



Caerus

SURFACE POST JOB REPORT

Puckett 14B-23 697 05-045-23383
S:23 T:6S R:97W Garfield CO

CallSheet #: 1492
Proposal #: 14104



SURFACE Post Job Report

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com
Caerus
1001 17th Street, Suite 1600 | 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,

Gage Putnam

Field Engineer I | (970) 632-2006 | Gage.Putnam@Bjservices.com

Field Office 28730 US-6, Rifle, CO 81650
Phone: (307) 360-3062

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361



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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 | 14.75 | n/a | n/a | 100 | 2000 | 25 |
| Open Hole | Outer | n/a | 14.75 | n/a | n/a | 2000 | 2556 | 0 |
| Casing | Outer | 20 | 19.5 | 53 | n/a | 0 | 100 | 0 |
| Casing | Inner | 9.625 | 8.921 | 36 | LTC | 0 | 2478 | 0 |

1.2 Equipment / People

| Unit Type | Unit | Employee #1 | Employee #2 | Mileage |
|--------------------|----------|----------------|-------------|---------|
| Silo | 25 Silo | | | |
| Silo | 11 | | | |
| Cement Chemical | 401 | Aden, Alan | | 65 |
| Cement Pump | PPC11250 | Turek, Chad | Ham, Robert | 65 |
| Light Duty Pickups | 2 | Linn III, Paul | | 65 |

1.3 Timing

| Event | Date/Time |
|-----------------|------------------|
| Call Out | 10/10/2017 00:30 |
| Depart Facility | 10/9/2017 20:00 |
| On Location | 10/9/2017 22:00 |
| Rig Up Iron | 10/9/2017 22:30 |
| Job Started | 10/10/2017 10:58 |
| Job Completed | 10/10/2017 18:45 |
| Rig Down Iron | 10/10/2017 19:40 |
| Depart Location | 10/10/2017 20:30 |

1.4 General Job Information

| Metrics | Value |
|-------------------------|-------------|
| Well Fluid Density | 9 lb/gal |
| Well Fluid Type | WBM |
| Rig Circulation Vol | 191 bbls |
| Rig Circulation Time | 1 hours |
| Calculated Displacement | 188.24 bbls |
| Actual Displacement | 185 bbls |
| Total Spacer to Surface | 0 bbls |
| Total CMT to Surface | 0 bbls |
| Well Topped Out | Yes |
| Top Out Volume | 14.98 bbls |

1.5 Well Fluid Details

| Metrics | Value |
|-------------------|-------|
| Plastic Viscosity | 8 |
| Yield Point | 9 |
| 10 sec. SGS | 10 |
| 10 min. SGS | 18 |
| 30 min. SGS | 35 |
| Filtrate | 16 |
| Flow Line Temp. | 73 |

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 | 8.33 lb/gal |
| Well Fluid Density Out of Well | 9 lb/gal |

1.7 Job Details (cont.)

| Metrics | Value |
|---------|--------|
| BHCT | 94 °F |
| BHST | 128 °F |

1.8 Circulation

| Lost Circulation Experienced | Losses into Spacer | Losses into Cement | Losses into Displacement |
|------------------------------|--------------------|--------------------|--------------------------|
| Yes | 0 | 0 | 50 |

Circulation Details:

ONCE THE RIG SHUT DOWN LOST RETURNS UNTIL 200 BBLS OF LEAD CEMENT WHEN FULL RETURNS STARTED, HAD FULL RETURNS THROUGH TAIL CEMENT, HAD FULL RETURNS UNTIL 50 BBLS OF DISPLACEMENT, THEN THEY BECAME INTERMITTENT UNTIL 70 BBLS AWAY WHEN THEY WERE LOST ALL THE WAY.

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 | Sodium Silicate | Flush | 10.00 | | | 21.00 | | 20.00 | 0 |
| 1 | 3 | Water | Flush | 8.33 | | | 42.00 | | 20.00 | 0 |
| 1 | 4 | S100-12 | Lead | 12.00 | 2.53 | 14.85 | | 703.00 | 316.33 | 0 |
| 1 | 5 | S100-12 | Tail | 12.50 | 2.22 | 12.58 | | 162.00 | 64.15 | 2000 |
| 1 | 6 | Water | DisplacementFinal | 8.33 | | | 42.00 | | 191.00 | 0 |
| 1 | 7 | S100-12 | Topout | 12.50 | 2.22 | 12.58 | | 550.00 | 217.80 | 0 |

