



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/6/2017  
 Invoice # 900130  
 API# 05-123-44795  
 Foreman: Corey B.

**Customer:** Anadarko Petroleum Corporation

**Well Name:** Cannon 2N-4HZ

County: Weld  
 State: Colorado  
 Sec: 33  
 Twp: 3N  
 Range: 65W

Consultant: Matt  
 Rig Name & Number: Cartel 88  
 Distance To Location: 31  
 Units On Location: 1027/3103-4033/3212-4020/321  
 Time Requested: 1430  
 Time Arrived On Location: 1330  
 Time Left Location: \_\_\_\_\_

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>1,873</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>1883</u>	Gallons Per Sack: <u>7.40</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>15%</u>
Conductor Length (ft) : <u>80</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit:
Shoe Joint Length (ft) : <u>44</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>15</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>8</u>	Spacer Ahead Makeup
Max Pressure: <u>2000</u>	<u>30 bbl with Die in @nd 10</u>

Calculated Results	Pressure of cement in annulus
<b>Displacement:</b> <u>142.56 bbls</u> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	<b>Hydrostatic Pressure:</b> <u>1381.71 PSI</u>
<b>cuft of Shoe</b> <u>19.10 cuft</u> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Pressure of the fluids inside casing</b>
<b>cuft of Conductor</b> <u>61.05 cuft</u> (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Displacement:</b> <u>788.63 psi</u>
<b>cuft of Casing</b> <u>1007.74 cuft</u> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	<b>Shoe Joint:</b> <u>32.46 psi</u>
<b>Total Slurry Volume</b> <u>1087.88 cuft</u> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Total</b> <u>821.09 psi</u>
<b>bbls of Slurry</b> <u>193.75 bbls</u> (Total Slurry Volume) X (.1781)	<b>Differential Pressure:</b> <u>560.62 psi</u>
<b>Sacks Needed</b> <u>735 sk</u> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Collapse PSI:</b> <u>2020.00 psi</u>
<b>Mix Water</b> <u>129.51 bbls</u> (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Burst PSI:</b> <u>3520.00 psi</u>
	<b>Total Water Needed:</b> <u>322.07 bbls</u>

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
Cannon 2N-4HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

900130
Weld
Corey B.
7/6/2017

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**DESCRIPTION OF JOB EVENTS**

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 15%	1330	What rig is doing upon Bison Arrival	Running casing			
Mixed bbls 129.51	1335	JSA	Bison Crew			
Total Sacks 735	1345	Rig up				
bbl Returns 31	1625	Safety Meeting	Bison and Rig crew			
Water Temp 70	1652	Start Job				
	1655	Pressure Test				
Notes:						
	1658	Spacer Ahead	2nd 10 with die	5	30	100
	1702	Lead Cement	14.2 ppg	6	193	60
	1742	Shutdown				
	1745	Drop Plug	Preloaded in plug container			
	1747	Start Displacement		7	90	390
	1812	Bump Plug	500 over final lift 1160 psi	2	142	520
	1815	Floats Held	Held for 3 min with 1/2 BBL Back			
	1820	End Job				
	1825	Rig Down				
	1845	Leave Location				

X [Signature]  
Work Performed

X Corey  
Title

X 7-6-17  
Date

# Cannon2N-\$HZ

