



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/2/2015

Invoice # 90054

API# 05-123-41322

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Wilson Ranch 4C-27HZ

County: Weld

State: Colorado

Sec: 26

Twp: 4N

Range: 68W

Consultant: Chris/Sean

Rig Name & Number: Noble 2

Distance To Location: 35

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

Time Requested: 19:30

Time Arrived On Location: 17:40

Time Left Location: 22:15

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,855
Total Depth (ft) : 1865
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 10

Max Rate: 7
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
30 bbl dye in second 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.53 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 1020.10 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1070.16 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 190.60 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 718 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 127.91 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.70 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1368.43 PSI

Pressure of the fluids inside casing

Displacement: 780.44 psi

Shoe Joint: 33.20 psi

Total 813.63 psi

Differential Pressure: 554.80 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 318.61 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.

Wilson Ranch 4C-27HZ

