




Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/31/2014
Invoice #: 25027
API#: 05-123-39426
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Sack 37N-6HZ

County: Weld
State: Colorado
Sec: 31
Twp: 1N
Range: 67W
Consultant: Allen
Rig Name & Number: Major 42
Distance To Location: 42 Miles
Units On Location: 4023-3104/4019-3204
Time Requested: 180pm
Time Arrived On Location: 1130pm
Time Left Location: 8:00pm

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) : 1,343	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1354	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: 16
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		Displacement: 101.19 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe 18.43 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus		
cuft of Conductor 0.00 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 990.97 PSI		
cuft of Casing 823.28 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing		
Total Slurry Volume 841.71 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 560.91 psi		
bbls of Slurry 149.91 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 31.32 psi		
Sacks Needed 565 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 592.23 psi		
Mix Water 100.61 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 398.74 psi		
 X _____ Authorization To Proceed		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 251.79 bbls	
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 37N-6HZ

INVOICE #
LOCATION
FOREMAN
Date

25027
Weld
Calvin Reimers
7/31/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE		0	628pm	100	0			0			0			0		
Drop Plug		10	631pm	30	10			10			10			10		
627pm		20	633pm	30	20			20			20			20		
		30	635pm	90	30			30			30			30		
		40	637pm	190	40			40			40			40		
M & P		50	639pm	240	50			50			50			50		
Time Sacks		60	640pm	330	60			60			60			60		
557pm	565	70	642pm	370	70			70			70			70		
624pm		80	644pm	410	80			80			80			80		
		90	645pm	480	90			90			90			90		
		100	648pm	450	100			100			100			100		
		110	649pm	450	110			110			110			110		
% Excess	25%	120	Bump	1460	120	652pm		120			120			120		
Mixed bbls	100.61	130	Bump	1000	130	654pm		130			130			130		
Total Sacks	565	140			140			140			140			140		
bbl Returns	16	150			150			150			150			150		
Water Temp	74.3															

Notes:

The day

1/2 bbl back on bleed off

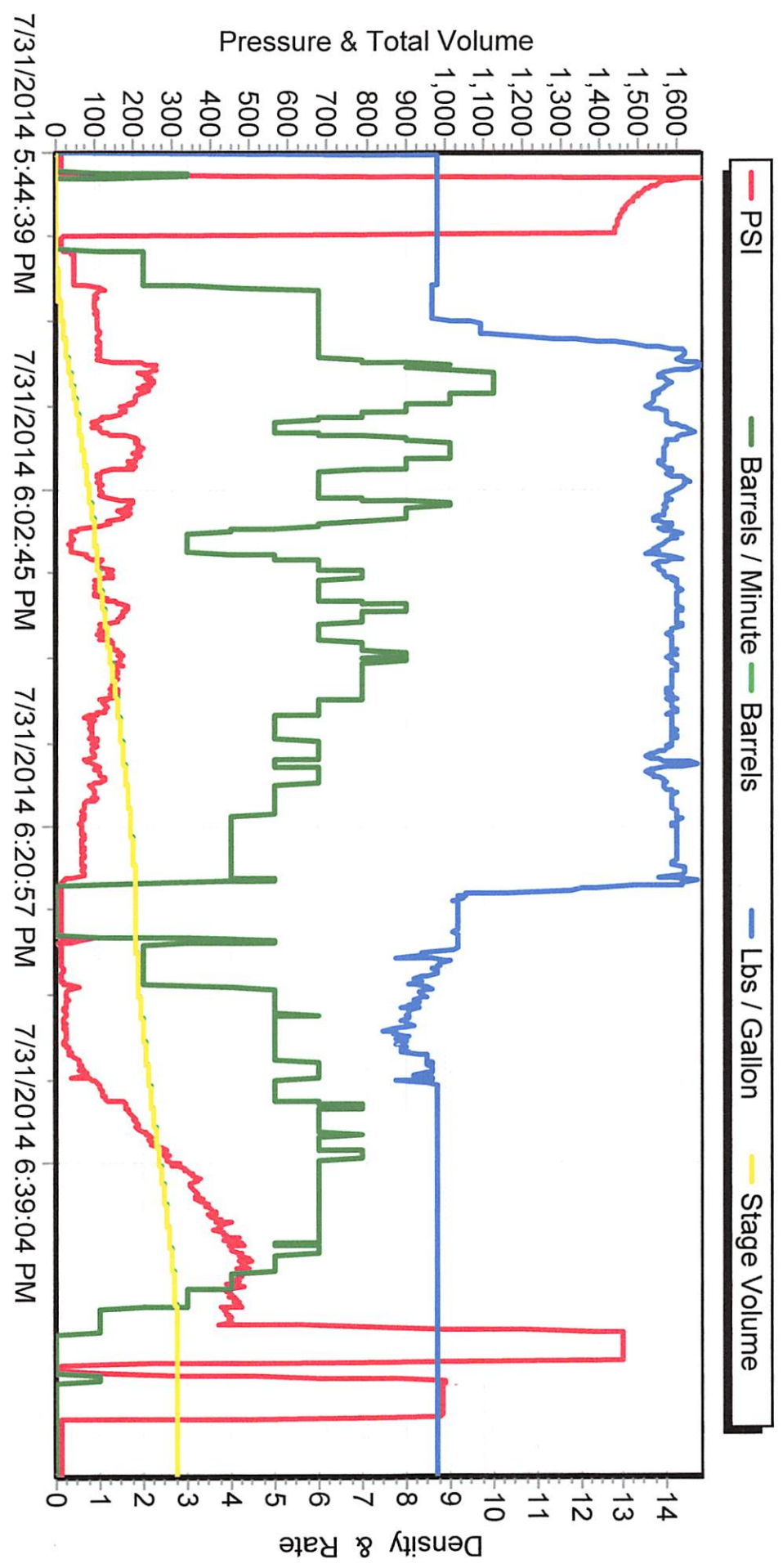
X Ken Glase
Work Performed

X APC
Title

X 07/31/2014
Date

MO218

M/D TOTCO 2000 SERIES



BISOM