

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3765180	Quote #: 0022313303	Sales Order #: 0904087695							
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Josh Johnson								
Well Name: BABCOCK	Well #: 19N-33HZ	API/UWI #: 05-123-43808-00								
Field: WATTENBERG	City (SAP): FIRESTONE	County/Parish: WELD	State: COLORADO							
Legal Description: SE NW-4-2N-67W-2138FNL-2040FWL										
Contractor: Precision		Rig/Platform Name/Num: Precision 464								
Job BOM: 7523 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066		Srv Supervisor: Nicholas Peterson								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	12176ft	Job Depth TVD								
Water Depth		Wk Ht Above Floor	5'							
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	1870	0	1870
Casing		5.5	4.892	17	LTC	HCP110	0	12177	0	0
Open Hole Section			7.875				1872	12186	1872	7220
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5	1	WEATH	12177	Top Plug	5.5	1	WEATH		
Float Shoe					Bottom Plug	5.5	1	WEATH		
Float Collar	5.5	1	WEATH	12085	SSR plug set					
Insert Float					Plug Container	5.5	1	HES		
Stage Tool					Centralizers	5.5	187	WEATH		
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	60	bbl	10.5	6.43		3		
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)								

last updated on 6/13/2017 1:24:51 AM

Page 1 of 3

iCem® Service

(v. 4.4.18)

Created: Monday, June 19, 2017

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /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
7.53 Gal		FRESH WATER							
0.90 %		SCR-100 (100003749)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /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
0.10 %		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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	EconoCem	ECONOCEM (TM) SYSTEM	680	sack	13.5	1.68		8	7.98
7.98 Gal		FRESH WATER							
0.40 %		HR-5, 50 LB SK (100005050)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Biocide Water and MMCR	Biocide Water and MMCR	40	bbl	8.34			8	
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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
6	Biocide Water	Biocide Water	241	bbl	8.34				
Cement Left In Pipe		Amount	47 ft	Reason				Shoe Joint	
Mix Water:		pH 7.0	Mix Water Chloride:		0 ppm	Mix Water Temperature:		70 °F	
Cement Temperature:## °F		Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		70 °F	
Plug Bumped?		Yes	Bump Pressure:		2300 psi MPa		Floats Held?		Yes
Cement Returns:		0 bbl	Returns Density:		10.5 lb/gal		Returns Temperature:## °F		
Comment: 14 BBLS TUNED SPACER 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)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	6/12/2017	16:00:00	USER				CREW CALLED OUT AT 16:00, REQUESTED ON LOCATION 19:30. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 E-4, E-17, AND PUMP 10378461.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/12/2017	18:45:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	6/12/2017	19:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location	6/12/2017	19:30:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,870', 5.5" CASING: 17 LB/FT TOTAL 12,176.58', 7.875" HOLE, TD 12,186', 92.53 SHOE, TVD- 7,220'. FRESH WATER DISPLACEMENT WITH MMCR AND BIOCID. CASING LANDED @ 21:30 06/12/2017.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/12/2017	19:45:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.

