

EXXONMOBIL CORPORATION

HOUSTON, Texas

PCU T78X-12G14

H&P 215 970-942-7060

Post Job Summary
Cement Multiple Stages

Date Prepared: 12/15/11
Version: 1

Service Supervisor: CARPENTER, LANCE

Submitted by: Isaac Whorl

HALLIBURTON

HALLIBURTON

Wellbore Geometry

| Job Tubulars | | | | | MD | | TVD | | Excess % | Shoe Joint Length ft |
|-------------------|------------------------|---------|-------|-----------|--------|-----------|--------|-----------|----------|----------------------|
| Type | Description | Size in | ID in | Wt lbm/ft | Top ft | Bottom ft | Top ft | Bottom ft | | |
| Cement Stage Tool | Multiple Stage Cements | | | | 1,361 | 1,362 | 1,350 | 1,351 | 0.00 | 0.00 |
| Open Hole Section | Surface Open Hole | | 14.75 | | 0 | 1,361 | 0 | 1,350 | 75.00 | 0.00 |
| Open Hole Section | Surface Open Hole | | 14.75 | | 1,362 | 3,805 | 1,351 | 3,885 | 25.00 | 0.00 |
| Casing | Surface Casing | 10.75 | 9.95 | 45.50 | 0 | 4,413 | 0 | 4,371 | 0.00 | 80.00 |

Pumping Schedule

| Stage # | Fluid # | Fluid Type | Fluid Name | Density lbm/gal | Avg Rate bbl/min | Volume |
|---------|---------|---------------|--------------------------|-----------------|------------------|-------------|
| 1 | 1 | Spacer | FreshWater Ahead | 8.33 | 6.00 | 50.0 bbl |
| 1 | 2 | Cement Slurry | First Stage Lead Cement | 12.70 | 6.00 | 750.0 sacks |
| 1 | 3 | Cement Slurry | First Stage Tail Cement | 15.80 | 6.00 | 340.0 sacks |
| 1 | 4 | Spacer | Drilling Fluid / Mud | 8.90 | 6.00 | 364.0 bbl |
| 2 | 1 | Spacer | Freshwater Ahead | 8.33 | 6.00 | 50.0 bbl |
| 2 | 2 | Cement Slurry | Second Stage Lead Cement | 12.70 | 6.00 | 680.0 sacks |
| 2 | 3 | Spacer | Drilling Fluid / Mud | 8.90 | 6.00 | 135.0 bbl |
| 2 | 4 | Cement Slurry | Top Out | 15.80 | 2.00 | |

HALLIBURTON

Fluids Pumped

| | | |
|--|---|--|
| Stage/Plug # 1 Water Spacer | Fluid 1: FreshWater Ahead | Fluid Density: 8.33 lbm/gal Fluid Volume: 50.00 bbl |
| Stage/Plug # 1 5 lbm 0.8 % 0.68 % 0.25 lbm 3 lbm | Fluid 2: First Stage Lead Cement ECONOCEM (TM) SYSTEM Cal-Seal 60 Econolite HR-7 Poly-E-Flake Silicalite Compacted | Fluid Weight: 12.70 lbm/gal Slurry Yield: 1.87 ft ³ /sack Total Mixing Fluid: 9.93 Gal Surface Volume: 750.0 sacks Calculated Fill: 2,351.00 ft Calculated Top of Fluid: 1,704.00 ft |
| Stage/Plug # 1 0.22 % 0.25 lbm | Fluid 3: First Stage Tail Cement HALCEM (TM) SYSTEM HR-800 Poly-E-Flake | Fluid Weight: 15.80 lbm/gal Slurry Yield: 1.15 ft ³ /sack Total Mixing Fluid: 4.98 Gal Surface Volume: 340.0 sacks Calculated Fill: 500.00 ft Calculated Top of Fluid: 4,055.00 ft |
| Stage/Plug # 1 Mud Displacement | Fluid 4: Drilling Fluid / Mud | Fluid Density: 8.90 lbm/gal Fluid Volume: 364.00 bbl |
| Stage/Plug # 2 Water Spacer | Fluid 1: Freshwater Ahead | Fluid Density: 8.33 lbm/gal Fluid Volume: 50.00 bbl |
| Stage/Plug # 2 0.25 lbm | Fluid 2: Second Stage Lead Cement ECONOCEM (TM) SYSTEM Poly-E-Flake | Fluid Weight: 12.70 lbm/gal Slurry Yield: 1.87 ft ³ /sack Total Mixing Fluid: 9.96 Gal Surface Volume: 680.0 sacks Calculated Fill: 1,704.00 ft Calculated Top of Fluid: 0.00 ft |
| Stage/Plug # 2 Mud Displacement | Fluid 3: Drilling Fluid / Mud | Fluid Density: 8.90 lbm/gal Fluid Volume: 135.00 bbl |
| Stage/Plug # 2 Top Out 94 lbm 2 % | Fluid 4: Top Out Premium Cement Calcium Chloride | Fluid Weight: 15.80 lbm/gal Slurry Yield: 1.17 ft ³ /sack Total Mixing Fluid: 5.02 Gal |

