



Bison Oil Well Cementing Single Cement Surface Pipe

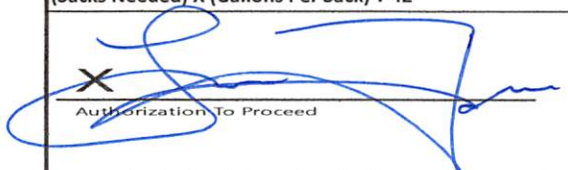
Date: 2/6/2017
 Invoice # 666071
 API# 05-123-42457
 Foreman: Nick

Customer: Anadarko Petroleum Corporation
Well Name: Guest 3N-12HZ

County: Weld Consultant: Sean/Lane
 State: Colorado Rig Name & Number: WMO 252
 Distance To Location: 34 Miles
 Sec: 13 Units On Location: 4020/4030/4032
 Twp: 2N Time Requested: 15:30
 Range: 65W Time Arrived On Location: 14:30
 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>36.00</u>	Cement Density (lb/gal) :	<u>14.2</u>
Casing Depth (ft.) :	<u>1,819</u>	Cement Yield (cuft) :	<u>1.49</u>
Total Depth (ft) :	<u>1840</u>	Gallons Per Sack:	<u>7.48</u>
Open Hole Diameter (in.) :	<u>13.50</u>	% Excess:	<u>15%</u>
Conductor Length (ft) :	<u>80</u>	Displacement Fluid lb/gal:	<u>8.3</u>
Conductor ID :	<u>15.25</u>	BBL to Pit:	<u>0.0</u>
Shoe Joint Length (ft) :	<u>44</u>	Fluid Ahead (bbls):	<u>30.0</u>
Landing Joint (ft) :	<u>0</u>	H2O Wash Up (bbls):	<u>20.0</u>
Max Rate:	<u>8</u>	Spacer Ahead Makeup	
Max Pressure:	<u>2000</u>	Dye in the second 10 bbl	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement:	<u>137.22</u> bbls
cuft of Shoe	<u>19.10</u> cuft	<small>(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)</small>	
<small>(Casing ID Squared) X (.005454) X (Shoe Joint ft)</small>			
cuft of Conductor	<u>61.05</u> cuft	Pressure of cement in annulus	
<small>(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)</small>			
cuft of Casing	<u>977.39</u> cuft	Hydrostatic Pressure:	<u>1341.88</u> PSI
<small>(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)</small>			
Total Slurry Volume	<u>1057.53</u> cuft	Pressure of the fluids inside casing	
<small>(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)</small>			
bbls of Slurry	<u>188.35</u> bbls	Displacement:	<u>765.35</u> psi
<small>(Total Slurry Volume) X (.1781)</small>			
Sacks Needed	<u>710</u> sk	Shoe Joint:	<u>32.46</u> psi
<small>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)</small>			
Mix Water	<u>126.40</u> bbls	Total	<u>797.81</u> psi
<small>(Sacks Needed) X (Gallons Per Sack) ÷ 42</small>			
		Differential Pressure:	<u>544.07</u> psi
		Collapse PSI:	<u>2020.00</u> psi
		Burst PSI:	<u>3520.00</u> psi
		Total Water Needed:	<u>313.63</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.

Guest 3N-12HZ

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

