



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #
80649

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor	
WHISPER ROCK 3C-25HZ	Weld	Colorado	11/7/2015	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 38 & EAST FRONTAGE RD		SHOP		
	SHIPPED VIA		LOCATION 2	CODE	
	4023-3104/ 4034-3203		38 & E. FRONT		
	TYPE AND PURPOSE OF JOB		LOCATION 3	CODE	
	SURFACE		SHOP		
			WELL TYPE	CODE	
ITEM	DESCRIPTION	QTY.	MEAS.	UNIT PRICE	AMOUNT
PUMP CHARGE					
SURFACE		1	ea		
MILLEAGE CHARGE					
Pickup		70	ea		
Truck/Equipment		70	ea		
Truck/Equipment		70	ea		
Truck/Equipment		70	ea		
CEMENT CHARGE:					
TYPE 3 NEAT		711	sack		
ADDITIVES CHARGE:					
Liquid Dye Rhodamine		32	oz		
FLAT EQUIPMENT:	WHISPER ROCK 3C-25HZ NOBLE 2				
	FRANK KINNEY USER ID: CU0741				
	CONSULTANT: <i>Bryan Brown</i>				
	AFE#2104409 DATE: <i>11/7/15</i>				
	GL CODE: 800 <i>12090</i>				
OTHER CHARGES:					
DATA ACQUISITION FEE		1	ea		
Containment		1	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%.

TA

SUBJECT TO CORRECTION

Bryan Brown
Customer or Agent

[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 reverse hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/7/2015

Invoice # 80649

API# 05-123-41314

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: WHISPER ROCK 3C-25HZ

County: Weld

State: Colorado

Sec: 26

Twp: 4N

Range: 68W

Consultant: BRYAN

Rig Name & Number: NOBLE 2

Distance To Location: 35

Units On Location: 4023-3104/ 4034-3203

Time Requested: 2000

Time Arrived On Location: 1830

Time Left Location: 2300

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,839
Total Depth (ft) : 1850
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 7

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: 42.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30BBL WATER/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.31 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 1011.23 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1060.07 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 188.80 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 711 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 126.71 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 139.47 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1356.79 PSI

Pressure of the fluids inside casing

Displacement: 774.85 psi

Shoe Joint: 31.12 psi

Total 805.97 psi

Differential Pressure: 550.82 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 316.17 bbls

X

Authorization To Proceed

Bryan Brown

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 _____

WHISPER ROCK 3C-25HZ SURFACE

