



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/9/2016
Invoice #: 90067
API#: 05-123-41988
Foreman: Matthew

Customer: Noble Energy Inc.

Well Name: Wells Ranch BB01-615

County: Weld
State: Colorado
Sec: 5
Twp: 5N
Range: 62W

Consultant:
Rig Name & Number: H&P 343
Distance To Location: 24
Units On Location: 4027/3106, 4032/3203, 4019/3205
Time Requested: 1630
Time Arrived On Location: 1530
Time Left Location: 2/09/15 0400

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,945
Total Depth (ft) : 1945
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 104
Conductor ID : 15.25
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 29
Max Rate: 7
Max Pressure: 1500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 20%
Displacement Fluid lb/gal: 8.7
BBL to Pit: 0.0
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0
Spacer Ahead Makeup
40Water , 10 Dye

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.53 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 98.00 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 1079.00 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1199.00 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 210.00 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 790 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 140.70 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 149.00 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1422.20 PSI

Pressure of the fluids inside casing

Displacement: 871.30 psi

Shoe Joint: 31.50 psi

Total 902.80 psi

Differential Pressure: 575.00 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 211.00 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.



Customer
Well Name


Noble Energy Inc.
Wells Ranch BB01-615

INVOICE #
LOCATION
FOREMAN
Date

90067
Weld
Matthew
2/9/2016

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

X 
Work Performed

X ~~W.S.S.~~ W.S.S.
Title

X 2/9/16
Date