



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/11/2014
Invoice #: 55044
API#:
Foreman: monte

Customer: Noble Energy Inc.

Well Name: Mahalo State AA09-79HNC

County: Weld

State: Colorado

Sec: 4

Twp: 6n

Range: 63w

Consultant: Jeramy

Rig Name & Number: H&P 322

Distance To Location: 32.2

Units On Location: 4032-3201 4027-3211

Time Requested: 7:00am

Time Arrived On Location: 6:30am

Time Left Location: 1230

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 802
Total Depth (ft) : 853
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 125
Conductor ID : 15.6
Shoe Joint Length (ft) : 46
Landing Joint (ft) : 30

Max Rate: 5
Max Pressure: 2000

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
10 fresh 10 dye 40 fresh

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.97 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 102.75 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 363.96 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 486.68 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 86.68 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 327 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 58.17 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 60.76 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 591.64 PSI

Pressure of the fluids inside casing

Displacement: 325.97 psi

Shoe Joint: 33.93 psi

Total 359.91 psi

Differential Pressure: 231.73 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed 198.94 bbls

X
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.
Mahalo State AA09-79HNC

INVOICE #
LOCATION
FOREMAN
Date

55044
Weld
monte
12/11/2014

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DESCRIPTION OF JOB EVENTS

		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	9:50															
MIRU	9:10															
CIRCULATE	10:27	0	11:03	0	0			0			0			0		
Drop Plug		10	11:06	-10	10			10			10			10		
11:03		20	11:08	100	20			20			20			20		
		30	11:10	150	30			30			30			30		
		40	11:12	190	40			40			40			40		
M & P		50	11:14	240	50			50			50			50		
Time	Sacks	60	11:17	580	60			60			60			60		
10:36-10:57	327	70			70			70			70			70		
		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	10%	120			120			120			120			120		
Mixed bbls	58.17	130			130			130			130			130		
Total Sacks	327	140			140			140			140			140		
bbl Returns	12	150			150			150			150			150		
Water Temp																

Notes:

Safety Meeting, miru, pressure test per company man circulate 60 bbls ahead with dye in 2nd 10, mix and pump 327 sks, drop plug and displace 60.76 bbls h2o
bump plug at 11:20 a.m. at 580 psi, hold 2 min, raise pressure to 1000 psi hold 15 min

X

Work performed

X

Title

X

Date