




Bison Oil Well Cementing Single Cement Surface Pipe

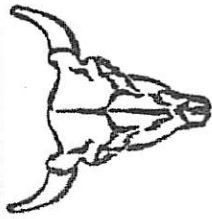
Date: 1/14/2015
Invoice #: 65055
API#
Foreman: Lee Sharp

Customer: Noble Energy Inc.
Well Name: Tripucka LD02-75HN

County: Weld
State: Colorado
Sec: 2
Twp: 9
Range: 58
Consultant: Jim
Rig Name & Number: H&P 321
Distance To Location: 81
Units On Location: 4027-3106/ 4020-3212
Time Requested: 8:30
Time Arrived On Location: 7:45
Time Left Location: 12:30

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.1
Casing Depth (ft.) : 1,227	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1237	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 24%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.325	BBL to Pit: 34.0
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 30.0
Landing Joint (ft) :	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	10F 10D 10F

Casing ID	8.921	Casing Grade	J-55 only used	
Calculated Results		Displacement: 91.46 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)		
cuft of Shoe	19.10	cuft	Pressure of cement in annulus	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Hydrostatic Pressure:	898.78 PSI	
cuft of Conductor	77.56	cuft	Pressure of the fluids inside casing	
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Displacement:	510.09 psi	
cuft of Casing	681.34	cuft	Shoe Joint:	32.23 psi
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Total	542.32 psi	
Total Slurry Volume	778.00	cuft	Differential Pressure:	356.46 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Collapse PSI:	2020.00 psi	
bbls of Slurry	138.56	bbls	Burst PSI:	3520.00 psi
(Total Slurry Volume) X (.1781)		Total Water Needed:	234.45 bbls	
Sacks Needed	522	sk		
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)				
Mix Water	92.99	bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42				
 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

Customer
Well Name

Noble Energy Inc.
Tripucka LD02-75HN

INVOICE #
LOCATION
FOREMAN
Date

65055
Weld
Lee Sharp
1/14/2015

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DESCRIPTION OF JOB EVENTS

	10:00 9:45 10:31	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI
Safety Meeting		0	11:16	0	0			0			0			0		
MIRU		10	11:18	190	10			10			10			10		
CIRCULATE		20	11:20	120	20			20			20			20		
Drop Plug		30	11:23	200	30			30			30			30		
11:16		40	11:25	280	40			40			40			40		
		50	11:26	340	50			50			50			50		
M & P		60	11:27	390	60			60			60			60		
Time		70	11:28	420	70			70			70			70		
10:36-11:13	522	80	11:30	450	80			80			80			80		
		90	11:34	Land	90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	24%	120			120			120			120			120		
Mixed bbls	93	130			130			130			130			130		
Total Sacks	522	140			140			140			140			140		
bbl Returns	34	150			150			150			150			150		
Water Temp	86															

Notes:

The day

Job completed with no major issues.

34 bbl of return

plug landed at 11:34 750 psi

casing test began 1010 psi @ 11:36 pressure released and floats checked at 11:

X
Work Performed

X WSS
Title

X 1-14-15
Date