



# Casing & Cement Summary

Well Name: RAZOR 11G-0210B

## Well Information

|                            |                 |                 |           |                      |               |                |                       |             |              |                      |             |   |  |
|----------------------------|-----------------|-----------------|-----------|----------------------|---------------|----------------|-----------------------|-------------|--------------|----------------------|-------------|---|--|
| API Number<br>051233873000 |                 |                 |           | WPC ID<br>1CO0761181 |               |                | Field Name<br>Wildcat |             |              | KB-Grd (ft)<br>17.00 |             | Original Spud Date<br>3/3/2015                |  |
| Lot                        | Quarter 1<br>SW | Quarter 2<br>NE | Quarter 3 | Quarter 4            | Section<br>11 | Township<br>10 | Twnshp...<br>N        | Range<br>58 | Rng E/W<br>W | County<br>Weld       | State<br>CO | Well Configuration Type<br>Lateral/Horizontal |  |

## Wellbore

|                                |                                    |                                  |                                |
|--------------------------------|------------------------------------|----------------------------------|--------------------------------|
| Wellbore Name<br>Original Hole | Profile Type<br>Lateral/Horizontal | Kick Off Depth (ftKB)<br>5,640.0 | Vertical Section Direction (*) |
| Section Des                    | Size (in)                          | Act Top (ftKB)                   | Act Btm (ftKB)                 |
| Conductor                      | 20                                 | 17.0                             | 97.0                           |
| Surface                        | 13 1/2                             | 97.0                             | 1,890.0                        |
| Intermediate                   | 8 3/4                              | 1,890.0                          | 6,550.0                        |
| Lateral                        | 6 1/2                              | 6,550.0                          | 8,160.0                        |

## Casing

|                    |                 |                 |                |                  |               |            |            |                  |
|--------------------|-----------------|-----------------|----------------|------------------|---------------|------------|------------|------------------|
| Casing Description | OD Nom Max (in) | ID Nom Min (in) | Run Date       | Set Depth (ftKB) | Wellbore      |            |            |                  |
| Intermediate Csg   | 7               | 6.184           | 3/7/2015 12:00 | 6,533.8          | Original Hole |            |            |                  |
| Centralizers       | Comment         |                 |                |                  |               |            |            |                  |
| 45                 |                 |                 |                |                  |               |            |            |                  |
| Item Des           | Wt (lb/ft)      | Grade           | Top Thread     | Jts              | Len (ft)      | Top (ftKB) | Btm (ftKB) | P Collapse (psi) |
| Landing Joint      | 29.00           | L-80            |                | 0                | 0.00          | 17.0       | 17.0       | 7,020.0          |
| Hanger w/ pup      | 29.00           | L-80            |                | 1                | 5.00          | 17.0       | 22.0       | 7,020.0          |
| Casing Joints      | 29.00           | L-80            |                | 162              | 6,470.48      | 22.0       | 6,492.5    | 7,020.0          |
| Float Collar       | 29.00           | HCP-110         |                | 1                | 1.50          | 6,492.5    | 6,494.0    | 7,020.0          |
| Casing Joints      | 29.00           | L-80            |                | 1                | 38.34         | 6,494.0    | 6,532.3    | 7,020.0          |
| Float Shoe         | 29.00           | HCP-110         |                | 1                | 1.50          | 6,532.3    | 6,533.8    |                  |

## Cement: Intermediate Casing Cement

|   |  |  |
|---|--|--|
| Cementing Start Date<br>3/7/2015        | Cementing End Date<br>3/7/2015                           | Cementing Company<br>Baker Hughes Cement |
| Evaluation Method<br>Returns to Surface | Cement Evaluation Results<br>45 bbls returned to surface | Comment                                  |

## Cement Stage: Intermediate Casing Cement

|                                  |                                  |                                  |                                      |                                     |                    |
|----------------------------------|----------------------------------|----------------------------------|--------------------------------------|-------------------------------------|--------------------|
| Top Depth (ftKB)<br>17.0         | Bottom Depth (ftKB)<br>6,533.8   | Full Return?<br>No               | Vol Cement Ret (bbl)<br>45.0         | Top Plug?<br>Yes                    | Bottom Plug?<br>No |
| Initial Pump Rate (bbl/min)<br>6 | Final Pump Rate (bbl/min)<br>2   | Avg Pump Rate (bbl/min)<br>5     | Final Pump Pressure (psi)<br>1,803.0 | Plug Bump Pressure (psi)<br>2,572.0 |                    |
| Pipe Reciprocated?<br>No         | Reciprocation Stroke Length (ft) | Reciprocation Rate (spm)         | Pipe Rotated?<br>No                  | Pipe RPM (rpm)                      |                    |
| Tagged Depth (ftKB)              | Tag Method                       | Depth Plug Drilled Out To (ftKB) | Drill Out Diameter (in)              | Drill Out Date                      |                    |

