



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

80542

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor	
cook 37n-28hz	Weld	Colorado	10/11/2015	noble 2	
CHARGE TO		WELL LOCATION			
Anadarko Petroleum Corporation		Section	TWP	RANGE	
PO Box 4995		33	2n	66w	
The Woodlands, TX 77387		DELIVERED TO	LOCATION 1	CODE	
		41-22	shop		
		SHIPPED VIA	LOCATION 2	CODE	
		4029-3106/4035-3203	41-22		
		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	732	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		

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

COOK 37N-28HZ NOBLE 2

FRANK KINNEY USER ID: CU0741

CONSULTANT: *Harold Stone*

AFE# 2111722 DATE: *10-11-15*

GL CODE: 800 *12090*

SUBJECT TO CORRECTION

[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: 10/11/2015

Invoice # 80542

API#

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: cook 37n-28hz

County: Weld

State: Colorado

Sec: 33

Twp: 2n

Range: 66w

Consultant: hayden

Rig Name & 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: 4:30 am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,893
Total Depth (ft) : 1903
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 10

Max Rate:

Max Pressure:

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): 50.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.66 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 1041.46 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1090.65 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 194.24 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 732 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 130.36 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 143.79 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1396.47 PSI

Pressure of the fluids inside casing

Displacement: 797.69 psi

Shoe Joint: 31.72 psi

Total 829.41 psi

Differential Pressure: 567.06 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 334.15 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.

X 10-11-15
Date

M/D TOTCO 2000 SERIES

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

