



**Bison Oil Well Cementing  
Tail & Lead**

Date: 12/29/2020

Invoice # 200645

API# 05-123-50801

Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: reveille a35-750

County: Weld

State: Colorado

Sec: 35

Twp: 6N

Range: 64W

Consultant: john

Rig Name & Number: H&P 517

Distance To Location: 10

Units On Location: 4028/4033

Time Requested: 700 pm

Time Arrived On Location: 600 pm

Time Left Location:

**WELL DATA**

Casing Size (in) : 9.625  
 Casing Weight (lb) : 36  
 Casing Depth (ft.) : 1,900  
 Total Depth (ft) : 1944  
 Open Hole Diameter (in) : 13.50  
 Conductor Length (ft) : 110  
 Conductor ID : 15.5  
 Shoe Joint Length (ft) : 42  
 Landing Joint (ft) : 2

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

One or the other, cannot have quantity in both

Max Rate: 8  
 Max Pressure: 2500

**Cement Data**

**Lead**

Cement Name: BFN III  
 Cement Density (lb/gal) : 13.5  
 Cement Yield (cuft) : 1.68  
 Gallons Per Sack 8.90  
 % Excess 10%

**Tail Type III**

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**

30 BBL ahead with Die in 2nd 10

Casing ID

8.921

Casing Grade

J-55 only used

**Lead Calculated Results**

HOC of Lead 1565.44 ft  
 Casing Depth - HOC Tail  
 Volume of Lead Cement 765.08 cuft  
 HOC of Lead X Open Hole Ann  
 Volume of Conductor 88.56 cuft  
 (Conductor ID Squared) -(Casing Size OD Squared) X (.005454) X  
 (Conductor Length ft)  
 Total Volume of Lead Cement 853.64 cuft  
 (cuft of Lead Cement) + (Cuft of Conductor)  
 bbls of Lead Cement 167.24 bbls  
 (Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
 Sacks of Lead Cement 558.93 sk  
 (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
 bbls of Lead Mix Water 118.44 bbls  
 (Sacks Needed) X (Gallons Per Sack) ÷ 42  
 Displacement 143.78 bbls  
 (Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe  
 Length)  
 Total Water Needed: 326.24 bbls

**Tail Calculated Results**

Tail Cement Volume In Ann 127.00 cuft  
 (HOC Tail) X (OH Ann)  
 Total Volume of Tail Cement 108.77 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 222.56 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 585.23 PSI  
 Collapse PSI: 2020.00 psi  
 Burst PSI: 3520.00 psi

17 Centralizers

X Authorization To Proceed



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

Customer  
Well Name

Noble Energy Inc.
reveille a35-750

Date  
INVOICE #  
LOCATION  
FOREMAN

12/29/2020
200645
Weld
Kirk Kallhoff

Treatment Report Page 2

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
Lead mixed bbls	118.4	600 pm	ARRIVE ON LOCATION			
Lead % Excess	10%	810 pm	JSA			
Lead Sacks	553	900 pm	JSA			
		922 pm	PRESSURE TEST			100
		923 pm	SPACER AHEAD	6	30	180
Tail mixed bbls	22	928 pm	LEAD CEMENT	6.4	165	290
Tail % Excess	0%	1009 pm	TAIL CEMENT	6.4	22.6	200
Tail Sacks	100	1014 pm	SHUT DOWN			
		1020 pm	DROP PLUG			
Total Sacks	653	1020 pm	DISPLACEMENT	6	143.7	300
Water Temp	60	1046 pm	Bump Plug	3	143.7	690
bbl Returns	33	1047 pm	Casing TEST			1030
		1102 pm	Check Floats			0
Notes:		1115 pm	RIG DOWN			
Montered well for		1130 pm	Leave Location			
20 Min. No top out						
Needed						

X \_\_\_\_\_  
Work Preformed

X \_\_\_\_\_  
Title

X \_\_\_\_\_  
Date

# SERIES 2000

