




Anadarko Petroleum Corporation
mc 3-5hz

INVOICE #
LOCATION
FOREMAN
Date

200440
Weld
KirkKallhoff
4/22/2019

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

X 	X Co. Man	X 4-22-19
Work Performed	Title	Date



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/22/2019
Invoice #: 200440
API#
Foreman: KirkKallhoff

Customer: Anadarko Petroleum Corporation

Well Name: mc 3-5hz

County: Weld
State: Colorado

Sec: 8
Twp: 1n
Range: 65w

Consultant: tyler
Rig Name & Number: Cartel 88
Distance To Location: 38
Units On Location: 4047/4030/4034
Time Requested: 300 am
Time Arrived On Location: 130 am
Time Left Location: 6:00 am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,856
Total Depth (ft) : 1866
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 19.125
Shoe Joint Length (ft) : 41
Landing Joint (ft) : 8

Max Rate: 8
Max Pressure: 2000

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.48
Gallons Per Sack: 7.40
% Excess: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup
30 bbl with Die in 2nd 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.80 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 119.17 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 954.78 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1091.75 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 194.44 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 738 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 129.97 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.93 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1369.17 PSI

Pressure of the fluids inside casing

Displacement: 782.59 psi

Shoe Joint: 30.25 PSI

Total 812.84 psi

Differential Pressure: 556.33 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 310.90 bbls

X *[Signature]*
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.

SERIES 2000

