



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/13/2017
Invoice #: 666089
API#: 05-123-44121
Foreman: Nick

Customer: Anadarko Petroleum Corporation

Well Name: Chica 4N2-23HZ

County: Weld
State: Colorado

Sec: 35
Twp: 3N
Range: 67W

Consultant: Brian/Matt
Rig Name & Number: WMO 252
Distance To Location: 23 Miles
Units On Location: 4023/4020/4019
Time Requested: 13:00
Time Arrived On Location: 12:40
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 2,372
Total Depth (ft) : 2382
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 46
Landing Joint (ft) : 10

Max Rate: 8
Max Pressure: 2000

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: 0.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
Dye in the second 10 bbl

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.97 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 1288.19 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1369.21 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 243.86 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 919 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 163.66 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 180.59 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1749.82 PSI

Pressure of the fluids inside casing

Displacement: 1002.93 psi

Shoe Joint: 33.93 psi

Total 1036.86 psi

Differential Pressure: 712.96 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 394.25 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.



Anadarko Petroleum Corporation
Chica 4N2-23HZ

INVOICE #
LOCATION
FOREMAN
Date

666089
Weld
Nick
/13/2017

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DESCRIPTION OF JOB EVENTS

[illegible]

X Bryan Brown
Work Performed

X Co. Man
Title

X 3-13-17
Date

Chica 4N2-23HZ

