



Anadarko Petroleum Corporation
Windsock 21-7HZ

INVOICE #
LOCATION
FOREMAN
Date

900456
Weld
Corey Barras
12/10/2019

Treatment Report Page 2

X Li Kullaly
Authorized signature

X WSC
Title

X 12-10-19
Date



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/10/2019
Invoice #: 900456
AFE #: 2151790
Foreman: Corey Barras

Customer: Anadarko Petroleum Corporation

Well Name: Windsock 21-7HZ

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: 1730
Time Arrived On Location: 1620
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,882
Total Depth (ft) : 1892
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 968.76 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1048.04 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 186.66 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 708 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 126.12 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 142.87 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1388.35 PSI

Pressure of the fluids inside casing

Displacement: 793.37 psi

Shoe Joint: 30.98 psi

Total 824.36 psi

Differential Pressure: 563.99 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 318.98 bbls

X *[Signature]*
Authorization To Proceed

Windsock 21-7HZ

