



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/24/2016

Invoice # 666002

API# 05-069-06483

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Folley South #3

County: Larimer

State: Colorado

Sec: 13

Twp: 5N

Range: 68W

Consultant: Joe

Rig Name & Number: Precision 461

Distance To Location: 25

Units On Location: 4028/3103/4032/3203

Time Requested: 15:00

Time Arrived On Location: 13:55

Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,865  
Total Depth (ft) : 1856  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 100  
Conductor ID : 15.5  
Shoe Joint Length (ft) : 44  
Landing Joint (ft) : 2

Max Rate: 7.5  
Max Pressure: 1500

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.49  
Gallons Per Sack: 7.48  
% Excess: 12%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit: 40.0  
Fluid Ahead (bbls): 20.0  
H2O Wash Up (bbls): 8.0

Spacer Ahead Makeup  
20 bbl dye in second 10

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 19.10 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 80.51 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 966.12 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 1065.72 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 189.81 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 715 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 127.38 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 140.93 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1375.81 PSI

## Pressure of the fluids inside casing

**Displacement:** 785.18 psi

**Shoe Joint:** 32.46 psi

**Total** 817.64 psi

**Differential Pressure:** 558.17 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 296.32 bbls

X *Joe P. P. P.* 8-24-2016  
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 8-24-2016  
Date

# Folley South #3

