



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/4/2015

Invoice # 80607

API# 05-069-06477

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: ENCORE 41N-12HZ

County: LARIMER

State: Colorado

Sec: 12

Twp: 5N

Range: 68W

Consultant:

Rig Name & Number: NOBLE 2

Distance To Location: 22

Units On Location: 4031-3106/ 4024-3210

Time Requested: 900

Time Arrived On Location: 800

Time Left Location: 1230

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,848  
Total Depth (ft) : 1882  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 47  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 44  
Landing Joint (ft) : 7

Max Rate: 6

Max Pressure: 1000

## 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: 18.0

Fluid Ahead (bbls): 30.0

H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

30BBL WATER/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

cuft of Shoe 18.97 cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 35.87 cuft

(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1012.43 cuft

(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )

Total Slurry Volume 1067.27 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 190.08 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 716 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 127.57 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.06 bbls

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

## Pressure of cement in annulus

Hydrostatic Pressure: 1363.54 PSI

## Pressure of the fluids inside casing

Displacement: 778.14 psi

Shoe Joint: 32.24 psi

Total 810.37 psi

Differential Pressure: 553.16 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 317.62 bbls

X *Sam Gibbs*  
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  
FOREMAN  
Date

80607  
LARIMER  
JASON KELE  
7/4/2015

Anadarko Petroleum Corporation  
ENCORE 41N-12HZ

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## DESCRIPTION OF JOB EVENTS

[illegible]

X  Customer Signature 

X Comar

Date 5/16/15



# ENCORE 41N-12HZ SURFACE

