



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/21/2015
Invoice #: 80470
API#: 05-123-40754
Foreman: Calvin Reimers

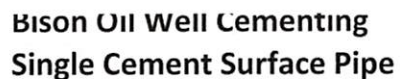
Customer: Noble Energy Inc.
Well Name: Moser H22-715

County: Weld
State: Colorado
Sec: 27
Twp: 3N
Range: 65W
Consultant: Cliff / Bryan
Rig Name & Number: H&P 343
Distance To Location: 24 Miles
Units On Location: 4023-3104/4032-3215
Time Requested: 700pm
Time Arrived On Location: 535pm
Time Left Location: 1215am

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.) :	855	Cement Yield (cuft) :	1.49
Total Depth (ft) :	887	Gallons Per Sack:	7.48
Open Hole Diameter (in.) :	13.50	% Excess:	25%
Conductor Length (ft) :	100	Displacement Fluid lb/gal:	8.3
Conductor ID :	16	BBL to Pit:	20.0
Shoe Joint Length (ft) :	45	Fluid Ahead (bbls):	60.0
Landing Joint (ft) :	29	H2O Wash Up (bbls):	10.0
Max Rate:	7	Spacer Ahead Makeup	
Max Pressure:	1750	60 bbls H2O+Dye in 2nd 10 bbls	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 64.75 bbls	
cuft of Shoe	19.74 cuft	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Pressure of cement in annulus	
cuft of Conductor	89.10 cuft	Hydrostatic Pressure: 630.42 PSI	
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of the fluids inside casing	
cuft of Casing	460.98 cuft	Displacement: 348.86 psi	
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Shoe Joint: 33.55 psi	
Total Slurry Volume	569.81 cuft	Total 382.41 psi	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Differential Pressure: 248.00 psi	
bbls of Slurry	101.48 bbls	Collapse PSI: 2020.00 psi	
(Total Slurry Volume) X (.1781)		Burst PSI: 3520.00 psi	
Sacks Needed	382 sk	Total Water Needed: 202.86 bbls	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	68.11 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

X Authorization To Proceed




Noble Energy Inc.
Moser H22-715

80470
Weld
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DESCRIPTION OF JOB EVENTS

X 
Work Performed

X 11/22/15 0017