



Bison Oil Well Cementing
 1547 Gaylord Street
 Denver, CO 80206

FIELD INVOICE #

80602

FIELD INVOICE

WELL NO. AND FARM jzm 29n-w3hz		COUNTY Weld	STATE Colorado	DATE 11/20/16	Contractor extreem 22
CHARGE TO Anadarko Petroleum Corporation		WELL LOCATION Section 10 TWP 1n RANGE 67w		DELIVERED TO 19-10 shop LOCATION 1 CODE	
PO Box 4995		SHIPPED VIA 3106-3213-3215		19-10 LOCATION 2 CODE	
The Woodlands, TX 77387		TYPE AND PURPOSE OF JOB SURFACE		shop LOCATION 3 CODE	
				gas WELL TYPE CODE	

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
SURFACE		1			
MILLEAGE CHARGE					
Pickup		120			
Truck/Equipment		360			
CEMENT CHARGE:					
BFN III		873			
ADDITIVES CHARGE:					
Sugar		100	lbs		
FLOAT EQUIPMENT:					
JZM 29N-W3HZ RIG XTREME 22 KIETH J. / TRAVIS B. USER ID C00741 CONSULTANT NAME: Luke Rains GL CODE: 80012090 AFE# 2117587 DRL DATE: 11/20/16 SIGNATURE: Luke Rains					
OTHER CHARGES:					
DATA ACQUISITION FEE		1			

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%.

SUBJECT TO CORRECTION

Luke Rains
 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 riverside hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/20/2016
 Invoice # 80602
 API# _____
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: jzm 29n-w3hz

County: Weld Consultant: luke
 State: Colorado Rig Name & Number: extreem 22
 Distance To Location: 35
 Units On Location: 310,632,133,215
 Time Requested: 700 pm
 Time Arrived On Location: 600 pm
 Time Left Location: 11:45pm

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>36.00</u>	Cement Density (lb/gal) : <u>14.2</u>
Casing Depth (ft.) : <u>2,233</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>2270</u>	Gallons Per Sack: <u>7.40</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>15%</u>
Conductor Length (ft) : <u>80</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.5</u>	Fluid Ahead (bbls): <u>30.0</u>
Shoe Joint Length (ft) : <u>40</u>	H2O Wash Up (bbls): <u>10.0</u>
Landing Joint (ft) : <u>25</u>	Spacer Ahead Makeup <u>h2o</u>
Max Rate: <u>7</u>	
Max Pressure: <u>1500</u>	

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Displacement: <u>171.47 bbls</u>
cuft of Shoe <u>17.36 cuft</u> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>64.40 cuft</u> (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing <u>1210.07 cuft</u> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: <u>1647.28 PSI</u>
Total Slurry Volume <u>1291.84 cuft</u> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry <u>230.08 bbls</u> (Total Slurry Volume) X (.1781)	Displacement: <u>945.58 psi</u>
Sacks Needed <u>873 sk</u> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: <u>29.51 psi</u>
Mix Water <u>153.79 bbls</u> (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total <u>975.09 psi</u>
	Differential Pressure: <u>672.20 psi</u>
	Collapse PSI: <u>2020.00 psi</u>
	Burst PSI: <u>3520.00 psi</u>
	Total Water Needed: <u>365.26 bbls</u>

X [Signature]
 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.

11/20/2016 8:33:12 PM

SERIES 2000

