



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/25/2018
 Invoice #: 200269
 API#
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
 Well Name: george 25-7hz

County: Weld
 State: Colorado
 Sec: 25
 Twp: 2n
 Range: 65w

Consultant: levi
 Rig Name & Number: CARTEL 88
 Distance To Location: 34
 Units On Location: 4028/4040/4035
 Time Requested: 700 pm
 Time Arrived On Location: 500 pm
 Time Left Location: 10:30 pm

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.) : 1,870	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1880	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.5	BBL to Pit:
Shoe Joint Length (ft) : 41	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: 142.02 bbls
cuft of Shoe 17.80 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
cuft of Casing 1006.05 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 1379.50 PSI
Total Slurry Volume 1088.25 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry 193.82 bbls (Total Slurry Volume) X (.1781)	Displacement: 788.63 psi
Sacks Needed 735 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 30.25 psi
Mix Water 130.95 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 818.88 psi
	Differential Pressure: 560.62 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 312.97 bbls

X *[Signature]*
 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

