

Sold To #: 300466		Ship To #: 3765216		Quote #: 0022319482		Sales Order #: 0904112926				
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: Jackie Mckinley						
Well Name: BABCOCK			Well #: 12N-33HZ		API/UWI #: 05-123-43810-00					
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO				
Legal Description: SE NW-4-2N-67W-2138FNL-1995FWL										
Contractor: Precision				Rig/Platform Name/Num: Precision 464						
Job BOM: 7523 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066				Srv Supervisor: Steven Markovich						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type					BHST					
Job depth MD		12270ft			Job Depth TVD					
Water Depth					Wk Ht Above Floor					
Perforation Depth (MD)		From		To						
Well Data										
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		9.625	8.921	36		J-55	0	1848	0	1848
Casing		5.5	4.892	17	LTC	HCP110	0	12270	0	6538
Open Hole Section			7.875				1848	12280	1829	6538
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			12270		Top Plug	5.5	1	WF	
Float Shoe	5.5	1	WF			Bottom Plug	5.5	1	WF	
Float Collar	5.5	1	WF	12178		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		HES	
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	60	bbl	10.5	6.43				
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
86.45 lbm/bbl		BARITE, BULK (100003681)								
37.58 gal/bbl		FRESH WATER								
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem - Cap Cement	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		5	7.53
7.52 Gal		FRESH WATER							
0.90 %		SCR-100 (100003749)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	ElastiCem	ELASTICEM (TM) SYSTEM	390	sack	13.2	1.57		6	7.53
0.10 %		SUPER CBL, 50 LB PAIL (100003668)							
0.35 %		SCR-100 (100003749)							
7.54 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	EconoCem	ECONOCEM (TM) SYSTEM	685	sack	13.5	1.68		6	7.98
8 Gal		FRESH WATER							
0.40 %		HR-5, 50 LB SK (100005050)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34				
0.50 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)							
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
6	Biocide Water	Biocide Water	262	bbl	8.34				
Cement Left In Pipe		Amount	92 ft		Reason			Shoe Joint	

Comment: We calculated approx. 3 bbls of tuned spacer to surface. The mud engineer kicked the displacement over to the pit at approx. 3 bbls before we bumped the plug. Final lift pressure was approx. 2218 psi. We took the final pressure 500 psi over final circulating pressure and held for 3 minutes. Right after we took the pressure up to approx. 3477 psi and held for 15 minutes for a casing pressure test. We bled pressure off and checked the floats. Floats held and we got 3 bbls of fresh water back to the RCM. Held pre rig down safety meeting. Rigged down equipment.

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Start Job	Start Job	6/22/2017	14:04:25	COM4	8.35	0.00	40.00	Rigged up all iron to rig floor. Ready to fill lines for pressure test.
Event	2	Other	Other	6/22/2017	14:05:58	COM4	8.28	1.50	213.00	Pump 3 bbls of fresh water to fill pumps and lines.
Event	3	Test Lines	Test Lines	6/22/2017	14:09:29	COM4	8.21	0.00	133.00	Conduct a low pressure kickout function test to 500 PSI. Kickouts functioning properly. Took pressure up to our high pressure test to 4500 PSI. Held pressure for 5 minutes to monitor pressure loss.
Event	4	Check Weight	Check Weight	6/22/2017	14:16:59	COM4	8.29	0.00	129.00	Verified Tuned Spacer Sample with Pressurized Mud Balance. Scaled at 10.6 lb/gal.
Event	5	Pump Spacer 1	Pump Spacer 1	6/22/2017	14:22:38	COM4	8.33	0.00	143.00	Pumped 60 bbls of Tuned spacer at 10.6 lb/gal. We added 42 gallons of Musol A and Dual Spacer Surfactant. We added the additives on the fly as we were pumping down hole.
Event	6	Drop Bottom Plug	Drop Bottom Plug	6/22/2017	14:42:56	COM4	12.60	4.00	386.00	While pumping tuned spacer. The last 2 bbls of tuned spacer Steve Markovich dropped the bottom plug on the fly. Driller verified the plug being dropped.

Event	7	Pump Lead Cement	Pump Lead Cement	6/22/2017	14:43:00	COM4	12.69	4.00	384.00	Pumped 41 bbls of Lead Cement 150 sacks @ 13.2 lb/gal 1.57 cuft/sk 7.53 gal/sk.
Event	8	Check Weight	Check Weight	6/22/2017	14:43:20	COM4	12.97	4.00	390.00	Lead Cement weight verified by Pressurized Mud Balance Scales. Weight 13.3 lb/gal.
Event	9	Pump Lead Cement	Pump Lead Cement	6/22/2017	14:50:28	USER	13.05	8.00	471.00	Pumped 110 bbls of Second Lead Cement. 390 sacks @ 13.2 lb/gal 1.57 cuft/sk 7.53 gal/sk. Pumped at 8 bbls per minute.
Event	10	Pump Tail Cement	Pump Tail Cement	6/22/2017	15:12:01	COM4				Pumped 205 bbls of Tail Cement. 685 sacks @ 13.5 lb/gal 1.68 cuft/sk 7.98 gal/sk. We pumped Tail cement at 8 bbls per minute.
Event	11	Check Weight	Check Weight	6/22/2017	15:16:24	COM4	13.48	8.00	688.00	Tail Cement verified by Pressurized Mud Balance Scales. Tail weighed up at 13.5 lb/gal.
Event	12	Shutdown	Shutdown	6/22/2017	15:53:29	COM4				Shutdown to wash pumps and lines to the pit. The rig crew used air to blow down our standpipe to the pit. After that we lined up and washed pumps and lines. Down for approx. 5 minutes.
Event	13	Drop Top Plug	Drop Top Plug	6/22/2017	15:55:34	COM4				Dropped 5.5" top plug. Plug dropped by Bryce Muir and verified by the driller.
Event	14	Pump Displacement	Pump Displacement	6/22/2017	15:55:38	COM4	8.47	0.00	34.00	Pumped 282.5 bbls of fresh water displacement. We added biocide to every 10

										bbls of fresh water displacement pumped. We did not add biocide to the last 20 bbls of displacement to make sure the biocide was not in our lines during rig down.
										Landed Top Plug at calculated displacement. We landed the plug at 2218 psi. We held that for 3 minutes. Right after the landing of the plug we performed a casing pressure test.
Event	15	Bump Plug	Bump Plug	6/22/2017	16:33:44	COM4	8.36	2.70	2218.00	
										Held 3477 psi on the casing for 15 minutes for casing pressure test. After the 15 minute casing test we checked floats. Floats held and we got 3 bbls back to the RCM.
Event	16	Test Lines	Test Lines	6/22/2017	16:36:39	COM4				
										Thank you Steve Markovich and Crew.
Event	17	End Job	End Job	6/22/2017	16:56:39	COM4				

3.0 Attachments

3.1 Anadarko Babcock 12N-33HZ Production Job Chart

