

HALLIBURTON

## Cementing Job Summary

## The Road to Excellence Starts with Safety

Sold To #: 300486	Ship To #: 3837792	Quote #: 0022400080	Sales Order #: 0904610800							
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: .								
Well Name: HERGENREDER	Well #: 7N-4HZ	API/UWI #: 05-123-45859-00								
Field: WATTENBERG	City (SAP): LONGMONT	County/Parish: WELD	State: COLORADO							
Legal Description: NW NW-33-3N-88W-364FNL-1020FWL										
Contractor: Xtreme		Rig/Platform Name/Num: Xtreme 24								
Job BOM: 7523 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Kyle Langston								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	14263ft	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	2356	0	2356
Casing		5.5	4.892	17	LTC	HCP110	0	14190	0	0
Open Hole Section			8.5				2356	14202	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5	1		14190		Top Plug	5.5	1		
Float Shoe	5.5					Bottom Plug	5.5	1		
Float Collar	5.5	1		14185		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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	60	bbl	10.5	6.25		4		
35.80 gal/bbl		FRESH WATER								
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
0.3330 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)								
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
88.91 lbm/bbl		BARITE, BULK (100003681)								

last updated on 2/8/2018 12:56:42 PM

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ICEM SERVICE

(v. 4.2.393)

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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 Lead	ELASTICEM (TM) SYSTEM	700	sack	13.2	1.57		6	7.53
0.10 %		SUPER CBL, 50 LB PAIL (100003668)							
0.45 %		SCR-100 (100003749)							
7.53 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
3	EconoCem Tail	ECONOCEM (TM) SYSTEM	1180	sack	13.5	1.68		6	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/min	Total Mix Fluid Gal
4	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34			6	
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
5	Biocide Water	Biocide Water	309	bbl	8.34		6		
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		57 °F
Cement Temperature:			Plug Displaced by:		8.33 ppg		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:		2800 psi		Floats Held?		Yes
Cement Returns:			Returns Density:				Returns Temperature:		
Comment CALCULATED TOP OF LEAD, 2231 FEET. CALCULATED TOP OF TAIL, 6491 FEET									