HALLIBURTON

Job Summary

Job Information

| | |
|---|----------------------|
| Job Start Date | 12/9/2011 1:00:00 AM |
| Job MD | 3,878.2 ft |
| Height of Plug Container/Swage Above Rig Floor | 3.0 ft |
| Surface Temperature at Time of Job | 20 degF |
| Mud Type | Water Based Mud |
| Actual Mud Density | 9 lbm/gal |
| Time Circulated before job | 2.00 hour(s) |
| Rate at Which Well was Circulated | 4.000 bbl/min |
| Pipe Movement During Hole Circulation | Reciprocated |
| Time From End Mud Circ. to Job Start | 15.00 minute |
| Pipe Movement During Cementing | Reciprocated |
| Calculated Displacement | 364.00 bbl |
| Amount of Cement Returns | 155.00 bbl |
| Job Displaced by (rig/halco) | Cement Unit HP Pumps |
| Annular flow Before Job? (Water/Gas) | No |
| Annular flow After Job? (Water/Gas) | No |

Cementing Equipment

| | |
|--|------------|
| Number of Centralizers Used | 44 |
| Did Float Equipment Hold? | Yes |
| Plug set used? | No |
| Did Plugs Bump? | Yes |
| Calculated Pressure to Bump Plugs | 581.0 psig |
| Did Stage Cementing Tool Open Properly? | Yes |

Service Supervisor Reports

Job Log

| Date/Time | Activity Code | Pump Rate | Volume | Pressure (psig) | Comments |
|---------------------|--|-----------|--------|-----------------|--|
| 12/08/2011 13:30 | Call Out | | | | CREW CALLED OUT |
| 12/08/2011 15:15 | Pre-Convoy Safety Meeting | | | | CREW HAS JOURNEY MANAGEMENT SAFETY MEETING |
| 12/08/2011 15:30 | Depart from Service Center or Other Site | | | | CREW DEPARTS FROM LOCATION |
| 12/08/2011 19:45 | Arrive At Loc | | | | CREW ARRIVES AT LOCATION |
| 12/08/2011 19:55 | Assessment Of Location Safety Meeting | | | | CREW ASSESSES LOCATION FOR HAZARDS AND EQUIPMENT LAYOUT. CASING ON BOTTOM AND CASING CREW JUST GETTING READY TO HAVE PRE RIG DOWN SAFETY MEETING |
| 12/08/2011 20:05 | Pre-Rig Up Safety Meeting | | | | CREW HAS PRE RIG UP SAFETY MEETING |
| 12/08/2011 20:15 | Rig-Up Equipment | | | | CREW BEGINS RIGGING UP EQUIPMENT |
| 12/08/2011 23:00 | Comment | | | | CASING CREW RIGGED DOWN AND READY TO DEPART |
| 12/08/2011 23:45 | Rig-Up Completed | | | | CREW IS RIGGED UP AND READY TO BEGIN |
| 12/09/2011 00:00 | Pre-Job Safety Meeting | | | | CREW, RIG CREW AND COMPANY REP HAVE PRE JOB SAFETY MEETING |
| 12/09/2011 00:39 | Prime Pumps | | | | PRIME PUMPS |
| 12/09/2011 00:52 | Test Lines | | | | PRESSURE TEST LINES. LOW PSI TEST OF 300, HIGH OF 5100 |
| 12/09/2011 01:05 | Pump Water | 5 | 50 | 50.0 | PUMP 50 BBL FRESH WATER AHEAD. ESTABLISHED CIRCULATION AT 11 BBL |
| 12/09/2011 01:15 | Shutdown | | | | SHUTDOWN. MIX CEMENT. |
| 12/09/2011 01:21 | Pump Lead Cement | 6 | 250 | 41.0 | PUMP 750 SKS ECONOCEM 12.7# 1.87 YIELD 9.93 GAL |
| 12/09/2011 02:04 | Pump Tail Cement | 4 | 70 | 130.0 | PUMP 340 SKS HALCEM 15.8# 1.15 YIELD 4.98 GAL |
| 12/09/2011 02:23 | Shutdown | | | | SHUTDOWN |
| 12/09/2011 02:26 | Drop Plug | | | | DROP PLUG |

