



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

90059

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor	
Alvin 2C-29HZ	Weld	Colorado	11/13/2015	Noble 2	
CHARGE TO		WELL LOCATION			
Anadarko Petroleum Corporation		Section	TWP	RANGE	
PO Box 4995		29	2N	65W	
The Woodlands, TX 77387		DELIVERED TO	LOCATION 1	CODE	
		cr. 41 & cr.16	Greeley		
		SHIPPED VIA	LOCATION 2	CODE	
		4024/3210/4007/3106/3105/3204	Cr.41 & cr.16		
		TYPE AND PURPOSE OF JOB	LOCATION 3	CODE	
		SURFACE	Greeley		
			WELL TYPE	CODE	
			Oil		
ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
SURFACE		1			
MILLEAGE CHARGE					
Pickup		50	mile		
Truck/Equipment		50	mile		
Truck/Equipment		50	mile		
CEMENT CHARGE:					
BFN III		773	sack		
ADDITIVES CHARGE:					
Red Dye		16	oz		
FLOAT EQUIPMENT:					
RUBBER PLUG - 9 5/8"					
OTHER CHARGES:					
DATA ACQUISITION FEE		1			
Containment		1			
Wait Time		2	hour		

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%.

TAX

ALVIN 2C-29HZ NOBLE 2
FRANK KINNEY USER ID: CU0741
CONSULTANT: *Hayden Stone*
AFE# 2109773 DATE: 11-13-15
GL CODE: 800/12090

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 reverse hereof which include the release and indemnity.



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/13/2015
Invoice # 90059
API# 05-123-42205
Supervisor Nick

Customer: Anadarko Petroleum Corporation
Well Name: Alvin 2C-29HZ

County: Weld
State: Colorado
Sec: 29
Twp: 2N
Range: 65W

Consultant: Hayden/Bryan
Rig Name & Number: Noble 2
Distance To Location: 25
Units On Location: 024/3210/4007/3106/3105/320
Time Requested: 12:30
Time Arrived On Location: 11:00
Time Left Location: 18:35

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,912
Total Depth (ft) : 1921
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 60
Conductor ID : 15.25
Shoe Joint Length (ft) : 46
Landing Joint (ft) : 10
Max Rate: 7
Max Pressure: 1250

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 20%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 0.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0
Spacer Ahead Makeup
30 bbl dye in second 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.97 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 45.79 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 1086.15 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1151.91 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 205.15 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 773 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 137.68 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 145.03 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1410.48 PSI

Pressure of the fluids inside casing

Displacement: 804.58 psi

Shoe Joint: 33.93 psi

Total 838.52 psi

Differential Pressure: 571.96 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 332.71 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.



Anadarko Petroleum Corporation
Alvin 2C-29HZ

90059
Weld
Nick
11/13/2015

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DESCRIPTION OF JOB EVENTS

X 
Work Performed _____

X
Date