



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/11/2017
Invoice #: 666060
API#: 05-123-42567
Foreman: Nick

Customer: Anadarko Petroleum Corporation
Well Name: Puma Fed 34N-35HZ

County: Weld
State: Colorado
Sec: 23
Twp: 1N
Range: 67W
Consultant: Brian/Jeremy
Rig Name & Number: WMO
Distance To Location: 34 miles
Units On Location: 4019/4028/4030
Time Requested: 15:30
Time Arrived On Location: 14:30
Time Left Location:

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.) : 2,271	Cement Yield (cuft) : 1.49
Total Depth (ft) : 2281	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 : 15.25	BBL to Pit:
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 0	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	Dye in the second 10 bbl

Casing ID 8.921	Casing Grade J-55 only used
Calculated Results	Displacement: 172.17 bbls
cuft of Shoe 19.10 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 61.05 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing 1231.43 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 1675.32 PSI
Total Slurry Volume 1311.58 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry 233.59 bbls (Total Slurry Volume) X (.1781)	Displacement: 960.24 psi
Sacks Needed 880 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 32.46 psi
Mix Water 156.77 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 992.70 psi
	Differential Pressure: 682.62 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 378.93 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.

Date _____

Puma Fed 34N-35HZ

