



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/22/2016  
 Invoice # 80454  
 API# 05-123-40808  
 Foreman: Matthew Rosales

**Customer:** Noble Energy Inc.  
**Well Name:** Nugent LD06-665

County: Weld  
 State: Colorado  
 Sec: SeNe5  
 Twp: 9N  
 Range: 58W

Consultant: John D  
 Rig Name & Number: H&P517  
 Distance To Location: 70  
 Units On Location:  
 Time Requested: 8:30am  
 Time Arrived On Location: 8:00am  
 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.) :	1,930	Cement Yield (cuft) :	1.49
Total Depth (ft.) :	1940	Gallons Per Sack:	7.48
Open Hole Diameter (in.) :	13.50	% Excess:	15%
Conductor Length (ft) :	80	Displacement Fluid lb/gal:	8.7
Conductor ID :	15.25	Fluid Ahead (bbls):	50.0
Shoe Joint Length (ft) :	48	H2O Wash Up (bbls):	20.0
Landing Joint (ft) :	33		
Max Rate:	8	Spacer Ahead Makeup	40h20, 10dye
Max Pressure:	1700		

Casing ID	8.921	Casing Grade	J-55 only used
<b>Calculated Results</b>		<b>Displacement:</b>	<b>145.50 bbls</b>
<b>cuft of Shoe</b> 20.70 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> 61.05 cuft		<b>Hydrostatic Pressure:</b>	<b>1423.47 PSI</b>
(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> 888.00 cuft		<b>Displacement:</b>	<b>850.48 psi</b>
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )		<b>Shoe Joint:</b>	<b>35.11 psi</b>
<b>Total Slurry Volume</b> 1101.00 cuft		<b>Total</b>	<b>885.59 psi</b>
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		<b>Differential Pressure:</b>	<b>537.88 psi</b>
<b>bbls of Slurry</b> 196.00 bbls		<b>Collapse PSI:</b>	<b>2020.00 psi</b>
(Total Slurry Volume) X (.1781)		<b>Burst PSI:</b>	<b>3520.00 psi</b>
<b>Sacks Needed</b> 739 sk		<b>Total Water Needed:</b>	<b>200.00 bbls</b>
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
<b>Mix Water</b> 87.00 bbls			
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

X   
 Authorization To Proceed

