



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/15/2017
Invoice #: 200207
API#: 05-123-45729
Foreman: Kirk Kallhoff

Customer: Bill Barrett Corp.
Well Name: Anschutz Williams 5-61-27-4956B

County: Weld
State: Colorado
Sec: 27
Twp: 5n
Range: 61w

Consultant: robert
Rig Name & Number: savana 802
Distance To Location: 35
Units On Location: 1
Time Requested: 600 pm
Time Arrived On Location: 600 pm
Time Left Location: 8:00 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 843
Total Depth (ft) : 843
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 90
Conductor ID : 15.5
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 23

Max Rate: 8
Max Pressure: 2500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 25%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 20.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup
h2o dye in 1st 10

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 61.92 bbls	
cuft of Shoe 19.53 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 72.46 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of cement in annulus	
cuft of Casing 286.95 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Hydrostatic Pressure: 607.13 PSI	
Total Slurry Volume 378.94 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Pressure of the fluids inside casing	
bbls of Slurry 67.49 bbls (Total Slurry Volume) X (.1781)		Displacement: 335.46 psi	
Sacks Needed 254 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Shoe Joint: 33.20 psi	
Mix Water 45.29 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Total 368.66 psi	
		Differential Pressure: 238.47 psi	
		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 137.22 bbls	

Robert A. Schull
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.

x 12-15-17