



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/30/2018  
 Invoice #: 200236  
 API#  
 Foreman: Kirk Kallhoff

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** azul 13-7hz

County: Weld  
 State: Colorado  
 Sec: 3  
 Twp: 1n  
 Range: 68w  
 Consultant: levi  
 Rig Name & Number: CARTEL 88  
 Distance To Location: 37  
 Units On Location: 4028/4030/4035  
 Time Requested: 1200 am  
 Time Arrived On Location: 1130 pm  
 Time Left Location: 6:00 am

WELL DATA	
Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	1,861
Total Depth (ft) :	1871
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	15.5
Shoe Joint Length (ft) :	36
Landing Joint (ft) :	8
Max Rate:	8
Max Pressure:	2000

Cement Data	
Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.48
Gallons Per Sack:	7.48
% Excess:	5%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	10.0
Spacer Ahead Makeup	30 BBL WATER, DYE IN 2ND 10

Calculated Results	Displacement: 141.71 bbls
<b>cuft of Shoe</b> 15.63 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> 64.40 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
<b>cuft of Casing</b> 913.95 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Pressure of cement in annulus</b> <b>Hydrostatic Pressure:</b> 1372.86 PSI
<b>Total Slurry Volume</b> 993.98 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Pressure of the fluids inside casing</b> <b>Displacement:</b> 786.91 psi <b>Shoe Joint:</b> 26.56 psi <b>Total</b> 813.46 psi
<b>bbls of Slurry</b> 177.03 bbls (Total Slurry Volume) X (.1781)	<b>Differential Pressure:</b> 559.40 psi
<b>Sacks Needed</b> 672 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Collapse PSI:</b> 2020.00 psi <b>Burst PSI:</b> 3520.00 psi
<b>Mix Water</b> 119.61 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Total Water Needed:</b> 301.32 bbls

X *Kirk Kallhoff*  
 Authorization To Proceed



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