



Bison Oil Well Cementing
6143 S Willow Drive, Suite 400
Greenwood Village, CO 80111

FIELD INVOICE #

900287

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
Larson A23-645		Weld	Colorado	5/2/2018	
CHARGE TO		WELL LOCATION			
Noble Energy Inc.		Section	TWP	RANGE	
		8	5N	62W	
Attn: Accounting		DELIVERED TO		LOCATION 1	CODE
1625 Broadway Ste 2000		SHIPPED VIA		LOCATION 2	CODE
		4027/3103-4032/3203			
Denver, CO 80202		TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
		Two Cement		WELL TYPE	CODE
ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
	Two Cement	1		\$ 1,120.00	\$ 1,120.00
MILLEAGE CHARGE					
	Pickup	30		\$ 1.50	\$ 45.00
	Truck/Equipment	30		\$ 4.00	\$ 120.00
	Truck/Equipment	30		\$ 4.00	\$ 120.00
CEMENT CHARGE:					
	BFN III	593		\$ 16.28	\$ 9,654.04
	N-Gel-12	100		\$ 15.68	\$ 1,568.00
ADDITIVES CHARGE:					
	Dye Hot Pink	16		\$ 12.00	\$ 192.00
FLOAT EQUIPMENT:					
	Wait Time	5		\$ 250.00	\$ 1,250.00
OTHER CHARGES:					
SUB TOTAL \$ 14,069.04					
TAX 2.90% \$ -					
TOTAL \$ 14,069.04					

RIG NAME & NUMBER:
H&P 321

WELL NAME & NUMBER:
LARSON A23-645

APP NUMBER:
253496

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

EXP TYPE:
Cmt

ACCT CODE:
320.10.0017

DOLLAR TOTAL BEING APPROVED:
\$ 14,069.04

FIELD APPROVAL DATE:
Chad 5/2/18

ROUTE TO APPROVER:
Kim Fagan

MAIL TO: NOBLE ENERGY INC.
ATTN: ACCOUNTS PAYABLE
1625 BROADWAY, SUITE 2200
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%.

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

Customer: Noble Energy Inc.
Well Name: Larson A23-645

Date: 05/021/2018
Invoice #: 900287
API#: 05-123-45515
Foreman: Corey Barras

County: Weld
State: Colorado
Sec: 8
Twp: 5N
Range: 62W

Consultant: Matt Rosales
Rig Name & Number: H&P 321
Distance To Location: 15
Units On Location: 4027/3103-4032/3203
Time Requested: 900
Time Arrived On Location: 810
Time Left Location:

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft) : 1,956
Total Depth (ft) : 1966
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 80
Conductor ID : 15.15
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 6

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 1649.22 ft
Casing Depth - HOC Tail
Volume of Lead Cement 806.02 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor 59.72 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
Total Volume of Lead Cement 865.75 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement 177.32 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement 592.62 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water 125.58 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement 148.26 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 357.65 bbls

Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement 107.90 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 220.78 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

X

Authorization To Proceed

Date _____



Bison Oil Well Cementing Tail & Lead

Cementing Customer Satisfaction Survey

Service Date	05/021/2018
Well Name	Larson A23-645
County	Weld
State	Colorado
SEC	8
TWP	5N
RNG	62W

Invoice Number	900287
API #	05-123-45515
Job Type	Two Cement
Company Name	Noble Energy Inc.

Customer Representative

Supervisor Name J Corey Barras

Employee Name (Including Supervisor)	
Corey B	
Monte B.	
Nash M	
Enrique V.	

Exposure Hours (Per Employee)	
10	
10	
10	
10	
40	

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
_____	Personnel -
_____	Equipment -
_____	Job Design -
_____	Product/Material -
_____	Health & Safety -
_____	Environmental -
_____	Timeliness -
_____	Condition/Appearance -
_____	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 | 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:



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

Lawson A23-645

