



Bison Oil Well Cementing Tail & Lead

Customer: Noble Energy
Well Name: rohn state ld 10-62hn

Date: 10/22/2014
Invoice # 12185
API#
Foreman: kirk

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

Consultant: justin
Rig Name & Number: h&p 273
Distance To Location:
Units On Location: 4030-3103/4020-3212
Time Requested: 1100 am
Time Arrived On Location: 930 am
Time Left Location: 2:45 pm

WELL DATA	Cement Data
<p>Casing Size (in) : 9.625 Casing Weight (lb) : 36 Casing Depth (ft) : 1.168 Total Depth (ft) : 1213 Open Hole Diameter (in) : 13.75 Conductor Length (ft) : 100 Conductor ID : 16 Shoe Joint Length (ft) : 43 Landing Joint (ft) : 35</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: <u></u> Max Pressure: <u></u></p>	<p>Lead</p> <p>Cement Name: <u>bfn III 3%</u> Cement Density (lb/gal) : 13.1 Cement Yield (cuft) : 1.69 Gallons Per Sack : 8.64 % Excess : 25%</p> <p>Tail</p> <p>Cement Name: <u>bfn III 3%</u> Cement Density (lb/gal) : 15.2 Cement Yield (cuft) : 1.27 Gallons Per Sack : 5.89 % Excess : 0%</p> <p>Fluid Ahead (bbls) : <u>30.0</u> <u>90</u> H2O Wash Up (bbls) : <u>20.0</u></p> <p>Spacer Ahead Makeup</p>

Lead Calculated Results	Tail Calculated Results
<p>HOC of Lead : 826.99 ft Casing Depth - HOC Tail</p> <p>Volume of Lead Cement : 434.90 cuft HOC of Lead X Open Hole Ann</p> <p>Volume of Conductor : 89.10 cuft (Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)</p> <p>Total Volume of Lead Cement : 524.00 cuft (cuft of Lead Cement) + (Cuft of Conductor)</p> <p>bbls of Lead Cement : 116.66 bbls (Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)</p> <p>Sacks of Lead Cement : 387.57 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)</p> <p>bbls of Lead Mix Water : 79.73 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42</p> <p>Displacement : 89.67 bbls (Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)</p> <p>Total Water Needed: 129.73 bbls</p>	<p>Tail Cement Volume In Ann : 127.00 cuft (HOC Tail) X (OH Ann)</p> <p>Total Volume of Tail Cement : 108.34 Cuft (HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)</p> <p>bbls of Tail Cement : 22.62 bbls (HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)</p> <p>HOC Tail : 206.01 ft (Tail Cement Volume) ÷ (OH Ann)</p> <p>Sacks of Tail Cement : 100.00 sk (Total Volume of Tail Cement) ÷ (Cement Yield)</p> <p>bbls of Tail Mix Water : 14.02 bbls (Sacks of Tail Cement X Gallons Per Sack) ÷ 42</p> <p>Pressure of cement in annulus</p> <p>Hydrostatic Pressure : 794.82 PSI</p> <p>Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi</p>

Authorization To Proceed



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

Customer
Well Name

Noble Energy
rohn state ld 10-62hn

Date
INVOICE #
LOCATION
FOREMAN
Trea

DESCRIPTION OF JOB EVENTS

Safety Meeting		1250pm	Displace 1			Displace 2			Displace 3			Displace 4		
MIRU		1225pm	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PS
CIRCULATE		107pm	0	149pm	10	0			0			0		
Drop Plug			10	152pm	40	10			10			10		
149 pm			20	154pm	80	20			20			20		
			30	156pm	80	30			30			30		
			40	158pm	130	40			40			40		
M & P			50	200pm	180	50			50			50		
Time	Sacks		60	202pm	250	60			60			60		
116 pm	487		70	204pm	320	70			70			70		
145 pm stop			80	206pm	380	80			80			80		
			90			90			90			90		
			100			100			100			100		
			110			110			110			110		
			120			120			120			120		
Lead mixed bbls	79.7		130			130			130			130		
Lead % Excess	25%		140			140			140			140		
Lead Sacks	387		150			150			150			150		
Notes:														
Tail mixed bbls	14	BUMPED PLUG at 210 pm 550 PSI 116.6 bbls slurry lead 22.6 bbls slurry tail.												
Tail % Excess	0%													
Tail Sacks	100													
Total Sacks	487													
bbl Returns	1519													

X 
Work Performed

X WSS
Title