



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/25/2015
Invoice # 80630
API# 05-123-41951
Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: POWERS 1N-27HZ

County: Weld
State: Colorado
Sec: 22
Twp: 2N
Range: 65W

Consultant: HAYDEN
Rig Name & Number: NOBLE 2
Distance To Location: 39
Units On Location: 4031-3106/ 4034-3203
Time Requested: 2330
Time Arrived On Location: 2200
Time Left Location: 400

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,843
Total Depth (ft) : 1853
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 7

Max Rate: 6
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: 15%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 21.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30BBL WATER/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.23 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 1013.36 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1062.11 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 189.16 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 713 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 126.95 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 139.77 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1359.58 PSI

Pressure of the fluids inside casing

Displacement: 776.56 psi

Shoe Joint: 30.98 psi

Total 807.54 psi

Differential Pressure: 552.04 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 316.72 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 _____

POWERS 1N-27HZ SURFACE

