



Bison Oil Well Cementing
 1547 Gaylord Street
 Denver, CO 80206

FIELD INVOICE #

90050

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
Whisper Rock 3N-25HZ	Weld	Colorado	10/24/2015	Noble 2
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	26	4N	68W	
PO Box 4995	DELIVERED TO		LOCATION 1	CODE
	cr. 41 & cr. 22		Greeley	
The Woodlands, TX 77387	SHIPPED VIA		LOCATION 2	CODE
	4024/3210/4007/3106/3105/3204		cr. 41 & cr.22	
	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		751	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		

WHISPER ROCK 3N-25HZ NOBLE 2
 If this is for FRANK KINNEY USER ID: CU0741
 CONSULTANT: *Frank Kinney*
 AFE#2104411 DATE: 10-24-15
 GL CODE: 8002090

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

TAX

SUBJECT TO CORRECTION

[Signature]
 Bison Oil Well Cementing, Inc. Representative

Customer or Agent



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/24/2015

Invoice # 90050

API# 05-123-41300

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Whisper Rock 3N-25HZ

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: 17:30

Time Arrived On Location: 16:45

Time Left Location: 20:30

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.) : 1,866	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1876	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 20%
Conductor Length (ft) : 40	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 30.0
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 10	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 1250	30 bbl dye in second 10

Calculated Results	Pressure of cement in annulus
cuft of Shoe 18.23 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 141.78 bbls (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)	Hydrostatic Pressure: 1376.55 PSI
cuft of Casing 1070.90 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 1119.66 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 786.47 psi
bbls of Slurry 199.41 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 30.98 psi
Sacks Needed 751 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 817.46 psi
Mix Water 133.83 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 559.09 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 325.61 bbls

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.

Whisper Rock 3N-25HZ

