NEXTIER

| | |
|---|---|
| CUSTOMER | PDC ENERGY |
| DISTRICT | 3021 |
| ADDRESS | 821 WCR 27, Brighton, CO 80603 |
| PHONE | 303-857-7948 |

| | | | |
|---|---|---|---|
| AFE # | PX001486 | PO: | |
| LEASE NAME / NUMBER | | API WELL NUMBER | |
| QUANTUM 14-16 | | 512312008 | |
| SECTION | TOWNSHIP | RANGE | COUNTY, STATE |
| 16 | 4N | 65W | WELD, COLORADO |
| WELL PERMIT NUMBER | | | |
| JOB TYPE | | CM-P2A-PERM. | |
| Vehicle Type | | Single | |

| | |
|---|---|
| TICKET | BCO-2006-0002 |
| DATE | 6/2/2020 |
| CREW INFORMATION | |
| SUPERVISOR | Cody Michel |
| PUMP UNIT NUMBERS | 44-5070 |
| | CPF002 |
| ARRIVAL (D&T) | 6/2/20 1:30 PM |
| DEPARTURE (D&T) | 6/2/20 3:30 PM |

b 1-complete

**Service & Equipment Charges**

| Price Code | Description | Unit | Quantity | Price | Gross Amount | Discount | Net Amount |
|---|---|---|---|---|---|---|---|
| 50001303 | BULK CEMENT DELIVERY (PER TON) | TON MILE | 96 | | | | |
| 50001312 | Bulk Blending Service | FT3 | 80 | | | | |
| 50001349 | AccuDat Recording System | JOB | 1 | | | | |
| 50001296 | MILEAGE; DOT UNITS | MILE | 30 | | | | |
| 50001297 | MILEAGE; NON-DOT UNITS | MILE | 30 | | | | |
| 50001288 | Environmental Surcharge | EA | 1 | | | | |
| 50009993 | PUMP CHARGE 4001-5000' (4-HRS) | EA | 1 | | | | |

**Materials & Products** 13

| Price Code | Description | Unit | Quantity |
|---|---|---|---|
| 10004393 | NCM-922 - CEMENT PORTLAND TYPE III NCM-922 | SK | 55 |
| 10004766 | NAC-102 - ADDITIVE ANHY SODIUM METASILICATE NAC-102 | LB | 6 |
| 10004432 | NFL-522 - ADDITIVE FLUID LOSS GAS MIGR NFL-522 | LB | 32 |
| 10004430 | NTC-540 - ADDITIVE FLUID LOSS HP NTC-540 | LB | 32 |
| 10004424 | NLM-611 - ADDITIVE LCM GILSONITE COATED NLM-611 | LB | 1,100 |
| 10004365 | NTC-704 - ADDITIVE CONTROL ANTI-SETTLINGNTC-704 | LB | 11 |
| 10004974 | NFP-701 - ADDITIVE ANTI-FOAM SOLID NFP-701 | LB | 21 |
| 10004358 | NFP-775L - ADDITIVE DEFOAMER ALPHA NFP-775L | GAL | 2 |

Customer Stamp

Customer Name Printed _____

Customer Signature _____

Date Signed _____

# NexTier Job Summary

| Ticket Number | Ticket Date |
|---|---|
| TN# BCO-2006-0002 | 6/2/2020 |

| COUNTY | COMPANY | API Number |
|---|---|---|
| WELD | PDC ENERGY | 512312008 |
| **WELL NAME** | **RIG** | **JOB TYPE** |
| QUANTUM 14-16 | Ranger 22 | CM-P2A-PERM. |
| **SURFACE WELL LOCATION** | **CJES Field Supervisor** | **CUSTOMER REP** |
| 40.306944 -104.674167 | Cody Michel | Ryan Beam |

EMPLOYEES

*Garrick Williamson*
*Kacey Laeger*

## WELL PROFILE

| | | | |
|---|---|---|---|
| Max Treating Pressure (psi): | 1500 | Bottom Hole Static Temperature (°F): | |
| Bottom Hole Circulating Temperature (°F): | | Well Type: | |

Open Hole

| | Size (in) | TMD From (ft) | TMD to (ft) | TVD From (Ft) | TVD to (Ft) |
|---|---|---|---|---|---|
| 1 | 10 | 4334 | 4534 | 4334 | 4534 |
| 2 | | | | | |

Casing/Tubing/Drill Pipe

| Type | Size (in) | Weight (lb/ft) | Grade | TMD From (ft) | TMD to (ft) | TVD From (Ft) | TVD to (Ft) |
|---|---|---|---|---|---|---|---|
| Production | 4.5 | 11.6 | | 0 | 4534 | 0 | 4534 |
| Tubing | 2.375 | 4.7 | | 0 | 4349 | 0 | 4349 |
| | | | | | | | |

## CEMENT DATA

**Stage 1:** From Depth (ft): 4073 To Depth (ft): 4534
Type: **Circulation Squeeze**
Volume (sacks): 55 Volume (bbls): 23.6

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| 12 ppg Sussex Squeeze Blend | 12 | 2.41 | 12.02 |

**Stage 2:** From Depth (ft): To Depth (ft):
Type:
Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

**Stage 3:** From Depth (ft): To Depth (ft):
Type:
Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

**Stage 4:** From Depth (ft): To Depth (ft):
Type:
Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

## SUMMARY

| | | | | Stage 1 | Stage 2 |
|---|---|---|---|---|---|
| Preflushes: | 5 bbls of | Fresh Water | Calculated Displacement (bbl): | 12.5 | |
| | bbls of | | Actual Displacement (bbl): | 12.5 | |
| | bbls of | | | | |

TotalPreflush/Spacer Volume (bbl): 5
Total Slurry Volume (bbl): 23.6
Total Fluid Pumped 41.1
Returns to Surface: bbls

Plug Bump (Y/N): Bump Pressure (psi):
Lost Returns (Y/N): No (if Y, when)

Job Notes (fluids pumped / procedures / tools / etc.):

2.375" 4.7 ppf tubing inside 4.5" 11.6 ppf casing stung into retainer @ 4349' Established circulation and pumped 5 bbl fresh water spacer, then displaced with 12.5 bbl of fresh water leaving 10 sks ( 4.29 bbl) of cement on top of retainer.

