



# BISON

## Invoice

| Date      | Invoice # |
|-----------|-----------|
| 9/15/2014 | 45040     |

Bison Oil Well Cementing Inc.  
1547 Gaylord Street  
Denver, CO 80206  
303-296-3010

| Bill To   |
|---|
| Noble Energy Inc.<br>Attn: Accounting<br>1625 Broadway Ste 2000<br>Denver, CO 80202 |

| Location             | Well Name & No.          | Terms  | Job Type     |      |        |
|----------------------|--------------------------|--------|--------------|------|--------|
| Weld CO              | Rohn State LD03-62HN     | Net 30 | Surface Pipe |      |        |
| Item                 | Description              | Qty    | U/M          | Rate | Amount |
| Pump surface         | PUMP Charge-surface pipe | 1      |              |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| MILEAGE              | Mileage charge           | 474    |              |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| Data Acquisition ... | Data Acquisition Charge  | 1      |              |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
|                      | Subtotal of Services     |        |              |      |        |
| BFN III Summer ...   | BFN III Blend            | 454    | Sack         |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| Dye - 4880           | Dye (Hot Pink 4880)      | 16     | oz           |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| KCL Mud Flush        | (BHS 117)                | 4      | qt           |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
|                      | Subtotal of Materials    |        |              |      |        |

Please Remit Payment To:

Bison Oil Well Cementing, Inc.  
P.O. Box 29671  
Thornton, CO 80229

|             |  |
|-------------|--|
| Subtotal    |  |
| Sales Tax   |  |
| Total       |  |
| Balance Due |  |



# Bison Oil Well Cementing Tail & Lead

Customer: NOBLE  
Well Name: ROHN STATE LD03-62HN

Date: 9/15/2014  
Invoice #: 45034  
API#: 05-123-37475  
Foreman: JASON KELEHER

County: Weld  
State: Colorado  
Sec: 4  
Twp: 9N  
Range: 58W

Consultant: DAVE  
Rig Name & Number: H&P 273  
Distance To Location: 79  
Units On Location: 3  
Time Requested: 100  
Time Arrived On Location: 100  
Time Left Location: 1130

| WELL DATA                                      | Cement Data                     |
|--|---------------------------------|
| Casing Size (in) : 9 625                       | Lead                            |
| Casing Weight (lb) : 36                        | Cement Name: BFN III            |
| Casing Depth (ft) : 1,194                      | Cement Density (lb/gal) : 13.1  |
| Total Depth (ft) : 1228                        | Cement Yield (cuft) : 1.69      |
| Open Hole Diameter (in) : 13.50                | Gallons Per Sack : 8.64         |
| Conductor Length (ft) : 100                    | % Excess : 25%                  |
| Conductor ID : 14 7                            | Tail                            |
| Shoe Joint Length (ft) : 44                    | Cement Name: BFN III            |
| Landing Joint (ft) : 29                        | Cement Density (lb/gal) : 15.2  |
|  | Cement Yield (cuft) : 1.27      |
|  | Gallons Per Sack : 5.89         |
|  | % Excess:                       |
| Sacks of Tail Requested : 100                  | Fluid Ahead (bbls) : 40 0       |
| HOC Tail (ft):                                 | H2O Wash Up (bbls) : 20.0       |
| One or the other, cannot have quantity in both |                                 |
| Max Rate: 7                                    | Spacer Ahead Makeup             |
| Max Pressure: 2000                             | 40 BBL WATER W/KCL, 2ND 10 WDYE |

| Casing ID                   | 8.921       | Casing Grade   | J-55 only used |
|-----------------------------|-------------|--|----------------|
| Volume of Lead Cement       | 412.42 cuft | Total Volume of Tail Cement                          | 108.10 Cuft    |
| HOC of Lead X Open Hole Ann |             | (HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann) |                |

