



# BISON

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

## Invoice

| Date      | Invoice # |
|-----------|-----------|
| 10/5/2014 | 12183a    |

| 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              | Oscar Y10-731IN          | 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           | 360    |              |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| Data Acquisition ... | Data Acquisition Charge  | 1      |              |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| Service Charge       | Casing Test              | 1      |              |      |        |
| HOURS                | Wait Time                | 3      |              |      |        |
|                      | Subtotal of Services     |        |              |      |        |
| BFN III Summer ...   | BFN III Blend            | 467    | Sack         |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| KCL Mud Flush        | (BHS 117)                | 3      | qt           |      |        |
| Discount 15%         | Discount 15%             |        |              |      |        |
| Dye - 4880           | Dye (Hot Pink 4880)      | 10     | oz           |      |        |
| 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 Energy  
Well Name: oscar y10-73hn

Date: 10/5/2014  
Invoice # 12183  
API#   
Foreman: kirk

County: Weld  
State: Colorado  
Sec: 10  
Twp: 2n  
Range: 64w

Consultant: kevin  
Rig Name & Number: h&p 277  
Distance To Location:   
Units On Location: 4030-3103/4020-3212  
Time Requested: 730 am  
Time Arrived On Location: 530 am  
Time Left Location: 2:20 pm

| WELL DATA  | Cement Data  |
|--|--|
| <p>Casing Size (in) : 9.625<br/>Casing Weight (lb) : 36<br/>Casing Depth (ft.) : 1,150<br/>Total Depth (ft) : 1191<br/>Open Hole Diameter (in) : 13.50<br/>Conductor Length (ft) : 100<br/>Conductor ID : 16<br/>Shoe Joint Length (ft) : 45<br/>Landing Joint (ft) : 35</p> <p>Sacks of Tail Requested : 100<br/>HOC Tail (ft): 0<br/>One or the other, cannot have quantity in both</p> <p>Max Rate:<br/>Max Pressure:</p> | <p><b>Lead</b></p> <p>Cement Name: bfn III 3%<br/>Cement Density (lb/gal) : 13.1<br/>Cement Yield (cuft) : 1.69<br/>Gallons Per Sack : 8.64<br/>% Excess : 30%</p> <p><b>Tail</b></p> <p>Cement Name: bfn III 3%<br/>Cement Density (lb/gal) : 15.2<br/>Cement Yield (cuft) : 1.27<br/>Gallons Per Sack: 5.89<br/>% Excess: 0%</p> <p>Fluid Ahead (bbbls) : 30.0<br/>H2O Wash Up (bbbls) : 20.0</p> <p>Spacer Ahead Makeup</p> |

|   |              |   |                |
|---|--------------|---|----------------|
| Casing ID   | 8.921        | Casing Grade  | J-55 only used |
| <b>Lead Calculated Results</b>  |              | <b>Tail Calculated Results</b>  |                |
| HOC of Lead   | 795.11 ft    | Tail Cement Volume In Ann   | 127.00 cuft    |
| Casing Depth - HOC Tail   |              | (HOC Tail) X (OH Ann)   |                |
| Volume of Lead Cement   | 388.59 cuft  | Total Volume of Tail Cement   | 107.47 Cuft    |
| HOC of Lead X Open Hole Ann   |              | (HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)                                |                |
| Volume of Conductor   | 89.10 cuft   | bbbls of Tail Cement  | 22.62 bbbls    |
| (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   | 477.69 cuft  | HOC Tail  | 219.89 ft      |
| (cuft of Lead Cement) + (Cuft of Conductor)   |              | (Tail Cement Volume) ÷ (OH Ann)   |                |
| bbbls of Lead Cement  | 110.60 bbbls | Sacks of Tail Cement  | 100.00 sk      |
| (Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)                              |              | (Total Volume of Tail Cement) ÷ (Cement Yield)                                      |                |
| Sacks of Lead Cement  | 367.45 sk    | bbbls of Tail Mix Water   | 14.02 bbbls    |
| (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)                            |              | (Sacks of Tail Cement X Gallons Per Sack) ÷ 42                                      |                |
| bbbls of Lead Mix Water   | 75.59 bbbls  | Pressure of cement in annulus   |                |
| (Sacks Needed) X (Gallons Per Sack) ÷ 42  |              | Hydrostatic Pressure  | 782.58 PSI     |
| Displacement  | 88.12 bbbls  |   |                |
| (Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)   |              | Collapse PSI:   | 2020.00 psi    |
| Total Water Needed:   | 125.59 bbbls | Burst PSI:  | 3520.00 psi    |

