

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 (100003685)								
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

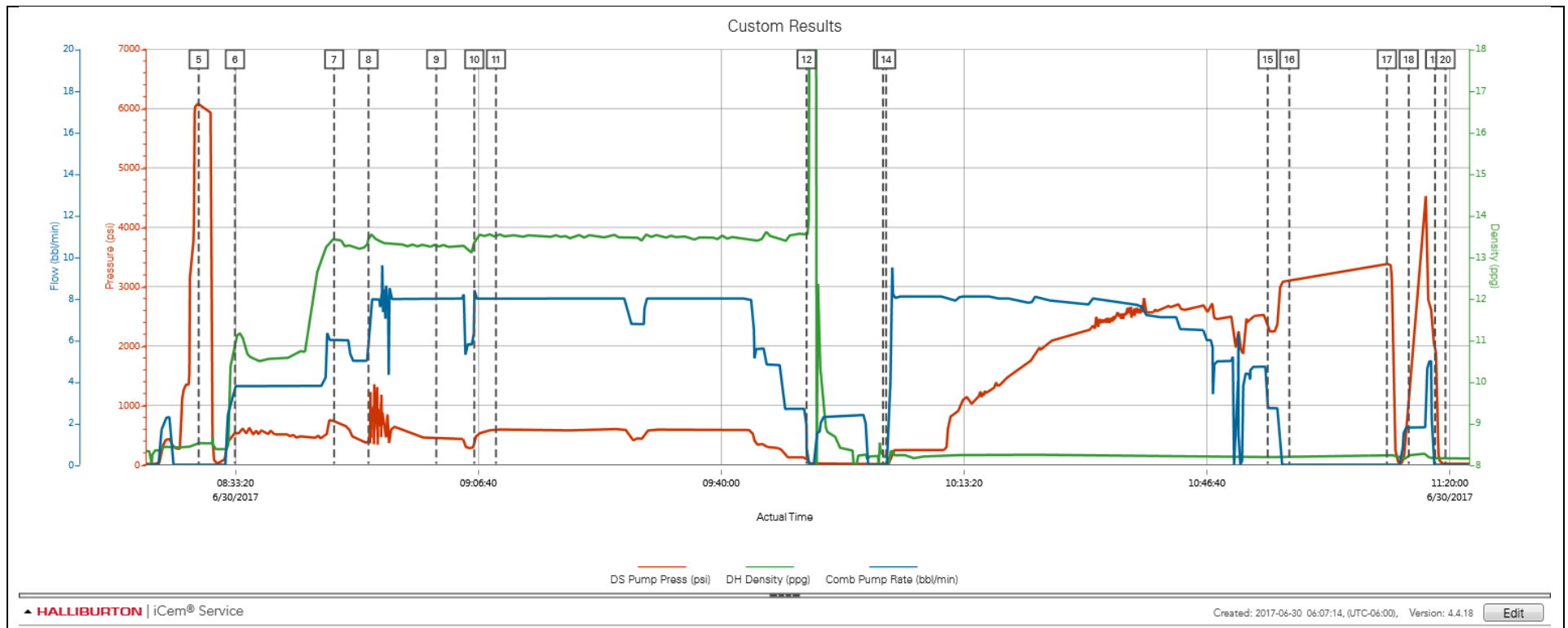
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	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

