



Bison Oil Well Cementing  
1547 Gaylord Street  
Denver, CO 80206

FIELD INVOICE #  
80647

**FIELD INVOICE**

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
WILSON RANCH 32N-S27HZ		Weld	Colorado	11/5/2015	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 38 & EAST FRONTAGE RD		SHOP	
		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>					
<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%.

TAX

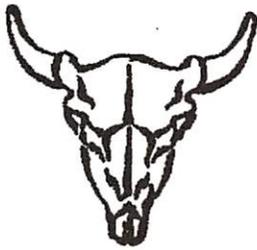
Customer or Agent

WILSON RANCH 32N-S27HZ NOBLE 2  
FRANK KINNEY, USER ID: CU0741  
CONSULTANT: *Hayden Stone*  
AFE#2097549 DATE: 11-5-15  
GL CODE: 80012090

SUBJECT TO CORRECTION

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: 11/5/2015  
 Invoice #: 80647  
 API#: 05-123-41312  
 Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation  
 Well Name: WILSON RANCH 32N-S27HZ

County: Weld  
 State: Colorado  
 Sec: 26  
 Twp: 4N  
 Range: 68W  
 Consultant: HAYDEN  
 Rig Name & Number: NOBLE 2  
 Distance To Location: 35  
 Units On Location: 4023-3104/ 4034-3203  
 Time Requested: 930  
 Time Arrived On Location: 800  
 Time Left Location: 1230

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.) : 1,837	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1847	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: 19.0
Shoe Joint Length (ft) : 45	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	Pressure of cement in annulus
<b>cuft of Shoe</b> 19.67 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Displacement:</b> 139.05 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<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> 1355.09 PSI
<b>cuft of Casing</b> 1009.93 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> 1060.13 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Displacement:</b> 772.50 psi
<b>bbls of Slurry</b> 188.81 bbls (Total Slurry Volume) X (.1781)	<b>Shoe Joint:</b> 33.43 psi
<b>Sacks Needed</b> 711 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total</b> 805.93 psi
<b>Mix Water</b> 126.71 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Differential Pressure:</b> 549.16 psi
	<b>Collapse PSI:</b> 2020.00 psi
	<b>Burst PSI:</b> 3520.00 psi
	<b>Total Water Needed:</b> 315.76 bbls

*[Signature]*  
 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.



# WILSON RANCH 32N-S27HZ SURFACE

