



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/9/2017  
 Invoice #: 666057  
 API#: 05-123-42565  
 Foreman: Nick

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** Puma Fed 5S-35HZ

County: Weld  
 State: Colorado  
 Sec: 23  
 Twp: 1N  
 Range: 67W

Consultant: Brian  
 Rig Name & Number: WMO  
 Distance To Location: 22 miles  
 Units On Location: 4019/4028/4030  
 Time Requested: 4:00  
 Time Arrived On Location: 3:05  
 Time Left Location:

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft.) : 1,880	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1889	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 0.0
Shoe Joint Length (ft) : 45	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 0	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	Dye in the second 10 bbl

Calculated Results	Displacement: 141.90 bbls
<b>cuft of Shoe</b> 19.32 cuft (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> 61.05 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
<b>cuft of Casing</b> 1011.67 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Pressure of cement in annulus</b> <b>Hydrostatic Pressure: 1386.88 PSI</b>
<b>Total Slurry Volume</b> 1092.04 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Pressure of the fluids inside casing</b> <b>Displacement: 791.43 psi</b> <b>Shoe Joint: 32.83 psi</b> <b>Total 824.26 psi</b>
<b>bbls of Slurry</b> 194.49 bbls (Total Slurry Volume) X (.1781)	<b>Differential Pressure: 562.62 psi</b>
<b>Sacks Needed</b> 733 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Collapse PSI: 2020.00 psi</b> <b>Burst PSI: 3520.00 psi</b>
<b>Mix Water</b> 130.53 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Total Water Needed: 322.43 bbls</b>

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.



# Puma Fed 5S-35HZ