1.10 Job Fluid Details

| Job | Fluid | Type | Fluid | Product | Function | Conc. | Uom |
|-----|-------|--------|-----------------|---------|-----------------|--------|---------|
| 1 | 2 | Flush | Sodium Silicate | ASF-10 | Extender | 21.00 | gal/bbl |
| 1 | 4 | Lead | S100-12 | AC3-10 | Cement | 100.00 | % |
| 1 | 4 | Lead | S100-12 | ACL-10 | Accelerator | 2.00 | lb/sk |
| 1 | 4 | Lead | S100-12 | ACL-20 | Accelerator | 5.00 | %BWOB |
| 1 | 4 | Lead | S100-12 | ADF-11 | Defoamer | 0.30 | %BWOB |
| 1 | 4 | Lead | S100-12 | ALC-10 | LostCirculation | 0.13 | lb/sk |
| 1 | 4 | Lead | S100-12 | AXE-30 | Extender | 2.00 | lb/sk |
| 1 | 5 | Tail | S100-12 | AC3-10 | Cement | 100.00 | % |
| 1 | 5 | Tail | S100-12 | ACL-10 | Accelerator | 2.00 | lb/sk |
| 1 | 5 | Tail | S100-12 | ACL-20 | Accelerator | 5.00 | %BWOB |
| 1 | 5 | Tail | S100-12 | ADF-11 | Defoamer | 0.30 | %BWOB |
| 1 | 5 | Tail | S100-12 | ALC-10 | LostCirculation | 0.13 | lb/sk |
| 1 | 5 | Tail | S100-12 | AXE-30 | Extender | 2.00 | lb/sk |
| 1 | 7 | Topout | S100-12 | AC3-10 | Cement | 100.00 | % |
| 1 | 7 | Topout | S100-12 | ACL-10 | Accelerator | 2.00 | lb/sk |
| 1 | 7 | Topout | S100-12 | ACL-20 | Accelerator | 5.00 | %BWOB |
| 1 | 7 | Topout | S100-12 | ADF-11 | Defoamer | 0.30 | %BWOB |
| 1 | 7 | Topout | S100-12 | ALC-10 | LostCirculation | 0.13 | lb/sk |
| 1 | 7 | Topout | 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 | STEACS | 10/9/2017 | 19:30 | | | | | PRE-CONVOY SAFETY MEETING/ JOURNEY MANAGEMENT |
| 2 | DEPART YARD | 10/9/2017 | 20:00 | | | | | DEPART RIFLE YARD FOR H&P 330 |
| 3 | ARRIVE ON LOCATION | 10/9/2017 | 22:00 | | | | | ARRIVE ON LOCATION |
| 4 | STEACS | 10/9/2017 | 22:15 | | | | | PRE-RIG UP SAFETY MEETING |
| 5 | RIG UP | 10/9/2017 | 22:30 | | | | | SPOT EQUIPMENT AND RIG UP EQUIPMENT |
| 6 | CALL OUT | 10/10/2017 | 00:30 | | | | | CALL OUT ON LOCATION TIME OF 10:00 A.M |
| 7 | STEACS | 10/10/2017 | 10:15 | | | | | PRE-JOB SAFETY MEETING WITH COMPANY MAN, RIG CREW, AND ALL BJ SERVICES CREW. |
| 8 | RIG UP | 10/10/2017 | 10:30 | | | | | STAB PLUG CONTAINER ON CASING, LOAD PLUG VERIFIED BY COMPANY MAN, HOOK UP LINES. |
| 9 | SPACER | 10/10/2017 | 10:58 | 8.33 | 2 | 5 | 22 | FILL LINES WITH 5 BBLS. OF FRESH WATER |
| 10 | PRESSURE TEST | 10/10/2017 | 11:01 | | | | 4215 | PRESSURE TEST TO 4215 PSI. PRESSURE HELD |
| 11 | SPACER | 10/10/2017 | 11:07 | 8.33 | 4 | 20 | 205 | FINISHED PUMPING 20 BBLS. OF FRESH WATER |
| 12 | SPACER | 10/10/2017 | 11:11 | 10 | 4 | 20 | 225 | PUMPED 20 BBLS. OF SODIUM SILICATE |
| 13 | SPACER | 10/10/2017 | 11:15 | 8.33 | 4 | 20 | 276 | PUMPED 20 BBLS OF FRESH WATER. |
| 14 | LEAD | 10/10/2017 | 11:29 | 12 | 4 | 10 | 80 | PUMPED LEAD CEMENT, 703 SKS, 2.53 FT3/SK, 14.85 GAL/SK, 12 PPG, FOR A TOTAL OF 316.77 BBLS OF LEAD. REQUIRING 248.56 BBLS OF WATER. WEIGHT VERIFIED WITH MUD SCALES. |
| 15 | LEAD | 10/10/2017 | 11:37 | 12 | 5.5 | 45 | 121 | PUMPED LEAD CEMENT. |
| 16 | LEAD | 10/10/2017 | 11:39 | 12 | 6 | 60 | 202 | PUMPED LEAD CEMENT. |
| 17 | LEAD | 10/10/2017 | 11:47 | 12 | 5.5 | 100 | 157 | PUMPED LEAD CEMENT. |
| 18 | LEAD | 10/10/2017 | 12:00 | 12 | 4.5 | 180 | 95 | PUMPED LEAD CEMENT. |
| 19 | LEAD | 10/10/2017 | 12:25 | 12 | 4 | 280 | 71 | PUMPED LEAD CEMENT. |
| 20 | LEAD | 10/10/2017 | 12:33 | 12 | 4 | 334 | 62 | FINISHED PUMPING LEAD CEMENT WITH 334 BBLS AWAY |
| 21 | SHUT DOWN | 10/10/2017 | 12:34 | | | | | SHUT DOWN DUE TO NOT GETTING CEMENT. |



