



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/5/2017  
 Invoice # 200117  
 API# \_\_\_\_\_  
 Foreman: Kirk Kallhoff

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** cannon 28n-e4hz

County: Weld Consultant: bryan  
 State: Colorado Rig Name & Number: cartel 88  
 Distance To Location: 24  
 Sec: 8 Units On Location: 4028/4039/4030  
 Twp: 1n Time Requested: 1130 pm  
 Range: 66w Time Arrived On Location: 930 pm  
 Time Left Location: 4:00 pm

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>1,873</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1883</u>	Gallons Per Sack: <u>7.40</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>15.6</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>10.0</u>
Max Rate: <u>8</u>	Spacer Ahead Makeup
Max Pressure: <u>2000</u>	

Calculated Results	Pressure of cement in annulus
Displacement: <b>142.17 bbls</b> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	Hydrostatic Pressure: <b>1381.71 PSI</b>
Pressure of the fluids inside casing	Displacement: <b>789.49 psi</b>
cuft of Shoe <b>18.23 cuft</b> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Shoe Joint: <b>30.98 psi</b>
cuft of Conductor <b>65.76 cuft</b> (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Total <b>820.48 psi</b>
cuft of Casing <b>1007.74 cuft</b> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	Differential Pressure: <b>561.24 psi</b>
Total Slurry Volume <b>1091.73 cuft</b> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Collapse PSI: <b>2020.00 psi</b>
bbls of Slurry <b>194.44 bbls</b> (Total Slurry Volume) X (.1781)	Burst PSI: <b>3520.00 psi</b>
Sacks Needed <b>733 sk</b> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: <b>311.26 bbls</b>
Mix Water <b>129.10 bbls</b> (Sacks Needed) X (Gallons Per Sack) ÷ 42	

X Bryan  
 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.



MOJIB

### SERIES 2000

