



# Bison Oil Well Cementing Tail & Lead

Customer: Noble Energy Inc.  
Well Name: EMMY STATE H25-777

Date: 8/21/2018  
Invoice #: 300173  
API#: 05-123-46978  
Foreman: JASON KELEHER

County: Weld  
State: Colorado

Sec: 25  
Twp: 3N  
Range: 65W

Consultant: CHRIS  
Rig Name & Number: H&P 517  
Distance To Location: 23  
Units On Location: 4044-3103,4032-3203  
Time Requested: 2330  
Time Arrived On Location: 2230  
Time Left Location: 430

WELL DATA	Cement Data
<p>Casing Size (in) : <u>9.625</u> Casing Weight (lb) : <u>36</u> Casing Depth (ft.) : <u>1,959</u> Total Depth (ft) : <u>1969</u> Open Hole Diameter (in) : <u>13.50</u> Conductor Length (ft) : <u>80</u> Conductor ID : <u>15.25</u> Shoe Joint Length (ft) : <u>44</u> Landing Joint (ft) : <u>5</u></p> <p>Sacks of Tail Requested <u>100</u> HOC Tail (ft): <u>0</u></p> <p>One or the other, cannot have quantity in both</p> <p>Max Rate: <u>8</u> Max Pressure: <u>1500</u></p>	<p><b>Lead</b></p> <p>Cement Name: Cement Density (lb/gal) : <u>13.5</u> Cement Yield (cuft) : <u>1.7</u> Gallons Per Sack <u>9.00</u> % Excess <u>15%</u></p> <p><b>Tail</b></p> <p>Cement Name: Cement Density (lb/gal) : <u>15.2</u> Cement Yield (cuft) : <u>1.27</u> Gallons Per Sack: <u>5.89</u> % Excess: <u>0%</u></p> <p>Fluid Ahead (bbls) <u>30.0</u> H2O Wash Up (bbls) <u>20.0</u></p> <p><b>Spacer Ahead Makeup</b> <u>30 BBL WATER DYE IN 2ND 10</u></p>

Casing ID	8.921	Casing Grade	J-55 only used
<b>Lead Calculated Results</b>		<b>Tail Calculated Results</b>	
HOC of Lead <u>1738.31 ft</u>		Tail Cement Volume In Ann <u>107.80 cuft</u>	
Casing Depth - HOC Tail		(HOC Tail) X (OH Ann)	
Volume of Lead Cement <u>931.98 cuft</u>		Total Volume of Tail Cement <u>127.00 Cuft</u>	
HOC of Lead X Open Hole Ann		(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)	
Volume of Conductor <u>61.03 cuft</u>		bbls of Tail Cement <u>22.62 bbls</u>	
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)	
Total Volume of Lead Cement <u>992.54 cuft</u>		HOC Tail <u>220.69 ft</u>	
(cuft of Lead Cement) + (Cuft of Conductor)		(Tail Cement Volume) ÷ (OH Ann)	
bbls of Lead Cement <u>176.80 bbls</u>		Sacks of Tail Cement <u>100.00 sk</u>	
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)		(Total Volume of Tail Cement) ÷ (Cement Yield)	
Sacks of Lead Cement <u>584.00 sk</u>		bbls of Tail Mix Water <u>14.02 bbls</u>	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		(Sacks of Tail Cement X Gallons Per Sack) ÷ 42	
bbls of Lead Mix Water <u>125.10 bbls</u>		Pressure of cement in annulus	
(Sacks Needed) X (Gallons Per Sack) ÷ 42		Hydrostatic Pressure <u>460.00 PSI</u>	
Displacement <u>148.40 bbls</u>		Collapse PSI: <u>2020.00 psi</u>	
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)		Burst PSI: <u>3520.00 psi</u>	
Total Water Needed: <u>189.00 bbls</u>			

X

Authorization To Proceed

## Bison Oil Well Cementing Two Cement Surface Pipe

Customer  
Well Name

Noble Energy Inc.  
EMMY STATE H25-777

Date \_\_\_\_\_

8/21/2018

INVOICE #

300173

LOCATION

Weld

FOREMAN

JASON KELEHER

Treatment Report Page 2

### DESCRIPTION OF JOB EVENTS

[illegible]

X

Signature

X

Title

x

Date \_\_\_\_\_



## Bison Oil Well Cementing Tail & Lead

### Cementing Customer Satisfaction Survey

Service Date 8/21/2018  
Well Name EMMY STATE H25-777  
County Weld  
State Colorado  
SEC 25  
TWP 3N  
RNG 65W

Invoice Number 300173  
API # 05-123-46978  
Job Type Two Cement  
Company Name Noble Energy Inc.

Customer Representative CHRIS

Supervisor Name JASON KELEHER

Employee Name (Including Supervisor)	Exposure Hours (Per Employee)
JASON	6
JESSE	6
CHRIS	6
AMBER	6
Total Exposure Hours	24

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
3	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

Customer Representative's Signature

DATE:

8-21-18

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



# EMMY STATE H25-77 SURFACE

