



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/3/2017
Invoice #: 666223
API#: 05-123-44203
Foreman: Nick Vigil

Customer: Anadarko Petroleum Corporation

Well Name: LEINWEBER 36N-11HZ

County: Weld
State: Colorado

Sec: 11
Twp: 1N
Range: 67W

Consultant: Sean
Rig Name & Number: Cartel 88
Distance To Location: 30 Miles
Units On Location: 4023/4040/4039
Time Requested: 1:30
Time Arrived On Location: 1:00
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,507
Total Depth (ft) : 1517
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 10

Max Rate: 8
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: 15%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
Dye in second 10 bbl

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 61.05 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 802.03 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 881.74 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 157.04 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 592 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 105.39 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 113.95 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1111.71 PSI

Pressure of the fluids inside casing

Displacement: 631.25 psi

Shoe Joint: 31.72 psi

Total 662.97 psi

Differential Pressure: 448.74 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 269.34 bbls

X *Sam Vigil*
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 11/3/17
Date

LEINWEBER 36N-11HZ

