



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

90051

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
Wilson Ranch 31N-27HZ		Weld	Colorado	10/26/2015	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.40& I-25		Greeley	
		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.		
PUMP CHARGE					
	SURFACE	1			
MILLEAGE CHARGE					
	Pickup	60	mile		
	Truck/Equipment	60	mile		
	Truck/Equipment	60	mile		
CEMENT CHARGE:					
	BFN III	715	sack		
ADDITIVES CHARGE:					
	Red Dye	16	oz		
FLOAT EQUIPMENT:					
	RUBBER PLUG - 9 5/8"				
OTHER CHARGES:					
	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 made. Computed at a single monthly rate of 1 1/2% which is equal

WILSON RANCH 31N-27HZ NOBLE
FRANK KINNEY USER ID: CU0741
CONSULTANT: *[Signature]*
AFE# 2097547 DATE: 10-26-15
GL CODE: 800 12090

SUB TOTAL
TAX 2.90%
TOTAL

SUBJECT TO CORRECTION

[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: 10/26/2015

Invoice # 90051

API# 05-123-41294

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Wilson Ranch 31N-27HZ

County: Weld

State: Colorado

Sec: 26

Twp: 4N

Range: 68W

Consultant: Chris/Sean

Rig Name & Number: Noble 2

Distance To Location: 30

Units On Location: 024/3210/4007/3106/3105/320

Time Requested: 0:30

Time Arrived On Location: 23:15

Time Left Location: 4:10

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,850
Total Depth (ft) : 1860
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 10

Max Rate: 7
Max Pressure: 1250

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 15%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 23.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30 bbl dye in second 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.23 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 30.53 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 1017.29 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1066.05 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 189.86 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 715 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 127.42 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 140.55 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1364.75 PSI

Pressure of the fluids inside casing

Displacement: 779.58 psi

Shoe Joint: 30.98 psi

Total 810.56 psi

Differential Pressure: 554.19 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 317.97 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.



Customer
Well Name


Anadarko Petroleum Corporation
Wilson Ranch 31N-27HZ

INVOICE #
LOCATION
Supervisor
Date

90051
Weld
Nick
10/26/2015

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

X		
Work Performed		

X
Title

X
Date

Wilson Ranch 31N-27HZ

