



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/11/2017  
Invoice #: 666213  
API#: 05-123-45251  
Foreman: Nick Vigil

Customer: Anadarko Petroleum Corporation

Well Name: Robin 9-13HZ

County: Weld  
State: Colorado

Sec: 9  
Twp: 1N  
Range: 65W

Consultant: Levi  
Rig Name & Number: Cartel 88  
Distance To Location: 39 Miles  
Units On Location: 4040/4030/4039  
Time Requested: 3:30  
Time Arrived On Location: 3:00  
Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,873  
Total Depth (ft) : 1884  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 80  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 45  
Landing Joint (ft) : 10  
  
Max Rate: 8  
Max Pressure: 2000

## 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:  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 20.0  
  
Spacer Ahead Makeup  
Dye in second 10 bbl

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 19.53 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** 1007.74 cuft  
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)  
**Total Slurry Volume** 1088.32 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)  
**bbls of Slurry** 193.83 bbls  
(Total Slurry Volume) X (.1781)  
**Sacks Needed** 730 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
**Mix Water** 130.08 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 142.09 bbls

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

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1381.71 PSI

## Pressure of the fluids inside casing

**Displacement:** 788.20 psi

**Shoe Joint:** 33.20 psi

**Total** 821.40 psi

**Differential Pressure:** 560.32 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 322.18 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.

Date \_\_\_\_\_

# Robin 9-13HZ

