

# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/16/2014  
Invoice #: 65006  
API#: 05+-123-38313  
Foreman: LEE SHARP

Customer: Anadarko Petroleum Corporation

Well Name: WARDELL 4G-7HZ

County: Weld  
State: Colorado  
Sec: 7  
Twp: 3N  
Range: 65W

Consultant: ELLIS  
Rig Name & Number: MAJOR 29  
Distance To Location: 11  
Units On Location: 4031-3106;4018-3204  
Time Requested: 3:00AM  
Time Arrived On Location: 1:00  
Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,299  
Total Depth (ft) : 1315  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 0  
Conductor ID : 0  
Shoe Joint Length (ft) : 43  
Landing Joint (ft) : 6

Max Rate:  
Max Pressure:

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.49  
Gallons Per Sack: 7.49  
% Excess: 16%  
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

10F+10D+10F=30BBL

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 18.59 cuft  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

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

**cuft of Casing** 734.29 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 752.88 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 134.09 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 505 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 90.11 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 97.54 bbls

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

## Pressure of cement in annulus

**Hydrostatic Pressure:** 957.96 PSI

## Pressure of the fluids inside casing

**Displacement:** 541.46 psi

**Shoe Joint:** 31.59 psi

**Total** 573.04 psi

**Differential Pressure:** 384.91 psi

**Collapse PSI:** 2020.00 psi

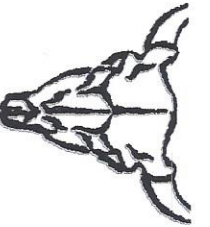
**Burst PSI:** 3520.00 psi

**Total Water Needed:** 237.65 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.





DISPATCH WELL COMMERCIALS  
Single Cement Surface Pipe

Customer  
Well Name

Anadarko Petroleum Corporation  
WARDELL 4G-7HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

00000  
Weld  
LEE SHARP  
9/16/2014

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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	400															
MIRU	345															
CIRCULATE	434	0	512	30	0			0			0			0		
Drop Plug		10	515	20	10			10			10			10		
		20	518	20	20			20			20			20		
		30	522	30	30			30			30			30		
		40	524	170	40			40			40			40		
		50	526	240	50			50			50			50		
M & P		60	527	300	60			60			60			60		
		70	529	390	70			70			70			70		
0440-0510	505	80	531	440	80			80			80			80		
		90	533	480	90			90			90			90		
		100	land	1390	100			100			100			100		
		110			110			110			110			110		
% Excess	16%	120			120			120			120			120		
Mixed bbls	90.14	130			130			130			130			130		
Total Sacks	505	140			140			140			140			140		
bbl Returns	19	150			150			150			150			150		
Water Temp	56															

Notes:

MIRU @345, SAFETY @400, PSI EQ 430 TO 3170, BREAK CIRCULATION@434, PUMP DIE@436, MIX AND PUMP@440, DROP PLUG@512, DIE RETURN

59BBL INTO DISPLACEMENT, CEMENT RETURN 78 BBL INTO DISPLACEMENT, LAND PLUG @536, CHECK FLOATS @538, SECOND PUMP@540 RELEASED

RIG DOWN LEAVE @ 630

X *Edo Danner*

Work Performed

X  
Title

X  
Date

## SERIES 2000

