



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/20/2014
Invoice # 12046
API#
Foreman: Kirk Kallhoff

Customer: Noble
Well Name: nclp aa06-69-1bhnc

County: weld
State: Colorado
Sec: 4
Twp: 6n
Range: 63w

Consultant: stetson
Rig Name & Number: h&p321
Distance To Location: 30
Units On Location: 3103-3212
Time Requested: 300 pm
Time Arrived On Location: 130 pm
Time Left Location: 5:45 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 842
Total Depth (ft) : 875
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 38
Landing Joint (ft) : 30

Max Rate:
Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 60.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 16.49 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 507.27 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 612.86 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 109.15 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 483 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 67.67 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 64.47 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 664.84 PSI

Pressure of the fluids inside casing

Displacement: 346.67 psi

Shoe Joint: 30.00 psi

Total 376.67 psi

Differential Pressure: 288.17 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 212.15 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.

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Customer
Well Name

Noble
nclp aa06-69-1bhnc

INVOICE #
LOCATION
FOREMAN
Date

12046
weld
irk Kallhoff
5/20/2014

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DESCRIPTION OF JOB EVENTS

[illegible]

Notes:

bumped plug at 951 pm 510 psi

98.3 bbls slurry

X Seene
Work Performed

X WSS

X 6-20-14
Date