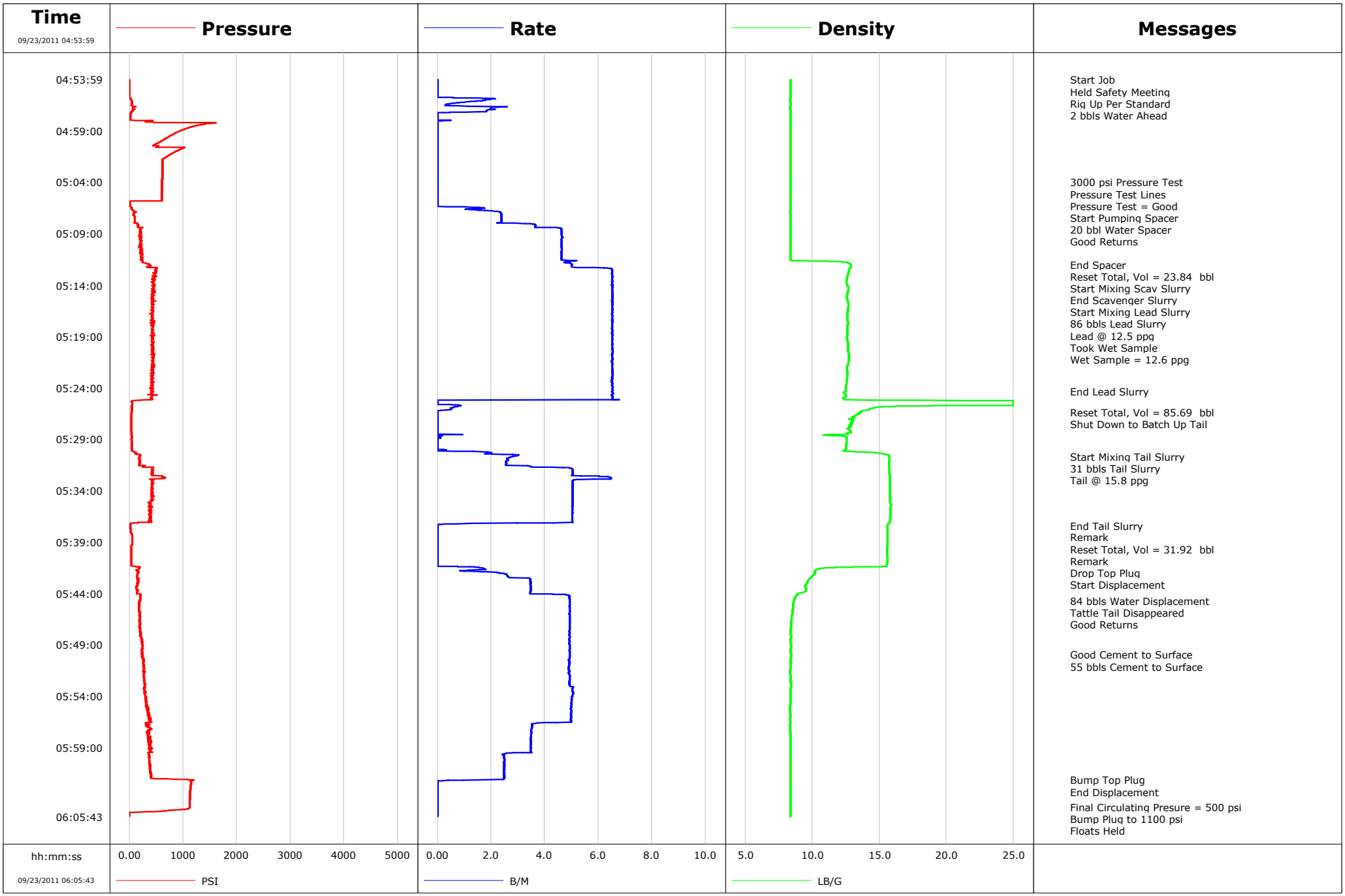
# Schlumberger Cementing Job Report

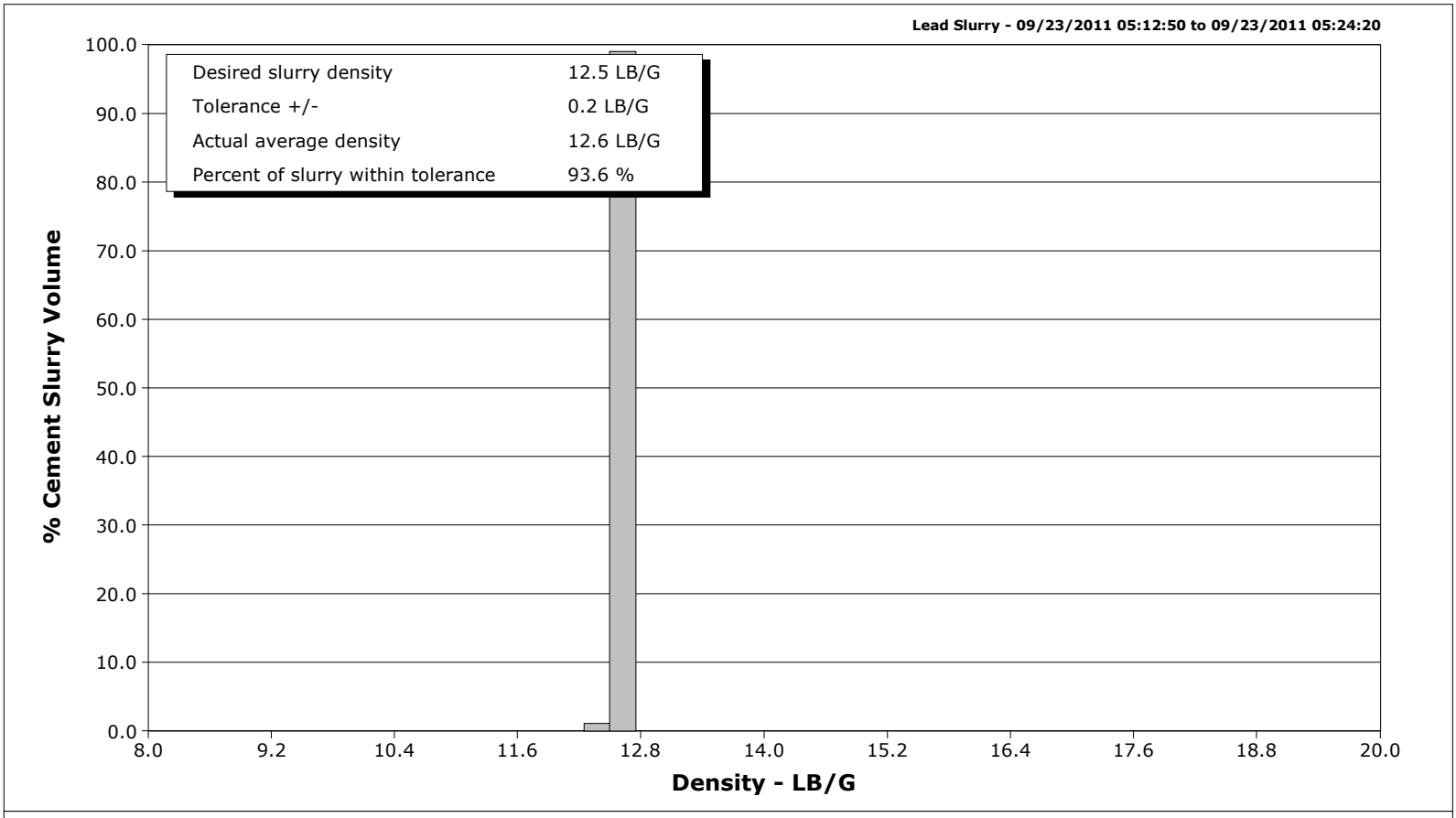
| | | | |
|---|---|---|---|
| **Well** | Federal 25-4A | **Client** | EnCana |
| **Field** | Parachute | **SIR No.** | BQMF-00165 |
| **Engineer** | Ryan Bowditch | **Job Type** | 9 5/8" Surface |
| **Country** | United States | **Job Date** | 09-23-2011 |

