

# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/14/2014  
Invoice #: 25085  
API#: 05-123-38907  
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: Barclay 26N-11HZ

County: Weld  
State: Colorado  
Sec: 14  
Twp: 2N  
Range: 67W

Consultant: Ellis  
Rig Name & Number: Major 29  
Distance To Location: 18 Miles  
Units On Location: 4023-3104/4024-3203  
Time Requested: 1200am  
Time Arrived On Location: 1030pm  
Time Left Location: 3:30am

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft.) : 1,332  
Total Depth (ft) : 1348  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) :  
Conductor ID :  
Shoe Joint Length (ft) : 39  
Landing Joint (ft) : 8

Max Rate: 7  
Max Pressure: 2500

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.49  
Gallons Per Sack: 7.48  
% Excess: 26%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit: 20  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup  
30bbls H2O+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

cuft of Shoe 17.14 cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 0.00 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X  
(Conductor Length ft)

cuft of Casing 820.18 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing  
Depth - Conductor Length)

Total Slurry Volume 837.31 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 149.13 bbls  
(Total Slurry Volume) X (.1781)

Sacks Needed 562 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 100.08 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 100.57 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

Hydrostatic Pressure: 982.93 PSI

## Pressure of the fluids inside casing

Displacement: 557.49 psi

Shoe Joint: 29.12 psi

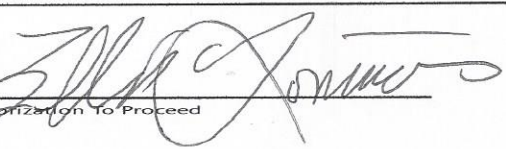
Total 586.62 psi

Differential Pressure: 396.31 psi

Collapse PSI: 2020.00 psi

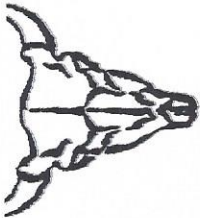
Burst PSI: 3520.00 psi

Total Water Needed: 250.65 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.





DISCOUNT WELL SERVICES

## Single Cement Surface Pipe

Customer  
Well NameAnadarko Petroleum Corporation  
Barclay 26N-11HZ

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## DESCRIPTION OF JOB EVENTS

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI
Safety Meeting	116am															
MIRU	1230am															
CIRCULATE	148am															
Drop Plug		0	218am	50	0			0			0			0		
217am		10	221am	40	10			10			10			10		
		20	223am	90	20			20			20			20		
		30	225am	100	30			30			30			30		
		40	227am	160	40			40			40			40		
		50	229am	240	50			50			50			50		
M & P		60	231am	300	60			60			60			60		
Time	Sacks	70	232am	370	70			70			70			70		
154am	540	80	234am	410	80			80			80			80		
214am		90	236am	450	90			90			90			90		
		100	239am	400	100			100			100			100		
		110	Bump	1370	110			110			110			110		
		120	Bump	1000	120	241am		120			120			120		
% Excess	26%	130			130	243am		130			130			130		
Mixed bbls	100.08	140			140			140			140			140		
Total Sacks	562	150			150			150			150			150		
bbl Returns	20															
Water Temp	68.6															

Notes:

