



Anadarko Petroleum Corporation
Windsock 21-10HZ

200552
Weld
Terry Richey
12/13/2019

DESCRIPTION OF JOB EVENTS

Date _____



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/13/2019

Invoice # 200552

API#

Foreman: Terry Richey

Customer: Anadarko Petroleum Corporation

Well Name: Windsock 21-10HZ

County: Weld

State: Colorado

Sec: 21

Twp: 1n

Range: 68w

Consultant: Dave

Rig Name & Number: Cartel 88

Distance To Location: 84

Units On Location: 4047/4027

Time Requested: 5:00am

Time Arrived On Location: 3:45am

Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,876
Total Depth (ft) : 1886
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
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: 22.0
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 61.05 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 965.53 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1044.38 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 186.00 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 706 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 124.33 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 142.48 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1383.93 PSI

Pressure of the fluids inside casing

Displacement: 791.22 psi

Shoe Joint: 30.25 PSI

Total 821.46 psi

Differential Pressure: 562.46 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 306.81 bbls

X
Authorization To Proceed

Windsock 21-10HZ

— PSI — Barrels / Minute — Lbs / Gallon