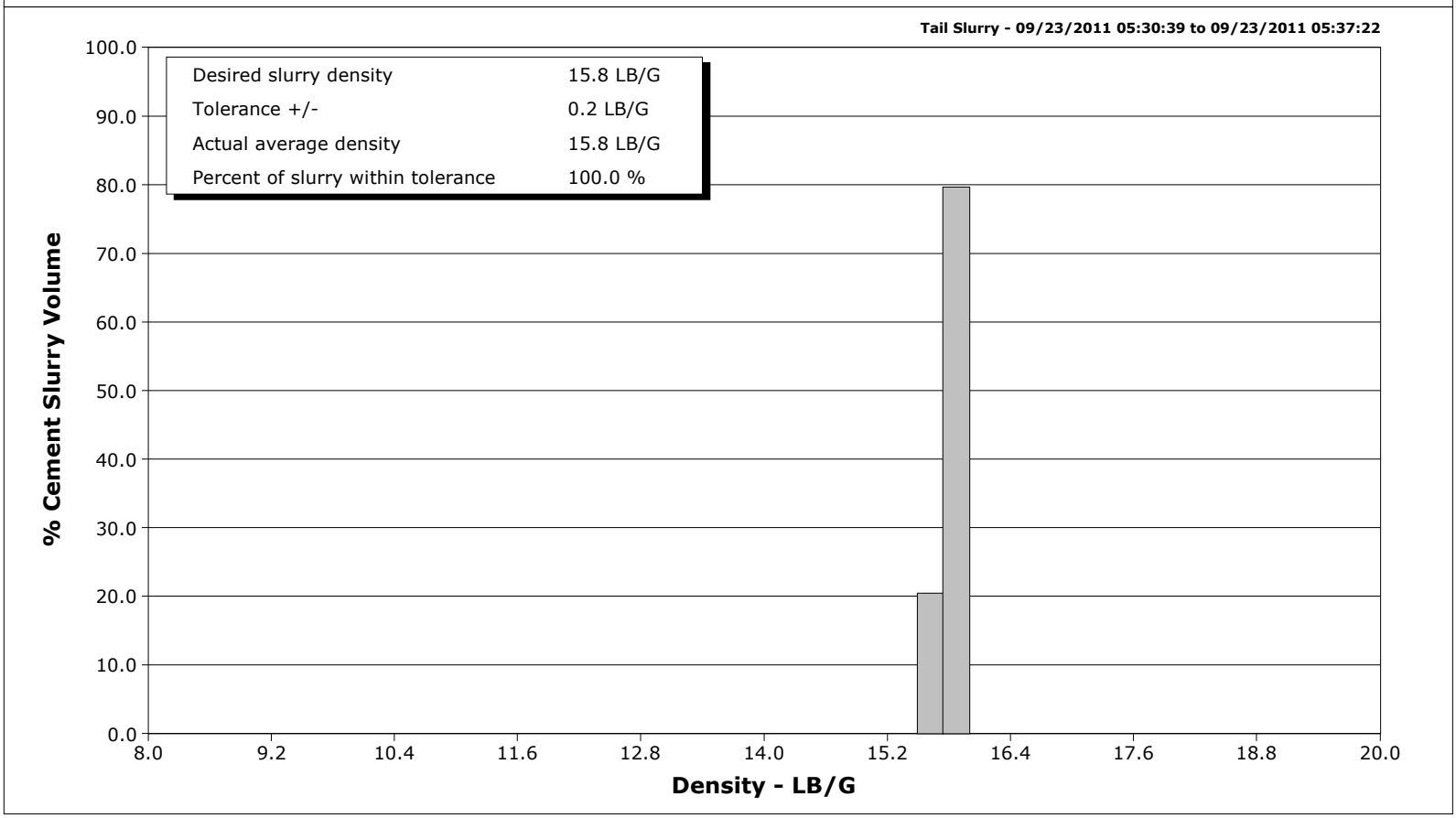


# Schlumberger

# Cementing Qa/Qc Density Report

| | | | |
|---|---|---|---|
| **Well** | Federal 25-4A | **Client** | EnCana |
| **Field** | Parachute | **SIR No.** | BQMF-00165 |
| **Engineer** | Ryan Bowditch | **Job Type** | 9 5/8" Surface |
| **Country** | United States | **Job Date** | 09-23-2011 |



Schlumberger

# Cementing Service Report

| Customer | Job Number |
|---|---|
| EnCana | BQMF-00165 |

| Well | Location (legal) | Schlumberger Location | Job Start |
|---|---|---|---|
| Federal 25-4A | PE-25 | Grand Junction, CO | Sep/23/2011 |

| Field | Formation Name/Type | Deviation | Bit Size | Well MD | Well TVD |
|---|---|---|---|---|---|
| Parachute | Shale | 0 deg | 12.3 in | 1130.0 ft | 1130.0 ft |

| County | State/Province | BHP | BHST | BHCT | Pore Press. Gradient |
|---|---|---|---|---|---|
| Garfield | Colorado | psi | 95 degF | 81 degF | lb/gal |

| Well Master | API/UWI |
|---|---|
| 0631277952 | 05045206540000 |

| Rig Name | Drilled For | Service Via |
|---|---|---|
| Patterson 330 | Gas | Land |

| Offshore Zone | Well Class | Well Type |
|---|---|---|
| | New | Development |

| Drilling Fluid Type | Max. Density | Plastic Viscosity |
|---|---|---|
| | lb/gal | cP |

| Service Line | Job Type |
|---|---|
| Cementing | 9 5/8" Surface |

| Max. Allowed Tub. Press | Max. Allowed Ann. Press | WH Connection |
