

# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/11/2014  
 Invoice # 35036  
 API# \_\_\_\_\_  
 Foreman: Kirk Kallhoff

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** kerr 13c-25hz

County: Weld  
 State: Colorado  
 Sec: 13  
 Twp: 2n  
 Range: 67w

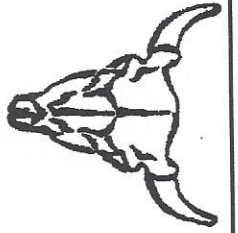
Consultant: allen  
 Rig Name & Number: major 42  
 Distance To Location: 15  
 Units On Location: 4030-3103/4024-3203  
 Time Requested: 730 am  
 Time Arrived On Location: 600 am  
 Time Left Location: 11:00pm

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>36.00</u>	Cement Density (lb/gal) : <u>14.2</u>
Casing Depth (ft.) : <u>1,041</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1059</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>16%</u>
Conductor Length (ft) : _____	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : _____	BBL to Pit: _____
Shoe Joint Length (ft) : <u>41</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>8</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: _____	Spacer Ahead Makeup
Max Pressure: _____	

Calculated Results	Pressure of the fluids inside casing
Casing ID <u>8.921</u> Casing Grade <u>J-55 only used</u>	<b>Displacement: <u>77.93 bbls</u></b> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<b>cuft of Shoe <u>17.80 cuft</u></b> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Pressure of cement in annulus</b>
<b>cuft of Conductor <u>0.00 cuft</u></b> (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Hydrostatic Pressure: <u>767.95 PSI</u></b>
<b>cuft of Casing <u>590.17 cuft</u></b> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Displacement: <u>431.18 psi</u></b>
<b>Total Slurry Volume <u>607.97 cuft</u></b> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Shoe Joint: <u>30.25 psi</u></b>
<b>bbls of Slurry <u>108.28 bbls</u></b> (Total Slurry Volume) X (.1781)	<b>Total <u>461.43 psi</u></b>
<b>Sacks Needed <u>408 sk</u></b> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Differential Pressure: <u>306.52 psi</u></b>
<b>Mix Water <u>72.67 bbls</u></b> (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Collapse PSI: <u>2020.00 psi</u></b>
	<b>Burst PSI: <u>3520.00 psi</u></b>
	<b>Total Water Needed: <u>200.59 bbls</u></b>

X [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.



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

Customer  
 Well Name

Anadarko Petroleum Corporation  
 Kerr 13c-25hz

INVOICE #  
 LOCATION  
 FOREMAN  
 Date

35036  
 Weld  
 Kirk Kallhoff  
 9/11/2014

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**DESCRIPTION OF JOB EVENTS**

	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI
Safety Meeting	1120am														
MIRU	1045am														
CIRCULATE	1145am														
Drop Plug	0	1219pm	10	0			0			0			0		
	10	1221pm	30	10			10			10			10		
	20	1224pm	50	20			20			20			20		
	30	1226pm	140	30			30			30			30		
	40	1228pm	200	40			40			40			40		
	50	1230pm	270	50			50			50			50		
M & P	60	1232pm	330	60			60			60			60		
	70	1235pm	350	70			70			70			70		
Time	Sacks														
1151 am	411			80			80			80			80		
1215 pm stop				90			90			90			90		
				100			100			100			100		
				110			110			110			110		
				120			120			120			120		
% Excess	17%			130			130			130			130		
Mixed bbls	73.2			140			140			140			140		
Total Sacks	411			150			150			150			150		
bbl Returns	19														
Water Temp															

Notes:

bumped plug at 78 bbls at 1238 pm 1390 psi

109 bbls slurry

floats held

X \_\_\_\_\_ X \_\_\_\_\_ X \_\_\_\_\_  
 Work Performed Title Date  
 9-11-14

# M/D TOTCO 2000 SERIES

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

