

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3786948		Quote #: 0022322295		Sales Order #: 0904128061					
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: Ruben Hernandez							
Well Name: BUTTERBALL		Well #: 22N2-34HZ		API/UWI #: 05-123-44411-00							
Field: WATTENBERG		City (SAP): IONE		County/Parish: WELD		State: COLORADO					
Legal Description: NE NW-10-2N-67W-819FNL-2190FWL											
Contractor: NABORS DRLG				Rig/Platform Name/Num: NABORS X22							
Job BOM: 7523 7523											
Well Type: HORIZONTAL GAS											
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Nathaniel Moore							
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		15913ft			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	1839	0	1839	
Casing		5.5	4.892	17	LTC	HCP110	0	15902	0	7231	
Open Hole Section			7.875				1839	15913	1839	7231	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5		HES		
Float Shoe	5.5			15902		Bottom Plug	5.5		HES		
Float Collar	5.5					SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5		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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Spacer III	Tuned Spacer III			60	bbl	10.5	6.43			
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)									
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									

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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		8	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		8	7.54	
0.35 %		SCR-100 (100003749)								
7.54 Gal		FRESH WATER								
0.10 %		SUPER CBL, 50 LB PAIL (100003668)								
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	1070	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		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)								
0.50 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)								
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	369	bbl	8.34					
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint		

