




Anadarko Petroleum Corporation
Windsock 21-3HZ

INVOICE #
LOCATION
FOREMAN
Date

900454
Weld
Corey Barras
12/7/2019

Treatment Report Page 2

X <u></u> Authorized signature	X _____ Title	X _____ Date
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Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/7/2019
Invoice #: 900454
AFE #: 2151721
Foreman: Corey Barras

Customer: Anadarko Petroleum Corporation

Well Name: Windsock 21-3HZ

County: Weld
State: Colorado

Sec: 21
Twp: 1N
Range: 68W

Consultant: Dave
Rig Name & Number: CARTEL 88
Distance To Location: 42
Units On Location: 4028/3103-4024/3214-4044/3205
Time Requested: 1430
Time Arrived On Location: 1340
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,884
Total Depth (ft) : 1894
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
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: 7.48
% Excess: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30 BBL WATER, DYE IN 2ND 10

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 61.05 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 969.83 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1049.12 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 186.85 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 709 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 126.24 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 143.02 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1389.83 PSI

Pressure of the fluids inside casing

Displacement: 794.24 psi

Shoe Joint: 30.98 psi

Total 825.22 psi

Differential Pressure: 564.61 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 319.26 bbls

X 
Authorization To Proceed

Windsock 21-3HZ