| Date/Time | Activity Code | Pump Rate | Volume | Pressure (psig) | Comments |
|---------------------|--|-----------|--------|-----------------|--|
| 12/09/2011 02:38 | Pump Displacement | 6 | 364 | 80.0 | PUMP DRILLING MUD DISPLACEMENT. 9.2# |
| 12/09/2011 03:34 | Bump Plug | | | | BUMP PLUG. FINAL CIRCULATING PSI 580. BUMPED AT 1200 PSI |
| 12/09/2011 03:38 | Check Floats | | | | CHECK FLOATS. GOT 2 BBL BACK |
| 12/09/2011 03:45 | Drop Opening Device For Multiple Stage Cementer | | | | DROP BOMB TO OPEN STAGE TOOL |
| 12/09/2011 03:56 | Open Multiple Stage Cementer | 1 | 15 | 200.0 | PUMP MUD DISPLACEMENT TO OPEN TOOL. TOOL OPENED AT 590 PSI. CIRCULATED 15 BBL THEN TURNED OVER TO RIG. |
| 12/09/2011 04:15 | Comment | | | | WAITING ON CEMENT SAMPLES BEFORE STARTING NEXT STAGE. |
| 12/09/2011 07:08 | Test Lines | | | | PRESSURE TEST LINES. LOW PSI OF 250. HIGH OF 5000. |
| 12/09/2011 07:15 | Pump Water | 4 | 50 | 50.0 | PUMP FRESH WATER AHEAD |
| 12/09/2011 07:30 | Pump Lead Cement | 5 | 227 | 180.0 | PUMP 680 SKS ECONOCEM 12.7# 1.87 YIELD 9.96 GAL |
| 12/09/2011 08:14 | Shutdown | | | | SHUTDOWN |
| 12/09/2011 08:18 | Drop Plug | | | | DROP CLOSING TOOL |
| 12/09/2011 08:20 | Pump Displacement | 6 | 135 | 490.0 | PUMP MUD DISPLACEMENT. FINAL CIRCULATING PSI 490. BUMPED AT 2000. |
| 12/09/2011 08:50 | Check Floats | | | | CHECK FLOATS. GOT 1.25 BBL BACK. |
| 12/09/2011 09:00 | Comment | | | | WAITING TO SEE IF CEMENT WOULD STAY AT SURFACE |
| 12/09/2011 10:30 | Pre-Rig Down Safety Meeting | | | | CREW AND RIG CREW HAVE PRE RIG DOWN SAFETY MEETING |
| 12/09/2011 10:45 | Rig-Down Equipment | | | | CREW BEGINS RIGGING DOWN EQUIPMENT |
| 12/09/2011 12:30 | Rig-Down Completed | | | | CREW IS RIGGED DOWN |
| 12/09/2011 12:45 | Pre-Convoy Safety Meeting | | | | CREW HAS JOURNEY MANAGEMENT SAFETY MEETING |
| 12/09/2011 13:00 | Depart Location for Service Center or Other Site | | | | CREW DEPARTS FROM LOCATION |

