



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/18/2017
 Invoice # 900139
 API# 05-123-44611
 Foreman: Corey B.

Customer: Anadarko Petroleum Corporation
Well Name: RW 13N-32HZ

County: Weld Consultant: Matt
 State: Colorado Rig Name & Number: Xtreme 22
 Distance To Location: 28
 Sec: 29 Units On Location: 027/3103-4033/3212-4020/321
 Twp: 3N Time Requested: 2030
 Range: 65W Time Arrived On Location: 1930
 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>1,844</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>1854</u>	Gallons Per Sack: <u>7.40</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>12%</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>

Casing ID 8.921 Casing Grade J-55 only used

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>140.31</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>1360.32</u> PSI
cuft of Casing <u>965.57</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>1045.72</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>776.13</u> psi
bbls of Slurry <u>186.24</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>808.58</u> psi
Mix Water <u>124.49</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>551.73</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>314.80</u> bbls

X David [Signature]
 Authorization To Proceed



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

Customer
Well Name

Anadarko Petroleum Corporation
RW 13N-32HZ

INVOICE #
LOCATION
FOREMAN
Date

900139
Weld
Corey B.
7/18/2017

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DESCRIPTION OF JOB EVENTS

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 12%	1930	What rig is doing upon Bison Arrival	Running casing			
Mixed bbls 124.49	1935	JSA	Bison Crew			
Total Sacks 707	1945	Rig up				
bbl Returns 30	1950	Safety Meeting	Bison and Rig crew			
Water Temp 62	2026	Start Job				
	2028	Pressure Test				
Notes:						
	2030	Spacer Ahead	2nd 10 with die	5	30	40
	2035	Lead Cement	14.2 ppg	5	186	60
	2120	Shutdown				
	2122	Drop Plug	Preloaded in plug container			
	2125	Start Displacement		7	90	360
	2156	Bump Plug	500 over final lift 1080 psi	2	140	510
	2158	Floats Held	Held for 2 MIN with 1/2 bll back			
	2200	End Job				
	2210	Rig Down				
	2230	Leave Location				

X

Work Performed

X

Title

David Court

X

Date

7-18-17

RW13N-32HZ

