



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/27/2015
Invoice #: 90062
API#: 05-123-40648
Supervisor: Nick

Customer: Noble Energy Inc.

Well Name: Faith LC34-775

County: Weld
State: Colorado

Sec: 34
Twp: 9N
Range: 59W

Consultant: Justin
Rig Name & Number: H&P 273
Distance To Location: 55
Units On Location: 3102/4016/4022/3215
Time Requested: 10:30
Time Arrived On Location: 9:20
Time Left Location: 16:15

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 609
Total Depth (ft) : 619
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 40
Landing Joint (ft) : 5

Max Rate: 7
Max Pressure: 1500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 20%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 15.0
Fluid Ahead (bbls): 40.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
DYE IN SECOND 10 BBL

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.36 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 325.38 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 403.79 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 71.90 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 271 sk
Mix Water 48.26 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 44.00 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 449.26 PSI

Pressure of the fluids inside casing

Displacement: 245.34 psi

Shoe Joint: 29.51 psi

Total 274.85 psi

Differential Pressure: 174.41 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 152.26 bbls

X

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.




Noble Energy Inc.
Faith LC34-775

90062
Weld
Nick
12/27/2015

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DESCRIPTION OF JOB EVENTS

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Work Performed

4/5/

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12/27/15