



# Bison Oil Well Cementing Tail & Lead

Customer: Noble Energy Inc.

Well Name: Hullabaloo State Y21-763

Date: 9/30/2017

Invoice #: 900182

API#: 05-123-45236

Foreman: Corey B.

County: Weld

State: Colorado

Sec: 16

Twp: 2N

Range: 64W

Consultant: Matt

Rig Name & Number: H&P 517

Distance To Location: 31

Units On Location: 4027/3103-4040/3201-4032/3203

Time Requested: 1630

Time Arrived On Location: 1520

Time Left Location:

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 36  
Casing Depth (ft.) : 2,010  
Total Depth (ft) : 2020  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 80  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 42  
Landing Joint (ft) : 4

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 15%

### Tail Type III

Cement Name:  
Cement Density (lb/gal) : 15.2  
Cement Yield (cuft) : 1.27  
Gallons Per Sack: 5.80  
% Excess: 0%

Fluid Ahead (bbls) 50.0  
H2O Wash Up (bbls) 20.0

### Spacer Ahead Makeup

50 BBL ahead with Die in 2nd 10

Casing ID

8.921

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead 1703.44 ft  
Casing Depth - HOC Tail  
Volume of Lead Cement 832.52 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 893.57 cuft  
(cuft of Lead Cement) + (Cuft of Conductor)  
bbls of Lead Cement 183.02 bbls  
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
Sacks of Lead Cement 610.00 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
bbls of Lead Mix Water 129.26 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42  
Displacement 152.44 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)  
Total Water Needed: 365.51 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 13.81 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

Authorization To Proceed

X 9/30/17  
Date





# Bison Oil Well Cementing Tail & Lead

## Cementing Customer Satisfaction Survey

Service Date 9/30/2017  
Well Name Hullabaloo State Y21-763  
County Weld  
State Colorado  
SEC 16  
TWP 2N  
RNG 64W

Invoice Number 900182  
API # 05-123-45236  
Job Type Two Cement  
Company Name Noble Energy Inc.

Customer Representative

Supervisor Name J Corey Barras

Employee Name (Including Supervisor)	Exposure Hours (Per Employee)
Corey B	5.5
Monte B.	5.5
Nash N.	5.5
Jesse R.	5.5
Dave S.	5.5
Total Exposure Hours	27.5

Did we encounter any problems on this job? ☐ Yes ☒ No

### To Be Completed By Customer

#### Rating/Description

- 5 - Superior Performance (Established new quality/performance standards)
  - 4 - Exceeded Expectation (Provided more than what was required/expected)
  - 3 - Met Expectations (Did what was expected)
  - 2 - Below Expectations (Job problems/failures occurred - \*Recovery made)
  - 1 - Poor Performance (Job problems/failures occurred - \*Some recovery made)
- \*Recovery: resolved issue(s) on jobsite in a timely and professional manner

RATING	CATEGORY	CUSTOMER SATISFACTION RATING
	Personnel -	Did our personnel perform to your satisfaction?
	Equipment -	Did our equipment perform to your satisfaction?
	Job Design -	Did we perform the job to the agreed upon design?
	Product/Material -	Did our products and materials perform as you expected?
	Health & Safety -	Did we perform in a safe and careful manner (Pre/post mtgs, PPE, TSMR, etc..)?
	Environmental -	Did we perform in an environmentally sound manner (spills, leaks, cleanup, etc..)?
	Timeliness -	Was job performed as scheduled (On time to site, accessible to customers, completed when expected)?
	Condition/Appearance -	Did the equipment condition and appearance meet your expectations?
	Communication -	How well did our personnel communicate during mobilization, rig up and job execution?

Please Circle:

Yes No Did an accident or injury occur?  
Yes No Did an injury requiring medical treatment occur?  
Yes No Did a first-aid injury occur?  
Yes No Did a vehicle accident occur?  
Yes No Was a post-job safety meeting held?

Please Circle:

Yes No Was a pre-job safety meeting held?  
Yes No Was a job safety analysis completed?  
Yes No Were emergency services discussed?  
Yes No Did environmental incident occur?  
Yes No Did any near misses occur?

Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

Customer Representative's Signature

DATE:

9/30/17

Any additional Customer Comments or HSE concerns should be described on the back of this form

## Hullabaloo State Y21-763