Customer Representative Signature:

*Thank You For Using NexTier Completion Solutions*

Cement Job Log

NEXTIER

| | | | | | |
|---|---|---|---|---|---|
| Customer: | PDC ENERGY | Date: | 2-Jun-20 | Serv. Supervisor: | Cody Michel |
| Cust. Rep.: | Ryan Beam | Ticket #: | BCO-2006-0002 | Serv. Center | Brighton - 3021 |
| Well Name: | QUANTUM 14-16 | API Well #: | 512312008 | County: WELD | State: COLORADO |
| Well Type: | Oil | Rig: | Ranger 22 | Type of Job: | CM-P2A-PERM. |

Materials Furnished by NexTier

| Plugs | Casing Hardware | Sacks of Cement | Fluid Density (lb/gal) | Excess | Yield (cuft/sk) | Mix Water (gal/sk) | Fluid Volume (bbls) | Mix Water (bbls) |
|---|---|---|---|---|---|---|---|---|
| Spacer - 5 bbl Fresh Water | | | | | - | - | 5.00 | |
| Sussex Squeeze - Leave 10 sacks on top | 100 % NCM-922 +0.1 % NAC-102+0.6 % NFL-522+0.6 % NTC-540+20.0 PPS NLM-611+0.2 % NTC-704+0.4 % NFP-701 | 55 | 12 | | 2.41 | 12.02 | 23.58 | 16 |
| 0 | | | | | - | - | | |
| 0 | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Displacement Chemicals:

| OPEN HOLE DATA | | | | | TUBULAR DATA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | SIZE WEIGHT | THRD | DEPTH (ft) | GRADE | ID (in) | BURST (psi) | COLLAPSE (psi) |
| Mix Cemt. Temperature °F | Lead Tmp. | Middle Temp. | Tail Temp. | | 2.375" 4.7 ppf | | 4339 | | 1.995 | | |

| PREVIOUS CASING DATA | PERFORATED INTERVAL DATA | | | | CASING EQUIPMENT DEPTHS | | | |
|---|---|---|---|---|---|---|---|---|
| | TOP | BTM | SPF | SIZE | SHOE | FLOAT | STAGE | ACP |
| | | | | | | | | |

| WELL FLUID | | DISPLACEMENT FLUID | | | DIFF PRESS | CSG LIFT | MAX PRESS | Total Number of Runs | WATER ON LOC (bbl) |
|---|---|---|---|---|---|---|---|---|---|
| TYPE | DENSITY | VOLUME | TYPE | DENSITY | (psi) | (psi) | (psi) | | |
| Water | 8.3 ppg | 12.5 bbl | Water | 8.3 ppg | | | 1500 | 1 | 110 |

| Bumped Plug | Final Differential (psi) | Floats Held (Y/N) | PSI Left on Casing | Cement to Surface (bbl) | Top of Cement (ft) | Full Circ. During Job (Y/N) | Max Pump Pressure (psi) | Casing Rotation | Standby Charged(hrs) | Casing Reciprocation | Wireline Co. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 4,073 | Yes | | | | | 0 |

Comments/Special Customer Instructions

Cody Michel — Service Supervisor

2-Jun-20 — Date

# Cement Job Log

NEXTIER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Customer: | PDC ENERGY | | | Date: | 2-Jun-20 | Serv. Supervisor: | Cody Michel | | |
| Cust. Rep.: | Ryan Beam | | | Ticket #: | BCO-2006-0002 | Serv. Center: | Brighton - 3021 | | |
| Well Name: | QUANTUM 14-16 | RTS Date: | 02-Jun-2020 | API Well #: | 512312008 | County: | WELD | State: | COLORA |
| Well Type: | Oil | RTS Time: | 1:30 PM | Rig: | Ranger 22 | Type of Job: | CM-P2A-PERM. | | |

| | Date | Time | | Date | Time | | Date | Time |
|---|---|---|---|---|---|---|---|---|
| Left Yard: | 02-Jun-20 | 12:45 PM | Left Loc.: | 02-Jun-20 | 3:30 PM | Start Pump: | 02-Jun-20 | 2:15 PM |
| Arrived Loc.: | 02-Jun-20 | 1:30 PM | Returned Yd.: | 02-Jun-20 | 4:15 PM | End Pump: | 02-Jun-20 | 2:41 PM |

