



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/1/2018
Invoice #: 900272
API#: 05-123-46255
Foreman: Corey Barras

Customer: Anadarko Petroleum Corporation
Well Name: Verde 13-12HZ

County: Weld
State: Colorado
Sec: 13
Twp: 1N
Range: 66W
Consultant: Matt
Rig Name & Number: Cartel 88
Distance To Location: 37
Units On Location: 4027-3103/4030-3213/4024-3201
Time Requested: 1600
Time Arrived On Location: 1530
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.) : 1,859	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1869	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 5%
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) : 15	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	30 bbl with Die in 2nd 10

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement:	141.47 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 912.92 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Hydrostatic Pressure: 1371.38 PSI	
Total Slurry Volume 993.07 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Pressure of the fluids inside casing	
bbls of Slurry 176.87 bbls (Total Slurry Volume) X (.1781)		Displacement: 782.59 psi	
Sacks Needed 671 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Shoe Joint: 32.46 PSI	
Mix Water 118.22 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Total 815.05 psi	
		Differential Pressure: 556.33 psi	
		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 309.70 bbls	

X *Li Kullough*
Authorization To Proceed

Date _____

Verde 13-12HZ