The day

1/2 bbl back on bleed off

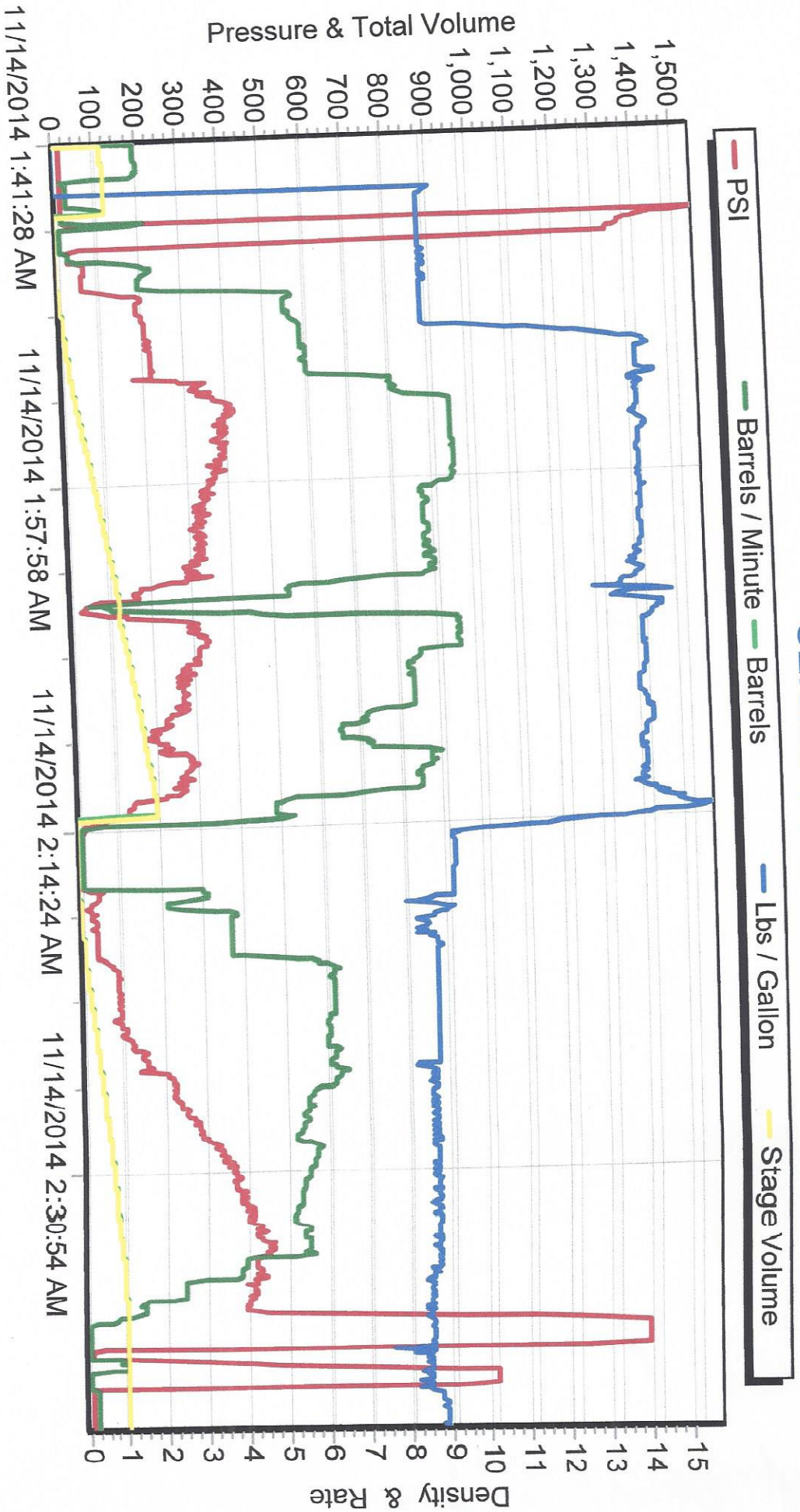
X *Edna Davis* *11 Apr 29*

X Title

X Date



# SERIES 2000



## Release and Indemnification

Customer acknowledges and assumes the risks associated with oil well drilling, cementing and acidizing, including, without limitation, destabilization, loss of production, contamination, fracturing and loss of well control. Customer agrees to release Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from any and all liability for any and all damages whatsoever to property of any kind owned by, in the possession of, or leased by customer and those persons or entities customer has the ability to bind by contract. Customer also agrees to indemnify and hold harmless Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from and against any and all liability, claims, costs, expenses, attorneys fees and damages whatsoever for claims, costs, expenses, attorneys fees and damages whatsoever for personal injury, illness, death, property damage and loss resulting from: loss or reduction of production, destabilization loss of oil well control, failure of or contamination by acid stimulation, hydraulic fracturing, cementing, pumping services, incompatible fluid or other processes to stimulate, complete or end production, and/or any other condition. Customer's release, indemnity and hold harmless obligation shall apply even if the liability and claims are caused by the sole, concurrent, active or passive negligence, fault, or strict liability of Bison Oil Well Cementing, Inc. and/or Bison Energy Services, Inc. or any defect in the data, products, supplies, materials or equipment furnished by Bison Oil Well Cementing, Inc. whether in the design, manufacturing, maintenance, or marketing thereof or from failure to warn of such defect. In the event that any portion of this release and indemnity is found by a court of competent jurisdiction to be inoperable or unenforceable, the remaining portions and provisions shall apply, and customer agrees that the contract price herein shall be the limit of Bison Oil Well Cementing, Inc.'s liability, if any.