|---|---|---|
| 1500 psi | 500 psi | Single Cement head |

**Service Instructions**

Cement 9 5/8" Surface Casing with:
20 bbls Water
86 bbls 12.5 ppg Lead (229 sks)
31 bbls 15.8 ppg Tail (150 sks)
Displace 84 bbls Water

**Casing/Liner**

| Depth, ft | Size, in | Weight, lb/ft | Grade | Thread |
|---|---|---|---|---|
| 40.0 | 16.0 | 65.0 | | |
| 1130.0 | 9.6 | 36.0 | K55 | 8RD |

**Tubing/Drill Pipe**

| T/D | Depth, ft | Size, in | Weight, lb/ft | Grade | Thread |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

**Perforations/Open Hole**

| Top, ft | Bottom, ft | shot/ft | No. of Shots | Total Interval |
|---|---|---|---|---|
| ft | ft | | | ft |
| ft | ft | | | Diameter |
| ft | ft | | | in |

| Treat Down | Displacement | Packer Type | Packer Depth |
|---|---|---|---|
| Casing | 83.8 bbl | | ft |

| Tubing Vol. | Casing Vol. | Annular Vol. | Openhole Vol. |
|---|---|---|---|
| bbl | 87.3 bbl | 66.0 bbl | 157.0 bbl |

| Casing/Tubing Secured | 1 Hole Vol. Circulated prior to Cement |
|---|---|
| X | X |

| Lift Pressure | Pipe Rotated | Pipe Reciprocated |
|---|---|---|
| 500 psi | ☐ | ☐ |

| No. Centralizers | Top Plugs | Bottom Plugs |
|---|---|---|
| | 1 | |

| Cement Head Type |
|---|
| Single |

| Job Scheduled For | Arrived on Location | Leave Location |
|---|---|---|
| Sep/23/2011 | Sep/23/2011 | Sep/23/2011 |

