





# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/1/2019  
 Invoice # 200399  
 API# \_\_\_\_\_  
 Foreman: KirkKallhoff

**Customer:** Anadarko Petroleum Corporation

**Well Name:** buddy 7-16hz

County: Weld  
 State: Colorado  
 Sec: 30  
 Twp: 2N  
 Range: 65w

Consultant: brent  
 Rig Name & Number: Cartel 88  
 Distance To Location: 35  
 Units On Location: 4047/4030/4024  
 Time Requested: 600 am  
 Time Arrived On Location: 330 am  
 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>1,839</u>	Cement Yield (cuft) :	<u>1.48</u>
Total Depth (ft) :	<u>1849</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>15.25</u>	BBL to Pit:	<u>    </u>
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	<u>30 bbl with Die in 2nd 10</u>
Max Pressure:	<u>2000</u>		

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Displacement: <b>139.70 bbls</b>
<b>cuft of Shoe</b> <u>17.36</u> <b>cuft</b> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<b>cuft of Conductor</b> <u>61.05</u> <b>cuft</b> (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Pressure of cement in annulus</b>
<b>cuft of Casing</b> <u>902.66</u> <b>cuft</b> (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Hydrostatic Pressure: 1356.63 PSI</b>
<b>Total Slurry Volume</b> <u>981.07</u> <b>cuft</b> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Pressure of the fluids inside casing</b>
<b>bbls of Slurry</b> <u>174.73</u> <b>bbls</b> (Total Slurry Volume) X (.1781)	<b>Displacement: 775.69 psi</b>
<b>Sacks Needed</b> <u>663</u> <b>sk</b> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Shoe Joint: 29.51 PSI</b>
<b>Mix Water</b> <u>116.79</u> <b>bbls</b> (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Total 805.20 psi</b>
	<b>Differential Pressure: 551.43 psi</b>
	<b>Collapse PSI: 2020.00 psi</b>
	<b>Burst PSI: 3520.00 psi</b>
	<b>Total Water Needed: 296.49 bbls</b>

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

