



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

90055

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
Whisper Rock 5N-25HZ		Weld	Colorado	11/4/2015	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	70	mile		
	Truck/Equipment	70	mile		
	Truck/Equipment	70	mile		
CEMENT CHARGE:					
	BFN III	743	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 assessed at an ANNUAL PERCENTAGE RATE OF 18%.

WHISPER ROCK 5N-25HZ NOBLE 2
FRANK KINNEY USER ID: CUO741
CONSULTANT: Hayden Stone
AFE#2104368 DATE: 11-4-15
GL CODE: 80012090

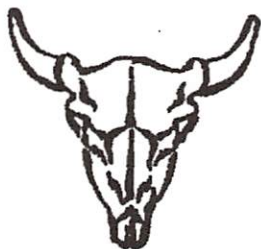
TAX

SUBJECT TO CORRECTION

Customer or Agent

Bison Oil Well Cementing, Inc. Representative

Customers hereby acknowledge and specifically agree to the terms and conditions on this work order, including, without limitation, the provisions on the reverse hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/4/2015
Invoice #: 90055
API#: 05-123-41317
Supervisor: Nick

Customer: Anadarko Petroleum Corporation
Well Name: Whisper Rock 5N-25HZ

County: Weld
State: Colorado
Sec: 26
Twp: 4N
Range: 68W
Consultant: Hayden/Bryan
Rig Name & Number: Noble 2
Distance To Location: 35
Units On Location: 024/3210/4007/3106/3105/320
Time Requested: 12:30
Time Arrived On Location: 11:40
Time Left Location: 15:20

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) : 1,839	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1850	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: 32.0
Shoe Joint Length (ft) : 48	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

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results	Displacement: 139.23 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)		
cuft of Shoe 20.83 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: 1356.63 PSI		
cuft of Casing 1055.07 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing		
Total Slurry Volume 1106.43 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 772.25 psi		
bbls of Slurry 197.06 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 35.41 psi		
Sacks Needed 743 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 807.65 psi		
Mix Water 132.25 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 548.98 psi		
	Collapse PSI: 2020.00 psi		
	Burst PSI: 3520.00 psi		
	Total Water Needed: 321.48 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.



Anadarko Petroleum Corporation
Whisper Rock 5N-25HZ

90055
Weld
Nick
11/4/2015

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

X 
Work Performed

X
Title

X
Date