



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/26/2017
 Invoice #: 900197
 API#: 05-123-45089
 Foreman: Corey B.

Customer: Anadarko Petroleum Corporation
Well Name: Newby State 15N-4HZ

County: Weld
 State: Colorado
 Consultant: Matt
 Rig Name & Number: Cartel 88
 Distance To Location: 30
 Units On Location: 027/3103-4033/3212-4020/321
 Sec: 17
 Twp: 1N
 Range: 66W
 Time Requested: 1530
 Time Arrived On Location: 1415
 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.) : 2,226	Cement Yield (cuft) : 1.48
Total Depth (ft) : 2236	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:
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: 169.85 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: 1642.12 PSI
cuft of Casing 1153.69 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 940.84 psi Shoe Joint: 32.46 psi Total 973.30 psi
Total Slurry Volume 1233.84 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 668.82 psi
bbls of Slurry 219.75 bbls (Total Slurry Volume) X (.1781)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Sacks Needed 834 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: 366.73 bbls
Mix Water 146.89 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	

X Authorization To Proceed



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Single Cement Surface Pipe**

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DESCRIPTION OF JOB EVENTS

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 10%	1420	What rig is doing upon Bison Arrival	Running Casing			
Mixed bbls 146.89	1430	JSA	Bison Crew			
Total Sacks 834	1445	Rig up				
bbl Returns 10	1800	Safety Meeting	Bison and Rig crew			
Water Temp 58	1820	Start Job				
	1822	Pressure Test				
Notes:						
	1824	Spacer Ahead	2nd 10 with die	6	30	80
	1830	Lead Cement	14.2 ppg	6.5	219	70
	1910	Shutdown				
	1912	Drop Plug	Preloaded in plug container			
	1914	Start Displacement		7	90	230
	1945	Bump Plug	500 over final lift 1180 psi	2	169	610
	1947	Floats Held	Held for 2 MIN with .5 bll back			
	1948	End Job				
	1955	Rig Down				
	2015	Leave Location				

X *[Signature]*
Work Performed

X *Co. Man*
Title

X 10-26-17
Date

Newby State 15N-4HZ