## 2.0 Real-Time Job Summary

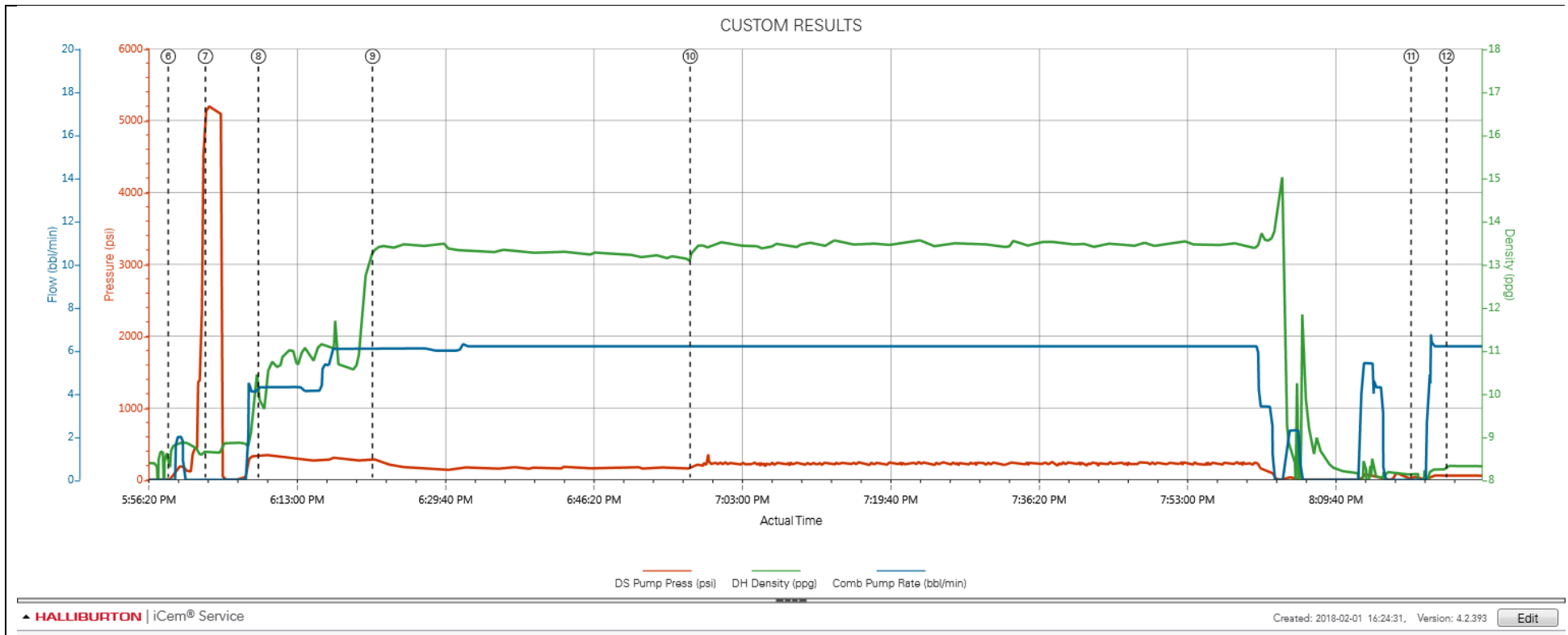
## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Driv-Side Pump Pressure (1) (psi)	Downhole Density (1) (ppg)	Comments
Event	1	Call Out	Call Out	2/1/2018	09:30:00	USER						CALLED OUT TO BE ON LOCATION @ 1400
Event	2	Arrive At Loc	Arrive At Loc	2/1/2018	14:00:00	USER						HES ARRIVED ON LOCATION. RIG RUNNING CASING
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/1/2018	14:15:00	USER						HELD SAFETY MEETING WITH HES PERSONNEL. DISCUSSED PLAN TO RIG UP, JSA, SWA, AND INCIDENT REPORTING
Event	4	Rig-Up Equipment	Rig-Up Equipment	2/1/2018	14:30:00	USER						RIG UP ALL CEMENT EQUIPMENT
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/1/2018	17:15:00	USER	54.00	-0.01	0.00			HELD SAFETY MEETING WITH ALL HES PERSONNEL. DISCUSSED JOB PROCEDURE, JSA, SWA, AND INCIDENT REPORTING.
Event	6	Drop Bottom Plug	Drop Bottom Plug	2/1/2018	17:58:47	COM5	11.00	8.54	0.00			DROPPED WEATHERFORD BOTTOM PLUG
Event	7	Test Lines	Test Lines	2/1/2018	18:02:58	COM5	5204.00	8.67	0.00			TEST KICKOUTS TO 500 PSI. TEST LINES TO 5000 PSI
Event	8	Pump Spacer 1	Pump Spacer 1	2/1/2018	18:08:55	COM5	347.00	9.82	4.30			PUMPED 60 BBLS OF TUNED SPACER @ 10.5 PPG
Event	9	Pump Lead Cement	Pump Lead Cement	2/1/2018	18:21:44	COM5	305.00	13.34	6.10			PUMPED 196 BBLS OF LEADE CEMENT @ 13.2 PPG
Event	10	Pump Tail Cement	Pump Tail Cement	2/1/2018	18:57:25	COM5	162.00	13.35	6.20			PUMPED 353 BBLS OF TAIL CEMENT @ 13.5 PPG

