



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/19/2018  
Invoice #: 200248  
API#  
Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation  
Well Name: azul 13-21hz

County: Weld  
State: Colorado  
Sec: 13  
Twp: 1n  
Range: 66w

Consultant: bryan  
Rig Name & Number: CARTEL 88  
Distance To Location: 37  
Units On Location: 4028/4039/4035  
Time Requested: 500 am  
Time Arrived On Location: 300 am  
Time Left Location: 1100 gm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,856  
Total Depth (ft) : 1866  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 80  
Conductor ID : 15.5  
Shoe Joint Length (ft) : 41  
Landing Joint (ft) : 8

Max Rate: 8  
Max Pressure: 2000

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.48  
Gallons Per Sack: 7.48  
% Excess: 5%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit:  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup  
30 BBL WATER, DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 17.80 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 64.40 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 911.38 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 993.58 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 176.96 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 671 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 119.56 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:** 1369.17 PSI

## Pressure of the fluids inside casing

**Displacement:** 782.59 psi

**Shoe Joint:** 30.25 psi

**Total** 812.84 psi

**Differential Pressure:** 556.33 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 300.50 bbls

X

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.



Anadarko Petroleum Corporation  
azul 13-21hz

200248
Weld
Kirk Kallhoff
2/19/2018

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## DESCRIPTION OF JOB EVENTS

X \_\_\_\_\_  
Authorized signature

X Co. Man  
Title

x 2-19-18  
Date



# SERIES 2000