| | | | | | | | | |
|----|-------------------------|------------|-------|------|-----|-----|------|--|
| 22 | TAIL | 10/10/2017 | 12:38 | 12.5 | 4 | 20 | 56 | PUMPED TAIL CEMENT, 162 SKS, 2.22 FT3/SK, 12.58 GAL/SK, 12.5 PPG, FOR A TOTAL OF 64.05 BBLS OF TAIL. REQUIRING 48.52 BBLS OF WATER. WEIGHT VERIFIED WITH MUD SCALES. |
| 23 | TAIL | 10/10/2017 | 12:52 | 12.5 | 5.5 | 30 | 159 | PUMPED TAIL CEMENT |
| 24 | TAIL | 10/10/2017 | 12:55 | 12.5 | 4.5 | 40 | 69 | PUMPED TAIL CEMENT |
| 25 | TAIL | 10/10/2017 | 13:00 | 12.5 | 4.5 | 61 | 62 | FINISHED PUMPING TAIL CEMENT WITH 61 BBLS AWAY |
| 26 | SHUT DOWN | 10/10/2017 | 13:01 | | | | | SHUT DOWN |
| 27 | DROP PLUG | 10/10/2017 | 13:05 | | | | | DROPPED TOP PLUG VERIFIED BY COMPANY MAN |
| 28 | PUMPED 2 BBLS OF CEMENT | 10/10/2017 | 13:08 | 12.5 | 2.5 | 2 | 131 | STARTED DISPLACEMENT WITH 2 BBLS OF TAIL CEMENT ON TOP OF THE PLUG |
| 29 | DISPLACEMENT | 10/10/2017 | 13:10 | 8.33 | 2.5 | 10 | 134 | PUMPED FRESH WATER DISPLACEMENT |
| 30 | DISPLACEMENT | 10/10/2017 | 13:12 | 8.33 | 4 | 20 | 238 | PUMPED FRESH WATER DISPLACEMENT |
| 31 | DISPLACEMENT | 10/10/2017 | 13:15 | 8.33 | 5 | 30 | 309 | PUMPED FRESH WATER DISPLACEMENT |
| 32 | DISPLACEMENT | 10/10/2017 | 13:19 | 8.33 | 5.5 | 50 | 363 | PUMPED FRESH WATER DISPLACEMENT |
| 33 | DISPLACEMENT | 10/10/2017 | 13:23 | 8.33 | 7 | 100 | 425 | PUMPED FRESH WATER DISPLACEMENT |
| 34 | DISPLACEMENT | 10/10/2017 | 13:32 | 8.33 | 4 | 121 | 218 | PUMPED FRESH WATER DISPLACEMENT |
| 35 | DISPLACEMENT | 10/10/2017 | 13:40 | 8.33 | 4 | 170 | 315 | PUMPED FRESH WATER DISPLACEMENT |
| 36 | DISPLACEMENT | 10/10/2017 | 13:42 | 8.33 | 2 | 171 | 208 | PUMPED FRESH WATER DISPLACEMENT |
| 37 | DISPLACEMENT | 10/10/2017 | 13:45 | 8.33 | 2 | 185 | 346 | FINISHED PUMPING DISPLACEMENT WITH 185 BBLS AWAY. |
| 38 | LAND PLUG | 10/10/2017 | 13:47 | | | | 1132 | LANDED THE PLUG. FINAL CIRCULATING PRESSURE WAS 346 PSI. TOOK TO 1132 PSI. |
| 39 | CHECK FLOATS | 10/10/2017 | 13:50 | | | | | CHECK FLOATS, FLOATS HELD 1 BBL BACK |
| 40 | STEACS | 10/10/2017 | 13:51 | | | | | PRE-RIG DOWN/UP SAFETY MEETING TO PUMP ON PARASITE STRING |
| 41 | RIG DOWN/ RIG UP | 10/10/2017 | 13:52 | | | | | BREAK OFF PLUG CONTAINER AND HOOK UP TO PARASITE STRING |
| 42 | PUMP ON PARASITE STRING | 10/10/2017 | 13:54 | 8.33 | 1.5 | 0 | 0 | PUMP ON PARASITE STRING WITH 100 LBS OF SUGAR |



