



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/22/2018  
Invoice #: 6662684  
API#: 05-123-45310  
Supervisor: Nick Vigil


Customer: Bill Barrett Corp.

Well Name: Anschutz Equus Farm 4-62-33-4956C

County: Weld  
State: Colorado  
Sec: 32  
Twp: 4N  
Range: 62W

Consultant: Casey  
Rig Name & Number: WMO 344  
Distance To Location: 25  
Units On Location: 4023,4030  
Time Requested: 2:30  
Time Arrived On Location: 2:30  
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.) : 842	Cement Yield (cuft) : 1.49
Total Depth (ft) : 842	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 20%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit:
Shoe Joint Length (ft) : 41	Fluid Ahead (bbls): 20.0
Landing Joint (ft) : 0	H2O Wash Up (bbls): 10.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	h2o dye in 1st 10

Casing ID	8.921	Casing Grade	J-55 only used
<b>Calculated Results</b>		<b>Displacement:</b> 60.22 bbls	
<b>cuft of Shoe</b> 17.80 cuft	(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> 0.00 cuft	<b>Hydrostatic Pressure:</b> 604.91 PSI		
(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> 480.91 cuft	<b>Displacement:</b> 335.89 psi		
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )		<b>Shoe Joint:</b> 30.25 psi	
<b>Total Slurry Volume</b> 498.71 cuft	<b>Total</b> 366.14 psi		
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		<b>Differential Pressure:</b> 238.78 psi	
<b>bbls of Slurry</b> 88.82 bbls	<b>Collapse PSI:</b> 2020.00 psi		
(Total Slurry Volume) X (.1781)		<b>Burst PSI:</b> 3520.00 psi	
<b>Sacks Needed</b> 335 sk	<b>Total Water Needed:</b> 149.83 bbls		
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
<b>Mix Water</b> 59.61 bbls			
(Sacks Needed) X (Gallons Per Sack) ÷ 42			
<div>X   Authorization To Proceed</div>			
Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.			

Date \_\_\_\_\_