



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/18/2015

Invoice # 80155

API#

Foreman: Lee Sharp

Customer: Noble Energy Inc.

Well Name: Colt A13-648

County: Weld

State: Colorado

Sec:

Twp:

Range:

Consultant:

Rig Name & Number: HP 321

Distance To Location:

Units On Location: 4015 & 4022

Time Requested: 7:00

Time Arrived On Location: 6:25

Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 925
Total Depth (ft) : 934
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.25
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 0

Max Rate:

Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 60.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

60 dye 2nd

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.11 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 61.05 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 454.01 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 534.17 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 95.14 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 359 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 63.85 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 68.07 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 682.00 PSI

Pressure of the fluids inside casing

Displacement: 379.64 psi

Shoe Joint: 32.48 psi

Total 412.12 psi

Differential Pressure: 269.88 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 211.91 bbls

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.
Colt A13-648

INVOICE #
LOCATION
FOREMAN
Date

80155
Weld
Lee Sharp
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DESCRIPTION OF JOB EVENTS

Treatment Report Page 2

	8:25 7:20	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
Safety Meeting																
MIRU	8:43	0	0	9:50	0			0			0			0		
CIRCULATE		10	120	9:52	10			10			10			10		
Drop Plug		20	110	9:54	20			20			20			20		
9:47		30	170	9:56	30			30			30			30		
		40	250	9:58	40			40			40			40		
M & P		50	300	9:59	50			50			50			50		
		60	300	10:00	60			60			60			60		
Time		70	450		70			70			70			70		
8:54-9:49	359	80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
% Excess	10%	130			130			130			130			130		
Mixed bbls	64	140			140			140			140			140		
Total Sacks	359	150			150			150			150			150		
bbl Returns	11															
Water Temp	78															

Notes:

The day

Job completed

Issues Bulk Truck would not unload smoothly, Cementer closed valve while pump still engaged blew popoff

Plug landed on calculated Casing test began at 10:00-10:15 Floats checked and held 1/2 bbl return.

Rig down to leave

X

X WBS

X

Work Preformed

Title

Date