



Customer
Well Name

Noble Energy Inc.
wells ranch ae 32-620

INVOICE #

80529

LOCATION

Weld

FOREMAN


Kirk Kallhoff

Date _____

9/17/2015

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DESCRIPTION OF JOB EVENTS

X 
Work Performed

X WSS
Title

X 9-17-15
Date



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/17/2015

Invoice # 80529

API#

Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: wells ranch ae 32-620

County: Weld

State: Colorado

Sec: 17

Twp: 5n

Range: 63w

Consultant: J.W

Rig Name & Number: H&P 273

Distance To Location:

Units On Location: 4029-3106/4020-3205

Time Requested: 430 am

Time Arrived On Location: 445 am

Time Left Location: 8:00am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 627
Total Depth (ft) : 637
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: 18.0
Fluid Ahead (bbls): 60.0
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 334.83 **cuft**
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 442.59 **cuft**
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 78.83 **bbls**
(Total Slurry Volume) X (.1781)

Sacks Needed 297 **sk**
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 52.90 **bbls**
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 47.85 **bbls**

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

Pressure of cement in annulus

Hydrostatic Pressure: 462.54 **PSI**

Pressure of the fluids inside casing

Displacement: 251.81 **psi**

Shoe Joint: 31.72 **psi**

Total 283.53 **psi**

Differential Pressure: 179.01 **psi**

Collapse PSI: 2020.00 **psi**

Burst PSI: 3520.00 **psi**

Total Water Needed: 170.76 **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.