



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/13/2014  
 Invoice #: 25023  
 API#: 05-123-39496  
 Foreman: Calvin Reimers

**Customer:** Anadarko Petroleum Corporation

**Well Name:** Cruickshank 27N-24HZ

County: Weld  
 State: Colorado  
 Sec: 24  
 Twp: 3N  
 Range: 66W

Consultant: Randy  
 Rig Name & Number: Major 42  
 Distance To Location: 10 Miles  
 Units On Location: 4023-3104/4017-3211  
 Time Requested: 300am  
 Time Arrived On Location: 110am  
 Time Left Location: 9:30am

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft) : 1,212	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1222	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 17%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID :	BBL to Pit: 22
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 8	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	30BBLS H2O+Dye in 2nd 10BBLS

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure of cement in annulus
<b>cuft of Shoe</b> 18.38 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Displacement:</b> 91.07 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<b>cuft of Conductor</b> 0.00 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Pressure of cement in annulus</b>
<b>cuft of Casing</b> 690.29 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Hydrostatic Pressure:</b> 894.37 PSI
<b>Total Slurry Volume</b> 708.67 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Pressure of the fluids inside casing</b>
<b>bbls of Slurry</b> 126.21 bbls (Total Slurry Volume) X (.1781)	<b>Displacement:</b> 504.50 psi
<b>Sacks Needed</b> 476 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Shoe Joint:</b> 31.23 psi
<b>Mix Water</b> 84.71 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Total</b> 535.73 psi
	<b>Differential Pressure:</b> 358.64 psi
	<b>Collapse PSI:</b> 2020.00 psi
	<b>Burst PSI:</b> 3520.00 psi
	<b>Total Water Needed:</b> 225.78 bbls

X Authorization To Proceed



**Bison Oil Well Cementing  
Single Cement Surface Pipe**

Customer  
Well Name

Anadarko Petroleum Corporation  
Cruickshank 27N-24HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

25023  
Weld  
Calvin Reimers  
7/13/2014

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**DESCRIPTION OF JOB EVENTS**

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
Safety Meeting	708am															
MIRU	600am															
CIRCULATE	743am	0	817am	50	0			0			0			0		
Drop Plug		10	821am	10	10			10			10			10		
816am		20	823am	30	20			20			20			20		
		30	825am	70	30			30			30			30		
		40	827am	180	40			40			40			40		
M & P		50	828am	240	50			50			50			50		
Time	Sacks	60	830am	300	60			60			60			60		
749am	476	70	832am	370	70			70			70			70		
813am		80	834am	400	80			80			80			80		
		90	836am	360	90			90			90			90		
		100	838am	370	100			100			100			100		
		110	Bump	1370	110	840am		110			110			110		
% Excess	17%	120	Bump	1010	120	842am		120			120			120		
Mixed bbls	84.71	130			130			130			130			130		
Total Sacks	476	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp	66.6															

Notes:

The day

1/2 bbl back on bleed off

X Allen Scott  
Work Performed

X Consultant  
Title

X \_\_\_\_\_  
Date

### M/D TOTCO 2000 SERIES

