





# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/9/2019  
 Invoice # 200495  
 API# \_\_\_\_\_  
 Foreman: Kirk Kallhoff

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** farley 23-2hz

County: Weld Consultant: bryan  
 State: Colorado Rig Name & Number: Cartel 88  
 Sec: 12 Distance To Location: 25  
 Twp: 1n Units On Location: 4047/4024/4041  
 Range: 68w Time Requested: 300 pm  
 Time Arrived On Location: 1200 pm  
 Time Left Location: 8:30 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>1,821</u>	Cement Yield (cuft) :	<u>1.48</u>
Total Depth (ft) :	<u>1831</u>	Gallons Per Sack:	<u>7.40</u>
Open Hole Diameter (in.) :	<u>13.50</u>	% Excess:	<u>10%</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>40</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>	30 bbl with Die in 2nd 10	

Casing ID	8.921	Casing Grade	J-55 only used
<b>Calculated Results</b>		<b>Displacement: 138.30 bbls</b>	
<b>cuft of Shoe</b>	<b>17.36 cuft</b>	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		<b>Pressure of cement in annulus</b>	
<b>cuft of Conductor</b>	<b>61.05 cuft</b>	<b>Hydrostatic Pressure: 1343.35 PSI</b>	
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		<b>Pressure of the fluids inside casing</b>	
<b>cuft of Casing</b>	<b>935.97 cuft</b>	<b>Displacement: 767.93 psi</b>	
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )		<b>Shoe Joint: 29.51 PSI</b>	
<b>Total Slurry Volume</b>	<b>1014.38 cuft</b>	<b>Total 797.44 psi</b>	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		<b>Differential Pressure: 545.91 psi</b>	
<b>bbls of Slurry</b>	<b>180.66 bbls</b>	<b>Collapse PSI: 2020.00 psi</b>	
(Total Slurry Volume) X (.1781)		<b>Burst PSI: 3520.00 psi</b>	
<b>Sacks Needed</b>	<b>685 sk</b>	<b>Total Water Needed: 299.06 bbls</b>	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
<b>Mix Water</b>	<b>120.76 bbls</b>		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

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.

# SERIES 2000