| TIME<br>Note: Red boxes indicate bad values! | Rate (bbl/min) | Csg. Press. (psi) | Tbg. Press (psi) | Ann. Press. (psi) | Stg. Vol. (bbl) | Cum. Vol. (bbl) | Stage Num. Stage # | Stage Details |
|---|---|---|---|---|---|---|---|---|
| 12:45 PM | | | | | | | | Left Yard or Current Location |
| 1:30 PM | | | | | | | | ARRIVE ON LOCATION |
| 1:30 PM | | | | | | | 1 | Tailgate Meeting |
| 1:35 PM | | | | | | | 1 | Spot Trucks |
| 1:45 PM | | | | | | | 1 | Rig In |
| 2:00 PM | | | | | | | 1 | Safety Meeting |
| 2:15 PM | | | | | 1.5 bbl | 1.5 bbl | 1 | Fill Lines |
| 2:17 PM | | | 2500 | | 0.5 bbl | 2.0 bbl | 1 | Pressure Test 2500 psi |
| 2:18 PM | 1 | | 490 | | 5.0 bbl | 7.0 bbl | 1 | Establish Circulation |
| 2:23 PM | 2.25 | | 350 | | 23.6 bbl | 30.6 bbl | 1 | Mix and Pump 55 sks (23.6 bbl) of Sussex Squeeze blend @ 12 ppg |
| 2:34 PM | 2 | | 300 | | 12.5 bbl | 43.1 bbl | 1 | Displaced 12.5 bbl of fresh water leaving 4.29 bbl of cement on retainer |
| 2:41 PM | | | | | | | 1 | Shut Down Sting out |
| 2:45 PM | | | | | | | 1 | Wash Up Rig Down |
| 3:25 PM | | | | | | | 1 | Tailgate Meeting |
| 3:30 PM | | | | | | | 1 | Leave Location |

| | | | | | |
|---|---|---|---|---|---|
| Client | PDC Energy | Client Rep | Ryan Beam | Supervisor | Cody Michel |
| Ticket No. | BCO-2006-0002 | Well Name | Quantum 14-16 | Unit No. | 445070 |
| Location | 16 4N 65W | Job Type | Circulation Squeeze | Service District | Brighton |
| Comments | See Job Log | | | Job Date | 06/02/2020 |

NEXTIER

| | |
|---|---|
| CUSTOMER | **PDC ENERGY** |
| DISTRICT | **3021** |
| ADDRESS | **821 WCR 27, Brighton, CO 80603** |
| PHONE | **303-857-7948** |

| | | | |
|---|---|---|---|
| **AFE #** | PX001486 | **PO:** | |
| **LEASE NAME / NUMBER** | | **API WELL NUMBER** | |
| QUANTUM 14-16 | | 512312008 | |
| **SECTION** | **TOWNSHIP** | **RANGE** | **COUNTY, STATE** |
| 16 | 4N | 65W | WELD, COLORADO |
| **WELL PERMIT NUMBER** | | | |
| **JOB TYPE** | | CM-P2A-PERM. | |
| **Vehicle Type** | | **Single** | |

| | |
|---|---|
| **TICKET** | BCO-2006-0004 |
| **DATE** | 6/3/2020 |
| **CREW INFORMATION** | |
| **SUPERVISOR** | Armando Lopez |
| **PUMP UNIT NUMBERS** | 44-5070 |
| **ARRIVAL (D&T)** | 6/3/20 2:30 PM |
| **DEPARTURE (D&T)** | 6/3/20 5:00 PM |

912-JLPjob 3

**Service & Equipment Charges**

| Price Code | Description | Unit | Quantity | Price | Gross Amount | Discount | Net Amount |
|---|---|---|---|---|---|---|---|
| 50001303 | BULK CEMENT DELIVERY (PER TON) | TON MILE | 127 | | | | |
| 50001312 | Bulk Blending Service | FT3 | 90 | | | | |
| 50001349 | AccuDat Recording System | JOB | 1 | | | | |
| 50001296 | MILEAGE; DOT UNITS | MILE | 30 | | | | |
| 50001297 | MILEAGE; NON-DOT UNITS | MILE | 30 | | | | |
| 50001288 | Environmental Surcharge | EA | 1 | | | | |
| 50009991 | PUMP CHARGE 2001-3000' (4-HRS) | EA | 1 | | | | |

**Materials & Products** 13

| Price Code | Description | Unit | Quantity | Price | Gross Amount | Discount | Net Amount |
|---|---|---|---|---|---|---|---|
| 10004393 | NCM-922 - CEMENT PORTLAND TYPE III NCM-922 | SK | 90 | | | | |
| 10004358 | NFP-775L - ADDITIVE DEFOAMER ALPHA NFP-775L | GAL | 1 | | | | |

Customer Stamp

**Customer Name Printed** _____

**Customer Signature** _____

**Date Signed** _____

# NexTier Job Summary

| Ticket Number | Ticket Date |
|---|---|
| TN# BCO-2006-0004 | 6/3/2020 |

| COUNTY | COMPANY | API Number |
|---|---|---|
| WELD | PDC ENERGY | 512312008 |
| **WELL NAME** | **RIG** | **JOB TYPE** |
| QUANTUM 14-16 | Ranger 22 | CM-P2A-PERM. |
| **SURFACE WELL LOCATION** | **CJES Field Supervisor** | **CUSTOMER REP** |
| 40.306944 -104.674167 | Armando Lopez | Ryan Beam |

EMPLOYEES

| | | |
|---|---|---|
| *AJ Staples* | | |
| *Mike Arthur* | | |
| | | |

## WELL PROFILE

| | | | |
|---|---|---|---|
| Max Treating Pressure (psi): | | Bottom Hole Static Temperature (°F): | |
| Bottom Hole Circulating Temperature (°F): | | Well Type: | |

Open Hole

| | Size (in) | TMD From (ft) | TMD to (ft) | TVD From (Ft) | TVD to (Ft) |
|---|---|---|---|---|---|
| 1 | 10 | 2300 | 2500 | 2300 | 2500 |
| 2 | | | | | |

Casing/Tubing/Drill Pipe

| Type | Size (in) | Weight (lb/ft) | Grade | TMD From (ft) | TMD to (ft) | TVD From (Ft) | TVD to (Ft) |
|---|---|---|---|---|---|---|---|
| Tubing | 2 3/8 | 4.7 | | 0 | 2600 | 0 | 2600 |
| Casing | 4 1/2 | 11.6 | | 2500 | 3000 | 2500 | 3000 |
| | | | | | | | |

