



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/27/2018
Invoice #: 200234
API#
Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: azul 13-2hz

County: Weld
State: Colorado
Sec: 3
Twp: 1n
Range: 68w

Consultant: jason
Rig Name & Number: CARTEL 88
Distance To Location: 37
Units On Location: 4028/4030/4035
Time Requested: 900 pm
Time Arrived On Location: 700 pm
Time Left Location: 1100 am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,858
Total Depth (ft) : 1868
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.5
Shoe Joint Length (ft) : 40
Landing Joint (ft) : 8

Max Rate: 8
Max Pressure: 2000

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.48
Gallons Per Sack: 7.48
% Excess: 5%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup
30 BBL WATER, DYE IN 2ND 10

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 141.16 bbls	
cuft of Shoe 17.36 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 912.41 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Hydrostatic Pressure: 1370.65 PSI	
Total Slurry Volume 994.18 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Pressure of the fluids inside casing	
bbls of Slurry 177.06 bbls (Total Slurry Volume) X (.1781)		Displacement: 783.89 psi	
Sacks Needed 672 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Shoe Joint: 29.51 psi	
Mix Water 119.63 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Total 813.40 psi	
		Differential Pressure: 557.25 psi	
		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 300.80 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.



Bison Oil Well Cementing Single Cement Surface Pipe

Customer
Well Name

Anadarko Petroleum Corporation
azul 13-2hz

INVOICE #
LOCATION
FOREMAN
Date

200234
Weld
Kirk Kallhoff
1/28/2018

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

[illegible]

X

Authorized signature _____

X

Title

3

Date _____

SERIES 2000

