



Bison Oil Well Cementing
 1547 Gaylord Street
 Denver, CO 80206

FIELD INVOICE #
 80545

FIELD INVOICE

WELL NO. AND FARM wilson ranch 34n-27hz		COUNTY Weld	STATE Colorado	DATE 10/16/2015	Contractor noble 2
CHARGE TO Anadarko Petroleum Corporation PO Box 4995 The Woodlands, TX 77387		WELL LOCATION Section: 26 TWP: 4n RANGE: 68w		DELIVERED TO I-25-38 shop	LOCATION 1 CODE
		SHIPPED VIA 4029-3106/4035-3203		LOCATION 2 I-25 - 38	CODE
		TYPE AND PURPOSE OF JOB SURFACE		LOCATION 3 shop	CODE
				WELL TYPE gas	CODE
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		710	sacks		
ADDITIVES CHARGE:					
KCL		3	qt		
Liquid Dye Rhodamine		15	oz		
Sugar			lbs		
FLOAT EQUIPMENT:					
WILSON RANCH 34N-27HZ NOBLE 2					
FRANK KINNEY USER ID: CU0741					
CONSULTANT: <i>Bryan Brown</i>					
AFE# 2097558 DATE: 10/16/15					
GL CODE: 800 12090					
OTHER CHARGES:					
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

SUBJECT TO CORRECTION

Bryan Brown
 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 riverside hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/16/2015
 Invoice # 80545
 API#
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
 Well Name: wilson ranch 34n-27hz

County: Weld
 State: Colorado
 Sec: 26
 Twp: 4n
 Range: 68w

Consultant: bryon
 Rig Name & Number: noble 2
 Distance To Location: 30
 Units On Location: 4029-3106/4035-3203
 Time Requested: 900 am
 Time Arrived On Location: 800 am
 Time Left Location: 11:00 am

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.) : 1,835	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1845	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:
Shoe Joint Length (ft) : 41	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 10	H2O Wash Up (bbls): 10.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Calculated Results	Displacement: 139.46 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 17.80 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: 1353.68 PSI
cuft of Casing 1008.86 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 1057.18 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 773.54 psi
bbls of Slurry 188.28 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 30.25 psi
Sacks Needed 710 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 803.78 psi
Mix Water 126.36 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 549.89 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 305.83 bbls

X Authorization To Proceed

M/D FOR 30 ZOOM SCREEN

