



Bison Oil Well Cementing  
1547 Gaylord Street  
Denver, CO 80206

FIELD INVOICE #

666026

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
Bennett LD19-758		Weld	Colorado	10/30/2016	
CHARGE TO		WELL LOCATION			
Noble Energy Inc.		Section	TWP	RANGE	
		19	9N	58W	
Attn: Accounting		DELIVERED TO		LOCATION 1	CODE
		CR. 119 & CR.104		Greeley	
1625 Broadway Ste 2000		SHIPPED VIA		LOCATION 2	CODE
		3104/3215/3214		Keota	
Denver, CO 80202		TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
		Two Cement		Greeley	
				WELL TYPE	CODE
ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
<b>PUMP CHARGE</b>					
	Two Cement	1		\$ 1,120.00	\$ 1,120.00
<b>MILLEAGE CHARGE</b>					
	Pickup	\$1.50 per Mile	132	\$ 1.50	\$ 198.00
	Truck/Equipment	\$4.00 per Mile	132	\$ 4.00	\$ 528.00
	Truck/Equipment	\$4.00 per Mile	132	\$ 4.00	\$ 528.00
	Truck/Equipment	\$4.00 per Mile	132	\$ 4.00	\$ 528.00
<b>CEMENT CHARGE:</b>					
	BFN III	Lead	568	\$ 15.68	\$ 8,906.24
	N-Gel-12	Tail	100	\$ 15.68	\$ 1,568.00
<b>ADDITIVES CHARGE:</b>					
	Dye Hot Pink		15	\$ 12.00	\$ 180.00
<b>FLOAT EQUIPMENT:</b>					
<b>OTHER CHARGES:</b>					
<b>SUB TOTAL</b> \$ 13,556.24					
<b>TAX</b> 2.90% \$ 308.97					
<b>TOTAL</b> \$ 13,865.21					

RIG NAME & NUMBER: HW517

WELL NAME & NUMBER: Bennett LD19-758

AFE NUMBER: 203532

TASK (DRL, COMP., W/O, P&A): D/L

EXP TYPE: 320.10

ACTG CODE: 0017

DOLLAR TOTAL BEING APP'N: \$13,865.21

FIELD APPROVAL: [Signature] DATE: 10-29-16

ROUTE TO APPROVER: Kara English

MAIL TO: NOBLE ENERGY INC.  
ATTN: ACCOUNTS PAYABLE  
1625 BROADWAY, SUITE 2000  
DENVER, CO 80202

NO INVOICE WILL BE PAID W/O ALL ATTACHED SIGNED FIELD TICKETS

If this account is not paid within 30 days of invoice date a FINANCE CHARGE will be made. Computed at a single monthly rate of 1 1/2% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

SUBJECT TO CORRECTION

Customer or Agent

Bison Oil Well Cementing, Inc. Representative

Customers hereby acknowledges and specifically agrees to the terms and conditions on this work order, including, without limitation, the provisions on the reverse hereof which include the release and indemnity.



# Bison Oil Well Cementing Tail & Lead

Date: 10/29/2016

Invoice # 666026

API# 05-123-43493

Foreman: Nick Vigil

Customer: Noble Energy Inc.

Well Name: Bennett LD19-758

County: Weld

State: Colorado

Sec: 19

Twp: 9N

Range: 58W

Consultant: Johnny

Rig Name & Number: H&P 517

Distance To Location: 66 miles

Units On Location: 3104/3215/3214

Time Requested: 11:00

Time Arrived On Location: 10:50

Time Left Location: 15:15

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 1,927  
Total Depth (ft) : 1937  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 80  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 46  
Landing Joint (ft) : 36

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

One or the other, cannot have quantity in both

Max Rate: 8

Max Pressure: 2000

## Cement Data

### Lead

Cement Name:  
Cement Density (lb/gal) : 13.5  
Cement Yield (cuft) : 1.7  
Gallons Per Sack 9.00  
% Excess 15%

