

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300468	Ship To #: 3712345	Quote #: 0022280610	Sales Order #: 0903882219							
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: Ruben Hernandez								
Well Name: PUMA FED	Well #: 13N-35HZ	API/UWI #: 05-123-42569-00								
Field: WATTENBERG	City (SAP): IONE	County/Parish: WELD	State: COLORADO							
Legal Description: SW SW-23-1N-87W-290FSL-878FWL										
Contractor: NABORS DRLG		Rig/Platform Name/Num: NABORS X22								
Job BOM: 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA/HX41066		Srvc Supervisor: Nicholas Roles								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	17775ft	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	2250	0	2250
Casing		5.5	4.892	17	LTC	HCP110	0	17775	0	7615
Open Hole Section			8.5				2250	17790	2250	7615
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			17775		Bottom Plug	5.5		HES	
Float Collar	5.5					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 ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	80	bbl	11	4.64		6		
35.60 gal/bbl		FRESH WATER								
0.25 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
120.20 lbm/bbl		BARITE, BULK (100003681)								
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								

last updated on 3/17/2017 9:22:18 AM

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	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							
0.85 %		SCR-100 (100003749)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	ElastiCem Lead W/CBL	ELASTICEM (TM) SYSTEM	630	sack	13.2	1.6		8	7.69
0.50 %		SCR-100 (100003749)							
7.69 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/mi n	Total Mix Fluid Gal
4	EconoCem	ECONOCEM (TM) SYSTEM	1690	sack	13.5	1.68		8	7.99
7.99 Gal		FRESH WATER							
0.35 %		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/mi n	Total Mix Fluid Gal
5	Sugar Water	100# sugar	20	bbl	8.34			9	
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
6	Biocide Water	Biocide Water	390	bbl	8.34			9	
Cement Left In Pipe			Amount	93ft			Reason		Shoe Joint
Comment Got 40bbls of spacer to surface. Estimated TOL w/o CBL-835', TOL w/CBL-1709', TOT-5930'.									

2.0 Real-Time Job Summary

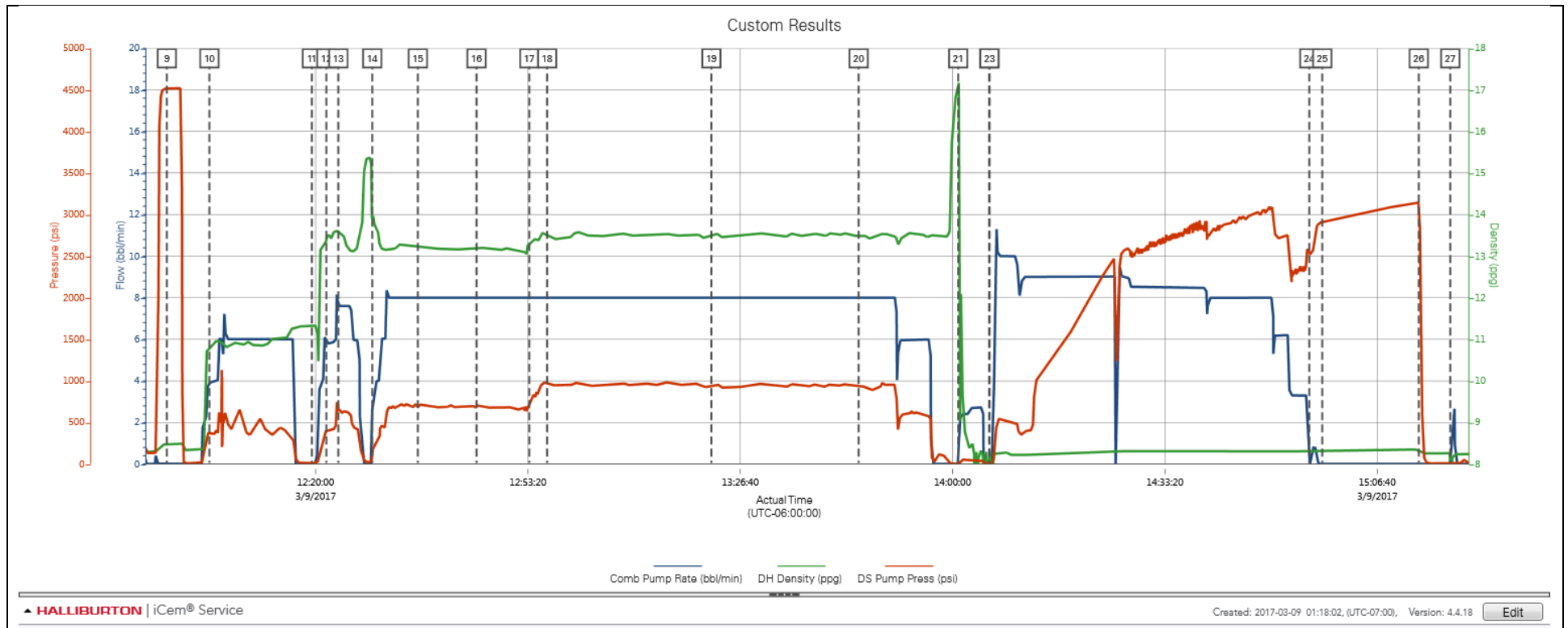
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	3/8/2017	23:30:00	USER				Crew call out for o/i at 0400
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/9/2017	02:00:00	USER				All crew aware of hazards and directions. All fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	3/9/2017	02:00:00	USER				Started journey management.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/9/2017	02:30:00	USER				Met with company man to discuss job details and procedure. Performed hazard hunt and site assessment. Rig had 3000ft casing left to run.
Event	5	Other	Other	3/9/2017	03:00:00	USER				Water Test- PH-6 Chlo-0 Temp-65 Cement temp-70
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/9/2017	03:30:00	USER				All hse present. Discussed bulk and iron placement and all red zone areas. Caution taped high pressure zones.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/9/2017	11:30:00	USER				Discussed job associated hazards, contingencies and job procedure with all job associated personnel.
Event	8	Start Job	Start Job	3/9/2017	11:50:52	COM1				TD-17790', TP-17775' 5.5" 17#, FC-17681', TVD-7615', OH-8.5", SURF-2250' 9.625" 36#, MUD-9.1#
Event	9	Test Lines	Test Lines	3/9/2017	11:56:39	COM1	0.00	8.47	4515.00	Pumped 5bbbls fresh water to fill lines at 2bpm 260psi, shutdown, closed manifold and performed 500psi k/o function test, proceeded to bring pressure to 4500psi. Held good no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	3/9/2017	12:03:19	COM1	3.90	10.75	393.00	Pumped 80bbbls of 11# 4.64y 29.6g/s Tuned Spacer III at 6bpm 530psi with 40g Musol A, 40g Dual Spacer B and 15g D-Air in first 40bbbls.
Event	11	Drop Bottom Plug	Drop Bottom Plug	3/9/2017	12:19:25	COM1	0.00	11.32	11.00	Dropped by HES supervisor, witnessed by company man.
Event	12	Pump Lead Cement	Pump Lead Cement	3/9/2017	12:21:41	COM1	5.80	13.42	407.00	Pumped 150sks or 41.9bbbls of 13.2# 1.57y 7.53g/s Elasticem w/o CBL at 8bpm 650psi.

