

ATTACHED SIGNED FIELD TICKETS	NO INVOICE WILL BE PAID WHO ALL
DENVER, CO 80202	
1028 BROADWAY, SUITE 2500	
ATTN: ACCOUNTS PAYABLE	
MAIL TO: NOBLE ENERGY INC.	
ROUTE TO APPROVER	
FIELD APPROVAL	DATE
DOLLAR TOTAL BEING APPROVD	
ACCT CODE	
EXP TYPE	
TASK (DRL, COMP, W/O, PAA)	
AFE NUMBER	
WELL NAME & NUMBER	
RIG NAME & NUMBER	



# Bison Oil Well Cementing Tail & Lead

## Cementing Customer Satisfaction Survey

Service Date	10/2/2018
Well Name	EMMY STATE H25-744
County	Weld
State	Colorado
SEC	25
TWP	3N
RNG	65W

Invoice Number	300201
API #	05-123-46970
Job Type	Two Cement
Company Name	Noble Energy Inc.

Customer Representative	GARY
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Supervisor Name	JASON KELEHER
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Employee Name (Including Supervisor)	Exposure Hours (Per Employee)
JASON	7
JESSE	7
CHRIS	7
DAVE	7
MARCK	7
Total Exposure Hours	35

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?           |

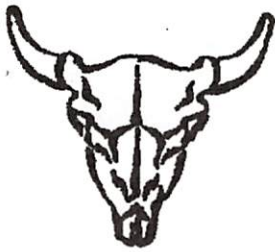
Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

X *Mary Stodol*  
Customer Representative's Signature

DATE:

10-2-18



# Bison Oil Well Cementing Tail & Lead

**Customer:** Noble Energy Inc.  
**Well Name:** EMMY STATE H25-744

**Date:** 10/2/2018  
**Invoice #** 300201  
**API#** 05-123-46970  
**Foreman:** JASON KELEHER

**County:** Weld  
**State:** Colorado

**Sec:** 25  
**Twp:** 3N  
**Range:** 65W

**Consultant:** GARY  
**Rig Name & Number:** H&P 517  
**Distance To Location:** 23  
**Units On Location:** -3103,4039-3214,4041-3205  
**Time Requested:** 700  
**Time Arrived On Location:** 430  
**Time Left Location:** 1130

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 36  
Casing Depth (ft.) : 1,946  
Total Depth (ft) : 1955  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 80  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 49  
Landing Joint (ft) : 5

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 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)** 30.0  
**H2O Wash Up (bbls)** 20.0

### Spacer Ahead Makeup

30 BBL WATER DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

## Lead Calculated Results

**HOC of Lead** 1729.41 ft  
Casing Depth - HOC Tail  
**Volume of Lead Cement** 926.98 cuft  
HOC of Lead X Open Hole Ann  
**Volume of Conductor** 61.04 cuft  
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X  
(Conductor Length ft)  
**Total Volume of Lead Cement** 988.04 cuft  
(cuft of Lead Cement) + (Cuft of Conductor)  
**bbls of Lead Cement** 176.20 bbls  
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
**Sacks of Lead Cement** 582.00 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
**bbls of Lead Mix Water** 124.70 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42  
**Displacement** 147.00 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)  
**Total Water Needed:** 190.00 bbls

