



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/15/2017
Invoice #: 200019
API#
Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: puma fed 13n-35hz

County: Weld
State: Colorado
Sec: 23
Twp: 1n
Range: 67w
Consultant: brian
Rig Name & Number: wmo 252
Distance To Location: 35
Units On Location: 4028/4019/4032
Time Requested: 200 pm
Time Arrived On Location: 1230 pm
Time Left Location: 7:00 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.) : 2,214	Cement Yield (cuft) : 1.48
Total Depth (ft) : 2239	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.5	
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 15	H2O Wash Up (bbls): 10.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 1500	h2o

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results	Displacement:	169.07	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		
cuft of Casing 1199.39 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 1633.27 PSI		
Total Slurry Volume 1282.03 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing		
bbls of Slurry 228.33 bbls (Total Slurry Volume) X (.1781)	Displacement: 936.53 psi		
Sacks Needed 866 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 30.98 psi		
Mix Water 152.62 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 967.51 psi		
	Differential Pressure: 665.76 psi		
	Collapse PSI: 2020.00 psi		
	Burst PSI: 3520.00 psi		
	Total Water Needed: 361.70 bbls		

X *B/Bw*
Authorization To Proceed



Anadarko Petroleum Corporation
puma fed 13n-35hz

INVOICE #
LOCATION
FOREMAN
Date

200019
Weld
Kirk Kallhoff
1/15/2017

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DESCRIPTION OF JOB EVENTS

X _____
Work Preformed

X CO MAN
Title

X 1-15-17
Date

SERIES 2000