The Road to Excellence Starts with Safety

| | | | |
|--|--|--|-------------------------------|
| Sold To #: 331699 | Ship To #: 2893646 | Quote #: | Sales Order #: 9094205 |
| Customer: EXXONMOBIL CORPORATION | | Customer Rep: McGourty, Alex | |
| Well Name: PCU | Well #: T78X-12G14 | API/UWI #: | |
| Field: | City (SAP): MEEKER | County/Parish: Harris | State: Texas |
| Contractor: H&P | Rig/Platform Name/Num: 215 970-942-7060 | | |
| Job Purpose: Cement Multiple Stages | | | |
| Well Type: Development Well | | Job Type: Cement Multiple Stages | |
| Sales Person: MCNARY, GEORGE | | Srvc Supervisor: CARPENTER, LANCE | MBU ID Emp #: 461737 |

Job Personnel

| HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # |
|--------------------|---------|--------|-------------------|---------|--------|------------------------|---------|--------|
| CARPENTER, LANCE S | | 461737 | DUBE, MTHOKOZISI | | 476241 | FARNSWORTH, SHAY Daryl | | 505203 |
| PAUU, SEMISI Tu'a | | 445202 | PETERSON, JIMMY J | | 458945 | SAGE, JAMES Edwin | | 470468 |

Equipment

| HES Unit # | Distance-1 way |
|------------|----------------|------------|----------------|------------|----------------|------------|----------------|
| | | | | | | | |

Job Hours

| Date | On Location Hours | Operating Hours | Date | On Location Hours | Operating Hours | Date | On Location Hours | Operating Hours |
|--------------|-------------------|-----------------|---|-------------------|-----------------|------|-------------------|-----------------|
| TOTAL | | | <i>Total is the sum of each column separately</i> | | | | | |

Job

Job Times

| Formation Name | Top | Bottom | Called Out | Date | Time | Time Zone |
|-------------------------------|-------------|--------------------------|----------------------|-----------------|-------|-----------|
| Formation Depth (MD) | | | On Location | 08 - Dec - 2011 | 13:30 | MST |
| Form Type | | BHST | Job Started | 08 - Dec - 2011 | 19:45 | MST |
| Job depth MD | 3878.2 ft | Job Depth TVD | Job Completed | 09 - Dec - 2011 | 01:00 | MST |
| Water Depth | | Wk Ht Above Floor | Departed Loc | 09 - Dec - 2011 | 09:00 | MST |
| Perforation Depth (MD) | <i>From</i> | <i>To</i> | | 09 - Dec - 2011 | 13:00 | MST |

Well Data

| Description | New / Used | Max pressure psig | Size in | ID in | Weight lbm/ft | Thread | Grade | Top MD ft | Bottom MD ft | Top TVD ft | Bottom TVD ft |
|-------------------------|------------|-------------------|---------|-------|---------------|--------|-------|-----------|--------------|------------|---------------|
| Multiple Stage Cementer | Used | | | . | | | | 1361. | 1362. | 1350. | 1351. |
| Surface Open Hole | | | | 14.75 | | | | . | 1361. | . | 1350. |
| Surface Open Hole | | | | 14.75 | | | | 1362. | 3805. | 1351. | 3885. |
| Surface Casing | Unknown | | 10.75 | 9.95 | 45.5 | BTC | J-55 | . | 4413. | . | 4371. |

Tools and Accessories

| Type | Size | Qty | Make | Depth | Type | Size | Qty | Make | Depth | Type | Size | Qty | Make |
|--------------|------|-----|------|-------|-------------|------|-----|------|-------|----------------|------|-----|------|
| Guide Shoe | | | | | Packer | | | | | Top Plug | | | |
| Float Shoe | | | | | Bridge Plug | | | | | Bottom Plug | | | |
| Float Collar | | | | | Retainer | | | | | SSR plug set | | | |
| Insert Float | | | | | | | | | | Plug Container | | | |
| Stage Tool | | | | | | | | | | Centralizers | | | |

