



Bison Oil Well Cementing Single Cement Surface Pipe

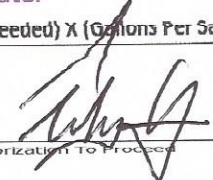
Date: 11/7/2014
 Invoice # 65024
 API# _____
 Foreman: Lee Sharp

Customer: Anadarko Petroleum Corporation
Well Name: Barclay 37N-26HZ

County: Weld
 State: Colorado
 Sec: 14
 Twp: 2N
 Range: 67W

Consultant: Toby
 Rig Name & Number: Major 42
 Distance To Location: 23
 Units On Location: 4015 & 4022
 Time Requested: 12:00
 Time Arrived On Location: 11:15
 Time Left Location: _____

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>36.90</u>	Cement Density (lb/gal) : <u>14.2</u>
Casing Depth (ft.) : <u>943</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>953</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>20%</u>
Conductor Length (ft) : <u>0</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>0</u>	BBL to Pit: _____
Shoe Joint Length (ft) : <u>42</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: _____	<u>10F+10RED+10F= 30bbl</u>

Calculated Results	Pressure of cement in annulus
Casing ID: <u>8.921</u>	Casing Grade: <u>J-55 only used</u>
Displacement: <u>70.28</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	Hydrostatic Pressure: <u>695.65</u> PSI
cuft of Shoe <u>18.19</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of the fluids inside casing
cuft of Conductor <u>0.00</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Displacement: <u>388.54</u> psi
cuft of Casing <u>553.05</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Shoe Joint: <u>30.91</u> psi
Total Slurry Volume <u>571.23</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Total <u>419.45</u> psi
bbls of Slurry <u>101.74</u> bbls (Total Slurry Volume) X (.1781)	Differential Pressure: <u>276.20</u> psi
Sacks Needed <u>383</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: <u>2020.00</u> psi
Mix Water <u>68.28</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Burst PSI: <u>3520.00</u> psi
Total Water Needed: <u>188.56</u> bbls	
 X _____ 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.

Barclay 37N-26HZ Surface inv 16024