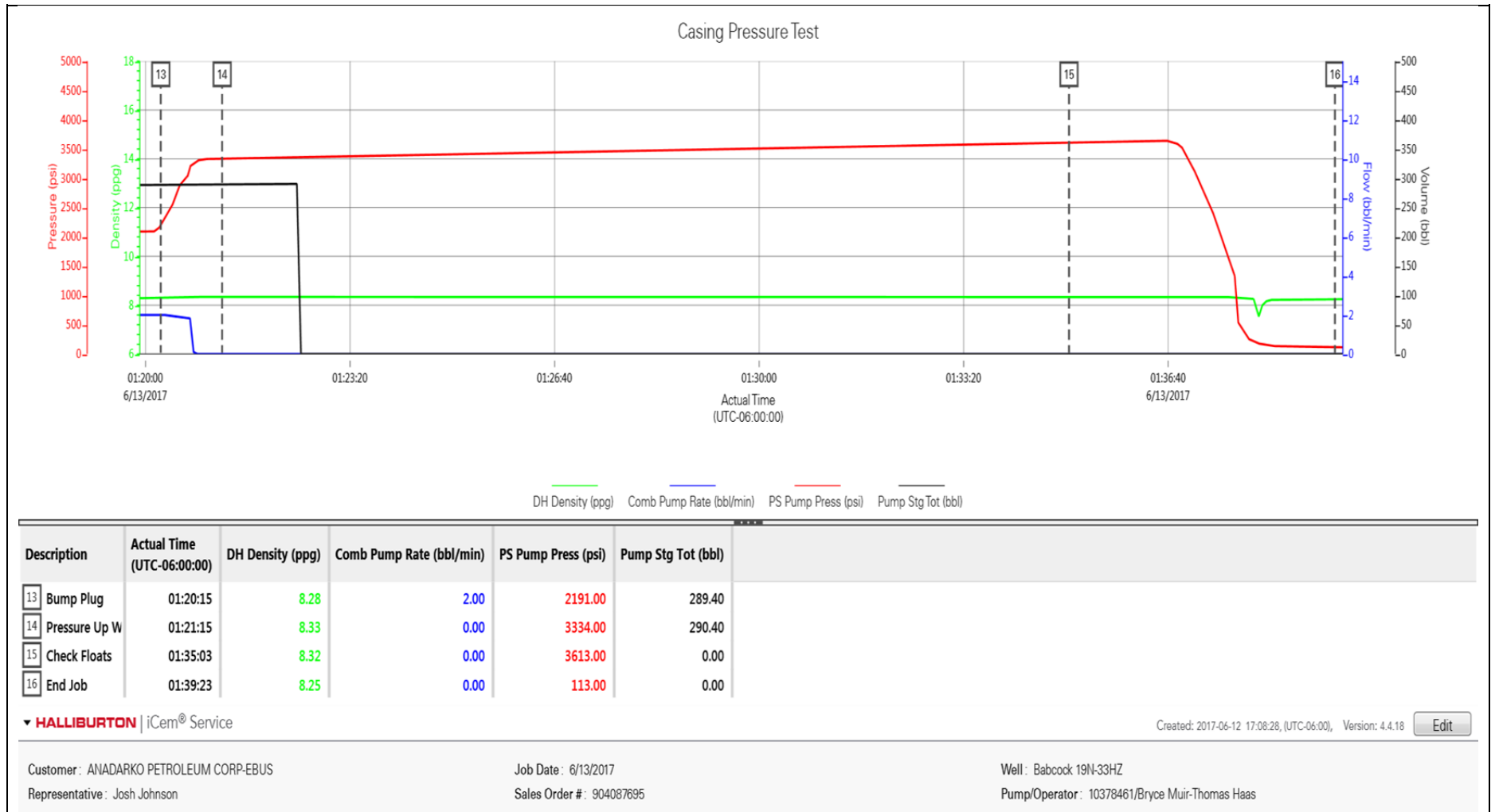
Event	6	Rig-Up Equipment	Rig-Up Equipment	6/12/2017	20:00:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/12/2017	22:30:00	USER	8.32	0.00	117.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	6/12/2017	22:58:06	COM5				BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	6/12/2017	23:01:32	COM5	8.35	0.00	243.00	PRESSURE TESTED IRON TO 5000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 950 PSI, 5TH GEAR STALL OUT @ 1620 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	6/12/2017	23:16:12	COM5				PUMP 60 BBLS OF TUNED SPACER @ 10.5 LB/GAL, WITH 42 GALS MUSOL A, 42 GALS DUAL SPACER B, AND 20 GALLONS D-AIR. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Pump Lead Cement	Pump Lead Cement	6/12/2017	23:33:15	COM5	13.35	8.00	977.00	PUMPED 150 SKS OF ELASTICEMCEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.53 GAL/SK. 41.94 BBLS, HOL CALCULATED @ 970.53', TOL CALCULATED @ 1,163.31. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Lead Cement	Pump Lead Cement	6/12/2017	23:36:33	COM5				PUMPED 390 SKS OF ELASTICEMCEM WITH CBL @ 13.2 LB/GAL, 1.57 FT3/SK, 7.54 GAL/SK. 109.05 BBLS, HOL CALCULATED @

										3,527.51', TOL CALCULATED @ 2,133.85. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Tail Cement	Pump Tail Cement	6/12/2017	23:57:19	COM5	13.46	7.90	729.00	PUMP 680 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 FT3/SK, 7.98 GAL/SK. 203.46 BBLS. HOT CALCULATED @ 6,515.21', TOT CALCULATED @ 5,661.36. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Shutdown	Shutdown	6/13/2017	00:22:53	USER	13.64	0.00	114.00	RIG SWAPPED LINES SO HALLIBURTON COULD WASH UP BEFORE DROPPING PLUG.
Event	15	Clean Lines	Clean Lines	6/13/2017	00:29:42	USER	13.84	0.00	101.00	CLEAN PUMPS AND LINES BEFORE DISPLACING PLUG.
Event	16	Drop Top Plug	Drop Top Plug	6/13/2017	00:36:02	COM5	8.22	0.00	105.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	17	Pump Displacement	Pump Displacement	6/13/2017	00:37:07	COM5	8.21	0.00	98.00	BEGIN CALCULATED DISPLACEMENT OF 281 BBLS WITH FRESH WATER. FIRST 40 BBLS WITH MMCR, SPACER TO SURFACE 267 BBLS INTO DISPLACEMENT.
Event	18	Bump Plug	Bump Plug	6/13/2017	00:54:45	USER	8.25	0.00	864.00	BURST BOTTOM PLUG.
Event	19	Bump Plug	Bump Plug	6/13/2017	01:20:15	COM5	8.28	2.00	2191.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 500 PSI OVER BUMP.
Event	20	Pressure Up Well	Pressure Up Well	6/13/2017	01:21:15	COM5	8.33	0.00	3334.00	CASING PRESSURE TEST 3000 PSI FOR 15 MINS.
Event	21	Check Floats	Check Floats	6/13/2017	01:35:03	USER	8.32	0.00	3613.00	RELEASED PRESSURE,

										FLOATS HELD, 3.5 BBLs BACK.
Event	22	End Job	End Job	6/13/2017	01:39:23	COM5	8.25	0.00	113.00	STOP RECORDING JOB DATA.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/13/2017	02:00:00	USER				DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	24	Rig-Down Completed	Rig-Down Completed	6/13/2017	02:45:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	25	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/13/2017	03:00:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	26	Depart Location	Depart Location	6/13/2017	03:30:00	USER				THANK YOU FOR USING HALLIBURTON - NICK PETERSON AND CREW.

3.0 Job Charts

3.1 Casing Pressure Test



3.2 Job Chart