## CEMENT DATA

**Stage 1:** Type: **Balance Plug**

From Depth (ft): 2300 To Depth (ft): 2600

Volume (sacks): 90 Volume (bbls): 21.3

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| 100% NCM922 | 14.8 | 1.33 | 6.32 |

**Stage 2:** Type:

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

**Stage 3:** Type:

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

**Stage 4:** Type:

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

## SUMMARY

Preflushes: 13 bbls of Fresh Water
bbls of
bbls of

TotalPreflush/Spacer Volume (bbl): 13
Total Slurry Volume (bbl): 21.3
Total Fluid Pumped 43.2
Returns to Surface: bbls

| | Stage 1 | Stage 2 |
|---|---|---|
| Calculated Displacement (bbl): | 8.9 | |
| Actual Displacement (bbl): | | |

Plug Bump (Y/N): Bump Pressure (psi):
Lost Returns (Y/N): (if Y, when)

Job Notes (fluids pumped / procedures / tools / etc.): Balace Plug. Pump 1 bbls to fill lines, Pressure test lines to 2000 psi, Mix and Pump 21.3 bbls of 14.8 lbs cement, Displace 8.9 bbls to balance plug. Length of plug is from 2300 ft to 2600 ft. Pumped job as per progamed and customers request.

Customer Representative Signature:

*Thank You For Using*
*NexTier Completion Solutions*

# Cement Job Log

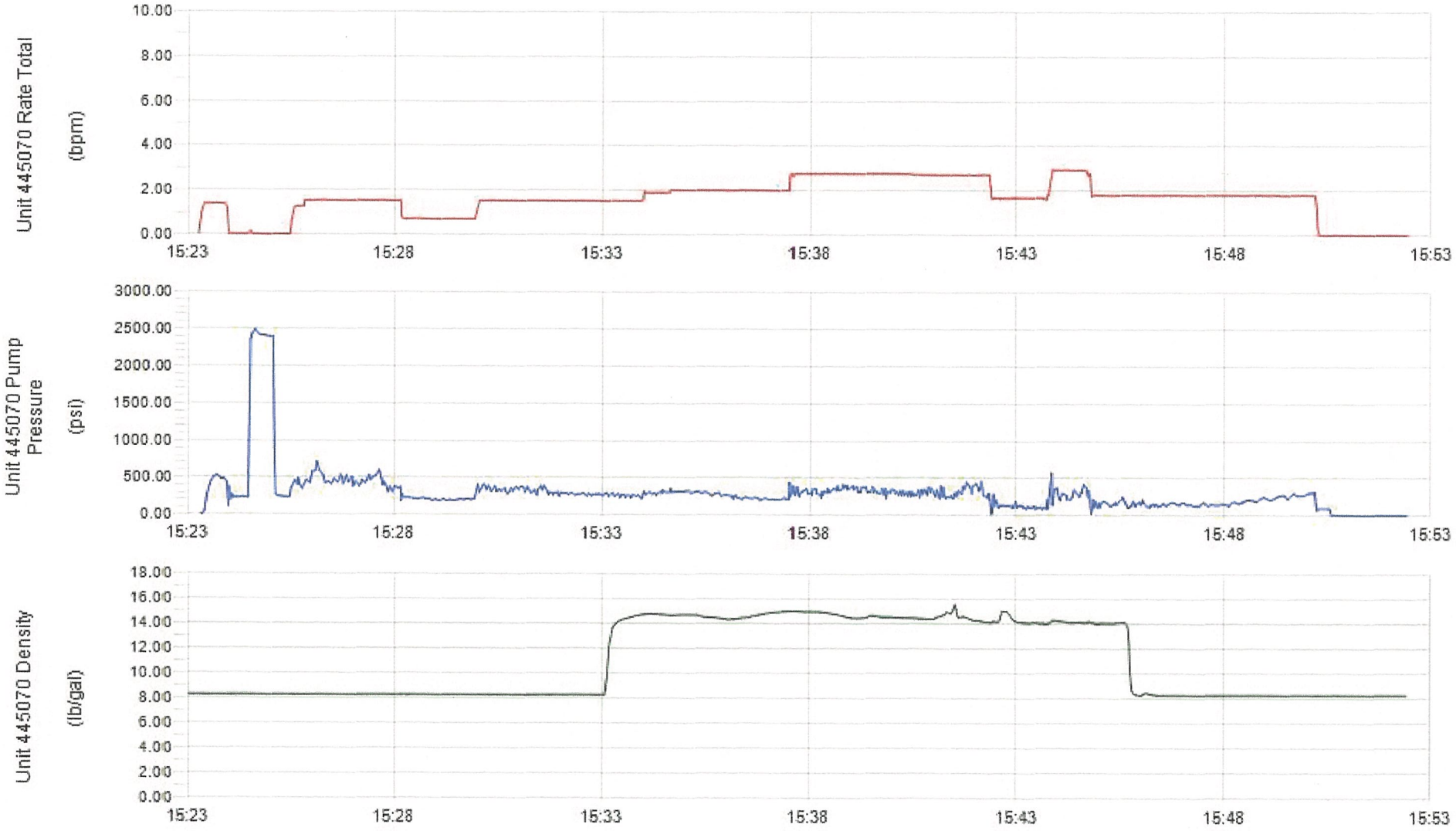
NEXTIER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Customer: | PDC ENERGY | | | Date: | 3-Jun-20 | Serv. Supervisor: | Armando Lopez | | |
| Cust. Rep.: | Ryan Beam | | | Ticket #: | BCO-2006-0004 | Serv. Center: | Brighton - 3021 | | |
| Well Name: | QUANTUM 14-16 | RTS Date: | 03-Jun-2020 | API Well #: | 512312008 | County: | WELD | State: | COLORA |
| Well Type: | Oil | RTS Time: | 2:30 PM | Rig: | Ranger 22 | Type of Job: | CM-P2A-PERM. | | |

