



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/23/2015
Invoice #: 80033
API#: 05-123-40601
Foreman: Calvin Reimers

Customer: Noble Energy Inc.
Well Name: Haley LC 27-745

County: Weld
State: Colorado
Sec: 34
Twp: 9N
Range: 59W
Consultant: Jim B.
Rig Name & Number: H&P 343
Distance To Location: 66 Miles
Units On Location: 4023-3104/4024-3204
Time Requested: 1200am
Time Arrived On Location: 1000pm
Time Left Location: 415am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 596
Total Depth (ft) : 626
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 29

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: 25%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 12.0
Fluid Ahead (bbls): 40.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
40bbls With Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.42 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 302.80 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 411.31 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 73.26 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 276 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 49.16 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 44.79 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 439.41 PSI

Pressure of the fluids inside casing

Displacement: 237.54 psi

Shoe Joint: 33.00 psi

Total 270.55 psi

Differential Pressure: 168.86 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 153.96 bbls

X

Authorization To Proceed



Noble Energy Inc.
Haley LC 27-745

80033
Weld
Calvin Reimers
4/23/2015

Date _____