



Bison Oil Well Cementing
 1547 Gaylord Street
 Denver, CO 80206

FIELD INVOICE #
 80508

FIELD INVOICE

WELL NO. AND FARM		COUNTY	STATE	DATE	Contractor
adamson 13n-28hz		Weld	Colorado	7/26/2015	noble 2
CHARGE TO		WELL LOCATION			
Anadarko Petroleum Corporation		Section	TWP	RANGE	
		21	2n	65w	
PO Box 4995		DELIVERED TO		LOCATION 1	CODE
		41-18		shop	
The Woodlands, TX 77387		SHIPPED VIA		LOCATION 2	CODE
		4031-3103/4024-3203		41-18	
		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	34	mile		
	Truck/Equipment	34	mile		
	Truck/Equipment	34	mile		
CEMENT CHARGE:					
	BFN III	818	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		
	Wait Time	1.5	hr		

If this ac to an AP
ADAMSON 13N-28HZ
NOBLE 2
FRANK KINNEY
CONSULTANT:
GL CODE 8012090
USER ID: CU0741
AFE#2109836.DRL

de. Computed at a single monthly rate of 1 1/2% which is equal

TAX

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 riverside hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/25/2015
 Invoice # 80508
 API# _____
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: adamson 13n-28hz

County: Weld Consultant: bryan
 State: Colorado Rig Name & Number: noble 2
 Distance To Location: 15
 Sec: 21 Units On Location: 4031-3103/4024-3203
 Twp: 2n Time Requested: 1100 pm
 Range: 65w Time Arrived On Location: 930 pm
 Time Left Location: 11:30 am

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>1,870</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1880</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>30%</u>
Conductor Length (ft) : <u>47</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>16</u>	BBL to Pit: _____
Shoe Joint Length (ft) : <u>42</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>10</u>	H2O Wash Up (bbls): <u>10.0</u>
Max Rate: _____	Spacer Ahead Makeup _____
Max Pressure: _____	

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>18.23</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>142.09</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>41.88</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>1379.50</u> PSI
cuft of Casing <u>1158.24</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>1218.35</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>788.20</u> psi
bbls of Slurry <u>216.99</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>30.98</u> psi
Sacks Needed <u>818</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>819.18</u> psi
Mix Water <u>145.63</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>560.32</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>327.72</u> bbls

X Chris Moore
 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.

M/D TOTCO 2000 SERIES

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

