



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/13/2017  
 Invoice # 666147  
 API# 05-123-44235  
 Foreman: Nick Vigil

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** King 37N-8HZ

County: Weld Consultant: Sean  
 State: Colorado Rig Name & Number: Cartel 88  
 Distance To Location: 35 Miles  
 Sec: 8 Units On Location: 4023/4030/4034  
 Twp: 1N Time Requested: 15:30  
 Range: 66W Time Arrived On Location: 14:45  
 Time Left Location: 19:00

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>1870</u>	Gallons Per Sack: <u>7.48</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>15.25</u>	BBL to Pit: <u>0.0</u>
Shoe Joint Length (ft) : <u>45</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>10</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate:	Spacer Ahead Makeup
Max Pressure:	Dye in second 10 bbl

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Displacement: <u>141.16 bbls</u>
<b>cuft of Shoe</b> <u>19.53</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>1000.99</u> <b>cuft</b> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Hydrostatic Pressure: <u>1372.86 PSI</u></b>
<b>Total Slurry Volume</b> <u>1081.57</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>192.63</u> <b>bbls</b> (Total Slurry Volume) X (.1781)	<b>Displacement: <u>783.02 psi</u></b>
<b>Sacks Needed</b> <u>726</u> <b>sk</b> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Shoe Joint: <u>33.20 psi</u></b>
<b>Mix Water</b> <u>129.28</u> <b>bbls</b> (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Total <u>816.22 psi</u></b>
	<b>Differential Pressure: <u>556.64 psi</u></b>
	<b>Collapse PSI: <u>2020.00 psi</u></b>
	<b>Burst PSI: <u>3520.00 psi</u></b>
	<b>Total Water Needed: <u>320.44 bbls</u></b>

X Sean Vigil  
 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.



# King 37N-8HZ

