



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/18/2015

Invoice # 80520

API#

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: powers 14n-22hz

County: Weld

State: Colorado

Sec: 23

Twp: 2n

Range: 65w

Consultant: hayden

Rig Name & Number: noble 2

Distance To Location: 40

Units On Location: 4031-3103/4024-3203

Time Requested: 1100 pm

Time Arrived On Location: 1000 pm

Time Left Location: 1:20 PM

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,862
Total Depth (ft) : 1872
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
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): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.23 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 30.53 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1024.03 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1072.79 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 191.06 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 720 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 128.23 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: 1373.60 PSI

Pressure of the fluids inside casing

Displacement: 784.75 psi

Shoe Joint: 30.98 psi

Total 815.73 psi

Differential Pressure: 557.86 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 309.70 bbls

X *Hayden Shu*
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
Well Name

Anadarko Petroleum Corporation
powers 14n-22hz

INVOICE #
LOCATION
FOREMAN
Date

80520
Weld
Kirk Kallhoff
8/19/2015

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

X Hayden
Work Performed

X
Title

X 8-19-15
Date

M/D TOTCO 2000 SERIES