| | Date | Time | | Date | Time | | Date | Time |
|---|---|---|---|---|---|---|---|---|
| Left Yard: | 03-Jun-20 | 1:30 PM | Left Loc.: | 03-Jun-20 | 5:00 PM | Start Pump: | 03-Jun-20 | 3:18 PM |
| Arrived Loc.: | 03-Jun-20 | 2:30 PM | Returned Yd.: | 03-Jun-20 | 6:00 PM | End Pump: | 03-Jun-20 | 3:46 PM |

| TIME<br>Note: Red boxes indicate bad values! | Rate (bbl/min) | Csg. Press. (psi) | Tbg. Press (psi) | Ann. Press. (psi) | Stg. Vol. (bbl) | Cum. Vol. (bbl) | Stage Num. Stage # | Stage Details |
|---|---|---|---|---|---|---|---|---|
| 1:30 PM | | | | | | | | Left Yard or Current Location |
| 2:30 PM | | | | | | | 1 | ARRIVE ON LOCATION |
| 2:30 PM | | | | | | | 1 | Safety Meeting |
| 2:35 PM | | | | | | | 1 | Spot Trucks |
| 2:45 PM | | | | | | | 1 | Rig In |
| 3:00 PM | | | | | | | 1 | Safety Meeting |
| 3:18 PM | | | | | | | 1 | Start Job |
| 3:18 PM | 1.5 | 500 | | | 1.0 bbl | 1.0 bbl | 1 | Fill Lines |
| 3:19 PM | | | | | | | 1 | Pressure Test Lines to 2000 psi |
| 3:21 PM | 1.6 | 450 | | | 12.0 bbl | 13.0 bbl | 1 | Fresh Water |
| 3:27 PM | 2 | 300 | | | 21.3 bbl | 34.3 bbl | 1 | Mix and Pump Cement at 14.8 lbs |
| 3:41 PM | 2 | 220 | | | 8.9 bbl | 43.2 bbl | 1 | Displacement |
| 3:46 PM | | | | | | | 1 | Stop |
| 4:10 PM | | | | | | | 1 | Wash Pump |
| 4:30 PM | | | | | | | 1 | Safety Meeting |
| 4:32 PM | | | | | | | 1 | Rig Down |
| 4:55 PM | | | | | | | 1 | Safety Meeting |
| 5:00 PM | | | | | | | 1 | Leave Location |

| | | | | | |
|---|---|---|---|---|---|
| Client | PDC | Client Rep | Ryan Beam | Supervisor | Armando Lopez |
| Ticket No. | 20060004 | Well Name | Quantum 14-16 | Unit No. | 445070 |
| Location | 4N65W | Job Type | Other | Service District | Brighton CO |
| Comments | Balance Plug Tubing set at 2600 ft | | | Job Date | 06/03/2020 |



NEXTIER

| | |
|---|---|
| CUSTOMER | PDC ENERGY |
| DISTRICT | 3021 |
| ADDRESS | 821 WCR 27, Brighton, CO 80603 |
| PHONE | 303-857-7948 |

| | | | |
|---|---|---|---|
| AFE # | PX001486 | PO: | |
| LEASE NAME / NUMBER | | API WELL NUMBER | |
| QUANTUM 14-16 | | | 512312008 |
| SECTION | TOWNSHIP | RANGE | COUNTY, STATE |
| 16 | 4N | 65W | WELD, COLORADO |
| WELL PERMIT NUMBER | | | |
| JOB TYPE | | CM-P2A-PERM. | |
| Vehicle Type | | Single | |

| | |
|---|---|
| TICKET | BCO-2006-0005 |
| DATE | 6/4/2020 |
| CREW INFORMATION | |
| SUPERVISOR | Jeff Kopp |
| PUMP UNIT NUMBERS | 44-5070 |
| ARRIVAL (D&T) | 6/4/20 8:00 AM |
| DEPARTURE (D&T) | 6/4/20 12:15 PM |

912-JLPjob 2

**Service & Equipment Charges**

| Price Code | Description | Unit | Quantity | Price | Gross Amount | Discount | Net Amount |
|---|---|---|---|---|---|---|---|
| 50001303 | BULK CEMENT DELIVERY (PER TON) | TON MILE | 788 | $ | | | |
| 50001312 | Bulk Blending Service | FT3 | 559 | $ | | | |
| 50001349 | AccuDat Recording System | JOB | 1 | $ | | | |
| 50001296 | MILEAGE; DOT UNITS | MILE | 30 | $ | | | |
| 50001297 | MILEAGE; NON-DOT UNITS | MILE | 30 | $ | | | |
| 50001288 | Environmental Surcharge | EA | 1 | $ | | | |
| 50001479 | PUMP CHARGE 0-2000' (4 HRS) | ea | 1 | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
| | | | | Su | | | |

**Materials & Products** 13

| Price Code | Description | Unit | Quantity | Price | Gross Amount | Discount | Net Amount |
|---|---|---|---|---|---|---|---|
| 10004393 | NCM-922 - CEMENT PORTLAND TYPE III NCM-922 | SK | 559 | $ | | | |
| 10004358 | NFP-775L - ADDITIVE DEFOAMER ALPHA NFP-775L | GAL | 2 | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
| | | | | $ | | | |
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| | | | | Fu | | | |
| | | | | Gr | | | |

