



Bison Oil Well Cementing
 1547 Gaylord Street
 Denver, CO 80206

FIELD INVOICE #
 90014

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor
Tedford 30 C-28HZ	Weld	Colorado	7/14/2015	Noble 2
CHARGE TO	WELL LOCATION			
Anadarko Petroleum Corporation	Section	TWP	RANGE	
	28	2N	66W	
PO Box 4995	DELIVERED TO		LOCATION 1	CODE
	cr. 16 & cr. 29		Shop	
The Woodlands, TX 77387	SHIPPED VIA		LOCATION 2	CODE
	4024/3210/4027/3106/3105/3204		cr. 16 & cr. 29	
	TYPE AND PURPOSE OF JOB		LOCATION 3	CODE
	SURFACE		Shop	
			WELL TYPE	CODE
		Oil		

ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
SURFACE		1			
MILLEAGE CHARGE					
Pickup		40	mile		
Truck/Equipment		40	mile		
Truck/Equipment		40	mile		
CEMENT CHARGE:					
BFN III		756	sack		
ADDITIVES CHARGE:					
Red Dye		16	oz		
FLOAT EQUIPMENT:					
RUBBER PLUG - 9 5/8"					
OTHER CHARGES:					
DATA ACQUISITION FEE		1			
Containment		1			
Wait Time		0	hour		

If this is a **TEDFORD 30C-28HZ** **NOBLE 2** ade. Computed at a single monthly rate of 1 1/2% which is equal
 to an **FRANK KINNEY** **USER ID: CU0741**
CONSULTANT: *Frank Kinney*
AFE#2107810.DRL DATE: 07-14-15
GL CODE: 800 12090
 Customer or Agent

TAX
 SUBJECT TO CORRECTION *CM*
[Signature]
 Bison Oil Well Cementing, Inc. Representative



Bison Oil Well Cementing Single Cement Surface Pipe

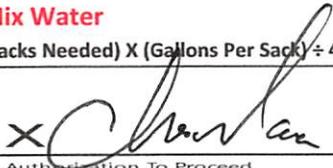
Date: 7/14/2015
 Invoice # 90014
 API# 05-123-41791
 Supervisor Nick

Customer: Anadarko Petroleum Corporation
Well Name: Tedford 30 C-28HZ

County: Weld Consultant: Chris
 State: Colorado Rig Name & Number: Noble 2
 Distance To Location: 20
 Sec: 28 Units On Location: 024/3210/4027/3106/3105/320
 Twp: 2N Time Requested: 0:00
 Range: 66W Time Arrived On Location: 22:15
 Time Left Location: 2:45

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>1,878</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1888</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>20%</u>
Conductor Length (ft) : <u>40</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit: <u>13.0</u>
Shoe Joint Length (ft) : <u>43</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>10</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>6</u>	Spacer Ahead Makeup
Max Pressure: <u>1750</u>	<u>30 bbl dye in second 10</u>

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>18.66</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>142.63</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>30.53</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>1385.40</u> PSI
cuft of Casing <u>1077.94</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume <u>1127.13</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>791.22</u> psi
bbls of Slurry <u>200.74</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>31.72</u> psi
Sacks Needed <u>756</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>822.94</u> psi
Mix Water <u>134.72</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>562.46</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>327.36</u> bbls


 Authentication 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.

Tedford 30C-28HZ

