



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/23/2015

Invoice # 80097

API#

Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: wells ranch a 36-655

County: Weld

State: Colorado

Sec: 17

Twp: 6n

Range: 63w

Consultant: charles

Rig Name & Number: H&P 273

Distance To Location:

Units On Location: 4038-3103/4022-3213

Time Requested: 1130 am

Time Arrived On Location: 1030 am

Time Left Location: 2:00 pm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 813  
Total Depth (ft) : 850  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 100  
Conductor ID : 16  
Shoe Joint Length (ft) : 43  
Landing Joint (ft) : 35

Max Rate:

Max Pressure:

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.49  
Gallons Per Sack: 7.48  
% Excess: 30%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit:  
Fluid Ahead (bbls): 40.0  
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 18.66 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 89.10 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 453.00 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 560.76 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 99.87 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 376 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 67.03 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 62.23 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 599.75 PSI

## Pressure of the fluids inside casing

**Displacement:** 332.01 psi

**Shoe Joint:** 31.72 psi

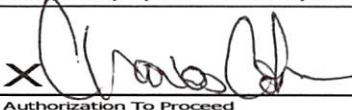
**Total** 363.73 psi

**Differential Pressure:** 236.02 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 179.26 bbls

  
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.



X 6-23-15  
Date