



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/22/2017
 Invoice # 900143
 API# 05-123-44614
 Foreman: Corey B.

Customer: Anadarko Petroleum Corporation

Well Name: RW 38N-31HZ

County: Weld
 State: Colorado
 Sec: 29
 Twp: 3N
 Range: 65W

Consultant: Matt
 Rig Name & Number: Xtreme 22
 Distance To Location: 26
 Units On Location: 027/3103-4033/3212-4020/321
 Time Requested: 1930
 Time Arrived On Location: 1915
 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>1,878</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>1888</u>	Gallons Per Sack: <u>7.40</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>10%</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 2nd 10</u>

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>19.10</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>142.94</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>61.05</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>1385.40</u> PSI
cuft of Casing <u>966.61</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume <u>1046.76</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>790.79</u> psi
bbls of Slurry <u>186.43</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>32.46</u> psi
Sacks Needed <u>707</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>823.24</u> psi
Mix Water <u>124.61</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>562.16</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>317.56</u> bbls

x David Court
 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
RW 38N-31HZ

INVOICE #
LOCATION
FOREMAN
Date

900143
Weld
Corey B.
7/23/2017

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 10%	1915	What rig is doing upon Bison Arrival	Running casing			
Mixed bbls 124.61	1930	JSA	Bison Crew			
Total Sacks 707	2115	Rig up				
bbl Returns 19	2145	Safety Meeting	Bison and Rig crew			
Water Temp 68	2218	Start Job				
	2220	Pressure Test				
Notes:						
	2223	Spacer Ahead	2nd 10 with die	6	30	60
	2227	Lead Cement	14.2 ppg	5	186	60
	2308	Shutdown				
	2310	Drop Plug	Preloaded in plug container			
	2317	Start Displacement		7	90	360
	2334	Bump Plug	500 over final lift 1170 psi	2	142	520
	2336	Floats Held	Held for 2 MIN with 1/2 bll back			
	2340	End Job				
	2350	Rig Down				
	1230	Leave Location				

X David Court
Work Performed

X _____
Title

X _____
Date

RW 38N-31HZ

