



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

80458

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
Whisper Rock 4N-25HZ		Weld	Colorado	10/27/2015	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
		I25+38		Shop	
		SHIPPED VIA		LOCATION 2	CODE
		4023-3204/4034-3203		I25+38	
		TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
		SURFACE		Shop	
				WELL TYPE	CODE
				Oil	
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	sack		
ADDITIVES CHARGE:					
	KCL	3	qt		
	Liquid Dye Rhodamine	16	oz		
	Sugar		lb		
FLOAT EQUIPMENT:					
	RUBBER PLUG - 9 5/8"		ea		
OTHER CHARGES:					
	DATA ACQUISITION FEE	1	ea		
	Containment	1	ea		
	Winterization		ea		
	Wait Time		hour		
	PSI Test		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

Thanks Calvin

WHISPER ROCK 4N-25HZ NOBLE 2
FRANK KINNEY USER ID: CU0741
CONSULTANT: Sean Giddings
AFE#2104407 DATE: 6/27/15
GL CODE: 800 12090

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 reverse hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/27/2015
Invoice #: 80458
API#: 05-123-41297
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Whisper Rock 4N-25HZ

County: Weld
State: Colorado
Sec: 26
Twp: 4N
Range: 68W

Consultant: Sean / Chris
Rig Name & Number: Noble 2
Distance To Location: 30 Miles
Units On Location: 4023-3204/4034-3203
Time Requested: 930am
Time Arrived On Location: 820am
Time Left Location: 12:30pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,827
Total Depth (ft) : 1844
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 10

Max Rate: 8
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: 18
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 15.0

Spacer Ahead Makeup

30bbls+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.28 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 1004.09 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1053.89 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 187.70 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 707 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 125.97 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 138.54 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1347.42 PSI

Pressure of the fluids inside casing

Displacement: 768.40 psi

Shoe Joint: 32.77 psi

Total 801.17 psi

Differential Pressure: 546.24 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 309.51 bbls

X *Sean Reimers*
Authorization To Proceed



Anadarko Petroleum Corporation
Whisper Rock 4N-25HZ

INVOICE #
LOCATION
FOREMAN
Date

80458
Weld
Calvin Reimers
10/27/2015

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

X Sean Haley
Work Performed

X Coman
Title

X 10/27/15
Date

SERIES 2000

