



Bison Oil Well Cementing
1547 Gaylord Street
Denver, CO 80206

FIELD INVOICE #

80655

FIELD INVOICE

WELL NO. AND FARM	COUNTY	STATE	DATE	Contractor	
ALVIN 1N-29HZ	Weld	Colorado	11/16/2015	NOBLE 2	
CHARGE TO	WELL LOCATION				
Anadarko Petroleum Corporation	Section	TWP	RANGE		
	29	2N	65W		
PO Box 4995	DELIVERED TO		LOCATION 1	CODE	
	CR 41 & CR 16		SHOP		
The Woodlands, TX 77387	SHIPPED VIA		LOCATION 2	CODE	
	4031-3106/ 4030-3203		41 & 16		
	TYPE AND PURPOSE OF JOB		LOCATION 3	CODE	
	SURFACE		SHOP		
WELL TYPE			CODE		
ITEM	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
PUMP CHARGE					
SURFACE		1	ea		
MILLEAGE CHARGE					
Pickup		62	ea		
Truck/Equipment		62	ea		
Truck/Equipment		62	ea		
Truck/Equipment		62	ea		
CEMENT CHARGE:					
TYPE 3 NEAT		762	sack		
ADDITIVES CHARGE:					
Liquid Dye Rhodamine		32	oz		
FLOAT EQUIPMENT:					
OTHER CHARGES:					
DATA ACQUISITION FEE		1	ea		
Containment		1	ea		

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 1N-29HZ NOBLE 2
FRANK KINNEY USER ID: CU0741
CONSULTANT: *Hayden Storie*
AFE# 2109777 DATE: *11-16-15*
GL CODE: 800 *12090*

SUBJECT TO CORRECTION

[Signature]
Bison Oil Well Cementing, Inc. Representative

[Signature]
Customer or Agent

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: 11/16/2015
Invoice # 80655
API# 05-123-42208
Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: ALVIN 1N-29HZ

County: Weld
State: Colorado
Sec: 29
Twp: 2N
Range: 65W
Consultant: HAYDEN
Rig Name & Number: NOBLE 2
Distance To Location: 31
Units On Location: 4031-3106/ 4030-3203
Time Requested: 1100
Time Arrived On Location: 930
Time Left Location: 1500

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,885
Total Depth (ft) : 1895
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 60
Conductor ID : 15.25
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 7

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: 59.0
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
50BBL WATER/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.29 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 1070.32 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 1135.39 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 202.21 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 762 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 135.71 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 142.83 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1390.56 PSI

Pressure of the fluids inside casing

Displacement: 793.61 psi

Shoe Joint: 32.78 psi

Total 826.40 psi

Differential Pressure: 564.17 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 348.54 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.

Date _____

ALVIN 1N-29HZ SURFACE

