



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/11/2017  
Invoice #: 200195  
API#:   
Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation  
Well Name: yellowhammer 4c-8hz

County: Weld  
State: Colorado  
Sec: 11  
Twp: 1n  
Range: 67w  
Consultant: levi  
Rig Name & Number: CARTEL 88  
Distance To Location: 42  
Units On Location: 4028/4040/4024  
Time Requested: 800 am  
Time Arrived On Location: 700 am  
Time Left Location: 12:00pm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,864  
Total Depth (ft) : 1874  
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: 15%  
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** 1002.68 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 1084.88 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 193.22 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 733 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 130.55 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 141.55 bbls

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

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1375.07 PSI

## Pressure of the fluids inside casing

**Displacement:** 786.04 psi

**Shoe Joint:** 30.25 psi

**Total** 816.29 psi

**Differential Pressure:** 558.78 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 312.10 bbls

X *Kirk Kallhoff*  
Authorization To Proceed




Anadarko Petroleum Corporation  
yellowhammer 4c-8hz

|               |
|---------------|
| 200195        |
| Weld          |
| Kirk Kallhoff |
| 11/11/2017    |

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## DESCRIPTION OF JOB EVENTS

|  |                       |                           |
|--|-----------------------|---------------------------|
| X <u></u><br>Authorized signature | X <u>APC</u><br>Title | X <u>11-11-17</u><br>Date |
|--|-----------------------|---------------------------|



# SERIES 2000

