



Bison Oil Well Cementing Single Cement Surface Pipe


Date: 3/7/2017
 Invoice # 666086
 API# 05-123-43017
 Foreman: Nick

Customer: Anadarko Petroleum Corporation
Well Name: Camenisch 15N-22HZ

County: Weld Consultant: Sean/Lane
 State: Colorado Rig Name & Number: WMO 252
 Distance To Location: 34 Miles
 Sec: 15 Units On Location: 4023/4020/4019
 Twp: 2N Time Requested: 16:30
 Range: 68W Time Arrived On Location: 15:53
 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>1,865</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1875</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:
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

Calculated Results	Pressure of cement in annulus
Casing ID <u>8.921</u> Casing Grade <u>J-55 only used</u>	Displacement: 140.78 bbls
cuft of Shoe 19.10 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 61.05 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing 1003.24 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 1375.81 PSI
Total Slurry Volume 1083.39 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry 192.95 bbls (Total Slurry Volume) X (.1781)	Displacement: 785.18 psi
Sacks Needed 727 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 32.46 psi
Mix Water 129.49 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 817.64 psi
	Differential Pressure: 558.17 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 320.27 bbls



 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.

Camenisch 15N-22HZ