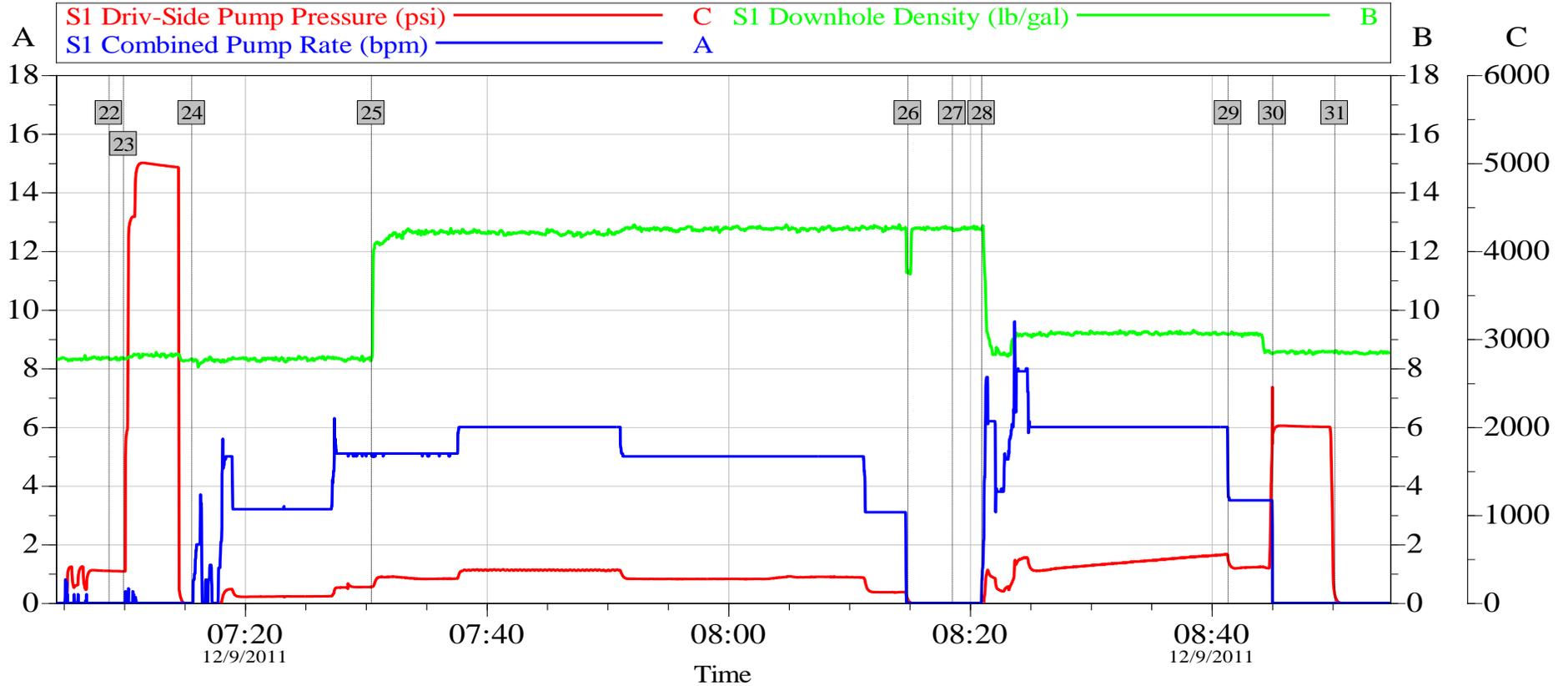
Miscellaneous Materials

| Gelling Agt | Conc | Surfactant | Conc | Acid Type | Qty | Conc | % |
|----------------------|-------------|------------------|-------------|------------------|-------------|------------|-------------|
| Treatment Fld | Conc | Inhibitor | Conc | Sand Type | Size | Qty | Conc |

