



Bison Oil Well Cementing Tail & Lead

Customer: Noble Energy
Well Name: Rhon State LD10-66-1hn

Date: 10/10/2014
Invoice #: 12152
API#:
Foreman: Monte Bedeaux

County: Weld
State: Colorado
Sec: 9
Twp: 9n
Range: 58w

Consultant: gary
Rig Name & Number: h&p 326
Distance To Location: 76.7
Units On Location: 4028/3102 4022-3213
Time Requested: 6:30am
Time Arrived On Location: 6:00
Time Left Location: 11:30

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft) : 1094
Total Depth (ft) : 1238
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 100
Conductor ID : 15.6
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 34

Sacks of Tail Requested : 100
HOC Tail (ft) : 0

One or the other, cannot have quantity in both

Max Rate: 4.5
Max Pressure: 2000

Cement Data

Lead

Cement Name:
Cement Density (lb/gal) : 13.1
Cement Yield (cuft) : 1.69
Gallons Per Sack : 8.64
% Excess : 25%

Tail

Cement Name:
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack : 5.89
% Excess : 0%

Fluid Ahead (bbls) : 30.0
H2O Wash Up (bbls) : 20.0

Spacer Ahead Makeup

10 fresh 10 dye 10 fresh

Casing ID	8.921
Lead Calculated Results	
HOC of Lead	740.11 ft
Casing Depth - HOC Tail	
Volume of Lead Cement	361.71 cuft
HOC of Lead X Open Hole Ann	
Volume of Conductor	82.20 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
Total Volume of Lead Cement	443.92 cuft
(cuft of Lead Cement) + (Cuft of Conductor)	
bbls of Lead Cement	98.83 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	
Sacks of Lead Cement	328.34 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	
bbls of Lead Mix Water	67.54 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42	
Displacement	83.72 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	
Total Water Needed	215.28 bbls

Casing Grade	J-55 only used
Tail Calculated Results	
Tail Cement Volume In Ann	127.00 cuft
(HOC Tail) X (OH Ann)	
Total Volume of Tail Cement	107.47 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)	
bbls of Tail Cement	22.62 bbls
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)	
HOC Tail	219.89 ft
(Tail Cement Volume) ÷ (OH Ann)	
Sacks of Tail Cement	100.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)	
bbls of Tail Mix Water	14.02 bbls
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42	
Pressure of cement in annulus	
Hydrostatic Pressure	744.47 PSI
Collapse PSI:	2020.00 psi
Burst PSI:	3520.00 psi

X

Authorization To Proceed



**Bison Oil Well Cementing
Two Cement Surface Pipe**

Customer
Well Name

Noble Energy
Rhon State LD10-66-1hn

Date 10/10/2014
INVOICE # 12152
LOCATION Weld
FOREMAN Monte Bedeaux
Treatment Report Page 2

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	9:10															
MIRU	8:40															
CIRCULATE		0	1033	0	0			0			0			0		
Drop Plug		10	1035	10	10			10			10			10		
10:30		20	1037	40	20			20			20			20		
		30	1039	90	30			30			30			30		
		40	1041	140	40			40			40			40		
M & P		50	1043	210	50			50			50			50		
Time	Sacks	60	1045	210	60			60			60			60		
9:55-10:36	429	70	1047	270	70			70			70			70		
		80	1049	970	80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
Lead mixed bbls	67.54	130			130			130			130			130		
Lead % Excess	25%	140			140			140			140			140		
Lead Sacks	328	150			150			150			150			150		
Notes:																
Tail mixed bbls	14.02	safty meeting, miru, pressure test per company man, circulate 30 bbls ahead with dye in 2nd 10, mix and pump 329 sks lead, 13.1, 1.69 yield, 8.64 h2o														
Tail % Excess	0%	mix and pump 100 sks tail at 15.2, 1.27, 5.89. drop plug and displace 83.72 bbls h2o. Bump plug at 10:49 at 970 psi, bumped plug 8 bbls early														
Tail Sacks	100															
Total Sacks	428															
Water Temp	54															
bbl Returns	30															

X

Work Performed

X

Title

WSS

X

Date