



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/26/2014  
 Invoice # 45009  
 API# 05-123-39424  
 Foreman: JASON

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** SACK 37C-6HZ

County: Weld  
 State: Colorado  
 Sec: 31  
 Twp: 1N  
 Range: 67W

Consultant: BOB  
 Rig Name & Number: MAJORS 42  
 Distance To Location: 30  
 Units On Location: 4031-3106/ 4017-3211  
 Time Requested: 600  
 Time Arrived On Location: 430  
 Time Left Location: 1200

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.) : 1,306	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1316	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 25%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID :	BBL to Pit: 2.0
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 6	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	BBL H2O WITH, 2ND 10 WITH DYE

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> 98.16 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>Hydrostatic Pressure:</b> 963.50 PSI
<b>cuft of Casing</b> 797.91 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Pressure of the fluids inside casing</b>
<b>Total Slurry Volume</b> 816.29 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Displacement:</b> 544.90 psi
<b>bbls of Slurry</b> 145.38 bbls (Total Slurry Volume) X (.1781)	<b>Shoe Joint:</b> 31.24 psi
<b>Sacks Needed</b> 548 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total</b> 576.14 psi
<b>Mix Water</b> 97.57 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Differential Pressure:</b> 387.36 psi
	<b>Collapse PSI:</b> 2020.00 psi
	<b>Burst PSI:</b> 3520.00 psi
	<b>Total Water Needed:</b> 245.73 bbls

X *Jason* Majors 42  
 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.



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

Customer  
Well Name

Anadarko Petroleum Corporation  
SACK 37C-6HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

45009
Weld
JASON
7/26/2014

Treatment Report Page 2

**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	710															
MIRU	430															
CIRCULATE	806	0	842	0	0			0			0			0		
Drop Plug		10	844	20	10			10			10			10		
841		20	846	10	20			20			20			20		
		30	849	20	30			30			30			30		
		40	852	100	40			40			40			40		
M & P		50	853	180	50			50			50			50		
Time	Sacks	60	855	210	60			60			60			60		
0239-0305	548	70	858	320	70			70			70			70		
		80	859	390	80			80			80			80		
		90	901	380	90			90			90			90		
		100	907	410	100			100			100			100		
		110	BUMP	910	110			110			110			110		
% Excess	25%	120			120			120			120			120		
Mixed bbls	97.6	130			130			130			130			130		
Total Sacks	548	140			140			140			140			140		
bbl Returns	2	150			150			150			150			150		
Water Temp	64															

Notes:

The day

PRESSURE TESTED TO 2000 PSI @ 0802, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 @ 0806, MIX AND PUMPED 510 SKS AT 14.2, 135.3 BBLs AT 0815, STARTED DISPLACEMENT AT 0842, PLUG LANDED AT 410 PSI AT 0907 AND PRESSURED UP TO 910 PSI AND HELD FOR 2 MINUTES, RELEASED PRESSURE AND GOT .5 BBL BACK, AT 1043 MIXED AND PUMPED 5 BBL OF CEMENT AT 14.2 TO TOP OUT WELL, SHUT DOWN AT 1049, AT 1051 MIXED AND PUMPED 5 BBL OF CEMENT AT 14.2 WITH A TOTAL OF 38 SKS AND SHUT DOWN AT 1059

X *Ellis Loren Major 42*

X \_\_\_\_\_  
Title

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

Work Performed

# SERIES 2000

