



Bison Oil Well Cementing  
1547 Gaylord Street  
Denver, CO 80206

FIELD INVOICE #

80552

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
whisper rock 2c-25hz		Weld	Colorado	10/28/2015	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
		I-25-38		shop	
		SHIPPED VIA		LOCATION 2	CODE
		4029-3106/4035-3203		I-25 - 38	
		TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
		SURFACE		shop	
				WELL TYPE	CODE
				gas	
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	707	sacks		
ADDITIVES CHARGE:					
	KCL	3	qt		
	Liquid Dye Rhodamine	15	oz		
	Sugar		lbs		
FLOAT EQUIPMENT:					
OTHER CHARGES:					
	DATA ACQUISITION FEE	1	ea		
	Containment	1	ea		

WHISPER ROCK 2C-25HZ NOBLE 2

If this is to an A FRANK KINNEY USER ID: CU0741

CONSULTANT:

AFE#2104410 DATE: 10-28-15

GL CODE: 800 12090

ade. Computed at a single monthly rate of 1 1/2% which is equal

TAX

SUBJECT TO CORRECTION

Customer or Agent

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: 10/28/2015

Invoice # 80552

API#

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: whisper rock 2c-25hz

County: Weld

State: Colorado

Sec: 26

Twp: 4n

Range: 68w

Consultant: chris

Rig Name &amp; Number: noble 2

Distance To Location: 30

Units On Location: 4029-3106/4035-3203

Time Requested: 200 am

Time Arrived On Location: 1200 am

Time Left Location: 5:00pm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,828  
Total Depth (ft) : 1838  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 40  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 41  
Landing Joint (ft) : 10

Max Rate: 8

Max Pressure: 2500

## 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:  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

cuft of Shoe 17.80 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 1004.93 cuft

(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1053.25 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 187.58 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 707 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 125.89 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 138.92 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

Hydrostatic Pressure: 1348.52 PSI

## Pressure of the fluids inside casing

Displacement: 770.52 psi

Shoe Joint: 30.25 psi

Total 800.77 psi

Differential Pressure: 547.75 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 304.81 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.



Date \_\_\_\_\_

# M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

