



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/31/2016

Invoice #: 80567

API#

Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: remora lc 34-745

County: Weld

State: Colorado

Sec: 26

Twp: 9n

Range: 59 w

Consultant: justin

Rig Name & Number: H&P 273

Distance To Location: 57

Units On Location: 4028 3102/4032 3215

Time Requested: 230 pm

Time Arrived On Location: 200 pm

Time Left Location: *Stop*

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 587
 Total Depth (ft) : 618
 Open Hole Diameter (in.) : 13.50
 Conductor Length (ft) : 100
 Conductor ID : 16
 Shoe Joint Length (ft) : 40
 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: 22%
 Displacement Fluid lb/gal: 8.3
 BBL to Pit:
 Fluid Ahead (bbls): 40.0
 H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.36 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 290.37 cuft

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

Total Slurry Volume 396.83 cuft

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

bbls of Slurry 70.68 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 266 sk

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

Mix Water 47.43 bbls

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

Displacement: 44.99 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 433.03 PSI

Pressure of the fluids inside casing

Displacement: 235.86 psi

Shoe Joint: 29.51 psi

Total 265.36 psi

Differential Pressure: 167.67 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 142.43 bbls

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.