## Tail Calculated Results

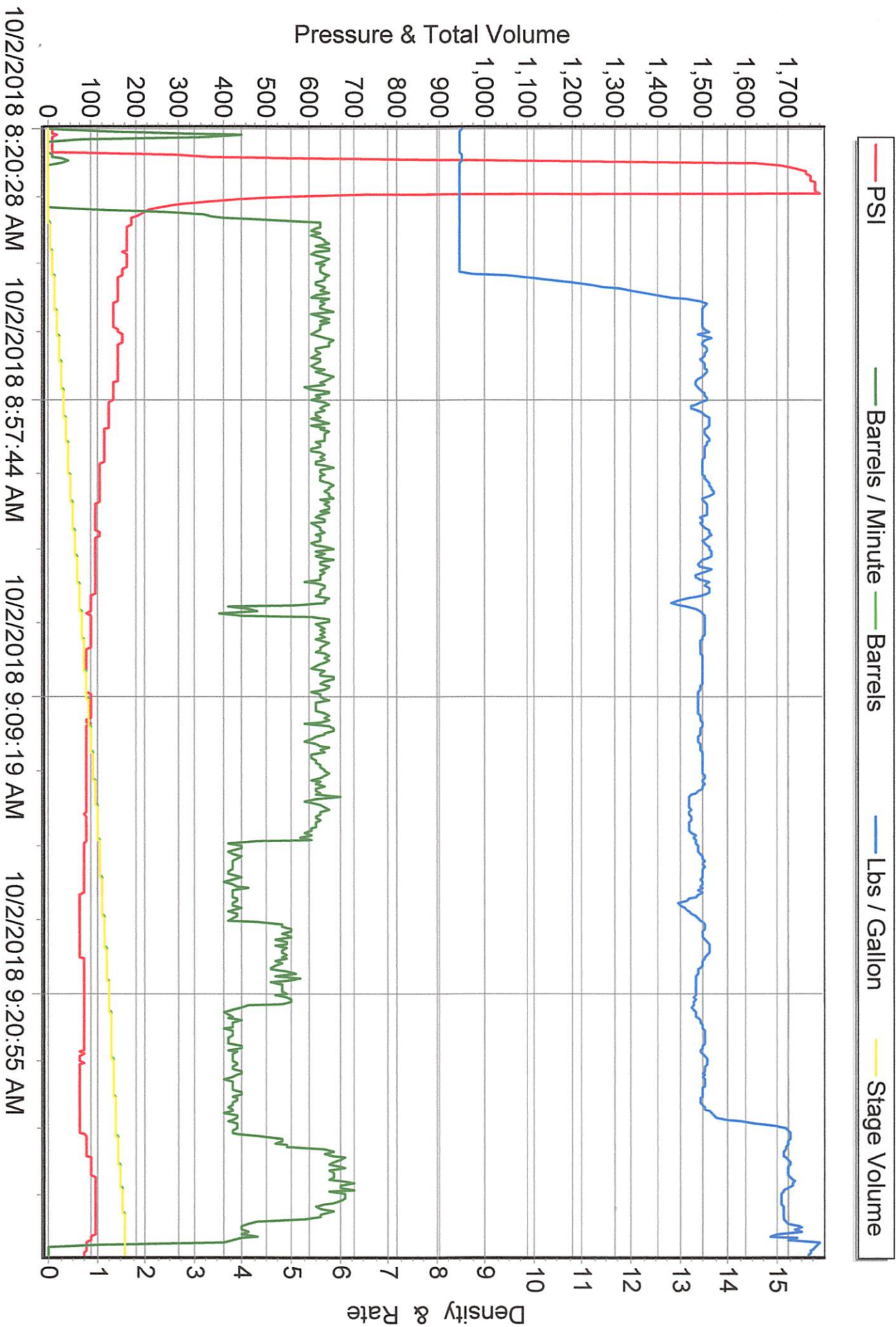
**Tail Cement Volume In Ann** 105.56 cuft  
(HOC Tail) X (OH Ann)  
**Total Volume of Tail Cement** 127.00 Cuft  
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)  
**bbls of Tail Cement** 22.62 bbls  
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)  
**HOC Tail** 216.09 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** 460.00 PSI  
**Collapse PSI:** 2020.00 psi  
**Burst PSI:** 3520.00 psi

Authorization To Proceed



X 10-278  
Date

# EMMY STATE H25-744 SURFACE



## **Release and Indemnification**

Customer acknowledges and assumes the risks associated with oil well drilling, cementing and acidizing, including, without limitation, destabilization, loss of production, contamination, fracturing and loss of well control. Customer agrees to release Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from any and all liability for any and all damages whatsoever to property of any kind owned by, in the possession of, or leased by customer and those persons or entities customer has the ability to bind by contract. Customer also agrees to indemnify and hold harmless Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from and against any and all liability, claims, costs, expenses, attorneys fees and damages whatsoever for claims, costs, expenses, attorneys fees and damages whatsoever for personal injury, illness, death, property damage and loss resulting from: loss or reduction of production, destabilization loss of oil well control, failure of or contamination by acid stimulation, hydraulic fracturing, cementing, pumping services, incompatible fluid or other processes to stimulate, complete or end production, and/or any other condition. Customer's release, indemnity and hold harmless obligation shall apply even if the liability and claims are caused by the sole, concurrent, active or passive negligence, fault, or strict liability of Bison Oil Well Cementing, Inc. and/or Bison Energy Services, Inc. or any defect in the data, products, supplies, materials or equipment furnished by Bison Oil Well Cementing, Inc. whether in the design, manufacturing, maintenance, or marketing thereof or from failure to warn of such defect. In the event that any portion of this release and indemnity is found by a court of competent jurisdiction to be inoperable or unenforceable, the remaining portions and provisions shall apply, and customer agrees that the contract price herein shall be the limit of Bison Oil Well Cementing, Inc.'s liability, if any.