



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/17/2017

Invoice # 300114

API# 05-123-43998

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: JOHNSON 28C-14HZ

County: Weld

State: Colorado

Sec: 14

Twp: 1N

Range: 67W

Consultant: SEAN

Rig Name & Number: CARTEL 88

Distance To Location: 33

Units On Location: 4041-3104,4031-3214,4024-3215

Time Requested: 1200

Time Arrived On Location: 1130

Time Left Location: 1600

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,905
Total Depth (ft) : 1915
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 46
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: 5%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 4.0
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 19.87 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 936.71 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1017.63 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 181.24 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 688 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 122.46 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 144.38 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1405.58 PSI

Pressure of the fluids inside casing

Displacement: 801.82 psi

Shoe Joint: 33.76 psi

Total 835.58 psi

Differential Pressure: 570.00 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 316.84 bbls

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.

x 8/17/17
Date

JOHNSON 28C-14HZ SURFACE