X Kevin Carlson  
Authorization To Proceed



Bison Oil Well Cementing  
Two Cement Surface Pipe

|           |           |
|-----------|-----------|
| Date      | 10/5/2014 |
| INVOICE # | 12183     |
| LOCATION  | Weld      |
| FOREMAN   | kirk      |

|           |                |
|-----------|----------------|
| Customer  | Noble Energy   |
| Well Name | oscar y10-73hn |

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

|                 |        | Displace 1 |       |     | Displace 2 |      |     | Displace 3 |      |     | Displace 4 |      |     | Displace 5 |      |     |
|-----------------|--------|------------|-------|-----|------------|------|-----|------------|------|-----|------------|------|-----|------------|------|-----|
|                 |        | BBLs       | Time  | PSI | BBLs       | Time | PSI | BBLs       | Time | PSI | BBLs       | Time | PSI | BBLs       | Time | PSI |
| Safety Meeting  | 1230pm | 0          | 132pm | 10  | 0          |      |     | 0          |      |     | 0          |      |     | 0          |      |     |
| MIRU            | 1145am | 10         | 134pm | 80  | 10         |      |     | 10         |      |     | 10         |      |     | 10         |      |     |
| CIRCULATE       | 1251pm | 20         | 137pm | 80  | 20         |      |     | 20         |      |     | 20         |      |     | 20         |      |     |
| Drop Plug       |        | 30         | 139pm | 80  | 30         |      |     | 30         |      |     | 30         |      |     | 30         |      |     |
| 132 pm          |        | 40         | 141pm | 110 | 40         |      |     | 40         |      |     | 40         |      |     | 40         |      |     |
|                 |        | 50         | 143pm | 170 | 50         |      |     | 50         |      |     | 50         |      |     | 50         |      |     |
| M & P           |        | 60         | 145pm | 240 | 60         |      |     | 60         |      |     | 60         |      |     | 60         |      |     |
| Time            | Sacks  | 70         | 148pm | 320 | 70         |      |     | 70         |      |     | 70         |      |     | 70         |      |     |
| 1258 pm         | 467    | 80         | 150pm | 360 | 80         |      |     | 80         |      |     | 80         |      |     | 80         |      |     |
| 129 pm stop     |        | 90         |       |     | 90         |      |     | 90         |      |     | 90         |      |     | 90         |      |     |
|                 |        | 100        |       |     | 100        |      |     | 100        |      |     | 100        |      |     | 100        |      |     |
|                 |        | 110        |       |     | 110        |      |     | 110        |      |     | 110        |      |     | 110        |      |     |
|                 |        | 120        |       |     | 120        |      |     | 120        |      |     | 120        |      |     | 120        |      |     |
| Lead mixed bbls | 75.5   | 130        |       |     | 130        |      |     | 130        |      |     | 130        |      |     | 130        |      |     |
| Lead % Excess   | 30%    | 140        |       |     | 140        |      |     | 140        |      |     | 140        |      |     | 140        |      |     |
| Lead Sacks      | 367    | 150        |       |     | 150        |      |     | 150        |      |     | 150        |      |     | 150        |      |     |

Notes:

14 BUMPED PLUG at 154 pm 530 PSI 110 bbls slurry lead 22.6 bbls slurry tail.  
casing test 1000 psi 15 min

|                 |     |
|-----------------|-----|
| Tail mixed bbls | 14  |
| Tail % Excess   | 0%  |
| Tail Sacks      | 100 |
| Total Sacks     | 467 |
| bbl Returns     | 23  |

X *[Signature]*  
Work Performed

X *[Signature]*  
Title

X 10-5-14  
Date