| | | | | | | | | |
|----|--------------------------------------|------------|-------|------|-----|---|-----|---|
| 43 | BREAK CIRCULATION ON PARASITE STRING | 10/10/2017 | 13:58 | 8.33 | 1.5 | 7 | 165 | AT 7 BBLS AWAY BROKE PRESSURE ON PARASITE STRING |
| 44 | SHUT DOWN | 10/10/2017 | 14:00 | | | | | SHUT DOWN |
| 45 | WASH PUMPS AND LINES | 10/10/2017 | 14:05 | | | | | WASH PUMPS AND LINES INTO CELLAR RING |
| 46 | STEACS | 10/10/2017 | 14:20 | | | | | PRE-RIG DOWN/UP SAFETY MEETING TO RIG UP FOR TOP OUT |
| 47 | RIG DOWN/ RIG UP | 10/10/2017 | 14:25 | | | | | RIG DOWN FROM PARASITE STRING AND RIG UP TO TOP OUT. |
| 48 | STEACS | 10/10/2017 | 17:30 | | | | | PRE-TOP OUT SAFETY MEETING WITH RIG CREW |
| 49 | RIG UP | 10/10/2017 | 17:50 | | | | | RIG UP FOR TOP OUT |
| 50 | SPACER | 10/10/2017 | 18:18 | | | | | 200 LBS OF CALCIUM CHLORIDE IN 2.5 BBLS OF WATER |
| 51 | SPACER | 10/10/2017 | 18:23 | | | | | SODIUM SILICATE |
| 52 | TOP OUT | 10/10/2017 | 18:33 | | | | | PUMPED TOP OUT CEMENT, 50 SKS, 2.22 FT3/SK, 12.58 GAL/SK, 12.5 PPG, FOR A TOTAL OF 19.77 BBLS OF TOP OUT. REQUIRING 14.98 BBLS OF WATER. WEIGHT VERIFIED WITH MUD SCALES. |
| 53 | CEMENT TO SURFACE | 10/10/2017 | 18:38 | | | | | CEMENT TO SURFACE |
| 54 | SHUT DOWN | 10/10/2017 | 18:39 | | | | | SHUT DOWN |
| 55 | PUMP CEMENT | 10/10/2017 | 18:41 | | | | | SWAPPED OVER TO LAST PARASITE STRING AND PUMPED 3 BBLS OF CEMENT |
| 56 | SHUT DOWN | 10/10/2017 | 18:43 | | | | | SHUT DOWN |
| 57 | WASH UP LINES | 10/10/2017 | 18:45 | | | | | WASH LINES CLEAN INTO CELLAR RING |
| 58 | WASH UP PUMPS AND LINES | 10/10/2017 | 19:00 | | | | | SWAPPED OVER TO 3-SIDED TANK AND WASHED PUMPS AND LINES |
| 59 | STEACS | 10/10/2017 | 19:30 | | | | | PRE-RIG DOWN SAFETY MEETING |
| 60 | RIG DOWN | 10/10/2017 | 19:40 | | | | | RIG DOWN ALL EQUIPMENT |
| 61 | AAR | 10/10/2017 | 20:10 | | | | | AFTER ACTION REVIEW WITH ALL BJ CEMENT CREW |
| 62 | DEPART LOCATION | 10/10/2017 | 20:30 | | | | | THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW |



