



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/25/2017

Invoice # 666081

API# 05-123-43344

Foreman: Nick

Customer: Anadarko Petroleum Corporation

Well Name: Camenisch 4C-35HZ

County: Weld

State: Colorado

Sec: 11

Twps: 1N

Range: 67W

Consultant:

Rig Name & Number: WMO 252

Distance To Location: 32 Miles

Units On Location: 4023/4020/4019

Time Requested: 23:30

Time Arrived On Location: 22:30

Time Left Location: 2:00

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 1,832
 Total Depth (ft) : 1842
 Open Hole Diameter (in.) : 13.50
 Conductor Length (ft) : 80
 Conductor ID : 15.25
 Shoe Joint Length (ft) : 44
 Landing Joint (ft) : 0

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: 0.0
 Fluid Ahead (bbls): 30.0
 H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
 Dye in the second 10 bbl

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.10 **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 984.69 **cuft**
 (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1064.84 **cuft**
 (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 189.65 **bbls**
 (Total Slurry Volume) X (.1781)

Sacks Needed 715 **sk**
 (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 127.28 **bbls**
 (Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 138.23 **bbls**

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

Pressure of cement in annulus

Hydrostatic Pressure: 1351.47 **PSI**

Pressure of the fluids inside casing

Displacement: 770.95 **psi**

Shoe Joint: 32.46 **psi**

Total 803.41 **psi**

Differential Pressure: 548.06 **psi**

Collapse PSI: 2020.00 **psi**

Burst PSI: 3520.00 **psi**

Total Water Needed: 315.50 **bbls**

X Sam Wiley
 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.

Camensich 4C-35HZ

