



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/7/2013

Invoice #: 12594

API#: 05-123-37171

Foreman: Calvin Reimers

Customer: Noble

Well Name: NCLP PC AA 04-64-1HN

County: Weld

State: Colorado

Sec: 4

Twp: 6N

Range: 63W

Consultant: Seth

Rig Name & Number: H&P 343

Distance To Location: 31Miles

Units On Location: 3106/3212

Time Requested: 1230am

Time Arrived On Location: 1230am

Time Left Location: 700am

WELL DATA

Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft) : 729
Total Depth (ft) : 762
Open Hole Diameter (in.) : 13.75
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) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 15.0
Fluid Ahead (bbls):
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
Is H2O with KCL+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.52 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 330.71 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 439.33 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 86.07 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)
Sacks Needed 381 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 53.36 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 55.11 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 575.52 PSI

Pressure of the fluids inside casing

Displacement: 294.88 psi

Shoe Joint: 35.52 psi

Total 330.40 psi

Differential Pressure: 245.12 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 73.36 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.



Noble
NCLP PC AA 04-64-1HN

12594
Weld
Calvin Reimers
12/7/2013

DESCRIPTION OF JOB EVENTS

[illegible]

Notes:

The day

X	10/20/00
Work Performed	

X	Title
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X _____
Date _____