



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/1/2017
 Invoice #: 900201
 API#: 05-123-44564
 Foreman: Corey B.

Customer: Anadarko Petroleum Corporation
Well Name: Newby State 1N-33HZ

County: Weld
 State: Colorado
 Sec: 33
 Twp: 3N
 Range: 68W

Consultant: Matt
 Rig Name & Number: Cartel 88
 Distance To Location: 30
 Units On Location: 027/3103-4033/3212-4020/321
 Time Requested: 500
 Time Arrived On Location: 400
 Time Left Location: 800

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.) : 783	Cement Yield (cuft) : 1.48
Total Depth (ft) : 793	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 10%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 6.0
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

Calculated Results	Displacement: 58.29 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 Hydrostatic Pressure: 577.62 PSI
cuft of Casing 377.93 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 318.64 psi Shoe Joint: 32.46 psi Total 351.10 psi
Total Slurry Volume 458.08 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 226.52 psi
bbls of Slurry 81.58 bbls (Total Slurry Volume) X (.1781)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Sacks Needed 310 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: 162.82 bbls
Mix Water 54.53 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	

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**

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Well Name

Anadarko Petroleum Corporation
Newby State 1N-33HZ

INVOICE #
LOCATION
FOREMAN
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900201
Weld
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DESCRIPTION OF JOB EVENTS

Amount Pumped		Time	Event	Description	Rate	BBLs	Pressure
% Excess	10%	400	What rig is doing upon Bison Arrival	Running Casing			
Mixed bbls	54.53	405	JSA	Bison Crew			
Total Sacks	310	415	Rig up				
bbl Returns	6	600	Safety Meeting	Bison and Rig crew			
Water Temp	59	630	Start Job				
		632	Pressure Test				
Notes:							
		634	Spacer Ahead	2nd 10 with die	6	30	50
		640	Lead Cement	14.2 ppg	8	81	70
		650	Shutdown				
		652	Drop Plug	Preloaded in plug container			
		654	Start Displacement				
		706	Bump Plug	500 over final lift 690	2	58	190
		708	Floats Held	Held for 2 MIN with .5 bll back			
		710	End Job				
		715	Rig Down				

X [Signature]
Work Performed

X APC CONSULTANT
Title

X 11-1-17
Date

Newby State 1N-33HZ

