



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/19/2017  
 Invoice #: 900194  
 API#: 05-123-45227  
 Foreman: Corey B.

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** Burough 27C-17HZ

County: Weld  
 State: Colorado  
 Consultant: Matt  
 Rig Name & Number: Cartel 88  
 Distance To Location: 32  
 Units On Location: 027/3103-4033/3212-4020/321  
 Sec: 17  
 Twp: 1N  
 Range: 66W  
 Time Requested: 1230  
 Time Arrived On Location: 1200  
 Time Left Location:

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.) : 1,885	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1895	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 10%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit:
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 15	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	30 bbl with Die in 2nd 10

Calculated Results	Displacement: 143.48 bbls
<b>cuft of Shoe</b> 19.10 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<b>cuft of Conductor</b> 61.05 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Pressure of cement in annulus</b> Hydrostatic Pressure: 1390.56 PSI
<b>cuft of Casing</b> 970.37 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Pressure of the fluids inside casing</b> Displacement: 793.80 psi Shoe Joint: 32.46 psi Total: 826.26 psi
<b>Total Slurry Volume</b> 1050.52 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Differential Pressure:</b> 564.30 psi
<b>bbls of Slurry</b> 187.10 bbls (Total Slurry Volume) X (.1781)	<b>Collapse PSI:</b> 2020.00 psi <b>Burst PSI:</b> 3520.00 psi
<b>Sacks Needed</b> 710 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total Water Needed:</b> 318.55 bbls
<b>Mix Water</b> 125.06 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	

X *Matthews*  
 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  
Borough 27C-17HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

900194  
Weld  
Corey B.  
10/19/2017

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**DESCRIPTION OF JOB EVENTS**

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 10%	1200	What rig is doing upon Bison Arrival	Running Casing			
Mixed bbls 125.06	1210	JSA	Bison Crew			
Total Sacks 710	1220	Rig up				
bbl Returns 14	1500	Safety Meeting	Bison and Rig crew			
Water Temp 63	1515	Start Job				
	1517	Pressure Test				
Notes:						
	1520	Spacer Ahead	2nd 10 with die	5	30	80
	1525	Lead Cement	14.2 ppg	5	187	60
	1602	Shutdown				
	1604	Drop Plug	Preloaded in plug container			
	1606	Start Displacement		7	90	390
	1630	Bump Plug	500 over final lift 1080 psi	2	143	520
	1632	Floats Held	Held for 2 MIN with 1.5 bll back			
	1635	End Job				
	1645	Rig Down				
	1715	Leave Location				

X [Signature]  
Work Performed

X Co. Man  
Title

X 10/19/17  
Date

# Borough 27C-17N

