



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #
80642

FIELD INVOICE

WELL NO. AND FARM COOK 2N-28HZ	COUNTY Weld	STATE Colorado	DATE 10/11/2015	Contractor NOBLE 2
CHARGE TO Anadarko Petroleum Corporation	WELL LOCATION			
PO Box 4995	Section 16	TWP 2N	RANGE 65W	
The Woodlands, TX 77387	DELIVERED TO CR 22 & CR 41		LOCATION 1 SHOP	CODE
	SHIPPED VIA 4023-3104/ 4034-3203		LOCATION 2 22 & 41	CODE
	TYPE AND PURPOSE OF JOB SURFACE		LOCATION 3 SHOP	CODE
			WELL TYPE	CODE

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
SURFACE		1	ea		
MILLEAGE CHARGE					
Pickup		60	ea		
Truck/Equipment		60	ea		
Truck/Equipment		60	ea		
Truck/Equipment		60	ea		
CEMENT CHARGE:					
TYPE 3 NEAT		733	sack		
ADDITIVES CHARGE:					
Liquid Dye Rhodamine		32	oz		
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%.

COOK 2N-16HZ NOBLE 2
FRANK KINNEY USER ID: CU0741
CONSULTANT: *Hayden Stone*
AFE# 2111717 DATE: 10-11-15
GL CODE: 800 12090

SUBJECT TO CORRECTION

[Signature]
Bison Oil Well Cementing, Inc. Representative

[Signature]
Customer or Agent

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 #: 80642
 API#: 05-123-42145
 Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: COOK 2N-28HZ

County: Weld
 State: Colorado
 Sec: 16
 Twp: 2N
 Range: 65W

Consultant: BRYAN
 Rig Name & Number: NOBLE 2
 Distance To Location: 30
 Units On Location: 4023-3104/ 4034-3203
 Time Requested: 1830
 Time Arrived On Location: 1600
 Time Left Location: 2215

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.) : 1,896	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1906	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 40	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 43.0
Shoe Joint Length (ft) : 41	Fluid Ahead (bbls): 50.0
Landing Joint (ft) : 7	H2O Wash Up (bbls): 20.0
Max Rate: 6	Spacer Ahead Makeup
Max Pressure: 1250	50BBL WATER/ DYE IN 4TH 10

Calculated Results	Pressure of cement in annulus
cuft of Shoe 17.80 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 143.95 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: 1398.68 PSI
cuft of Casing 1043.14 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 1091.47 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 799.84 psi Shoe Joint: 30.25 psi Total: 830.09 psi
bbls of Slurry 194.39 bbls (Total Slurry Volume) X (.1781)	Differential Pressure: 568.59 psi
Sacks Needed 733 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Mix Water 130.46 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 344.41 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.

COOK 2N-28HZ SURFACE