**Casing Tools**

| | |
|---|---|
| Shoe Type | Float |
| Shoe Depth | 1130.0 ft |
| Stage Tool Type | |
| Stage Tool Depth | ft |
| Collar Type | Float |
| Collar Depth | 1085.0 ft |

**Squeeze Job**

| | |
|---|---|
| Squeeze Type | |
| Tool Type | |
| Tool Depth | ft |
| Tail Pipe Size | in |
| Tail Pipe Depth | ft |
| Sqz. Total Vol. | bbl |

| Date | Time 24-hr clock | Treating Pressure PSI | Flow Rate B/M | Density LB/G | Volume BBL | Solid Fraction NULL | Message |
|---|---|---|---|---|---|---|---|
| 09/23/2011 | 04:53:59 | -6 | 0.0 | 8.36 | 0.0 | 0 | Started Acquisition |
| 09/23/2011 | 04:54:00 | -6 | 0.0 | 8.36 | 0.0 | 0 | Start Job |
| 09/23/2011 | 04:54:01 | -6 | 0.0 | 8.36 | 0.0 | 0 | Held Safety Meeting |
| 09/23/2011 | 04:55:39 | -6 | 0.0 | 8.36 | 0.0 | 0 | |
| 09/23/2011 | 04:57:19 | 18 | 0.0 | 8.36 | 2.1 | 0 | |
| 09/23/2011 | 04:58:59 | 950 | 0.0 | 8.36 | 2.1 | 0 | |
| 09/23/2011 | 05:00:39 | 1014 | 0.0 | 8.36 | 2.1 | 0 | |
| 09/23/2011 | 05:02:19 | 613 | 0.0 | 8.36 | 2.1 | 0 | |
| 09/23/2011 | 05:03:59 | 607 | 0.0 | 8.36 | 2.1 | 0 | |
| 09/23/2011 | 05:04:00 | 607 | 0.0 | 8.36 | 2.1 | 0 | 3000 psi Pressure Test |
| 09/23/2011 | 05:05:39 | 600 | 0.0 | 8.36 | 2.1 | 0 | |
| 09/23/2011 | 05:06:56 | 112 | 2.4 | 8.35 | 3.0 | 0 | Start Pumping Spacer |
| 09/23/2011 | 05:07:06 | 77 | 2.4 | 8.36 | 3.4 | 0 | 20 bbl Water Spacer |
| 09/23/2011 | 05:07:07 | 74 | 2.4 | 8.36 | 3.5 | 0 | Good Returns |
| 09/23/2011 | 05:07:19 | 98 | 2.4 | 8.36 | 3.9 | 0 | |
| 09/23/2011 | 05:08:59 | 219 | 4.6 | 8.36 | 9.7 | 0 | |
| 09/23/2011 | 05:10:39 | 234 | 4.6 | 8.36 | 17.4 | 0 | |
| 09/23/2011 | 05:12:00 | 377 | 5.0 | 12.85 | 23.8 | 15 | End Spacer |
| 09/23/2011 | 05:12:01 | 385 | 5.0 | 12.85 | 23.8 | 15 | Reset Total, Vol = 23.84 bbl |
| 09/23/2011 | 05:12:03 | 376 | 5.0 | 12.85 | 24.0 | 15 | Start Mixing Scav Slurry |
| 09/23/2011 | 05:12:19 | 509 | 6.2 | 12.83 | 25.3 | 17 | |

| Well | Field | Job Start | Customer | Job Number |
|---|---|---|---|---|
| Federal 25-4A | Parachute | Sep/23/2011 | EnCana | BQMF-00165 |

