



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/16/2017
 Invoice # 900081
 API# 05-123-43811
 Foreman: Corey B.

Customer: Anadarko Petroleum Corporation
Well Name: Babcock 32N-33HZ

County: Weld Consultant: Matt
 State: Colorado Rig Name & Number: 252
 Distance To Location: 36
 Sec: 4 Units On Location: 1027-3103/4020-3212/4019-321
 Twp: 2N Time Requested: 1100
 Range: 67W Time Arrived On Location: 1020
 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>1,845</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>1855</u>	Gallons Per Sack: <u>7.49</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>8bm</u>	Spacer Ahead Makeup
Max Pressure: <u>2000</u>	<u>30 bbl /2nd 10 BBL with Die</u>

Calculated Results	Displacement: <u>140.39 bbls</u>
cuft of Shoe <u>19.10</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(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)	Pressure of cement in annulus
cuft of Casing <u>992.00</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: <u>1361.06 PSI</u>
Total Slurry Volume <u>1072.15</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry <u>190.95</u> bbls (Total Slurry Volume) X (.1781)	Displacement: <u>776.56 psi</u>
Sacks Needed <u>724</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: <u>32.46 psi</u>
Mix Water <u>129.19</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total <u>809.02 psi</u>
	Differential Pressure: <u>552.04 psi</u>
	Collapse PSI: <u>2020.00 psi</u>
	Burst PSI: <u>3520.00 psi</u>
	Total Water Needed: <u>319.58 bbls</u>

X B. Brown
 Authorization To Proceed



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

Customer
Well Name

Anadarko Petroleum Corporation
Babcock 32N-33HZ

INVOICE #
LOCATION
FOREMAN
Date

900081
Weld
Corey B.
4/16/2017

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DESCRIPTION OF JOB EVENTS

Amount Pumped	Time/Date	Event	Description	Rate	BBLs	Pressure
% Excess 15%						
Mixed bbls 129.19						
Total Sacks 724	1020	What rig is doing upon Bison Arrival	Running Casing			
bbl Returns 20	1025	JSA	Bison Crew			
Water Temp 65	1030	Rig up				
	1200	Safety Meeting	Bison and Rig crew			
Notes:	1230	Start Job				
	1232	Pressure Test				
	1236	Spacer Ahead	2nd 10 with die	4.5	30	120
	1244	Lead Cement	14.2 ppg	7	191	200
	1315	Shutdown				
	1317	Drop Plug	Preloaded in plug container			
	1320	Start Displacement		7	90	400
	1342	Bump Plug	500 psi over final lift (1120psi)	2	140	530
	1345	Floats Held	Held for 3 min			
	1346	End Job				
	1350	Rig Down				
	1420	Leave Location				

X

Work Performed

[Signature]

X

Title

Co. Man

X

Date

4-16-17

Babcock 32N-33HZ

