



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/1/2014  
 Invoice #: 35029  
 API#:  
 Foreman: Kirk Kallhoff

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** douthit 38n-27hz

County: Weld  
 State: Colorado  
 Sec: 26  
 Twp: 3n  
 Range: 68w

Consultant: randy  
 Rig Name & Number: major 29  
 Distance To Location: 15  
 Units On Location: 4030-3103/4018-3204  
 Time Requested: 600 am  
 Time Arrived On Location: 400 am  
 Time Left Location: 12:15 pm

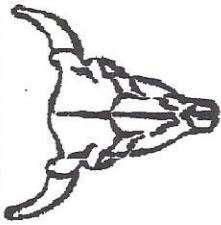
WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft.) : 1,230	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1248	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 26%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID :	BBL to Pit:
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 8	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure of cement in annulus
<b>cuft of Shoe</b> 18.23 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Displacement:</b> 92.46 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> 907.37 PSI
<b>cuft of Casing</b> 757.43 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> 775.66 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Displacement:</b> 512.24 psi
<b>bbls of Slurry</b> 138.15 bbls (Total Slurry Volume) X (.1781)	<b>Shoe Joint:</b> 30.98 psi
<b>Sacks Needed</b> 521 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total</b> 543.23 psi
<b>Mix Water</b> 92.71 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Differential Pressure:</b> 364.14 psi
	<b>Collapse PSI:</b> 2020.00 psi
	<b>Burst PSI:</b> 3520.00 psi
	<b>Total Water Needed:</b> 235.17 bbls

*[Signature]*  
 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.



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 LOCATION Weld  
 FOREMAN Kirk Kallhoff  
 Date 9/1/2014

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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	804am														
MIRU	700am														
CIRCULATE	830am														
Drop Plug															
	912 am														
M & P															
Time															
		Sacks													
836 am		523													
909 am stop															
% Excess		27%													
Mixed bbls		93.2													
Total Sacks		523													
bbl Returns		15													
Water Temp															

Notes:

bumped plug at 936 am 1400 psi

floats held

138.7 bbls slurry

*X Randy Cole*  
 Work Performed

X *APL Consultant*  
 Title

X 9-1-14  
 Date

# M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

