



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/8/2018  
Invoice #: 200241  
API#  
Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation  
Well Name: azul 13-30hz

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

Consultant: levi  
Rig Name & Number: CARTEL 88  
Distance To Location: 37  
Units On Location: 4028/4041/4030  
Time Requested: 900 pm  
Time Arrived On Location: 730 pm  
Time Left Location: 1100 am

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,907  
Total Depth (ft) : 1917  
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** 937.55 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 1019.76 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 181.62 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 689 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 122.71 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 144.88 bbls

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

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1406.79 PSI

## Pressure of the fluids inside casing

**Displacement:** 804.58 psi

**Shoe Joint:** 30.25 psi

**Total** 834.83 psi

**Differential Pressure:** 571.96 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 307.59 bbls

X *Kallhoff*  
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 13-30hz

200241  
Weld  
Kirk Kallhoff  
2/9/2018

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## DESCRIPTION OF JOB EVENTS

X *Chai Kulbong*  
Authorized signature

X APC  
Title

X 2-9-18  
Date



# SERIES 2000