| Date | Time 24-hr clock | Treating Pressure PSI | Flow Rate B/M | Density LB/G | Volume BBL | Solid Fraction NULL | Message |
|---|---|---|---|---|---|---|---|
| 09/23/2011 | 05:12:50 | 438 | 6.5 | 12.67 | 28.7 | 21 | Start Mixing Lead Slurry |
| 09/23/2011 | 05:12:51 | 468 | 6.5 | 12.67 | 28.8 | 21 | 86 bbls Lead Slurry |
| 09/23/2011 | 05:13:58 | 452 | 6.5 | 12.58 | 36.1 | 22 | Took Wet Sample |
| 09/23/2011 | 05:13:59 | 453 | 6.5 | 12.59 | 36.2 | 22 | |
| 09/23/2011 | 05:15:39 | 433 | 6.5 | 12.65 | 47.0 | 23 | |
| 09/23/2011 | 05:17:19 | 415 | 6.5 | 12.62 | 57.9 | 23 | |
| 09/23/2011 | 05:18:59 | 426 | 6.5 | 12.59 | 68.7 | 23 | |
| 09/23/2011 | 05:20:39 | 421 | 6.5 | 12.69 | 79.6 | 23 | |
| 09/23/2011 | 05:22:19 | 414 | 6.5 | 12.60 | 90.5 | 24 | |
| 09/23/2011 | 05:23:59 | 430 | 6.5 | 12.49 | 101.3 | 25 | |
| 09/23/2011 | 05:24:20 | 433 | 6.5 | 12.51 | 103.6 | 21 | End Lead Slurry |
| 09/23/2011 | 05:25:39 | 46 | 0.4 | 25.00 | 109.2 | 0 | |
| 09/23/2011 | 05:26:22 | 37 | 0.0 | 13.59 | 109.5 | 0 | Reset Total, Vol = 85.69 bbl |
| 09/23/2011 | 05:27:00 | 35 | 0.0 | 12.73 | 109.5 | 0 | Shut Down to Batch Up Tail |
| 09/23/2011 | 05:27:19 | 35 | 0.0 | 13.02 | 109.5 | 0 | |
| 09/23/2011 | 05:28:59 | 37 | 0.0 | 12.55 | 109.6 | 0 | |
| 09/23/2011 | 05:30:39 | 190 | 2.8 | 15.73 | 110.6 | 20 | Start Mixing Tail Slurry |
| 09/23/2011 | 05:30:40 | 187 | 2.8 | 15.73 | 110.7 | 20 | 31 bbls Tail Slurry |
| 09/23/2011 | 05:31:13 | 201 | 2.6 | 15.72 | 112.2 | 24 | Tail @ 15.8 ppg |
| 09/23/2011 | 05:32:19 | 412 | 5.0 | 15.75 | 116.5 | 30 | |
| 09/23/2011 | 05:33:59 | 416 | 5.0 | 15.78 | 125.3 | 35 | |
| 09/23/2011 | 05:35:39 | 410 | 5.0 | 15.83 | 133.7 | 38 | |
| 09/23/2011 | 05:37:19 | 15 | 0.0 | 15.61 | 141.4 | 0 | |
| 09/23/2011 | 05:37:22 | 15 | 0.0 | 15.61 | 141.4 | 0 | End Tail Slurry |
| 09/23/2011 | 05:37:23 | 15 | 0.0 | 15.61 | 141.4 | 0 | Remark |
| 09/23/2011 | 05:37:24 | 15 | 0.0 | 15.60 | 141.4 | 0 | Reset Total, Vol = 31.92 bbl |
| 09/23/2011 | 05:37:26 | 14 | 0.0 | 15.60 | 141.4 | 0 | Remark |
| 09/23/2011 | 05:37:28 | 14 | 0.0 | 15.60 | 141.4 | 0 | Start Displacement |
| 09/23/2011 | 05:38:59 | 47 | 0.0 | 15.58 | 141.4 | 0 | |
| 09/23/2011 | 05:40:39 | 35 | 0.0 | 15.58 | 141.4 | 0 | |
| 09/23/2011 | 05:42:19 | 140 | 2.6 | 10.00 | 143.2 | 28 | |
| 09/23/2011 | 05:43:59 | 130 | 3.4 | 9.08 | 148.8 | 15 | |
| 09/23/2011 | 05:44:43 | 199 | 4.9 | 8.63 | 152.2 | 4 | 84 bbls Water Displacement |
| 09/23/2011 | 05:45:29 | 181 | 4.9 | 8.54 | 156.0 | 4 | Good Returns |
| 09/23/2011 | 05:45:39 | 173 | 4.9 | 8.53 | 156.8 | 4 | |
| 09/23/2011 | 05:47:19 | 197 | 4.9 | 8.40 | 165.0 | 3 | |
| 09/23/2011 | 05:48:59 | 233 | 4.9 | 8.39 | 173.2 | 10 | |
| 09/23/2011 | 05:49:56 | 226 | 4.9 | 8.40 | 177.9 | 8 | Good Cement to Surface |
| 09/23/2011 | 05:50:39 | 276 | 4.9 | 8.39 | 181.4 | 2 | |
| 09/23/2011 | 05:52:19 | 270 | 4.9 | 8.39 | 189.6 | 8 | |
| 09/23/2011 | 05:53:59 | 289 | 5.0 | 8.37 | 197.9 | 18 | |
| 09/23/2011 | 05:55:39 | 356 | 5.0 | 8.35 | 206.2 | 0 | |
| 09/23/2011 | 05:57:19 | 362 | 3.5 | 8.35 | 213.5 | 0 | |
| 09/23/2011 | 05:58:59 | 366 | 3.5 | 8.35 | 219.3 | 0 | |
| 09/23/2011 | 06:00:39 | 388 | 2.5 | 8.35 | 224.0 | 0 | |
| 09/23/2011 | 06:02:08 | 1099 | 1.8 | 8.35 | 227.7 | 0 | Bump Top Plug |
| 09/23/2011 | 06:02:09 | 1192 | 1.8 | 8.35 | 227.7 | 0 | End Displacement |
| 09/23/2011 | 06:02:19 | 1155 | 0.0 | 8.35 | 227.8 | 0 | |
| 09/23/2011 | 06:03:59 | 1124 | 0.0 | 8.35 | 227.8 | 0 | |
| 09/23/2011 | 06:04:47 | 1117 | 0.0 | 8.35 | 227.8 | 0 | Final Circulating Presure = 500 psi |
| 09/23/2011 | 06:05:39 | -8 | 0.0 | 8.35 | 227.8 | 0 | |
| 09/23/2011 | 06:05:40 | -7 | 0.0 | 8.35 | 227.8 | 0 | Floats Held |