Customer Stamp

Customer Name Printed _____

Customer Signature _____

Date Signed _____

# NexTier Job Summary

| Ticket Number | Ticket Date |
|---|---|
| TN# BCO-2006-0005 | 6/4/2020 |

| COUNTY | COMPANY | API Number |
|---|---|---|
| WELD | PDC ENERGY | 512312008 |
| **WELL NAME** | **RIG** | **JOB TYPE** |
| QUANTUM 14-16 | Ranger 22 | CM-P2A-PERM. |
| **SURFACE WELL LOCATION** | **CJES Field Supervisor** | **CUSTOMER REP** |
| 40.306944 -104.674167 | Jeff Kopp | Ryan Beam |

EMPLOYEES

| | |
|---|---|
| *Garrick W* | |
| *Izzy D* | |
| *Cody M* | |

## WELL PROFILE

| | | | |
|---|---|---|---|
| Max Treating Pressure (psi): | 1000 | Bottom Hole Static Temperature (°F): | |
| Bottom Hole Circulating Temperature (°F): | | Well Type: | |

Open Hole

| | Size (in) | TMD From (ft) | TMD to (ft) | TVD From (Ft) | TVD to (Ft) |
|---|---|---|---|---|---|
| 1 | 10 | 697 | 1600 | | |
| 2 | 14 | 229 | 697 | | |

Casing/Tubing/Drill Pipe

| Type | Size (in) | Weight (lb/ft) | Grade | TMD From (ft) | TMD to (ft) | TVD From (Ft) | TVD to (Ft) |
|---|---|---|---|---|---|---|---|
| Surface | 8 5/8 | 24 | | 0 | 229 | | |
| Tubing | 2 3/8 | 4.7 | | 0 | 1600 | | |
| | | | | | | | |

## CEMENT DATA

**Stage 1:** Type: **Balance Plug**

From Depth (ft): 1400 To Depth (ft): 1600

Volume (sacks): 82 Volume (bbls): 19.4

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | 14.8 | 1.33 | 6.32 |

**Stage 2:** Type: **Surface Plug**

From Depth (ft): 0 To Depth (ft): 697

Volume (sacks): 473 Volume (bbls): 112

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | 14.8 | 1.33 | 6.32 |

**Stage 3:** Type: **Top Off**

From Depth (ft): 0 To Depth (ft): 16

Volume (sacks): 4 Volume (bbls): 1

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | 14.8 | 1.33 | 6.32 |

**Stage 4:** Type:

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

| Cement & Additives: | Density (ppg) | Yield (ft^3/sk) | Water Req. |
|---|---|---|---|
| | | | |

## SUMMARY

| | | | | Stage 1 | Stage 2 |
|---|---|---|---|---|---|
| Preflushes: | 4 bbls of | Fresh Water | Calculated Displacement (bbl): | 5.4 | |
| | 5 bbls of | Fresh Water | Actual Displacement (bbl): | 5.4 | |
| | bbls of | | | | |

TotalPreflush/Spacer Volume (bbl): 9

Total Slurry Volume (bbl): 132.4

Total Fluid Pumped 141.4

Returns to Surface: Cement 1 bbls

Plug Bump (Y/N): N/A Bump Pressure (psi): N/A

Lost Returns (Y/N): N (if Y, when)

Job Notes (fluids pumped / procedures / tools / etc.): Job pumped per customers request. Job went well.

*Thank You For Using NexTier Completion Solutions*

Customer Representative Signature:

# NEXTIER

| | Date | Time |
|---|---|---|
| YARD CALL | 6/4/2020 | 6:00 AM |
| RTS DATE | 6/4/2020 | 8:00:00 AM |

DISTRICT: ***Brighton - 3021***

## CUSTOMER INFORMATION

| | |
|---|---|
| Customer Name: | PDC ENERGY |
| Customer #: | 1000700 |
| AFE #: | PX001486 |
| Cust Rep on Loc: | Ryan Beam |
| Cust Phone #: | 970-405-8585 |
| Order Placed By: | Ryan Beam |
| Phone #: | |
| Proposed Job Amt: | $11,929.10 |

## JOB INFORMATION

| | |
|---|---|
| Ticket #: | BCO-2006-0005 |
| PO #: | |
| Order Taken By: | Milo |
| Order Date: | 1-Jun |
| Head Count: | 4 |
| NexTier Acct. Manager: | |
| NexTier Engineer | |

## WELL INFORMATION

| | | | |
|---|---|---|---|
| API #: | 512312008 | | |
| Field Name: | Wattenberg | | |
| Well Name: | QUANTUM 14-16 | | |
| | | | |
| Well Type: | Old | | |
| Formation: | NB-CD | | |
| Rig Contractor: | Ranger | | |
| Rig Name/Num.: | Ranger 22 | | |
| Rig Phone: | | | |
| County: | WELD | | |
| State: | COLORADO | | |
| Latitude: | 40.306944 | | |
| Longitude: | -105 | | |
| NexTier Rep. | | | |
| Section-Township-Range | 16 | 4N | 65W |
| Quote Number: | 2-BCO_200601125912 | | |

## CASING DATA

| | |
|---|---|
| Casing Size: | |
| Casing Weight: | |
| Shoe Joint Length: | 0 ft |

## Open Hole Data

| | |
|---|---|
| TVD: | 1,600 ft |
| MD: | 1,600 ft |
| Size ID: | 14 |
| BHST: | 109°F |
| BHCT: | 87°F |
| °F / 100 or BHST: | 1.8 °F/100ft |
| KOP: | 0 ft |

## Previous Casing Size

| | |
|---|---|
| Casing Size: | 8.625 |
| Casing Depth: | 229 |

## ACTUAL TABULAR DATA

| Size | Grade | Weight | Mea.Depth |
|---|---|---|---|
| 2 3/8 | | 4.7 | 1600 |
| 0 | | | |

## CEMENTING PLUG

| Qty | Size | Type | Material |
|---|---|---|---|
| | | | |
| | | | |

## TOP CONNECTION

| Size | Type | Thread |
|---|---|---|
| | | |

## JOB TYPE

*CM-P2A-PERM.*

## COMMENTS

Thursday 0730

## SPECIAL JOB INSTRUCTIONS

100# Sugar

## DIRECTIONS TO WELL

Cr 44 and Cr 41, east 1/10, N into.

