/2017 | 03:20 | 8.33 | 64.5 | 4 | 100 | Pump 74.5 bbls of fresh water displacement |
| 17 | Slow Rate | 6/19/2017 | 03:37 | 8.33 | 10.5 | 2 | 282 | Last 10 bbls of displacement slow rate to 2 bpm |
| 18 | Cement To Surface | 6/19/2017 | 03:38 | 8.33 | | 5 | | At 69.5 bbls away got 5 bbls of cement to surface |
| 19 | Land Plug | 6/19/2017 | 03:40 | 8.33 | | | | Land plug and bump up to 1500 PSI FCP of 300 PSI |
| 20 | Casing Test | 6/19/2017 | 03:40 | 8.33 | 0.5 | 0.5 | 1601 | Perform 15 min casing test 1500 PSI |
| 21 | Check Floats | 6/19/2017 | 03:58 | | | | | Check floats and got 1 bbl back |
| 22 | STEACS briefing | 6/19/2017 | 04:05 | | | | | STEACS briefing with crew over rigging down iron and hoses |
| 23 | Rig Down Iron | 6/19/2017 | 04:10 | | | | | Rig down iron and hoses |
| 24 | Depart Location | 6/19/2017 | 05:30 | | | | | Crew departs location |

3 Water Analysis

| Metrics | Value | Recommended |
|------------------|------------------|-------------|
| Water Source | Upright Rig Tank | |
| Temperature | 56 °F | 50-80 °F |
| pH Level | 4 | 5.5-8.5 |
| Chlorides | 0 mg/L | 0-3000 mg/L |
| Total Alkalinity | 80 | 0-1000 |
| Total Hardness | 70 mg/L | 0-500 mg/L |
| Carbonates | 60 mg/L | 0-100 mg/L |
| Sulfates | <200 mg/L | 0-1500 mg/L |
| Potassium | 450 mg/L | 0-3000 mg/L |
| Iron | 0.15 mg/L | 0-300 mg/L |

4 Pump Diagrams