| Well | Field | Job Start | Customer | Job Number |
|---|---|---|---|---|
| Federal 25-4A | Parachute | Sep/23/2011 | EnCana | BQMF-00165 |

# Post Job Summary

| Average Pump Rates, bbl/min | | | | Volume of Fluid Injected, bbl | | | |
|---|---|---|---|---|---|---|---|
| Slurry | N2 | Mud | Maximum Rate | Total Slurry | Mud | Spacer | N2 |
| 4.6 | | | 6.8 | 117.0 | 0.0 | 20.0 | |

| Treating Pressure Summary, psi | | | | | Breakdown Fluid | | |
|---|---|---|---|---|---|---|---|
| Maximum | Final | Average | Bump Plug to | Breakdown | Type | Volume | Density |
| 1615 | -7 | 350 | 1100 | | | bbl | lb/gal |

| Avg. N2 Percent | Designed Slurry Volume | Displacement | Mix Water Temp | Cement Circulated to Surface? | Volume |
|---|---|---|---|---|---|
| % | 117.0 bbl | 86.3 bbl | 65 degF | [X] | 55.0 bbl |
| | | | | Washed Thru Perfs [ ] | To ft |

| Customer or Authorized Representative | Schlumberger Supervisor | Circulation Lost | Job Completed |
|---|---|---|---|
| Arvid Mosnes | Ryan Bowditch | - | - |