



Bison Oil Well Cementing  
 1547 Gaylord Street  
 Denver, CO 80206

FIELD INVOICE #

90055

**FIELD INVOICE**

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
Whisper Rock 5N-25HZ	Weld	Colorado	11/4/2015	Noble 2
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	26	4N	68W	
PO Box 4995	DELIVERED TO		LOCATION 1	CODE
	cr.40& I-25		Greeley	
The Woodlands, TX 77387	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		70	mile		
Truck/Equipment		70	mile		
Truck/Equipment		70	mile		
<b>CEMENT CHARGE:</b>					
BFN III		743	sack		
<b>ADDITIVES CHARGE:</b>					
Red Dye		16	oz		
<b>FLOAT EQUIPMENT:</b>					
RUBBER PLUG - 9 5/8"					
<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 assessed at an ANNUAL PERCENTAGE RATE OF 18%.

WHISPER ROCK 5N-25HZ NOBLE 2  
 FRANK KINNEY USER ID: CUO741  
 CONSULTANT: *Hayden Stone*  
 AFE#2104368 DATE: *11-11-15*  
 GL CODE: 80012090

TAX

SUBJECT TO CORRECTION

*[Signature]*  
 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 reverse hereof which include the release and indemnity.



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/4/2015  
 Invoice #: 90055  
 API#: 05-123-41317  
 Supervisor: Nick

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** Whisper Rock 5N-25HZ

County: Weld  
 State: Colorado  
 Sec: 26  
 Twp: 4N  
 Range: 68W  
 Consultant: Hayden/Bryan  
 Rig Name & Number: Noble 2  
 Distance To Location: 35  
 Units On Location: 024/3210/4007/3106/3105/320  
 Time Requested: 12:30  
 Time Arrived On Location: 11:40  
 Time Left Location: 15:20

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: 20%
Conductor Length (ft) : 40	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 32.0
Shoe Joint Length (ft) : 48	Fluid Ahead (bbls): 30.0
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	Displacement: 139.23 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 20.83 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus
cuft of Conductor 30.53 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 1356.63 PSI
cuft of Casing 1055.07 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 1106.43 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 772.25 psi
bbls of Slurry 197.06 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 35.41 psi
Sacks Needed 743 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 807.65 psi
Mix Water 132.25 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 548.98 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 321.48 bbls

*[Signature]*  
 Authorization to Proceed

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