## Emergency Contacts

| | | | |
|---|---|---|---|
| Nearest Hospital: | Greeley, Co | Phone Number: | |
| Police Department: | | Phone Number: | |
| Fire Department: | | Phone Number: | |

| | | | |
|---|---|---|---|
| Designated Emergency Vehicle: | 131152 | Vehicle Location: | |
| MSDS on Dash of Emergency Vehicle? (y/n): | Y | | |

| | |
|---|---|
| Muster Area #1 | Lease entrance |
| Muster Area #2 | Wind depending |

| | |
|---|---|
| Cell Phone Service on location? (y/n) | Y |
| If not, nearest working phone | |

## Iron Tracking

| | Taken Out | | | Returned | | |
|---|---|---|---|---|---|---|
| Iron Type | Taken By | Date Out | Time Out | Returned By | Date In | Time In |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| NEXTIER | | Date | Time | DISTRICT |
|---|---|---|---|---|
| | YARD CALL | 6/4/2020 | 6:00 AM | Brighton - 3021 |
| | RTS DATE | 6/4/2020 | 8:00:00 AM | |

## Personnel/Equipment

| Driver | Assignment | | Tractor | Trailer | Comments |
|---|---|---|---|---|---|
| Jeff K | Supervisor | | 131152 | 449083 | |
| Garrick W | Pump Operator | Primary Pump Unit: | | 44-5070 | |
| | | Secondary Pump Unit: | | 0 | |
| Izzy D | Bulker | | | 990435 | |
| Cody M | Bulker | | | 990436 | |
| | | | | | |
| | | | | | |
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| | | | | | |

## BLEND INFO

| Amount | Units | System/Additives | Excess | Density (ppg) | Yield (cuft/sk) | Water Req. (gal/sk) |
|---|---|---|---|---|---|---|
| | | **Spacer - 5 bbl Fresh Water** | | | | |
| 5.00 | bbl | | | | | |
| 85.00 | sx | **Balanced Plug** | | | | |
| 19.43 | bbl | 100 % NCM-922 | | 14.8 | 1.33 | 6.32 |
| 420 | sx | **Surface Plug** | | | | |
| 98.55 | bbl | 100 % NCM-922 | | 14.8 | 1.33 | 6.32 |
| 20 | sx | **Extra Cement** | | | | |
| 4.72 | bbl | 100 % NCM-922 | | 14.8 | 1.33 | 6.32 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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| | | | | | | |

Cement Job Log

NEXTIER

| | | | | | |
|---|---|---|---|---|---|
| Customer: | PDC ENERGY | Date: | 4-Jun-20 | Serv. Supervisor: | Jeff Kopp |
| Cust. Rep.: | Ryan Beam | Ticket #: | BCO-2006-0005 | Serv. Center | Brighton - 3021 |
| Well Name: | QUANTUM 14-16 | API Well #: | 512312008 | County: WELD | State: COLORADO |
| Well Type: | Oil | Rig: | Ranger 22 | Type of Job: | CM-P2A-PERM. |

Materials Furnished by NexTier

| Plugs | Casing Hardware | Physical Slurry Properties | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Sacks of Cement | Fluid Density (lb/gal) | Excess | Yield (cuft/sk) | Mix Water (gal/sk) | Fluid Volume (bbls) | Mix Water (bbls) |
| Spacer - 5 bbl Fresh Water | | | | | - | - | 5.00 | |
| Balanced Plug | 100 % NCM-922 | 82 | 14.8 | | 1.33 | 6.32 | 19.36 | 12 |
| Surface Plug | 100 % NCM-922 | 473 | 14.8 | | 1.33 | 6.32 | 111.66 | 71 |
| Extra Cement | 100 % NCM-922 | 20 | 14.8 | | 1.33 | 6.32 | 4.72 | 3 |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | - | - | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Displacement Chemicals:

| OPEN HOLE DATA | | | | TUBULAR DATA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 in O.H.(229 to 697ft) 10in O.H. (697 to 1600ft) | | | | SIZE WEIGHT | THRD | DEPTH (ft) | GRADE | ID (in) | BURST (psi) | COLLAPSE (psi) |
| Mix Cemt. Temperature *F | Lead Tmp. | Middle Temp. | Tail Temp. | 2 3/8 4.7# | | 1600 | | | | |

| PREVIOUS CASING DATA | PERFORATED INTERVAL DATA | | | | CASING EQUIPMENT DEPTHS | | | |
|---|---|---|---|---|---|---|---|---|
| | TOP | BTM | SPF | SIZE | SHOE | FLOAT | STAGE | ACP |
| 8.625 in. 24# ( 0 to 229 ft) | | | | | | | | |

| WELL FLUID | | DISPLACEMENT FLUID | | | DIFF PRESS | CSG LIFT | MAX PRESS | | | WATER ON LOC |
|---|---|---|---|---|---|---|---|---|---|---|
| TYPE | DENSITY | VOLUME | TYPE | DENSITY | (psi) | (psi) | (psi) | Total Number of Runs | | (bbl) |
| | | | | | | | 1000 | 1 | | 180 |

| Bumped Plug | Final Differential (psi) | Floats Held (Y/N) | PSI Left on Casing | Cement to Surface (bbl) | Top of Cement (ft) | Full Circ. During Job (Y/N) | Max Pump Pressure (psi) | Casing Rotation | Standby Charged(hrs) | Casing Reciprocation | Wireline Co. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1.00 | | Yes | 1,000.00 | | | | 0 |

