



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/28/2015

Invoice # 80074

API#

Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: gleason lc 26-720

County: Weld

State: Colorado

Sec: 26

Twp: 9n

Range: 58w

Consultant: dave

Rig Name & Number: H&P 273

Distance To Location:

Units On Location: 4038-3103/4032-3210

Time Requested: 230 pm

Time Arrived On Location: 130 pm

Time Left Location: 5:30 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 648
Total Depth (ft) : 692
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 104
Conductor ID : 16
Shoe Joint Length (ft) : 41
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 17.80 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 92.66 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 345.63 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 456.09 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 81.23 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 306 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 54.51 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 49.63 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 478.03 PSI

Pressure of the fluids inside casing

Displacement: 261.73 psi

Shoe Joint: 30.25 psi

Total 291.97 psi

Differential Pressure: 186.06 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 164.15 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.

Work Preformed