



Bison Oil Well Cementing
 1547 Gaylord Street
 Denver, CO 80206

FIELD INVOICE #
 666037

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
Jaguar 3N-14HZ	Weld	Colorado	11/25/2016	Extreme 24
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	23	1N	67W	
PO Box 4995	DELIVERED TO		LOCATION 1	CODE
	CR. 21 & CR.6		Greeley	
The Woodlands, TX 77387	SHIPPED VIA		CODE	
	3215/3214/3102		Fort Lupton	
	TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
	SURFACE		Greeley	
			WELL TYPE	CODE

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
SURFACE		1			
MILLEAGE CHARGE					
Pickup		68			
Truck/Equipment		68			
Truck/Equipment		68			
Truck/Equipment		68			
CEMENT CHARGE:					
BFN III		878			
ADDITIVES CHARGE:					
Dye Hot Pink		16	oz		
Sugar			lb		
FLOAT EQUIPMENT:	JAGUAR 3N-14HZ RIG X24 ANASTACIO DURAN / JASON LAUB USER ID MIP721 AFE: 2111322.DRL GL CODE 80812090 DATE: 11.25.16 SIGNATURE:				
OTHER CHARGES:					

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%.

Customer or Agent

SUBJECT TO CORRECTION

 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 riverside hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/25/2016
 Invoice #: 666037
 API#: 05-123-42625
 Foreman: Nick

Customer: Anadarko Petroleum Corporation
Well Name: Jaguar 3N-14HZ

County: Weld
 State: Colorado
 Sec: 23
 Twp: 1N
 Range: 67W

Consultant: Rick Duran
 Rig Name & Number: Extreme 24
 Distance To Location: 34 miles
 Units On Location: 4023,3104,4022,3215,4020,3214
 Time Requested: 10:30
 Time Arrived On Location: 10:05
 Time Left Location:

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.) : 2,261	Cement Yield (cuft) : 1.49
Total Depth (ft) : 2273	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 90	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 0.0
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 0	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	Dye in the second 10 bbl

Calculated Results	Displacement: 171.39 bbls
cuft of Shoe 19.10 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 68.68 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing 1220.19 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 1667.94 PSI
Total Slurry Volume 1307.97 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry 232.95 bbls (Total Slurry Volume) X (.1781)	Displacement: 955.93 psi
Sacks Needed 878 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 32.46 psi
Mix Water 156.34 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total 988.39 psi
	Differential Pressure: 679.55 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 377.73 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.

Jaguar 3N-14HZ

