



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/17/2018
Invoice #: 200309
API#
Foreman: KirkKallhoff

Customer: Anadarko Petroleum Corporation

Well Name: cowboy 21-3hz

County: Weld
State: Colorado
Sec: 24
Twp: 2N
Range: 66W

Consultant: bryan
Rig Name & Number: Cartel 88
Distance To Location: 30
Units On Location: 4028/4039/4035
Time Requested: 430 pm
Time Arrived On Location: 200 pm
Time Left Location: 8:00 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,869
Total Depth (ft) : 1879
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 40
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 17.36 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 961.77 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1040.18 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 185.26 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 703 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 123.83 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 142.02 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1378.76 PSI

Pressure of the fluids inside casing

Displacement: 788.63 psi

Shoe Joint: 29.51 PSI

Total 818.14 psi

Differential Pressure: 560.62 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 305.85 bbls

X Kallhoff
Authorization To Proceed



Anadarko Petroleum Corporation
cowboy 21-3hz

INVOICE #
LOCATION
FOREMAN
Date

200309
Weld
KirkKallhoff
8/17/2018

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DESCRIPTION OF JOB EVENTS

X Bryan Bw
Work Performed

X C. Man
Title

X 8-17-18
Date

SERIES 2000

