



Bison Oil Well Cementing Tail & Lead

Customer: noble
Well Name: rohn state ld03-66-1hn

Date: 8/25/2014
Invoice # 12137
API#
Foreman: monte

County: weld
State: Colorado
Sec: 4
Twp: 9n
Range: 58w

Consultant: cliff
Rig Name & Number: h&p 273
Distance To Location: 75.8
Units On Location: 4028-3102 4018-3204
Time Requested: 5:00pm
Time Arrived On Location: 4:00
Time Left Location:

WELL DATA	Cement Data
<p>Casing Size (in) 9.625 Casing Weight (lb) 36 Casing Depth (ft) 1.170 Total Depth (ft) 1220 Open Hole Diameter (in) 13.75 Conductor Length (ft) 124 Conductor ID 15.5 Shoe Joint Length (ft) 45 Landing Joint (ft) 24</p> <p>Sacks of Tail Requested 100 HOC Tail (ft): 0</p> <p>One or the other, cannot have quantity in both</p> <p>Max Rate: 4.5 Max Pressure: 2000</p>	<p>Lead</p> <p>Cement Name: bfn 111 3%bcc-1 .25%bfla-1 Cement Density (lb/gal) : 13.1 Cement Yield (cuft) : 1.69 Gallons Per Sack 8.69 % Excess 25%</p> <p>Tail</p> <p>Cement Name: Cement Density (lb/gal) : 15.2 Cement Yield (cuft) : 1.27 Gallons Per Sack: 5.89 % Excess: 0%</p> <p>Fluid Ahead (bbls) 40.0 H2O Wash Up (bbls) 20.0</p> <p>Spacer Ahead Makeup 10 fresh 10 dye 40 fresh</p>

Casing ID 8.921	Casing Grade J-55 only used
Lead Calculated Results	Tail Calculated Results
HOC of Lead 817.64 ft	Tail Cement Volume In Ann 127.00 cuft
Casing Depth - HOC Tail	(HOC Tail) X (OH Ann)
Volume of Lead Cement 429.99 cuft	Total Volume of Tail Cement 107.47 Cuft
HOC of Lead X Open Hole Ann	(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
Volume of Conductor 99.83 cuft	bbls of Tail Cement 22.62 bbls
(Conductor ID Squared) X (.005454) X (Conductor Length ft)	(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
Total Volume of Lead Cement 529.81 cuft	HOC Tail 204.36 ft
(cuft of Lead Cement) + (Cuft of Conductor)	(Tail Cement Volume) ÷ (OH Ann)
bbls of Lead Cement 117.95 bbls	Sacks of Tail Cement 100.00 sk
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	(Total Volume of Tail Cement) ÷ (Cement Yield)
Sacks of Lead Cement 391.87 sk	bbls of Tail Mix Water 14.02 bbls
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
bbls of Lead Mix Water 81.08 bbls	Pressure of cement in annulus
(Sacks Needed) X (Gallons Per Sack) ÷ 42	Hydrostatic Pressure 796.19 PSI
Displacement 88.82 bbls	
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	Collapse PSI: 2020.00 psi
Total Water Needed: 141.08 bbls	Burst PSI: 3520.00 psi

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
Two Cement Surface Pipe**

Customer
Well Name

noble
rohn state ld03-66-1hn

Date 41876
INVOICE # 12137
LOCATION weld
FOREMAN monte
Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	6:20 AM	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	5:45															
MIRU	6:42	0	7:35	0	0			0			0			0		
CIRCULATE																
Drop Plug		10	7:38	40	10			10			10			10		
7:34		20	7:40	80	20			20			20			20		
		30	7:42	50	30			30			30			30		
		40	7:44	150	40			40			40			40		
M & P		50	7:46	200	50			50			50			50		
Time	Sacks	60	7:48	270	60			60			60			60		
6:50-7:31	492	70	7:50	300	70			70			70			70		
		80	7:52	380	80			80			80			80		
		90	7:55	690	90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
Lead mixed bbls	81.08	130			130			130			130			130		
Lead % Excess	25%	140			140			140			140			140		
Lead Sacks	392	150			150			150			150			150		
Notes:																
Tail mixed bbls	14.02	saftey meeting, miru, pressurt test per company man. circ]ulate 40 bbls ahead with dye in 2nd 10														
Tail % Excess	0%	mix and pump 392 sks cement at 1,69, 8,69 h2o.mix and pump 100 sks tail cement at 15.2, 1.27 yield, 5.89 h2o														
Tail Sacks	100	displace 88.82 bbls h2o, bump plug at 7:55 pm at 690 , hold 5 min, release pressure														
		wash up rig down														
Total Sacks	492	#VALUE!														
bbl Returns	18															

X DeLano
Work Performed

X CO MAN
Title

X 8-25-14
Date