



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/20/2015  
Invoice #: 80435  
API#: 05-123-41907  
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: Powers 36N-22HZ

County: Weld  
State: Colorado  
Sec: 22  
Twp: 2N  
Range: 65W

Consultant: Bryan / Hayden  
Rig Name & Number: Noble 2  
Distance To Location: 40 Miles  
Units On Location: 4023-3104/4024-3203  
Time Requested: 900am  
Time Arrived On Location: 800am  
Time Left Location: 12:15pm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,856  
Total Depth (ft) : 1873  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 60  
Conductor ID : 15.5  
Shoe Joint Length (ft) : 42  
Landing Joint (ft) : 10

Max Rate: 6  
Max Pressure: 1750

## 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: 8.3  
BBL to Pit: 24  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 15.0

Spacer Ahead Makeup

30 bbls With Dye in 2nd 10 bbls

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 18.18 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 48.30 cuft  
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 1009.44 cuft  
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 1075.93 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 191.62 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 722 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 128.60 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 141.02 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1369.20 PSI

## Pressure of the fluids inside casing

**Displacement:** 782.23 psi

**Shoe Joint:** 30.89 psi

**Total** 813.13 psi

**Differential Pressure:** 556.07 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 314.62 bbls

X *Bryan Brown*  
Authorization To Proceed



## Bison Oil Well Cementing Single Cement Surface Pipe

Customer  
Well Name

Anadarko Petroleum Corporation  
Powers 36N-22HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

80435
Weld
Calvin Reimers
8/20/2015

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## DESCRIPTION OF JOB EVENTS

[illegible]

X

Work Preformed

Bryan Brown

x

Title

CO-Mar

Y

Date \_\_\_\_\_

8/20/15

## SERIES 2000

