



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/14/2016

Invoice # 666000

API# 05-069-06486

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Folley North #1

County: Weld

State: Colorado

Sec: 13

Twp: 5N

Range: 68W

Consultant: Joe

Rig Name & Number: Precision 461

Distance To Location: 25

Units On Location: 4028/3103/4032/3203

Time Requested: 19:00

Time Arrived On Location: 17:45

Time Left Location: 23:55

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,863
Total Depth (ft) : 1873
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 100
Conductor ID : 15.5
Shoe Joint Length (ft) : 46
Landing Joint (ft) : 2

Max Rate: 7
Max Pressure: 1250

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: 40.0
Fluid Ahead (bbls): 20.0
H2O Wash Up (bbls): 8.0

Spacer Ahead Makeup
30 bbl dye in second 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.97 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 80.51 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 990.87 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1091.35 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 194.37 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 732 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 130.45 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.62 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1374.34 PSI

Pressure of the fluids inside casing

Displacement: 783.46 psi

Shoe Joint: 33.93 psi

Total 817.39 psi

Differential Pressure: 556.94 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 299.07 bbls

X *for Waller*
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.

