



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/15/2017  
 Invoice #: 900210  
 API#: 05-123-45500  
 Foreman: Corey Barras

**Customer:** Anadarko Petroleum Corporation  
**Well Name:** Yellowhammer 30N-8HZ

County: Weld  
 State: Colorado  
 Sec: 8  
 Twp: 1N  
 Range: 68W

Consultant: Matt  
 Rig Name & Number: Cartel 88  
 Distance To Location: 42  
 Units On Location: 4  
 Time Requested: 700  
 Time Arrived On Location: 615  
 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.) : 1,867	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1877	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 5%
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: 142.09 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: 1377.29 PSI
<b>cuft of Casing</b> 917.03 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Pressure of the fluids inside casing</b> Displacement: 786.04 psi Shoe Joint: 32.46 psi Total: 818.50 psi
<b>Total Slurry Volume</b> 997.18 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 558.78 psi
<b>bbls of Slurry</b> 177.60 bbls (Total Slurry Volume) X (.1781)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
<b>Sacks Needed</b> 674 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total Water Needed:</b> 310.80 bbls
<b>Mix Water</b> 118.71 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	

X 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  
Yellowhammer 30N-8HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

900210  
Weld  
Corey Barras  
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**DESCRIPTION OF JOB EVENTS**

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 5%	615	What rig is doing upon Bison Arrival	Running Casing			
Mixed bbls 118.71	620	JSA	Bison Crew			
Total Sacks 674	630	Rig up				
bbl Returns 5	1930	Safety Meeting	Bison and Rig crew			
Water Temp 58	2005	Start Job				
	2007	Pressure Test				
Notes:						
Rig had to Run	2010	Spacer Ahead	2nd 10 with die	6	30	90
Wiper Trip	2015	Lead Cement	14.2 ppg	8	177	100
	2038	Shutdown				
	2040	Drop Plug	Preloaded in plug container			
	2043	Start Displacement		7	90	330
	2105	Bump Plug	500 over final lift (1080 PSI)	2	142	520
	2107	Floats Held	Held for 2 MIN with .5 bll back			
	2110	End Job				
	2115	Rig Down				
	2145	Leave Location				

X *Sam Davis*  
Work Performed

X *WJC*  
Title

X *11/15/17*  
Date

# Yellowhammer 30N-8HZ

