



Bison Oil Well Cementing  
 1547 Gaylord Street  
 Denver, CO 80206

FIELD INVOICE #

80452

**FIELD INVOICE**

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
Cook 36N-28HZ	Weld	Colorado	10/8/2015	Noble 2
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	16	2N	65W	
PO Box 4995	DELIVERED TO	LOCATION 1	CODE	
	WCR 41+24	Shop		
The Woodlands, TX 77387	SHIPPED VIA	LOCATION 2	CODE	
	4023-3104/4034-3103	41+24		
	TYPE AND PURPOSE OF JOB	LOCATION 3	CODE	
	<b>SURFACE</b>	Shop		
		WELL TYPE	CODE	
		Oil		

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
<b>PUMP CHARGE</b>					
SURFACE		1	ea		
<b>MILLEAGE CHARGE</b>					
Pickup		60	mile		
Truck/Equipment		60	mile		
Truck/Equipment		60	mile		
Truck/Equipment		60	mile		
<b>CEMENT CHARGE:</b>					
BFN III		753	sack		
<b>ADDITIVES CHARGE:</b>					
KCL		5	qt		
Liquid Dye Rhodamine		16	oz		
Sugar			lb		
<b>FLOAT EQUIPMENT:</b>					
RUBBER PLUG - 9 5/8"			ea		
<b>OTHER CHARGES:</b>					
DATA ACQUISITION FEE		1	ea		
Containment		1	ea		
Winterization			ea		
Wait Time			hour		
PSI Test			ea		

*Thanks Calvin*

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

COOK 36N-28HZ NOBLE 2  
 FRANK KINNEY USER-ID: CU0741  
 CONSULTANT: *Hayden Stone*  
 AFE# 2111720 DATE: *10-8-15*  
 GL CODE: 80012080

SUBJECT TO CORRECTION

*[Signature]*  
 Customer or Agent

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



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/8/2015  
 Invoice #: 80452  
 API#: 05-123-42142  
 Foreman: Calvin Reimers

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** Cook 36N-28HZ

County: Weld  
 State: Colorado  
 Sec: 16  
 Twp: 2N  
 Range: 65W

Consultant: Hayden / Bryan  
 Rig Name & Number: Noble 2  
 Distance To Location: 30 Miles  
 Units On Location: 4023-3104/4034-3103  
 Time Requested: 530pm  
 Time Arrived On Location: 310pm  
 Time Left Location: 9:45pm

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.) : 1,866	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1882	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 : 15.5	BBL to Pit: 48
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 50.0
Landing Joint (ft) : 10	H2O Wash Up (bbls): 15.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 1250	50 bbls H2O + Dye in last 10 bbls

Calculated Results	Displacement: 141.58 bbls
cuft of Shoe 19.28 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 32.20 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing 1070.78 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	Hydrostatic Pressure: 1376.39 PSI
Total Slurry Volume 1122.25 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry 199.87 bbls (Total Slurry Volume) X (.1781)	Displacement: 785.34 psi
Sacks Needed 753 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 32.76 psi
Mix Water 134.14 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 818.10 psi
	Differential Pressure: 558.28 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 340.72 bbls

X   
 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.



# SERIES 2000