### Tail

Cement Name:  
Cement Density (lb/gal) : 15.2  
Cement Yield (cuft) : 1.27  
Gallons Per Sack: 5.89  
% Excess: 0%

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

### Spacer Ahead Makeup

Dye in second 10 bbl

Casing ID

8.835

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead 1591.21 ft

Casing Depth - HOC Tail

Volume of Lead Cement 777.67 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 838.72 cuft

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

bbls of Lead Cement 171.78 bbls

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

Sacks of Lead Cement 567.37 sk

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

bbls of Lead Mix Water 121.58 bbls

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

Displacement 145.31 bbls

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

Total Water Needed: 350.91 bbls

## Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft

(HOC Tail) X (OH Ann)

Total Volume of Tail Cement 107.42 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 219.79 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: 2570.00 psi

Burst PSI: 3950.00 psi

X

Authorization To Proceed



X 10-29-16  
Date



# Bison Oil Well Cementing Tail & Lead

## Cementing Customer Satisfaction Survey

Service Date	10/29/2016
Well Name	Bennett LD19-758
County	Weld
State	Colorado
SEC	19
TWP	9N
RNG	58W

Invoice Number	666026
API #	05-123-43493
Job Type	Surface Pipe
Company Name	Noble Energy Inc.

Customer Representative	Johnny
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Supervisor Name	Nick Vigil
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Employee Name (Including Supervisor)
Nick V.
Aaron C.
Josh H.
Alan A.
Robert S.

Exposure Hours (Per Employee)
4.5
4.5
4.5
4.5
4.5
22.5

Total Exposure Hours

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
4	Personnel -
4	Equipment -
4	Job Design -
4	Product/Material -
4	Health & Safety -
4	Environmental -
4	Timeliness -
4	Condition/Appearance -
4	Communication -

#### CUSTOMER SATISFACTION RATING

- Did our personnel perform to your satisfaction?
- Did our equipment perform to your satisfaction?
- Did we perform the job to the agreed upon design?
- Did our products and materials perform as you expected?
- Did we perform in a safe and careful manner (Pre/post mtgs, PPE, TSMR, etc..)?
- Did we perform in an environmentally sound manner (spills, leaks, cleanup, etc..)?
- Was job performed as scheduled (On time to site, accessible to customers, completed when expected)?
- Did the equipment condition and appearance meet your expectations?
- How well did our personnel communicate during mobilization, rig up and job execution?

Please Circle:

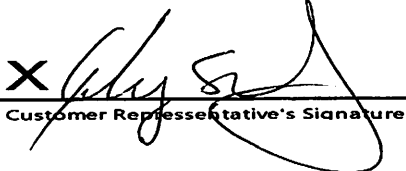
- |                                      |                                     |  |
|--------------------------------------|-------------------------------------|--|
| Yes                                  | <input checked="" type="radio"/> No | Did an accident or injury occur?                 |
| Yes                                  | <input checked="" type="radio"/> No | Did an injury requiring medical treatment occur? |
| Yes                                  | <input checked="" type="radio"/> No | Did a first-aid injury occur?                    |
| Yes                                  | <input checked="" type="radio"/> No | Did a vehicle accident occur?                    |
| <input checked="" type="radio"/> Yes | No                                  | Was a post-job safety meeting held?              |

Please Circle:

- |                                      |                                     |                                      |
|--------------------------------------|-------------------------------------|--------------------------------------|
| <input checked="" type="radio"/> Yes | No                                  | Was a pre-job safety meeting held?   |
| <input checked="" type="radio"/> Yes | No                                  | Was a job safety analysis completed? |
| <input checked="" type="radio"/> Yes | No                                  | Were emergency services discussed?   |
| Yes                                  | <input checked="" type="radio"/> No | Did environmental incident occur?    |
| Yes                                  | <input checked="" type="radio"/> No | Did any near misses occur?           |

Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

X   
Customer Representative's Signature

DATE: 10-29-16

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

# Bennett LD19-758