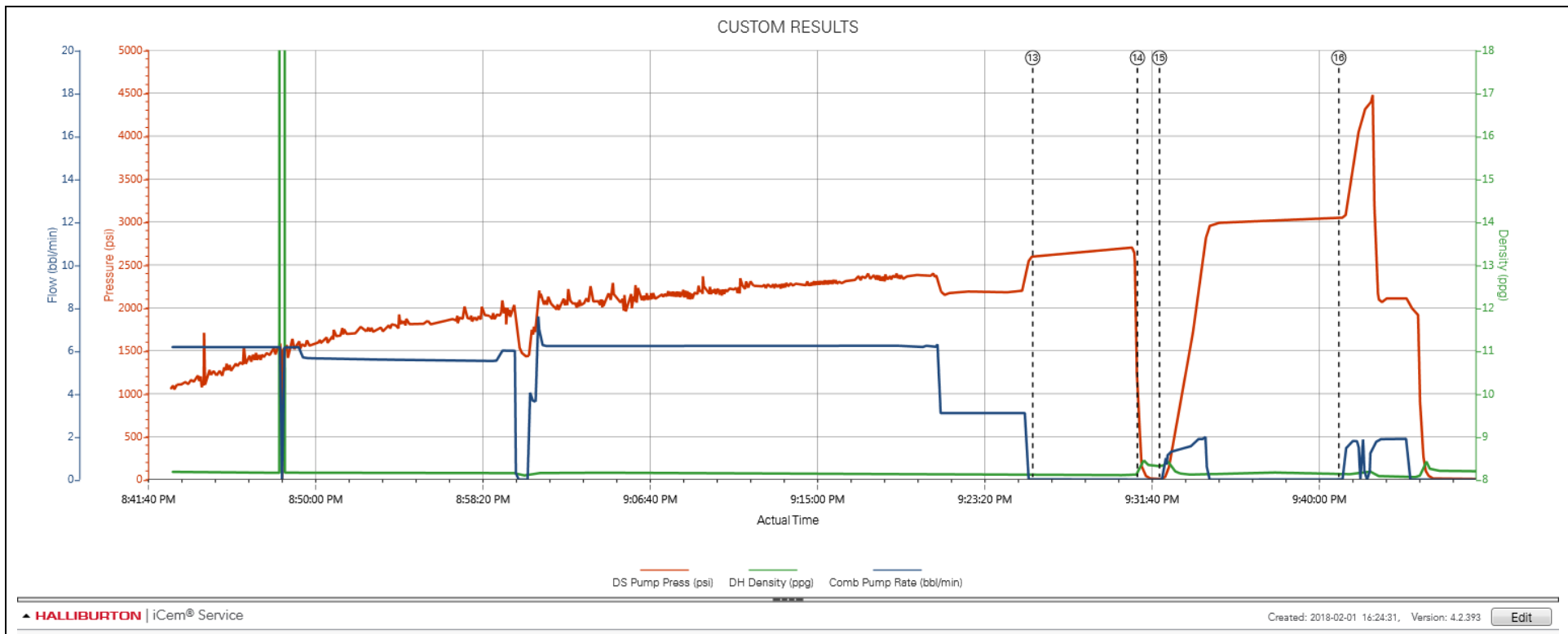
Event	11	Drop Top Plug	Drop Top Plug	2/1/2018	20:18:24	COM5	64.00	8.17	0.00	DROPPED WEATHERFORD TOP PLUG
Event	12	Pump Displacement	Pump Displacement	2/1/2018	20:22:23	COM5	64.00	8.33	6.20	PUMPED 329 BBLS OF FRESH WATER DISPLACEMENT WITH BIOCID.
Event	13	Bump Plug	Bump Plug	2/1/2018	21:25:50	COM4			2605.00	8.10 BUMPED ON CALCULATED DISPLACEMENT. FINAL CIRCULATING PRESSURE 2200 PSI. BUMPED @ 2800 PSI.
Event	14	Check Floats	Check Floats	2/1/2018	21:31:03	USER			380.00	8.24 FLOATS HELD. 3 BBLS BACK TO TRUCK
Event	15	Pressure Up Well	Pressure Up Well	2/1/2018	21:32:09	COM4			6.00	8.31 5 MINUTE CASING TEST @ 3000 PSI
Event	16	Other	Other	2/1/2018	21:41:05	COM4			3049.00	8.15 RUPTURE WET SHOE SUB @ 4500 PSI. PUMPED 3 BBLS FOR WET SHOE
Event	17	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/2/2018	22:00:00	USER				HELD SAFETY MEETING WITH HES PERSONNEL. DISCUSSED PLAN TO RIG DOWN, JSA, SWA, AND INCIDENT REPORTING
Event	18	Rig-Down Equipment	Rig-Down Equipment	2/2/2018	22:15:00	USER				RIG DOWN ALL CEMENT EQUIPMENT
Event	19	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/2/2018	23:15:00	USER				HELD SAFETY MEETING WITH ALL HES PERSONNEL. DISCUSSED DESIGNATED ROUTE, POTENTIAL HAZARDS, AND SWA.
Event	20	Crew Leave Location	Crew Leave Location	2/2/2018	23:30:00	USER				HES DEPARTED LOCATION. THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES. KYLE LANGSTON - SERVICE SUPERVISOR I

