



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/25/2017
Invoice #: 666117
API#: 05-123-43805
Foreman: Nick Vigil

Customer: Anadarko Petroleum Corporation

Well Name: Babcock 23N-33HZ

County: Weld
State: Colorado
Sec: 4
Twp: 2N
Range: 67W

Consultant: Lane/Sean
Rig Name & Number: WMO 252
Distance To Location: 26 Miles
Units On Location: 4023/4024/4033
Time Requested: 2:00
Time Arrived On Location: 12:50
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,864
Total Depth (ft) : 1874
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 10

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: 15%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.10 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 61.05 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1002.68 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1082.83 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 192.85 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 727 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 129.43 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 141.47 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1375.07 PSI

Pressure of the fluids inside casing

Displacement: 784.75 psi

Shoe Joint: 32.46 psi

Total 817.21 psi

Differential Pressure: 557.86 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 320.90 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	Enadarko Petroleum Corporation
Well Name	Babcock 23N-33HZ

INVOICE #
LOCATION
FOREMAN
Date

666117
Weld
Nick Vigil
4/25/2017

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DESCRIPTION OF JOB EVENTS

<input checked="" type="checkbox"/> <u>See Help</u> Work Performed	<input checked="" type="checkbox"/> <u>APC use</u> Title	<input checked="" type="checkbox"/> <u>04/25/17</u> Date
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Babcock 23N-33HZ

