



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/16/2018

Invoice # 666278

API# 05-123-46111

Foreman: Nick Vigil

Customer: Anadarko Petroleum Corporation

Well Name: Azul 13-17HZ

County: Weld

State: Colorado

Sec: 11

Twp: 1N

Range: 68W

Consultant: Brian/Levi

Rig Name & Number: Cartel 88

Distance To Location: 37 Miles

Units On Location: 4023/4020

Time Requested: 6:30

Time Arrived On Location: 5:30

Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 1,859
 Total Depth (ft) : 1869
 Open Hole Diameter (in.) : 13.50
 Conductor Length (ft) : 80
 Conductor ID : 15.25
 Shoe Joint Length (ft) : 44
 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: 8%
 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 19.10 cuft
 (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

cuft of Conductor 61.05 cuft
 (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 939.01 cuft
 (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1019.15 cuft
 (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 181.51 bbls
 (Total Slurry Volume) X (.1781)

Sacks Needed 684 sk
 (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 121.82 bbls
 (Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 141.09 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1371.38 PSI

Pressure of the fluids inside casing

Displacement: 782.59 psi

Shoe Joint: 32.46 psi

Total 815.05 psi

Differential Pressure: 556.33 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 312.90 bbls

X Authorization To Proceed

AZUI 13-17HZ

