



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/29/2018
Invoice #: 900249
API#: 05-123-45919
Foreman: Corey Barras

Customer: Anadarko Petroleum Corporation
Well Name: Azul 13-5HZ

County: Weld
State: Colorado
Sec: 13
Twp: 1N
Range: 66W
Consultant: Matt
Rig Name & Number: Cartel 88
Distance To Location: 37
Units On Location: 1027-3103/4030-3214/4024-321
Time Requested: 1600
Time Arrived On Location: 1440
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.) : 1,856	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1866	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:	141.24	bbls
cuft of Shoe 19.10 cuft (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	(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 911.38 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure:	1369.17	PSI
Total Slurry Volume 991.53 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing		
bbls of Slurry 176.59 bbls (Total Slurry Volume) X (.1781)	Displacement:	781.30	psi
Sacks Needed 670 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint:	32.46	PSI
Mix Water 118.04 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total	813.76	psi
	Differential Pressure:	555.41	psi
	Collapse PSI:	2020.00	psi
	Burst PSI:	3520.00	psi
	Total Water Needed:	309.28	bbls

X
Authorization To Proceed

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Azul 13-5HZ

INVOICE #
LOCATION
FOREMAN
Date

900249
Weld
Corey Barras
1/29/2018

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DESCRIPTION OF JOB EVENTS

[illegible]

x C. Kulloz
Work Performed

X APL
Title

X 1/29/18
Date

Azul 13-5HZ