## 3.0 Attachments

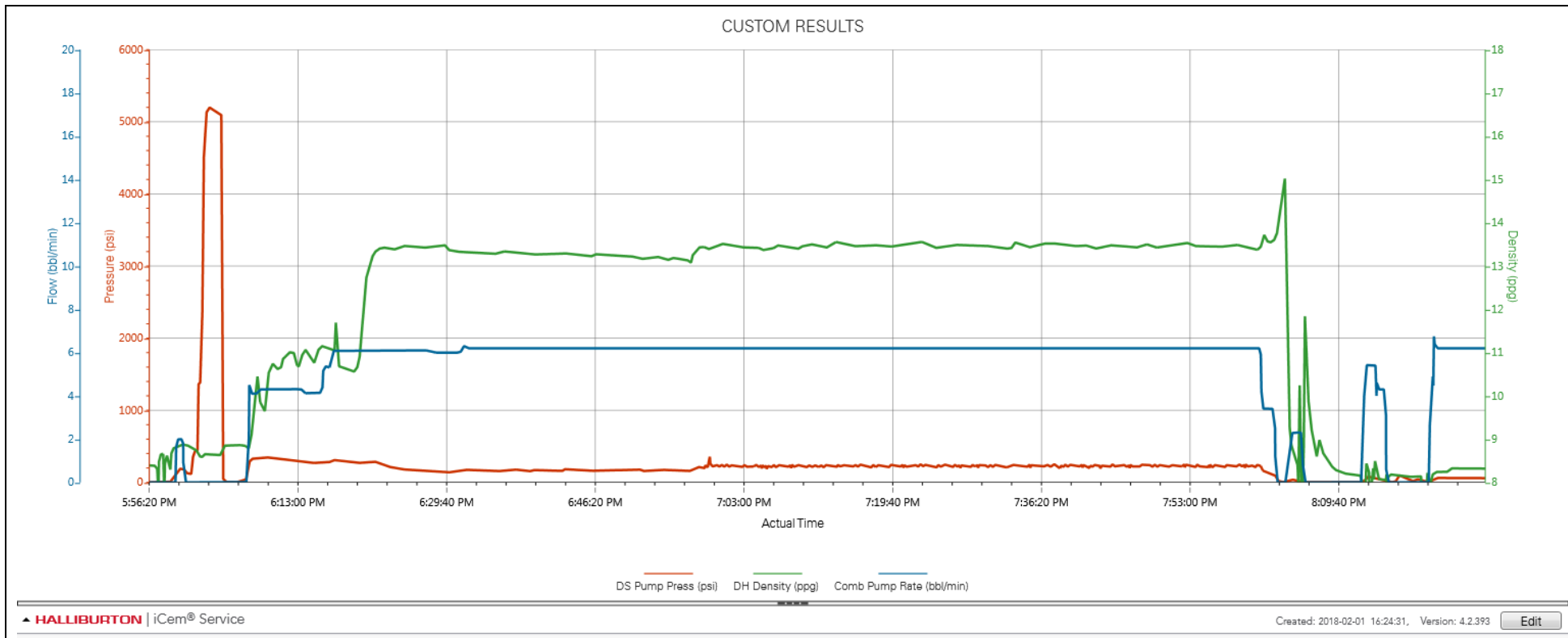
### 3.1 CUSTOM RESULTS – JOB CHART 1 WITH EVENTS



3.2 CUSTOM RESULTS – JOB CHART 2 WITH EVENTS



3.3 CUSTOM RESULTS – JOB CHART 1 WITHOUT EVENTS



## 3.4 CUSTOM RESULTS – JOB CHART 2 WITHOUT EVENTS

