



Bison Oil Well Cementing  
 1547 Gaylord Street  
 Denver, CO 80206

FIELD INVOICE #

90046

**FIELD INVOICE**

|                      |        |          |            |            |
|----------------------|--------|----------|------------|------------|
| WELL NO. AND FARM    | COUNTY | STATE    | DATE       | Contractor |
| Whisper Rock 4C-25HZ | Weld   | Colorado | 10/14/2015 | Noble 2    |

|                                |                               |     |                 |
|--------------------------------|-------------------------------|-----|-----------------|
| CHARGE TO                      | WELL LOCATION                 |     |                 |
| Anadarko Petroleum Corporation | Section                       | TWP | RANGE           |
| PO Box 4995                    | 26                            | 4N  | 68W             |
| The Woodlands, TX 77387        | DELIVERED TO                  |     | LOCATION 1 CODE |
|                                | cr. 40 & I-25                 |     | Greeley         |
|                                | SHIPPED VIA                   |     | LOCATION 2 CODE |
|                                | 4024/3210/4007/3106/3105/3204 |     | cr. 40 & I-25   |
|                                | TYPE AND PURPOSE OF JOB       |     | LOCATION 3 CODE |
|                                | SURFACE                       |     | Greeley         |
|                                |                               |     | WELL TYPE CODE  |
|                                |                               |     | Oil             |

| ITEM                     | DESCRIPTION  | UNITS |       | UNIT PRICE | AMOUNT |
|--------------------------|--|-------|-------|------------|--------|
|                          |  | QTY.  | MEAS. |            |        |
| <b>PUMP CHARGE</b>       |  |       |       |            |        |
| SURFACE                  |  | 1     |       |            | \$ -   |
| <b>MILLEAGE CHARGE</b>   |  |       |       |            |        |
| Pickup                   |  | 50    | mile  |            |        |
| Truck/Equipment          |  | 50    | mile  |            |        |
| Truck/Equipment          |  | 50    | mile  |            |        |
| <b>CEMENT CHARGE:</b>    |  |       |       |            |        |
| BFN III                  |  | 744   | sack  |            |        |
| <b>ADDITIVES CHARGE:</b> |  |       |       |            |        |
| Red Dye                  |  | 16    | oz    |            |        |
| <b>FLOAT EQUIPMENT:</b>  |  |       |       |            |        |
| RUBBER PLUG - 9 5/8"     | WHISPER ROCK 4C-25HZ HZ NOBLE 2<br>FRANK KINNEY USER ID: CU0741<br>CONSULTANT: <i>BBA / Bryan Brown</i><br>AFE# 2104176 DATE: 10/14/15<br>GL CODE: 800 12090 |       |       |            |        |
| <b>OTHER CHARGES:</b>    |  |       |       |            |        |
| DATA ACQUISITION FEE     |  | 1     |       |            |        |
| Containment              |  | 1     |       |            |        |
| Wait Time                |  | 0     | hour  |            |        |

If this account is not paid within 30 days of invoice date a FINANCE CHARGE will be made. Computed at a single monthly rate of 1 1/2% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

TAX

SUBJECT TO CORRECTION

*BBA / Bryan Brown*  
 Customer or Agent

*[Signature]*  
 Bison Oil Well Cementing, Inc. Representative

Customers hereby acknowledges and specifically agrees to the terms and conditions on this work order, including, without limitation, the provisions on the riverside hereof which include the release and indemnity.



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/14/2015  
 Invoice #: 90046  
 API#: 05-123-41069  
 Supervisor: Nick

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** Whisper Rock 4C-25HZ

County: Weld  
 State: Colorado  
 Sec: 26  
 Twp: 4N  
 Range: 68W

Consultant: Bryan  
 Rig Name & Number: Noble 2  
 Distance To Location: 25  
 Units On Location: 024/3210/4007/3106/3105/320  
 Time Requested: 13:30  
 Time Arrived On Location: 12:15  
 Time Left Location: 5:00

| WELL DATA                        | Cement Data                    |
|----------------------------------|--------------------------------|
| Casing Size OD (in) : 9.625      | Cement Name: BFN III           |
| Casing Weight (lb) : 36.00       | Cement Density (lb/gal) : 14.2 |
| Casing Depth (ft.) : 1,846       | Cement Yield (cuft) : 1.49     |
| Total Depth (ft) : 1855          | Gallons Per Sack: 7.48         |
| Open Hole Diameter (in.) : 13.50 | % Excess: 20%                  |
| Conductor Length (ft) : 40       | Displacement Fluid lb/gal: 8.3 |
| Conductor ID : 15.25             | BBL to Pit: 35.0               |
| Shoe Joint Length (ft) : 43      | Fluid Ahead (bbls): 50.0       |
| Landing Joint (ft) : 10          | H2O Wash Up (bbls): 20.0       |
| Max Rate: 7                      | Spacer Ahead Makeup            |
| Max Pressure: 1250               | 30 bbl dye in second 10        |

| Calculated Results   | Pressure of cement in annulus  |
|--|--|
| <b>cuft of Shoe</b> 18.66 cuft<br>(Casing ID Squared) X (.005454) X (Shoe Joint ft)  | <b>Displacement:</b> 140.16 bbls<br>(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint) |
| <b>cuft of Conductor</b> 30.53 cuft<br>(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)   | <b>Hydrostatic Pressure:</b> 1361.79 PSI   |
| <b>cuft of Casing</b> 1059.17 cuft<br>(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length ) | <b>Pressure of the fluids inside casing</b>  |
| <b>Total Slurry Volume</b> 1108.36 cuft<br>(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)                               | <b>Displacement:</b> 777.42 psi  |
| <b>bbls of Slurry</b> 197.40 bbls<br>(Total Slurry Volume) X (.1781)   | <b>Shoe Joint:</b> 31.72 psi   |
| <b>Sacks Needed</b> 744 sk<br>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)   | <b>Total</b> 809.14 psi  |
| <b>Mix Water</b> 132.48 bbls<br>(Sacks Needed) X (Gallons Per Sack) ÷ 42   | <b>Differential Pressure:</b> 552.65 psi   |
|  | <b>Collapse PSI:</b> 2020.00 psi   |
|  | <b>Burst PSI:</b> 3520.00 psi  |
|  | <b>Total Water Needed:</b> 342.64 bbls   |

X *Bryan Brown*  
 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.



# Whisper Rock 4C-25HZ

— PSI — Barrels / Minute — Lbs / Gallon