15 bbl of cement to surface

2.0 Real-Time Job Summary

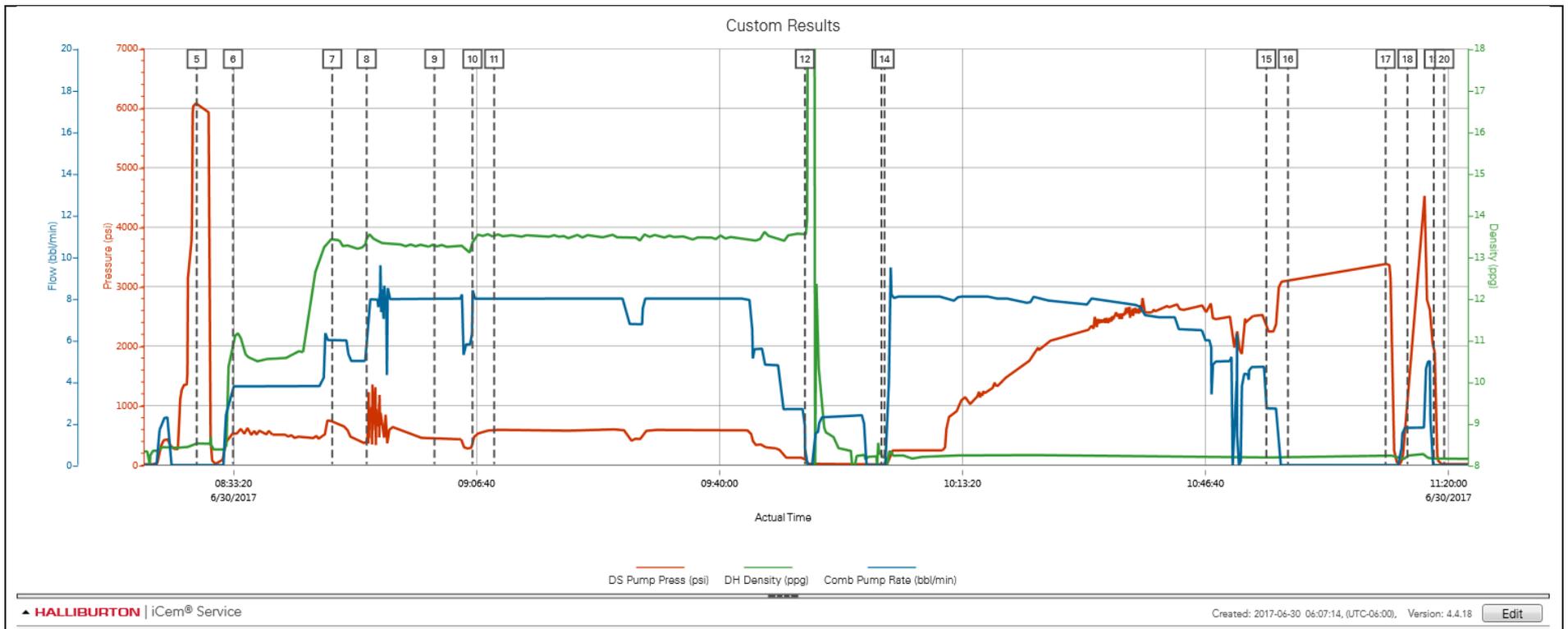
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	6/29/2017	21:00:00	USER				OL time 0300. Verify equipment and materials
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/30/2017	03:00:00	USER				Sign in with customer. Spot in and rig up equipment. TD 15913' 7.875" hole. TP 15902' 5.5" 17# casing. Float collar 15899' with wet shoe sub to be shifted. TVD 7216'. Surface 1839' 9.625" 36#. MW 9.1 ppg.
Event	3	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/30/2017	08:00:00	USER	8.32	15.00	0.00	Discuss job procedure with HES and rig crew
Event	4	Start Job	Start Job	6/30/2017	08:18:28	COM1	8.33	15.00	0.00	Drop bottom plug then Fill lines 3 bbl water. 450 psi at 3 bpm
Event	5	Test Lines	Test Lines	6/30/2017	08:28:17	COM1	8.52	6079.00	0.00	500 psi kickout test and 6000 psi pressure test
Event	6	Pump Spacer 1	Pump Spacer 1	6/30/2017	08:33:15	COM1	10.83	569.00	3.80	60 bbl tuned spacer 10.5 ppg 6.43 ft3/sk 41.3 gal/sk with surfactants.
Event	7	Pump Lead Cement	Pump Lead Cement	6/30/2017	08:46:52	COM1	13.44	716.00	6.00	150 sks/42 bbl 13.2 ppg ElastiCem without CBL. 1.57 ft3/sk 7.53 gal/sk
Event	8	Pump Lead Cement	Pump Lead Cement	6/30/2017	08:51:35	COM1	13.43	371.00	5.40	390 sks/ 109 bbl 13.2 ppg ElastiCem with CBL 1.57 ft3/sk 7.54 gal/sk
Event	9	Check Weight	Check weight	6/30/2017	09:00:53	COM1	13.24	456.00	8.00	13.2 ppg
Event	10	Pump Tail Cement	Pump Tail Cement	6/30/2017	09:06:06	COM1	13.35	371.00	7.20	1070sks/320 bbl 13.5 ppg EconoCem 1.68 ft3/sk 7.98 gal/sk
Event	11	Check Weight	Check weight	6/30/2017	09:09:05	COM1	13.49	577.00	8.00	13.5 ppg
Event	12	Shutdown	Shutdown	6/30/2017	09:51:43	USER	13.55	110.00	0.80	Wash pumps and lines to cement tank and blow down with rig air.
Event	13	Drop Top Plug	Drop Top Plug	6/30/2017	10:02:12	COM1	8.20	12.00	0.00	witnessed by customer rep.
Event	14	Pump Displacement	Pump Displacement	6/30/2017	10:02:38	COM1	8.19	11.00	0.00	369 bbl water displacement with MMCR in first 20 bbl and Biocide throughout.
Event	15	Other	Spacer to surface	6/30/2017	10:55:00	USER	8.18	2279.00	2.70	355 bbl into displacement. 15 bbl spacer back total.

Event	16	Bump Plug	Bump Plug	6/30/2017	10:57:58	COM1	8.21	3109.00	0.00	2300 psi final circulating pressure. Pressured up to 2900 psi and held for 15 minute casing test
Event	17	Other	Check floats	6/30/2017	11:11:22	USER	8.21	3382.00	0.00	4 bbl back
Event	18	Other	Pressure up well	6/30/2017	11:14:21	USER	8.23	1065.00	1.80	Pressured up to shift wet shoe sub. Shifted at 4500 psi then pumped 3 bbl wet shoe.
Event	19	Other	Check floats	6/30/2017	11:17:58	COM1	8.16	1980.00	0.00	2.5 bbl back
Event	20	End Job	End Job	6/30/2017	11:19:24	COM1	8.15	14.00	0.00	
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/30/2017	11:25:00	USER	8.15	82.00	9.60	
Event	22	Depart Location Safety Meeting	Depart Location Safety Meeting	6/30/2017	12:30:00	USER				

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

