



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/14/2015
Invoice #: 55064
API#
Foreman: Monte Bedeaux

Customer: Noble Energy Inc.

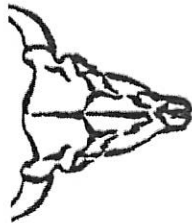
Well Name: Reliance E23-63-1HNC

County: Weld
State: Colorado
Sec: 23
Twp: 6n
Range: 65w

Consultant: Jeramy
Rig Name & Number: H&P 321
Distance To Location: 22.8
Units On Location: 4038-3103 4022-3213
Time Requested: 10:00am
Time Arrived On Location: 9:00
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.) :	821	Cement Yield (cuft) :	1.48
Total Depth (ft) :	842	Gallons Per Sack:	7.48
Open Hole Diameter (in.) :	13.50	% Excess:	0%
Conductor Length (ft) :	130	Displacement Fluid lb/gal:	8.3
Conductor ID :	15.6	BBL to Pit:	
Shoe Joint Length (ft) :	45	Fluid Ahead (bbls):	60.0
Landing Joint (ft) :	34	H2O Wash Up (bbls):	20.0
Max Rate:	5	Spacer Ahead Makeup	
Max Pressure:	1000	10 fresh 10 dye 40 fresh	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement:	62.62 bbls
cuft of Shoe	19.53 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	106.86 cuft	Hydrostatic Pressure:	605.65 PSI
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of the fluids inside casing	
cuft of Casing	337.71 cuft	Displacement:	334.60 psi
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Shoe Joint:	33.20 psi
Total Slurry Volume	464.11 cuft	Total	367.79 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Differential Pressure:	237.86 psi
bbls of Slurry	82.66 bbls	Collapse PSI:	2020.00 psi
(Total Slurry Volume) X (.1781)		Burst PSI:	3520.00 psi
Sacks Needed	314 sk	Total Water Needed:	198.47 hbls
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	55.85 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			



DISCOUNT WELL SERVICES

Single Cement Surface Pipe

LOCATION
FOREMAN
Date

Well
Monte B
2/14/2

Customer
Well Name

Noble Energy Inc.
Reliance E23-63-1HNC

Treatment Report #

DESCRIPTION OF JOB EVENTS

	11:45 11:05 12:14	Displace 1			Displace 2			Displace 3			Displace 4			D
		BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI	
Safety Meeting	11:45	0	12:45	0	0			0			0			0
MIRU	11:05	10	12:47	30	10			10			10			10
CIRCULATE	12:14	20	12:50	40	20			20			20			20
Drop Plug		30	12:53	120	30			30			30			30
12:45		40	12:55	200	40			40			40			40
		50	12:57	260	50			50			50			50
M & P		60	12:59	260	60			60			60			60
Time	Sacks	70	1:01	650	70			70			70			70
12:23-12:42	314	80			80			80			80			80
		90			90			90			90			90
		100			100			100			100			100
		110			110			110			110			110
% Excess	0%	120			120			120			120			120
Mixed bbls	55.96	130			130			130			130			130
Total Sacks	314	140			140			140			140			140
bbl Returns	11	150			150			150			150			150
Water Temp	56													

Notes:

safety meeting, miru, pressure test per company man, circulate 60 bbls ahead with dye in 2nd 10, mix and pump 314 sks
drop plug and displace 63.46 bbls h2o, bump plug at 1:01 pm at 560 psi, raise to 1000 psi hold 15 min, wash up rig down
raise to 1000 psi hold 15 min

X WES
Title

X 2/14
Date

X Work Performed