



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/16/2015

Invoice # 80072

API#

Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: kevin lc-735

County: Weld

State: Colorado

Sec: 26

Twp: 9n

Range: 58w

Consultant: jeremy

Rig Name & Number: H&P 321

Distance To Location:

Units On Location: 4038-3103/4032-3210

Time Requested: 1200 pm

Time Arrived On Location: 1100 am

Time Left Location: 2:30 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 623
Total Depth (ft) : 668
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 35

Max Rate:

Max Pressure:

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:
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.66 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 332.29 cuft

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

Total Slurry Volume 440.05 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 78.37 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 295 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 52.60 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 47.54 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 459.59 PSI

Pressure of the fluids inside casing

Displacement: 250.09 psi

Shoe Joint: 31.72 psi

Total 281.81 psi

Differential Pressure: 177.78 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 160.14 bbls

Authorization To Proceed

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

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