



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/2/2014
 Invoice # 35030
 API# _____
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: burkhardt 35n-3hz

County: Weld
 State: Colorado
 Sec: 3
 Twp: 1n
 Range: 66w

Consultant: allan
 Rig Name & Number: major 42
 Distance To Location: 20
 Units On Location: 4030-3103/4024-3203
 Time Requested: 630 pm
 Time Arrived On Location: 430 pm
 Time Left Location: 11:00pm

| WELL DATA | | Cement Data | |
|----------------------------|--------------|----------------------------|----------------|
| Casing Size OD (in) : | <u>9.625</u> | Cement Name: | <u>BFN III</u> |
| Casing Weight (lb) : | <u>36.00</u> | Cement Density (lb/gal) : | <u>14.2</u> |
| Casing Depth (ft.) : | <u>1,610</u> | Cement Yield (cuft) : | <u>1.49</u> |
| Total Depth (ft) : | <u>1628</u> | Gallons Per Sack: | <u>7.48</u> |
| Open Hole Diameter (in.) : | <u>13.50</u> | % Excess: | <u>16%</u> |
| Conductor Length (ft) : | | Displacement Fluid lb/gal: | <u>8.3</u> |
| Conductor ID : | | BBL to Pit: | |
| Shoe Joint Length (ft) : | <u>43</u> | Fluid Ahead (bbls): | <u>30.0</u> |
| Landing Joint (ft) : | <u>8</u> | H2O Wash Up (bbls): | <u>20.0</u> |
| Max Rate: | | Spacer Ahead Makeup | |
| Max Pressure: | | | |

| Calculated Results | | | Displacement: 121.76 bbls | |
|--|---------------|-------------|--|--------------------|
| cuft of Shoe | 18.66 | cuft | (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint) | |
| (Casing ID Squared) X (.005454) X (Shoe Joint ft) | | | Pressure of cement in annulus | |
| cuft of Conductor | 0.00 | cuft | Hydrostatic Pressure: | 1187.70 PSI |
| (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft) | | | Pressure of the fluids inside casing | |
| cuft of Casing | 912.75 | cuft | Displacement: | 675.66 psi |
| (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length) | | | Shoe Joint: | 31.72 psi |
| Total Slurry Volume | 931.42 | cuft | Total | 707.38 psi |
| (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing) | | | Differential Pressure: | 480.32 psi |
| bbls of Slurry | 165.89 | bbls | Collapse PSI: | 2020.00 psi |
| (Total Slurry Volume) X (.1781) | | | Burst PSI: | 3520.00 psi |
| Sacks Needed | 625 | sk | Total Water Needed: | 283.09 bbls |
| (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement) | | | | |
| Mix Water | 111.33 | bbls | | |
| (Sacks Needed) X (Gallons Per Sack) ÷ 42 | | | | |

X [Signature]
 Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.

M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

