



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/2/2016  
Invoice # 80517  
API# 05-123-42812  
Foreman: Matthew Rosales

Customer: Noble Energy Inc.

Well Name: Lapp A15-613

County: Weld  
State: Colorado

Sec: SWSW  
Twp: 136N  
Range: 64W

Consultant: Derrick  
Rig Name & Number: H&P524  
Distance To Location: 14miles  
Units On Location:  
Time Requested: 4:00pm  
Time Arrived On Location: 3:00pm  
Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,912  
Total Depth (ft) : 1922  
Open Hole Diameter (in.) : 12.25  
Conductor Length (ft) : 80  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 43  
Landing Joint (ft) : 3

Max Rate: 8  
Max Pressure: 1700

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.49  
Gallons Per Sack: 7.48  
% Excess: 15%  
Displacement Fluid lb/gal: 8.7  
Fluid Ahead (bbls): 50.0  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup  
10H2O, 10dye H2O, 30H2O

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 19.00 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 61.05 cuft  
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 564.00 cuft  
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )

**Total Slurry Volume** 729.00 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 130.00 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 489 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 87.00 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 144.50 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1410.48 PSI

## Pressure of the fluids inside casing

**Displacement:** 844.60 psi

**Shoe Joint:** 31.72 psi

**Total** 876.32 psi

**Differential Pressure:** 534.16 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 200.00 bbls

Authorization To Proceed



Customer  
Well Name


Noble Energy Inc.  
Lapp A15-613

INVOICE #  
LOCATION  
FOREMAN  
Date

80517
Weld
Matthew Rosales
7/28/2016

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## DESCRIPTION OF JOB EVENTS

 Work Performed	X Title	X Date
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