Comments/Special Customer Instructions

Jeff Kopp — Service Supervisor

4-Jun-20 — Date

Cement Job Log

**NEXTIER**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Customer:** | PDC ENERGY | | | **Date:** | 4-Jun-20 | **Serv. Supervisor:** | Jeff Kopp |
| **Cust. Rep.:** | Ryan Beam | | | **Ticket #:** | BCO-2006-0005 | **Serv. Center:** | Brighton - 3021 |
| **Well Name:** | QUANTUM 14-16 | RTS Date: | 4-Jun-20 | **API Well #:** | 512312008 | **County:** WELD | **State:** COLORA |
| **Well Type:** | Oil | RTS Time: | 8:00 AM | **Rig:** | Ranger 22 | Type of Job: | CM-P2A-PERM. |

| | Date | Time | | Date | Time | | Date | Time |
|---|---|---|---|---|---|---|---|---|
| Left Yard: | 04-Jun-20 | 7:30 AM | Left Loc.: | 04-Jun-20 | **12:15 PM** | Start Pump: | 04-Jun-20 | 9:24 AM |
| Arrived Loc.: | 04-Jun-20 | **8:00 AM** | Returned Yd.: | 04-Jun-20 | 12:45 PM | End Pump: | 04-Jun-20 | 11:18 AM |

| TIME<br>Note: Red boxes indicate bad values! | Rate (bbl/min) | Csg. Press. (psi) | Tbg. Press (psi) | Ann. Press. (psi) | Stg. Vol. (bbl) | Cum. Vol. (bbl) | Stage Num. Stage # | Stage Details |
|---|---|---|---|---|---|---|---|---|
| 7:30 AM | | | | | | | | Left Yard or Current Location |
| 8:00 AM | | | | | | | | ARRIVE ON LOCATION |
| 8:02 AM | | | | | | | 1 | PRE JOB SAFETY MEETING |
| 8:05 AM | | | | | | | 1 | SPOT EQUIPMENT |
| 8:10 AM | | | | | | | 1 | RIG UP IRON AND HOSES |
| 9:04 AM | | | | | | | 1 | SAFETY MEETING |
| 9:24 AM | 1.6 | | 69 | | 1.0 bbl | 1.0 bbl | 1 | FILL LINES |
| 9:25 AM | | | 1500 | | | | 1 | PRESSURE TEST |
| 9:27 AM | 0.7 | | 61 | | 4.0 bbl | 5.0 bbl | 1 | EST. CIRCULATION |
| 9:32 AM | 2.5 | | 78 | | 19.4 bbl | 24.4 bbl | 1 | MIX AND PUMP 82SXS @14.8PPG 1.33Y 6.32WR |
| 9:40 AM | 2.5 | | 87 | | 5.4 bbl | 29.8 bbl | 1 | DISPACE |
| 9:43 AM | | | | | | | 1 | SHUT DOWN |
| 9:45 AM | | | | | | | 1 | WAIT ON RIG TO PULL TUBING |
| 10:07 AM | 1.5 | | 52 | | 5.0 bbl | 34.8 bbl | 1 | EST. CIRCULATION |
| 10:12 AM | 2.8 | | 87 | | 112.0 bbl | 146.8 bbl | 1 | MIX AND PUMP 473SXS @14.8PPG 1.33Y 6.32WR |
| 10:50 AM | | | | | | | 1 | SHUT DOWN |
| 10:51 AM | | | | | | | 1 | WAIT ON RIG TO PULL TUBING |
| 11:18 AM | 0.5 | | 0 | | 1.0 bbl | 147.8 bbl | 1 | TOP OFF WELL |
| 11:30 AM | | | | | | | 1 | WASH UP PUMPS AND LINES |
| 12:00 PM | | | | | | | 1 | RIG OUT |
| 12:15 PM | | | | | | | 1 | LEAVE LOCATION |

Cement Job Log

NEXTIER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Customer:** | PDC ENERGY | | | **Date:** | 4-Jun-20 | **Serv. Supervisor:** | Jeff Kopp | | |
| **Cust. Rep.:** | Ryan Beam | | | **Ticket #:** | BCO-2006-0005 | **Serv. Center:** | Brighton - 3021 | | |
| **Well Name:** | QUANTUM 14-16 | **RTS Date:** | 4-Jun-20 | **API Well #:** | 512312008 | **County:** | WELD | **State:** | COLORA |
| **Well Type:** | Oil | **RTS Time:** | 8:00 AM | **Rig:** | Ranger 22 | Type of Job: | CM-P2A-PERM. | | |

| | Date | Time | | Date | Time | | Date | Time |
|---|---|---|---|---|---|---|---|---|
| Left Yard: | 04-Jun-20 | 7:30 AM | Left Loc.: | 04-Jun-20 | **12:15 PM** | Start Pump: | 04-Jun-20 | 9:24 AM |
| Arrived Loc.: | 04-Jun-20 | **8:00 AM** | Returned Yd.: | 04-Jun-20 | 12:45 PM | End Pump: | 04-Jun-20 | 11:18 AM |

| TIME<br>Note: Red boxes indicate bad values! | Rate (bbl/min) | Csg. Press. (psi) | Tbg. Press (psi) | Ann. Press. (psi) | Stg. Vol. (bbl) | Cum. Vol. (bbl) | Stage Num. Stage # | Stage Details |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | <-- This entry is coming from Job Log (2) | | | | | | | |
| 12:15 PM | | | | | | | | LEFT LOCATION |
| 12:45 PM | | | | | | | | ARRIVED BACK AT YARD OR NEXT LOCATION |

Comments/Special Customer Instructions