



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/8/2015
 Invoice # 80049
 API# 05-123-41505-00
 Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: English Farms 15C-8HZ

County: Weld
 State: Colorado
 Sec: 8
 Twp: 1N
 Range: 65W

Consultant: Don / Tobin
 Rig Name & Number: Extreme 24
 Distance To Location: 22 Miles
 Units On Location: 4023-3104/4030-3203
 Time Requested: 700pm
 Time Arrived On Location: 530pm
 Time Left Location: 2:15am

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>1,838</u>	Cement Yield (cuft) :	<u>1.49</u>
Total Depth (ft) :	<u>1864</u>	Gallons Per Sack:	<u>7.48</u>
Open Hole Diameter (in.) :	<u>13.50</u>	% Excess:	<u>25%</u>
Conductor Length (ft) :	<u>60</u>	Displacement Fluid lb/gal:	<u>8.3</u>
Conductor ID :	<u>16</u>	BBL to Pit:	<u>30</u>
Shoe Joint Length (ft) :	<u>42</u>	Fluid Ahead (bbls):	<u>30.0</u>
Landing Joint (ft) :	<u>19</u>	H2O Wash Up (bbls):	<u>10.0</u>
Max Rate:	<u>6</u>	Spacer Ahead Makeup	
Max Pressure:	<u>1750</u>	30 bbls With Dye in 2nd 10 bbls	

Calculated Results		Displacement: 140.33 bbls	
cuft of Shoe 18.03 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 53.46 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of cement in annulus	
cuft of Casing 1086.02 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Hydrostatic Pressure: 1355.67 PSI	
Total Slurry Volume 1157.51 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Pressure of the fluids inside casing	
bbls of Slurry 206.15 bbls (Total Slurry Volume) X (.1781)		Displacement: 774.47 psi	
Sacks Needed 777 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Shoe Joint: 30.65 psi	
Mix Water 138.35 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Total 805.12 psi	
		Differential Pressure: 550.55 psi	
		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 318.68 bbls	

Authorization To Proceed

SERIES 2000

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

