



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

80459

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
Wilson Ranch 5C-27HZ	Weld	Colorado	10/28/2015	Noble 2
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	26	4N	68W	
PO Box 4995	DELIVERED TO		LOCATION 1	CODE
	125+38		Shop	
The Woodlands, TX 77387	SHIPPED VIA		LOCATION 2	CODE
	4023-3204/4034-3203		125+38	
	TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
	SURFACE		Shop	
			WELL TYPE	CODE
		Oil		

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					\$ -
SURFACE		1	ea		
MILLEAGE CHARGE					
Pickup		60	mile		
Truck/Equipment		60	mile		
Truck/Equipment		60	mile		
Truck/Equipment		60	mile		
CEMENT CHARGE:					
BFN III		709	sack		
ADDITIVES CHARGE:					
KCL		3	qt		
Dye Hot Pink		16	oz		
Sugar			lb		
FLOAT EQUIPMENT:					
RUBBER PLUG - 9 5/8"			ea		
OTHER CHARGES:					
DATA ACQUISITION FEE		1	ea		
Containment		1	ea		
Winterization			ea		
Wait Time			hour		
PSI Test			ea		

WILSON RANCH 5C-27HZ NOBLE 2
 If FRANK KINNEY USER ID: 000741
 CONSULTANT: *Calvin*
 AFE#2097551 DATE: 10-28-15
 GL CODE: 800 12090

Thanks Calvin
 will be made. Computed at a single monthly rate of 1 1/2% which is

TAX

SUBJECT TO CORRECTION

Calvin J. R.
 Bison Oil Well Cementing, Inc. Representative

Customer or Agent



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/28/2015
 Invoice #: 80459
 API#: 05-123-41295
 Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: Wilson Ranch 5C-27HZ

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

Consultant: Sean / Chris
 Rig Name & Number: Noble 2
 Distance To Location: 30 Miles
 Units On Location: 4023-3204/4034-3203
 Time Requested: 600pm
 Time Arrived On Location: 415pm
 Time Left Location: 8:45pm

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.) : 1,830	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1847.1	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: 16
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 10	H2O Wash Up (bbls): 15.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 1250	30bbls+Dye in 2nd 10bbls

Calculated Results	Displacement: 138.82 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 30.53 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing 1006.11 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 1350.06 PSI
Total Slurry Volume 1055.91 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry 188.06 bbls (Total Slurry Volume) X (.1781)	Displacement: 769.95 psi
Sacks Needed 709 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 32.77 psi
Mix Water 126.21 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 802.72 psi
	Differential Pressure: 547.34 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 310.03 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.

SERIES 2000

