



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/11/2015
Invoice #: 80038
API#: 05-123-40676
Foreman: Calvin Reimers

Customer: Noble Energy Inc.
Well Name: Todd LC 25-750

County: Weld
State: Colorado
Sec: 25
Twp: 9N
Range: 59W

Consultant: Seith
Rig Name & Number: H&P 326
Distance To Location: 68 Miles
Units On Location: 4023-3104/4034-3203
Time Requested: 1100am
Time Arrived On Location: 1000am
Time Left Location: 4:15 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,370
Total Depth (ft) : 1410
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 34

Max Rate: 7
Max Pressure: 2500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 3.5
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
50bbls With Dye in Last 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.88 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 89.10 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 806.87 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 914.85 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 162.93 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 614 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 109.35 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 105.16 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1010.63 PSI

Pressure of the fluids inside casing

Displacement: 571.95 psi

Shoe Joint: 32.08 psi

Total 604.04 psi

Differential Pressure: 406.59 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 284.50 bbls

X

Authorization To Proceed



Bison Oil Well Cementing Single Cement Surface Pipe

Customer
Well Name

Noble Energy Inc.

Todd LC 25-750

INVOICE #

80038

LOCATION

Weld

FOREMAN

Calvin Reimers

Date _____

5/11/2015

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DESCRIPTION OF JOB EVENTS

[illegible]

ix

Work Performed

X

Title

x

Date _____