



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/21/2017
 Invoice #: 200182
 API#
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: burough 1n-17hz

County: Weld
 State: Colorado
 Sec: 17
 Twp: 1n
 Range: 66w

Consultant: bryan
 Rig Name & Number: CARTEL 88
 Distance To Location: 32
 Units On Location: 4028/4020/4041
 Time Requested: 400 am
 Time Arrived On Location: 200 am
 Time Left Location: 9:00 am

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.) : 1,856	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1866	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 10%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.5	BBL to Pit:
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 8	H2O Wash Up (bbls): 10.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	30 BBL WATER, DYE IN 2ND 10

Casing ID: 8.921 Casing Grade: J-55 only used

Calculated Results	Displacement: 140.86 bbls
cuft of Shoe 18.23 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 64.40 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus Hydrostatic Pressure: 1369.17 PSI
cuft of Casing 954.78 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 782.16 psi Shoe Joint: 30.98 psi Total: 813.15 psi
Total Slurry Volume 1037.42 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 556.03 psi
bbls of Slurry 184.76 bbls (Total Slurry Volume) X (.1781)	Collapse PSI: 2020.00 psi
Sacks Needed 701 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Burst PSI: 3520.00 psi
Mix Water 124.84 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 305.69 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