3 Water Analysis

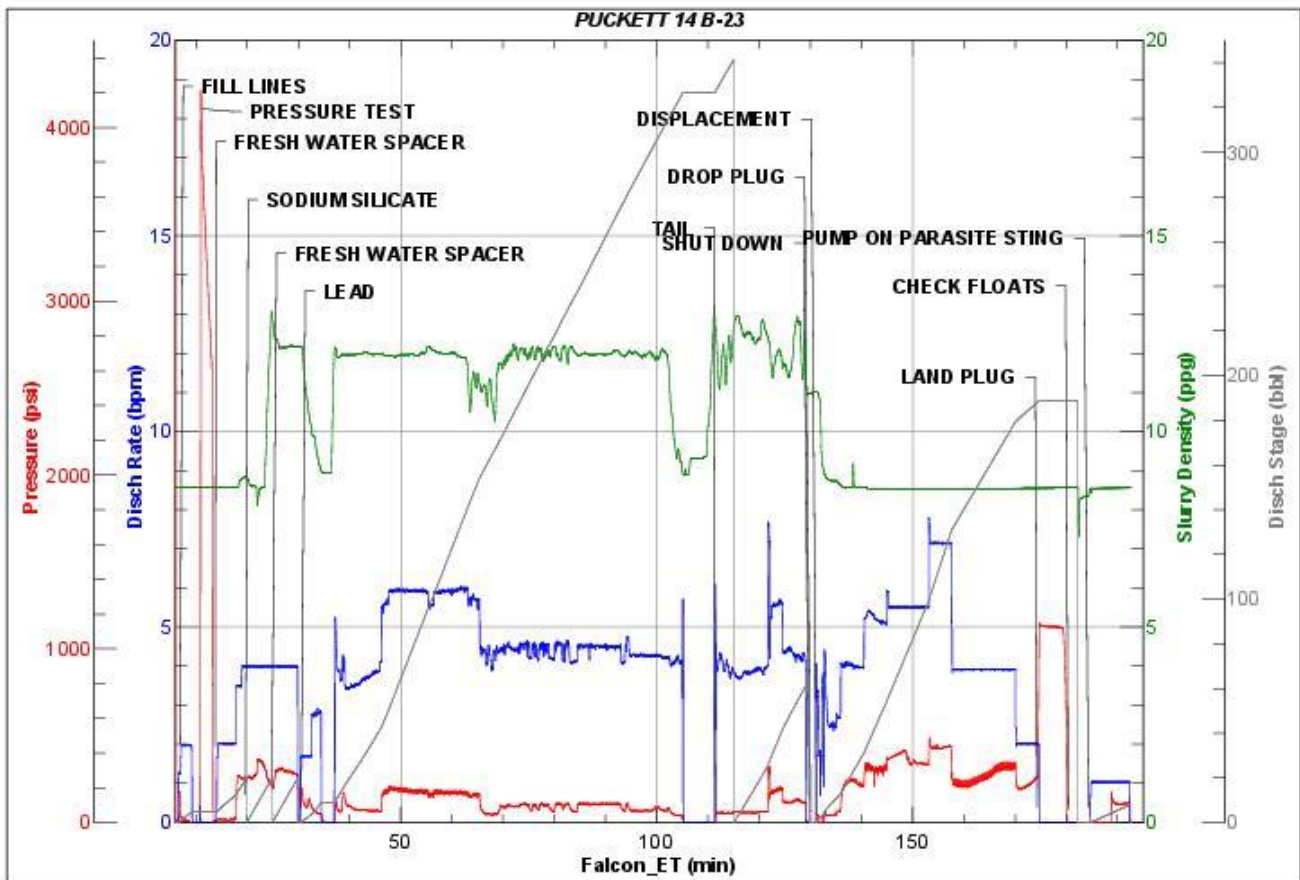
| Metrics | Value | Recommended |
|------------------|------------------|-------------|
| Water Source | Upright Rig Tank | |
| Temperature | 69.8 | 50-80 °F |
| pH Level | 7 | 5.5-8.5 |
| Chlorides | <289 | 0-3000 mg/L |
| Total Alkalinity | 240 | 0-1000 |
| Total Hardness | <250 | 0-500 mg/L |
| Carbonates | N/A | 0-100 mg/L |
| Sulfates | <200 | 0-1500 mg/L |
| Potassium | 250 | 0-3000 mg/L |
| Iron | 0 | 0-300 mg/L |