## Lead Calculated Results

HOC of Lead 843.86 ft  
Casing Depth - HOC Tail

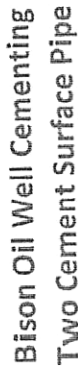
## Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft  
(HOC Tail) X (OH Ann)

|  |             |   |             |
|--|-------------|---|-------------|
| Volume of Conductor<br>(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft) | 67.33 cuft  | bbls of Tail Cement<br>(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (%) Excess) | 22.62 bbls  |
| Total Volume of Lead Cement<br>(cuft of Lead Cement) + (Cuft of Conductor)                                   | 479.75 cuft | HOC Tail<br>(Tail Cement Volume) ÷ (OH Ann)   | 221.19 ft   |
| bbls of Lead Cement<br>(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)                              | 106.80 bbls | Sacks of Tail Cement<br>(Total Volume of Tail Cement) ÷ (Cement Yield)                                      | 100.00 sk   |
| Sacks of Lead Cement<br>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)                           | 354.84 sk   | bbls of Tail Mix Water<br>(Sacks of Tail Cement X Gallons Per Sack) ÷ 42                                    | 14.02 bbls  |
| bbls of Lead Mix Water<br>(Sacks Needed) X (Gallons Per Sack) ÷ 42   | 73.00 bbls  | Pressure of cement in annulus   |             |
| Displacement<br>(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)          | 91.18 bbls  | Hydrostatic Pressure  | 812.55 PSI  |
| Total Water Needed   | 238.20 bbls | Collapse PSI:   | 2020.00 psi |
|  |             | Burst PSI:  | 3520.00 psi |

Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.



Customer  
Well Name

|                      |
|----------------------|
| NOBLE                |
| ROHN STATE LD03-62HN |

Date  
INVOICE #  
LOCATION  
FOREMAN

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## DESCRIPTION OF JOB EVENTS

|                 |       | Displace 1 |      |     | Displace 2 |      |     | Displace 3 |      |     | Displace 4 |      |     |
|-----------------|-------|------------|------|-----|------------|------|-----|------------|------|-----|------------|------|-----|
| Safety Meeting  | 900   | BBLS       | Time | PSI | BBLS       | Time | PSI | BBLS       | Time | PSI | BBLS       | Time | PSI |
| MIRU            | 820   |            |      |     |            |      |     |            |      |     |            |      |     |
| CIRCULATE       | 927   | 0          | 1008 | 0   | 0          |      |     | 0          |      |     | 0          |      |     |
| Drop Plug       |       | 10         | 1011 | 10  | 10         |      |     | 10         |      |     | 10         |      |     |
| 1008            |       | 20         | 1014 | 50  | 20         |      |     | 20         |      |     | 20         |      |     |
|                 |       | 30         | 1015 | 50  | 30         |      |     | 30         |      |     | 30         |      |     |
|                 |       | 40         | 1017 | 110 | 40         |      |     | 40         |      |     | 40         |      |     |
|                 |       | 50         | 1019 | 150 | 50         |      |     | 50         |      |     | 50         |      |     |
| M & P           |       | 60         | 1021 | 230 | 60         |      |     | 60         |      |     | 60         |      |     |
| Time            | Sacks | 70         | 1023 | 300 | 70         |      |     | 70         |      |     | 70         |      |     |
| 0936-1001       | 354   | 80         | 1024 | 360 | 80         |      |     | 80         |      |     | 80         |      |     |
| 1001-1006       | 100   | 90         | 1027 | 450 | 90         |      |     | 90         |      |     | 90         |      |     |
|                 |       | 100        | 1028 | 450 | 100        |      |     | 100        |      |     | 100        |      |     |
|                 |       | 110        | BUMP | 790 | 110        |      |     | 110        |      |     | 110        |      |     |
|                 |       | 120        |      |     | 120        |      |     | 120        |      |     | 120        |      |     |
| Lead mixed bbls | 73    | 130        |      |     | 130        |      |     | 130        |      |     | 130        |      |     |
| Lead % Excess   | 25%   | 140        |      |     | 140        |      |     | 140        |      |     | 140        |      |     |
| Lead Sacks      | 355   | 150        |      |     | 150        |      |     | 150        |      |     | 150        |      |     |

Notes:

**Notes:**  
PERFORMED PRESSURE TEST TO 1500 PSI AT 0923, PUMPED 40 BBL WATER WITH DYE IN THE 2ND 10 AT 0927, MIXED AN  
106.8 BBLs AT 0936, MIXED AND PUMPED 100 SKS AT 15.2, 22.6 BBL AT 1001, SHUT DOWN AT 1006, DROPPED PLUG AT  
DISPLACE CEMENT AT 1008, LANDED PLUG AT 450 PSI AT 1028 AND PRESSURE UP 750 PSI AND HELD FOR 2 MINUTES, RELE  
5 BBLs BACK

366 SKS AT 13.1.

03.

LIBE AND GOT

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JAST-15-14

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Work performed

1

450

18/01/2018