



Bison Oil Well Cementing  
 1547 Gaylord Street  
 Denver, CO 80206

FIELD INVOICE #  
 80649

**FIELD INVOICE**

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
WHISPER ROCK 3C-25HZ	Weld	Colorado	11/7/2015	NOBLE 2
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	26	4N	68W	
PO Box 4995	DELIVERED TO		LOCATION 1	CODE
	CR 38 & EAST FRONTAGE RD		SHOP	
The Woodlands, TX 77387	SHIPPED VIA		LOCATION 2	CODE
	4023-3104/ 4034-3203		38 & E. FRONT	
	TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
	SURFACE		SHOP	
			WELL TYPE	CODE

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
<b>PUMP CHARGE</b>					
SURFACE		1	ea		
<b>MILLEAGE CHARGE</b>					
Pickup		70	ea		
Truck/Equipment		70	ea		
Truck/Equipment		70	ea		
Truck/Equipment		70	ea		
<b>CEMENT CHARGE:</b>					
TYPE 3 NEAT		711	sack		
<b>ADDITIVES CHARGE:</b>					
Liquid Dye Rhodamine		32	oz		
<b>FLOAT EQUIPMENT:</b>	WHISPER ROCK 3C-25HZ NOBLE 2				
	FRANK KINNEY USER ID: CUO741				
	CONSULTANT: <i>Bryan Brown</i>				
	AFE#2104409 DATE: <i>11/7/15</i>				
	GL CODE: 800 <i>12090</i>				
<b>OTHER CHARGES:</b>					
DATA ACQUISITION FEE		1	ea		
Containment		1	ea		

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%.

TA

SUBJECT TO CORRECTION

*Bryan Brown*  
 Customer dr 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: 11/7/2015

Invoice # 80649

API# 05-123-41314

Foreman: JASON KELEHER

**Customer:** Anadarko Petroleum Corporation

**Well Name:** WHISPER ROCK 3C-25HZ

County: Weld

State: Colorado

Sec: 26

Twp: 4N

Range: 68W

Consultant: BRYAN

Rig Name & Number: NOBLE 2

Distance To Location: 35

Units On Location: 4023-3104/ 4034-3203

Time Requested: 2000

Time Arrived On Location: 1830

Time Left Location: 2300

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.) : 1,839	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1850	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 40	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 42.0
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 7	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 1250	30BBL WATER/ DYE IN 2ND 10

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Displacement: 139.47 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<b>cuft of Shoe</b> 18.31 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Pressure of cement in annulus</b>
<b>cuft of Conductor</b> 30.53 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Hydrostatic Pressure:</b> 1356.79 PSI
<b>cuft of Casing</b> 1011.23 cuft (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> 1060.07 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Displacement:</b> 774.85 psi
<b>bbls of Slurry</b> 188.80 bbls (Total Slurry Volume) X (.1781)	<b>Shoe Joint:</b> 31.12 psi
<b>Sacks Needed</b> 711 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total</b> 805.97 psi
<b>Mix Water</b> 126.71 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Differential Pressure:</b> 550.82 psi
	<b>Collapse PSI:</b> 2020.00 psi
	<b>Burst PSI:</b> 3520.00 psi
	<b>Total Water Needed:</b> 316.17 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 3C-25HZ SURFACE