Event	13	Check Weight	Check Weight	3/9/2017	12:23:33	COM1	7.60	13.60	646.00	Weight verified with pressurized mud scales.
Event	14	Pump Lead Cement	Pump Lead Cement	3/9/2017	12:28:53	COM1	2.60	13.89	134.00	Pumped 630sks or 179.5bbls of 13.2# 1.6y 7.69g/s Elasticem w/ CBL at 8bpm 680psi.
Event	15	Check Weight	Check Weight	3/9/2017	12:36:03	COM1	8.00	13.19	679.00	Weight verified with pressurized mud scales.
Event	16	Check Weight	Check Weight	3/9/2017	12:45:15	COM1	8.00	13.21	712.00	Weight verified with pressurized mud scales.
Event	17	Pump Tail Cement	Pump Tail Cement	3/9/2017	12:53:33	COM1	8.00	13.31	722.00	Pumped 1690sks or 505.6bbls of 13.5# 1.68y 7.99g/s of Econocem at 8bpm 844psi.
Event	18	Check Weight	Check Weight	3/9/2017	12:56:20	COM1	8.00	13.53	969.00	Weight verified with pressurized mud scales.
Event	19	Check Weight	Check Weight	3/9/2017	13:22:07	COM1	8.00	13.52	925.00	Weight verified with pressurized mud scales.
Event	20	Check Weight	Check Weight	3/9/2017	13:45:15	COM1	8.00	13.49	945.00	Weight verified with pressurized mud scales.
Event	21	Other	Other	3/9/2017	14:00:52	COM1	0.00	17.07	-1.00	Shutdown, rig blew iron down to pits, followed with 5bbls of fresh water through pumps and lines.
Event	22	Drop Top Plug	Drop Top Plug	3/9/2017	14:05:44	COM1	0.00	8.32	-5.00	Dropped by HES supervisor, witnessed by company man.
Event	23	Pump Displacement	Pump Displacement	3/9/2017	14:05:48	COM1	0.00	8.31	-5.00	Pumped 410bbls of fresh water with 100lbs of sugar in first 20bbls, 5g of Algicide throughout.
Event	24	Bump Plug	Bump Plug	3/9/2017	14:55:59	COM1				Slowed down to 3bpm at 395bbls away, final circulating pressure 2316psi, bump pressure- 2815psi.
Event	25	Pressure Up Well	Pressure Up Well	3/9/2017	14:58:01	COM1	0.00	8.33	2912.00	Pressured up to 3000psi and held for 15min.
Event	26	Check Floats	Check Floats	3/9/2017	15:13:10	USER	0.00	8.35	3135.00	Released pressure and got 4.5bbls back.
Event	27	End Job	End Job	3/9/2017	15:18:07	COM1				Got 40bbls of spacer to surface. Estimated TOL w/o CBL- 835', TOL w/CBL-1709', TOT-5930'.
Event	28	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	3/9/2017	15:30:00	USER				All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	29	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/9/2017	16:45:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	30	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/9/2017	17:00:00	USER				Pre journey managment prior to departure.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