4 Pump Diagrams

Job Chart



JobMaster Program Version 4.02C 1
Job Number: 1492
Customer: CAERUS
Well Name: PUCKETT 14B-23



BJ Services

Job Start: Tuesday, October 10, 2017



Top Out

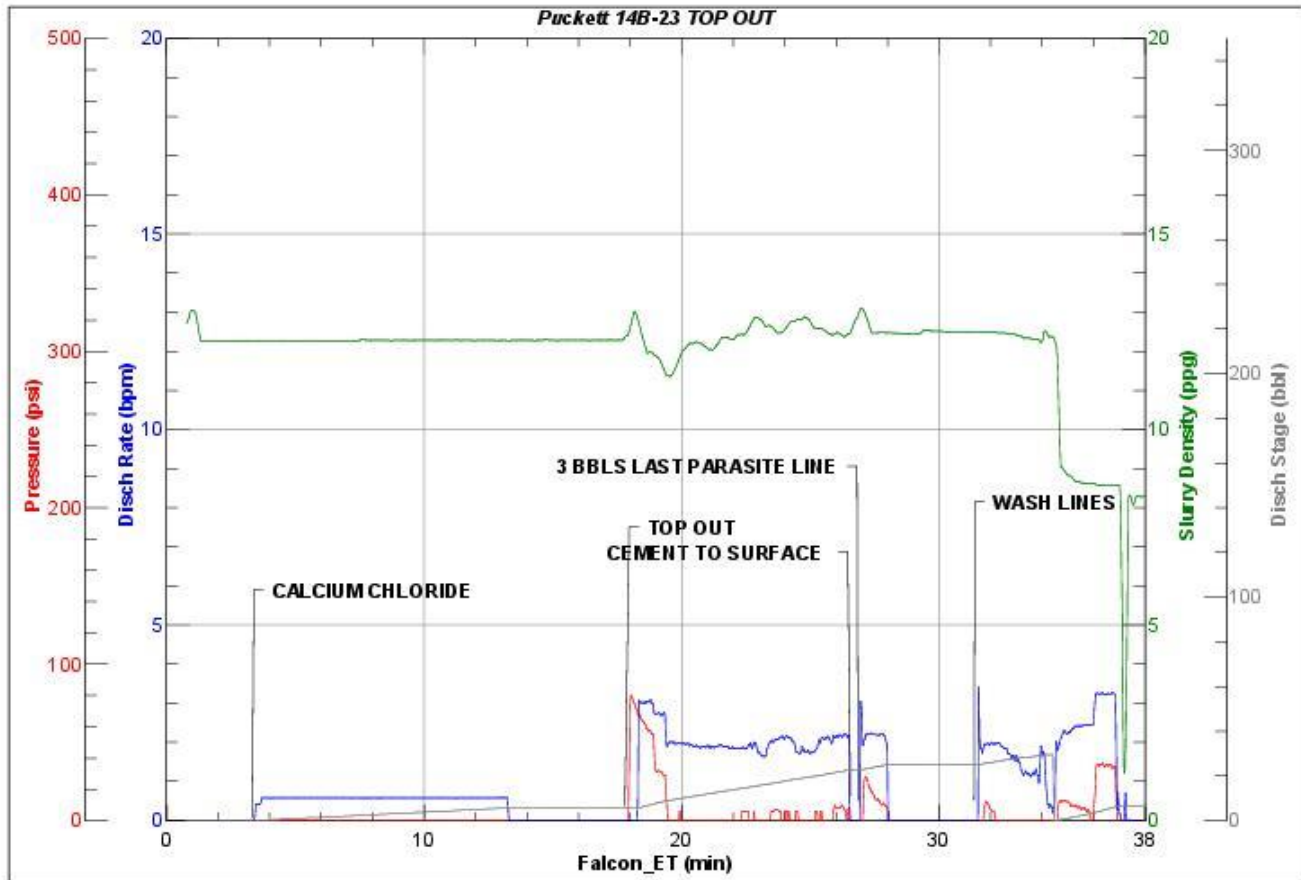


JobMaster Program Version 4.02C 1

Job Number: 1326

Customer: CAERUS

Well Name: PUCKETT 24D-23



BJ Services

Job Start: Tuesday, October 10, 2017