



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/24/2017  
 Invoice # 200131  
 API# \_\_\_\_\_  
 Foreman: Kirk Kallhoff

**Customer:** Anadarko Petroleum Corporation

**Well Name:** cannon 2n-9hz

County: Weld  
 State: Colorado  
 Sec: 33  
 Twp: 3n  
 Range: 65w

Consultant: sean  
 Rig Name & Number: cartel 88  
 Distance To Location: 29  
 Units On Location: 4028/4034/4030  
 Time Requested: 1100 pm  
 Time Arrived On Location: 930 pm  
 Time Left Location: 2:00 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>1,861</u>	Cement Yield (cuft) :	<u>1.49</u>
Total Depth (ft) :	<u>1871</u>	Gallons Per Sack:	<u>7.40</u>
Open Hole Diameter (in.) :	<u>13.50</u>	% Excess:	<u>5%</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>43</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		Displacement: <u>141.16 bbls</u>	
<b>cuft of Shoe</b> <u>18.66</u> <b>cuft</b>	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	<b>Pressure of cement in annulus</b>	
<b>cuft of Conductor</b> <u>65.76</u> <b>cuft</b>	(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Hydrostatic Pressure:</b> <u>1372.86 PSI</u>	
<b>cuft of Casing</b> <u>913.95</u> <b>cuft</b>	(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Pressure of the fluids inside casing</b>	
<b>Total Slurry Volume</b> <u>998.37</u> <b>cuft</b>	(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Displacement:</b> <u>783.89 psi</u>	
<b>bbls of Slurry</b> <u>177.81</u> <b>bbls</b>	(Total Slurry Volume) X (.1781)	<b>Shoe Joint:</b> <u>31.72 psi</u>	
<b>Sacks Needed</b> <u>670</u> <b>sk</b>	(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total</b> <u>815.61 psi</u>	
<b>Mix Water</b> <u>118.06</u> <b>bbls</b>	(Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Differential Pressure:</b> <u>557.25 psi</u>	
		<b>Collapse PSI:</b> <u>2020.00 psi</u>	
		<b>Burst PSI:</b> <u>3520.00 psi</u>	
		<b>Total Water Needed:</b> <u>299.22 bbls</u>	

X [Signature]  
 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.



# SERIES 2000

