



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/5/2015  
Invoice #: 90012  
API#: 05-069-06478  
Foreman: Nick

Customer: Anadarko Petroleum Corporation  
Well Name: Encore 8C-12HZ

County: Larimer  
State: Colorado

Sec: 12  
Twp: 5N  
Range: 68W

Consultant: Sean  
Rig Name & Number: Noble 2  
Distance To Location: 20  
Units On Location: 024/3210/4027/3106/3105/320  
Time Requested: 6:00  
Time Arrived On Location: 5:00  
Time Left Location: 9:45

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,841  
Total Depth (ft) : 1858  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 40  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 41  
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: 0.0  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 20.0  
  
Spacer Ahead Makeup  
30 bbl dye in second 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** 30.53 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)  
**cuft of Casing** 1012.23 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)  
**Total Slurry Volume** 1060.55 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)  
**bbls of Slurry** 188.88 bbls  
(Total Slurry Volume) X (.1781)  
**Sacks Needed** 712 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
**Mix Water** 126.76 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 139.93 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1358.11 PSI

## Pressure of the fluids inside casing

**Displacement:** 776.13 psi

**Shoe Joint:** 30.25 psi

**Total** 806.37 psi

**Differential Pressure:** 551.73 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 316.69 bbls

x *San Melch* 7/5/15  
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.



INVOICE #	LOCATION	Supervisor	Date
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90012
Larimer
Nick
7/5/2015

Anadarko Petroleum Corporation  
Encore 8C-12HZ

Customer  
Well Name

### DESCRIPTION OF JOB EVENTS

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X *[Signature]*  
Work Performed

X Collan

X 7/5/15

# Encore 8C-12HZ

