



Bison Oil Well Cementing Tail & Lead

Date: 5/31/2018
 Invoice #: 300144
 API#: 05-123-46510
 Foreman: JASON KELEHER

Customer: Crestone Peak Resources
 Well Name: DAVIS 1E-9H-G266

County: Weld
 State: Colorado
 Sec: 9
 Twp: 2N
 Range: 66W

Consultant: BUDDY
 Rig Name & Number: Ensign 153
 Distance To Location: 26
 Units On Location: 3
 Time Requested: 700
 Time Arrived On Location: 600
 Time Left Location: 1200

| WELL DATA | Cement Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-------------|-----------------|--------------|--|---------------------------|------|-----------------------|-----|------------------|------|----------|-----|-------------|-----------------|--------------|--|---------------------------|------|-----------------------|------|-------------------|------|-----------|--|---------------------------|-------------|---------------------------|-------------|
| Casing Size (in) : 9.625 Casing Weight (lb) : 40 Casing Depth (ft.) : 2,186 Total Depth (ft) : 2205 Open Hole Diameter (in) : 13.50 Conductor Length (ft) : 98 Conductor ID : 15.25 Shoe Joint Length (ft) : 86 Landing Joint (ft) : 6 Sacks of Tail Requested : 190 HOC Tail (ft): <input type="text"/> <small>One or the other, cannot have quantity in both</small> Max Rate: 8 Max Pressure: 2000 | <table border="0"> <tr> <td>Lead</td> <td>N-Gel-12</td> </tr> <tr> <td>Cement Name:</td> <td></td> </tr> <tr> <td>Cement Density (lb/gal) :</td> <td>13.5</td> </tr> <tr> <td>Cement Yield (cuft) :</td> <td>1.7</td> </tr> <tr> <td>Gallons Per Sack</td> <td>9.00</td> </tr> <tr> <td>% Excess</td> <td>20%</td> </tr> </table> <table border="0"> <tr> <td>Tail</td> <td>Type III</td> </tr> <tr> <td>Cement Name:</td> <td></td> </tr> <tr> <td>Cement Density (lb/gal) :</td> <td>15.2</td> </tr> <tr> <td>Cement Yield (cuft) :</td> <td>1.27</td> </tr> <tr> <td>Gallons Per Sack:</td> <td>5.89</td> </tr> <tr> <td>% Excess:</td> <td></td> </tr> </table> <table border="0"> <tr> <td>Fluid Ahead (bbls)</td> <td>60.0</td> </tr> <tr> <td>H2O Wash Up (bbls)</td> <td>10.0</td> </tr> </table> <p style="text-align: center;">Spacer Ahead Makeup 60 BBL WATER DYE IN 2ND 10</p> | Lead | N-Gel-12 | Cement Name: | | Cement Density (lb/gal) : | 13.5 | Cement Yield (cuft) : | 1.7 | Gallons Per Sack | 9.00 | % Excess | 20% | Tail | Type III | Cement Name: | | Cement Density (lb/gal) : | 15.2 | Cement Yield (cuft) : | 1.27 | Gallons Per Sack: | 5.89 | % Excess: | | Fluid Ahead (bbls) | 60.0 | H2O Wash Up (bbls) | 10.0 |
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Casing ID: 8.835 Casing Grade: J-55 only used

| Lead Calculated Results | Tail Calculated Results |
|--|---|
| HOC of Lead 1767.61 ft | Tail Cement Volume In Ann 204.38 cuft |
| Casing Depth - HOC Tail | (HOC Tail) X (OH Ann) |
| Volume of Lead Cement 979.13 cuft | Total Volume of Tail Cement 241.30 Cuft |
| HOC of Lead X Open Hole Ann | (HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann) |
| Volume of Conductor 74.67 cuft | bbls of Tail Cement 42.98 bbls |
| (Conductor ID Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft) | (HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess) |
| Total Volume of Lead Cement 1053.44 cuft | HOC Tail 418.39 ft |
| (cuft of Lead Cement) + (Cuft of Conductor) | (Tail Cement Volume) ÷ (OH Ann) |
| bbls of Lead Cement 187.70 bbls | Sacks of Tail Cement 190.00 sk |
| (Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess) | (Total Volume of Tail Cement) ÷ (Cement Yield) |
| Sacks of Lead Cement 620.00 sk | bbls of Tail Mix Water 26.64 bbls |
| (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement) | (Sacks of Tail Cement X Gallons Per Sack) ÷ 42 |
| bbls of Lead Mix Water 132.86 bbls | Pressure of cement in annulus |
| (Sacks Needed) X (Gallons Per Sack) ÷ 42 | Hydrostatic Pressure 590.00 PSI |
| Displacement 159.60 bbls | |
| (Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length) | Collapse PSI: 2570.00 psi |
| Total Water Needed: 390.00 bbls | Burst PSI: 3950.00 psi |

X
 Authorization To Proceed

