



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/17/2015
Invoice # 80449
API# 05-123-42073
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Sunflower 24N-17HZ

County: Weld
State: Colorado
Sec: 8
Twp: 2N
Range: 65W

Consultant: Hayden / Bryan
Rig Name & Number: Noble 2
Distance To Location: 28 Miles
Units On Location: 4023-3104/4033-3203
Time Requested: 400am
Time Arrived On Location: 230am
Time Left Location: 8:00am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,832
Total Depth (ft) : 1849
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 60
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 10

Max Rate: 8
Max Pressure: 1250

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 20%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 29
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 15.0

Spacer Ahead Makeup

30 bbls H2O+Dye in 2nd 10 bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.20 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 45.79 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1039.36 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1103.35 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 196.51 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 741 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 131.88 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 139.18 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1351.62 PSI

Pressure of the fluids inside casing

Displacement: 771.93 psi

Shoe Joint: 30.93 psi

Total 802.87 psi

Differential Pressure: 548.75 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 316.06 bbls

X

Authorization to Proceed

Bryan Brown

Date _____

SERIES 2000

