



Bison Oil Well Cementing

Tail & Lead

Date: 9/16/2017
Invoice #: 200167
API#
Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.
Well Name: hullaballo state y21-775

County: Weld
State: Colorado
Sec: 20
Twp: 9n
Range: 58w
Consultant: john
Rig Name & Number: H&P 517
Distance To Location: 31
Units On Location: 4028/4031
Time Requested: 900 am
Time Arrived On Location: 730 am
Time Left Location: 1:00pm

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft) : 1,998
Total Depth (ft) : 2043
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 80
Conductor ID : 17
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 35

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

One or the other, cannot have quantity in both

Max Rate:
Max Pressure:

Cement Data

Lead

Cement Name: fn3 gel calcium
Cement Density (lb/gal) : 13.5
Cement Yield (cuft) : 1.7
Gallons Per Sack 9.00
% Excess 15%

Tail

Cement Name: bfn 3
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 0%

Fluid Ahead (bbls) 153.7
H2O Wash Up (bbls) 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Lead Calculated Results

HOC of Lead 1663.11 ft
Casing Depth - HOC Tail
Volume of Lead Cement 812.81 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor 85.68 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
Total Volume of Lead Cement 898.49 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement 184.02 bbls
(Total cuft of Lead Cement) X (.1781) X (1+Lead Excess)
Sacks of Lead Cement 607.80 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water 130.24 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement 153.67 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe
Length)
Total Water Needed: 471.61 bbls

Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement 107.47 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 219.89 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: 2020.00 psi
Burst PSI: 3520.00 psi

X

Authorization To Proceed



Bison Oil Well Cementing Tail & Lead

Cementing Customer Satisfaction Survey

Service Date	9/16/2017
Well Name	hullaballo state y21-775
County	Weld
State	Colorado
SEC	20
TWP	9n
RNG	58w

Invoice Number	200167
API #	0
Job Type	Two Cement
Company Name	Noble Energy Inc.

Customer Representative	john
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Supervisor Name	Kirk Kallhoff
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Employee Name (Including Supervisor)
kirk
frank
jose
rick

Exposure Hours (Per Employee)
5.5
5.5
5.5
5.5
22

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
3	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:

Good Job!

THE INFORMATION HEREIN IS CORRECT -

Customer Representative's Signature

DATE:

9-16-17

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

SERIES 2000

