



Bison Oil Well Cementing Tail & Lead

Customer: noble
Well Name: rohn state ld03-64-1hn

Date: 9/12/2014
Invoice # 12138
API#
Foreman: monte

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

Consultant: cliff
Rig Name & Number: H&P 277
Distance To Location: 75.8
Units On Location: 4032-3102 4020-3212
Time Requested: 4:00am
Time Arrived On Location: 2:30am
Time Left Location: 8:00 AM

WELL DATA		Cement Data	
<p>Casing Size (in) : 9.625 Casing Weight (lb) : 36 Casing Depth (ft) : 1,176 Total Depth (ft) : 1226 Open Hole Diameter (in) : 13.50 Conductor Length (ft) : 124 Conductor ID : 15.5 Shoe Joint Length (ft) : 46 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>	

Lead Calculated Results		Tail Calculated Results	
HOC of Lead	809.00 ft	Tail Cement Volume In Ann (HOC Tail) X (OH Ann)	127.00 cuft
Casing Depth - HOC Tail		Total Volume of Tail Cement (HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)	107.03 Cuft
Volume of Lead Cement	395.38 cuft	bbls of Tail Cement (HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)	22.62 bbls
HOC of Lead X Open Hole Ann		HOC Tail (Tail Cement Volume) ÷ (OH Ann)	219.00 ft
Volume of Conductor (Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	99.83 cuft	Sacks of Tail Cement (Total Volume of Tail Cement) ÷ (Cement Yield)	100.00 sk
Total Volume of Lead Cement (cuft of Lead Cement) + (Cuft of Conductor)	495.21 cuft	bbls of Tail Mix Water (Sacks of Tail Cement X Gallons Per Sack) ÷ 42	14.02 bbls
bbls of Lead Cement (Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	110.25 bbls	Pressure of cement in annulus	
Sacks of Lead Cement (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	366.28 sk	Hydrostatic Pressure	800.27 PSI
bbls of Lead Mix Water (Sacks Needed) X (Gallons Per Sack) ÷ 42	75.78 bbls	Collapse PSI:	2020.00 psi
Displacement (Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	89.20 bbls	Burst PSI:	3520.00 psi
Total Water Needed:	135.78 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
Two Cement Surface Pipe

Date 41894
INVOICE # 12138
LOCATION weld
FOREMAN monte

Customer noble
Well Name rohn state ld03-64-1hn

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	Safety Meeting MIRU CIRCULATE Drop Plug 6:20 M & P Time 6:50-7:31	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5	
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs
	5:00am	0	6:20	0	0			0			0
	3:45am	10	6:25	30	10			10			10
	5:37	20	6:30	50	20			20			20
		30	6:35	70	30			30			30
		40	6:40	90	40			40			40
		50	6:45	200	50			50			50
		60	6:48	200	60			60			60
		70	6:50	270	70			70			70
		80	6:55	300	80			80			80
		89-90	7:08	520	90			90			90
		100			100			100			100
		110			110			110			110
		120			120			120			120
		130			130			130			130
		140			140			140			140
		150			150			150			150

Notes:

safty meeting, miru, pressurt test per company man. circulate 40 bbls ahead with dye in 2nd 10
mix and pump 366 sks cement at 1.69, 8.69 h2o mix and pump 100 sks tail cement at 15.2, 1.27 yield, 5.89 h2o
displace 89.2 bbls h2o, bump plug at 7:08 am at 520 , hold 5 min, release pressure
wash up rig down
#VALUE!

Tail mixed bbls 14.02

Tail % Excess 0%

Tail Sacks 100

Total Sacks 466

bbl Returns 25

X *[Signature]*
Work Performed

X WSS
Title

X 9-12-14
Date