



# Bison Oil Well Cementing Tail & Lead

Date: 6/5/2019  
Invoice #: 900352  
API#: 05-123-49605  
Foreman: Corey Barras

Customer: Noble Energy Inc.  
Well Name: Stars Federal LD 17-720

County: Weld  
State: Colorado  
Sec: 5  
Twp: 9N  
Range: 58W  
Consultant: Gary  
Rig Name & Number: H&P 321  
Distance To Location: 65  
Units On Location: 4033/3201-4032/3203  
Time Requested: 800  
Time Arrived On Location: 745  
Time Left Location:

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 36  
Casing Depth (ft.) : 1,930  
Total Depth (ft) : 1940  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 80  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 48  
Landing Joint (ft) : 30

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

One or the other, cannot have quantity in both

Max Rate: 8  
Max Pressure: 1500

## Cement Data

**Lead**  
Cement Name:  
Cement Density (lb/gal) : 13.5  
Cement Yield (cuft) : 1.7  
Gallons Per Sack 9.00  
% Excess 10%

**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  
30BBL WATER DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead 1602.77 ft

Casing Depth - HOC Tail

Volume of Lead Cement 783.32 cuft

HOC of Lead X Open Hole Ann

Volume of Conductor 61.05 cuft

(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X  
(Conductor Length ft)

Total Volume of Lead Cement 844.37 cuft

(cuft of Lead Cement) + (Cuft of Conductor)

bbls of Lead Cement 165.42 bbls

(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)

Sacks of Lead Cement 546.36 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

bbls of Lead Mix Water 117.08 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement 145.50 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)

Total Water Needed: 326.60 bbls

## Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft

(HOC Tail) X (OH Ann)

Total Volume of Tail Cement 106.17 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 217.23 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

X *Gary Stetson*  
Authorization To Proceed



Date  
INVOICE #  
LOCATION  
FOREMAN

Noble Energy Inc.
Stars Federal LD 17-720

Customer  
Well Name

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### DESCRIPTION OF JOB EVENTS

[illegible]

X Mary Slater

WSS

Title

### Work Performed

Date/

6-5-9 X



# Stars Federal LD17-720