| Fluid Data | | | | | | | | | |
|--|--------------------------|---|--------|-----------------------------------|------------------------|---------------------|------------------|--------------|------------------------|
| Stage/Plug #: 1 | | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty uom | Mixing Density lbm/gal | Yield ft3/sk | Mix Fluid Gal/sk | Rate bbl/min | Total Mix Fluid Gal/sk |
| 1 | FreshWater Ahead | | 50.00 | bbl | 8.33 | .0 | .0 | 6.0 | |
| 2 | First Stage Lead Cement | ECONOCEM (TM) SYSTEM (452992) | 750.0 | sacks | 12.7 | 1.87 | 9.93 | 6.0 | 9.93 |
| | 5 lbm | CAL-SEAL 60, 100 LB BAG (100005051) | | | | | | | |
| | 0.8 % | ECONOLITE (100001580) | | | | | | | |
| | 0.68 % | HR-7 (100005055) | | | | | | | |
| | 0.25 lbm | POLY-E-FLAKE (101216940) | | | | | | | |
| | 3 lbm | SILICALITE - COMPACTED, 50 LB SK (100012223) | | | | | | | |
| | 9.93 Gal | FRESH WATER | | | | | | | |
| 3 | First Stage Tail Cement | HALCEM (TM) SYSTEM (452986) | 340.0 | sacks | 15.8 | 1.15 | 4.98 | 6.0 | 4.98 |
| | 0.22 % | HR-800, 50 LB SACK (101619742) | | | | | | | |
| | 0.25 lbm | POLY-E-FLAKE (101216940) | | | | | | | |
| | 4.98 Gal | FRESH WATER | | | | | | | |
| 4 | Drilling Fluid / Mud | | 364.00 | bbl | 8.9 | .0 | .0 | 6.0 | |
| Stage/Plug #: 2 | | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty uom | Mixing Density uom | Yield uom | Mix Fluid uom | Rate uom | Total Mix Fluid uom |
| 1 | Freshwater Ahead | | 50.00 | bbl | 8.33 | .0 | .0 | 6.0 | |
| 2 | Second Stage Lead Cement | ECONOCEM (TM) SYSTEM (452992) | 680.0 | sacks | 12.7 | 1.87 | 9.96 | 6.0 | 9.96 |
| | 0.25 lbm | POLY-E-FLAKE (101216940) | | | | | | | |
| | 9.96 Gal | FRESH WATER | | | | | | | |
| 3 | Drilling Fluid / Mud | | 135.00 | bbl | 8.9 | .0 | .0 | 6.0 | |
| 4 | Top Out | CMT - PREMIUM - CLASS G, 94 LB SK (100003685) | | sacks | 15.8 | 1.17 | 5.02 | 2.0 | 5.02 |
| | 94 lbm | CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685) | | | | | | | |
| | 2 % | CALCIUM CHLORIDE - HI TEST PELLET (100005053) | | | | | | | |
| | 5.02 Gal | FRESH WATER | | | | | | | |
| Calculated Values | | Pressures | | | Volumes | | | | |
| Displacement | | Shut In: Instant | | Lost Returns | | Cement Slurry | | Pad | |
| Top Of Cement | | 5 Min | | Cement Returns | | Actual Displacement | | Treatment | |
| Frac Gradient | | 15 Min | | Spacers | | Load and Breakdown | | Total Job | |
| Rates | | | | | | | | | |
| Circulating | | Mixing | | Displacement | | Avg. Job | | | |
| Cement Left In Pipe | Amount | 80 ft | Reason | Shoe Joint | | | | | |
| Frac Ring # 1 @ | ID | Frac ring # 2 @ | ID | Frac Ring # 3 @ | ID | Frac Ring # 4 @ | ID | | |
| The Information Stated Herein Is Correct | | | | Customer Representative Signature | | | | | |

HALLIBURTON

EXXON 10.75" SURFACE
H & P 215
PCU T78X-12G14
SECOND STAGE



| Global Event Log | | | | | | | |
|------------------|-------------------|----------|--------------|-----|---------------|----------|--------|
| Intersection | | PSI | Intersection | PSI | Intersection | PSI | |
| 22 | Test Lines | 07:08:45 | 365.3 | 23 | Test Lines | 07:09:58 | 360.3 |
| 25 | Pump Lead Cement | 07:30:28 | 183.3 | 26 | Shutdown | 08:14:52 | 39.83 |
| 28 | Pump Displacement | 08:20:59 | -22.70 | 29 | Slow Rate | 08:41:22 | 494.3 |
| 31 | Check Floats | 08:50:12 | 96.33 | 30 | Bump Plug | 08:45:03 | 1869 |
| | | | | 24 | Pump Spacer 1 | 07:15:36 | -12.70 |
| | | | | 27 | Drop Plug | 08:18:33 | -22.70 |

| | | |
|----------------------------------|-----------------------|------------------------|
| Customer: EXXON | Job Date: 09-Dec-2011 | Sales Order #: 9094205 |
| Well Description: PCU T78X-12G14 | UWI: | |

OptiCem v6.4.9
09-Dec-11 11:20