## Cement Fluid: Intermediate Casing Cement

|                              |  |                                       |                                   |                              |
|------------------------------|--|---------------------------------------|-----------------------------------|------------------------------|
| Fluid Type<br>Spacer         | Fluid Description<br>Spacer              | Amount (sacks)<br>381                 | Class<br>Type 111                 | Volume Pumped (bbl)<br>102.8 |
| Estimated Top (ftKB)<br>17.0 | Estimated Bottom Depth (ftKB)<br>1,869.0 | Yield (ft <sup>3</sup> /sack)<br>1.15 | Mix H2O Ratio (gal/sack)<br>12.06 | Free Water (%)               |
| Density (lb/gal)<br>8.30     | Plastic Viscosity (cp)                   | Thickening Time (hr)                  | 1st Compressive Strength (psi)    |                              |

## Cement Fluid Additives

|     |      |      |
|-----|------|------|
| Add | Type | Conc |
|     |      |      |

## Cement Fluid: Intermediate Casing Cement

|                              |  |                                       |                                  |                             |
|------------------------------|--|---------------------------------------|----------------------------------|-----------------------------|
| Fluid Type<br>Lead Cement    | Fluid Description<br>12.5 ppg Cement     | Amount (sacks)<br>182                 | Class<br>Class G                 | Volume Pumped (bbl)<br>33.6 |
| Estimated Top (ftKB)<br>17.0 | Estimated Bottom Depth (ftKB)<br>6,533.8 | Yield (ft <sup>3</sup> /sack)<br>1.72 | Mix H2O Ratio (gal/sack)<br>7.94 | Free Water (%)              |
| Density (lb/gal)<br>12.50    | Plastic Viscosity (cp)                   | Thickening Time (hr)                  | 1st Compressive Strength (psi)   |                             |

## Cement Fluid Additives

|     |      |      |
|-----|------|------|
| Add | Type | Conc |
|     |      |      |

## Cement Fluid: Intermediate Casing Cement

|                                 |  |                                       |                                  |                             |
|---------------------------------|--|---------------------------------------|----------------------------------|-----------------------------|
| Fluid Type<br>Tail Cement       | Fluid Description<br>13.8 PPG            | Amount (sacks)<br>182                 | Class<br>Class G                 | Volume Pumped (bbl)<br>33.6 |
| Estimated Top (ftKB)<br>1,869.0 | Estimated Bottom Depth (ftKB)<br>6,533.8 | Yield (ft <sup>3</sup> /sack)<br>1.72 | Mix H2O Ratio (gal/sack)<br>7.94 | Free Water (%)              |
| Density (lb/gal)<br>13.80       | Plastic Viscosity (cp)                   | Thickening Time (hr)                  | 1st Compressive Strength (psi)   |                             |



## Casing & Cement Summary

Well Name: RAZOR 11G-0210B

### Well Information

|                            |                 |                 |           |                      |               |                |                       |             |                |                      |             |   |  |
|----------------------------|-----------------|-----------------|-----------|----------------------|---------------|----------------|-----------------------|-------------|----------------|----------------------|-------------|---|--|
| API Number<br>051233873000 |                 |                 |           | WPC ID<br>1CO0761181 |               |                | Field Name<br>Wildcat |             |                | KB-Grd (ft)<br>17.00 |             | Original Spud Date<br>3/3/2015                |  |
| Lot                        | Quarter 1<br>SW | Quarter 2<br>NE | Quarter 3 | Quarter 4            | Section<br>11 | Township<br>10 | Twnshp...<br>N        | Range<br>58 | Rng E/...<br>W | County<br>Weld       | State<br>CO | Well Configuration Type<br>Lateral/Horizontal |  |

### Cement Fluid Additives

| Add | Type | Conc |
|-----|------|------|
|     |      |      |

### Cement Fluid: Intermediate Casing Cement

|                      |  |                                    |                      |                          |                                |                     |
|----------------------|--|------------------------------------|----------------------|--------------------------|--------------------------------|---------------------|
| Fluid Type           |  | Fluid Description                  |                      | Amount (sacks)           | Class                          | Volume Pumped (bbl) |
| Displacement         |  | 45 bbls cement returned to surface |                      |                          | Drilling mud                   | 243.0               |
| Estimated Top (ftKB) |  | Estimated Bottom Depth (ftKB)      | Yield (ft³/sack)     | Mix H2O Ratio (gal/sack) | Free Water (%)                 |                     |
| 17.0                 |  |                                    |                      |                          |                                |                     |
| Density (lb/gal)     |  | Plastic Viscosity (cp)             | Thickening Time (hr) |                          | 1st Compressive Strength (psi) |                     |
| 9.00                 |  |                                    |                      |                          |                                |                     |

### Cement Fluid Additives

| Add | Type | Conc |
|-----|------|------|
|     |      |      |