



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/18/2017
 Invoice #: 900193
 API#: 05-123-45225
 Foreman: Corey B.

Customer: Anadarko Petroleum Corporation
Well Name: Burough 27N-17HZ

County: Weld
 State: Colorado
 Consultant: Matt
 Rig Name & Number: Cartel 88
 Distance To Location: 32
 Units On Location: 027/3103-4033/3212-4020/321
 Time Requested: 2130
 Time Arrived On Location: 2010
 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.) : 1,869	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1879	Gallons Per Sack: 7.40
Open Hole Diameter (in.) : 13.50	% Excess: 15%
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: 142.25 bbls
cuft of Shoe 19.10 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 61.05 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus Hydrostatic Pressure: 1378.76 PSI
cuft of Casing 1005.49 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 786.91 psi Shoe Joint: 32.46 psi Total 819.36 psi
Total Slurry Volume 1085.64 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 559.40 psi
bbls of Slurry 193.35 bbls (Total Slurry Volume) X (.1781)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Sacks Needed 734 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: 321.49 bbls
Mix Water 129.24 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	

X *B Bw*
 Authorization To Proceed



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

Customer
Well Name

Anadarko Petroleum Corporation
Borough 27N-17HZ

INVOICE #
LOCATION
FOREMAN
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DESCRIPTION OF JOB EVENTS

Amount Pumped	Time	Event	Description	Rate	BBLs	Pressure
% Excess 15%	2010	What rig is doing upon Bison Arrival	Running Casing			
Mixed bbls 129.24	2020	JSA	Bison Crew			
Total Sacks 734	2030	Rig up				
bbl Returns 21	2200	Safety Meeting	Bison and Rig crew			
Water Temp 63	2215	Start Job				
	2217	Pressure Test				
Notes:						
	2219	Spacer Ahead	2nd 10 with die	5	30	80
	2225	Lead Cement	14.2 ppg	5	193	70
	2305	Shutdown				
	2307	Drop Plug	Preloaded in plug container			
	2309	Start Displacement		7	90	350
	2334	Bump Plug	500 over final lift 1110 psi	2	142	520
	2336	Floats Held	Held for 2 MIN with 1.5 bll back			
	2337	End Job				
	2345	Rig Down				
	1215	Leave Location				

X *[Signature]*
Work Performed

X *Co. Man*
Title

X 10/18/17
Date

Borough 27N-17HZ

