



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/26/2017

Invoice # 200132

API#

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: cannon 1n-9hz

County: Weld

State: Colorado

Sec: 33

Twp: 3n

Range: 65w

Consultant: bryan

Rig Name & Number: cartel 88

Distance To Location: 29

Units On Location: 4028/4039/4030

Time Requested: 1130 pm

Time Arrived On Location: 930 pm

Time Left Location: 3:45pm

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft) : 1,871	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1881	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 5%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.6	BBL to Pit:
Shoe Joint Length (ft) : 40	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 8	H2O Wash Up (bbls): 10.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	

Calculated Results	Pressure of cement in annulus
cuft of Shoe 17.36 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 142.17 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 65.76 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 1380.24 PSI
cuft of Casing 919.08 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 1002.20 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 789.49 psi Shoe Joint: 29.51 psi Total 819.00 psi
bbls of Slurry 178.49 bbls (Total Slurry Volume) X (.1781)	Differential Pressure: 561.24 psi
Sacks Needed 673 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Mix Water 118.51 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 300.68 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.

SERIES 2000

