



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/3/2015

Invoice # 90035

API# 05-123-41975

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Meguire 29N-16HZ

County: Weld

State: Colorado

Sec: 21

Twp: 2N

Range: 65W

Consultant: Chris

Rig Name & Number: Noble 2

Distance To Location: 30

Units On Location: 024/3210/4007/3106/3105/320

Time Requested: 21:00

Time Arrived On Location: 19:52

Time Left Location: 4:20

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,845
Total Depth (ft) : 1855
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 10

Max Rate: 7
Max Pressure: 2000

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: 35.0
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30 bbl dye in second 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.66 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 30.53 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1058.59 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1107.78 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 197.30 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 743 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 132.41 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.08 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1361.06 PSI

Pressure of the fluids inside casing

Displacement: 776.99 psi

Shoe Joint: 31.72 psi

Total 808.71 psi

Differential Pressure: 552.35 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 342.49 bbls

X

Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.

Date _____

Meguire 29N-16HZ

— PSI — Barrels / Minute — Lbs / Gallon

