



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/27/2015

Invoice # 80603

API# 05-123-41494

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: ENGLISH FARMS 35N1-9HZ

County: Weld
State: Colorado

Sec: 8
Twp: 1N
Range: 65W

Consultant: CODY

Rig Name & Number: NOBLE 2

Distance To Location: 20

Units On Location: 4031-3106/ 3105-3204

Time Requested: 2100

Time Arrived On Location: 1930

Time Left Location: 100

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,846
Total Depth (ft) : 1856
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 47
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
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: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 10.0
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 18.23 **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 967.15 **cuft**
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1021.24 **cuft**
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 181.88 **bbls**
(Total Slurry Volume) X (.1781)

Sacks Needed 685 **sk**
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 122.07 **bbls**
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.01 **bbls**

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

Pressure of cement in annulus

Hydrostatic Pressure: 1361.79 **PSI**

Pressure of the fluids inside casing

Displacement: 777.85 **psi**

Shoe Joint: 30.98 **psi**

Total 808.83 **psi**

Differential Pressure: 552.96 **psi**

Collapse PSI: 2020.00 **psi**

Burst PSI: 3520.00 **psi**

Total Water Needed: 312.07 **bbls**

X

Authorization: [Signature]

Customers hereby acknowledge and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.

ENGLISH FARMS 35N1-9HZ SURFACE

