

HALLIBURTON

iCem[®] Service

HALLIBURTON

For:

Date: Sunday, December 28, 2014

harry 4-35-10 1h

Case 1

Sincerely,

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1.0 Job Design

1.1 Time of Stages

Graph Label	Time (min)	Stage Starts Pumping	Stage Enters Annulus
①	0	Rig-Down Equipment	
②	0	Depart Location	
③	0	Arrive At Loc	
④	0	Drop Bottom Plug	
⑤	0	Check Floats	
⑥	0	Pre-Convoy Safety Meeting	
⑦	0	Shutdown	
⑧	0	Safety Meeting	
⑨	0	Rig-Up Equipment	
⑩	0	Pre-Rig Up Safety Meeting	
⑪	0	Pre-Convoy Safety Meeting	
⑫	0	Rig-Up Completed	
⑬	0	Slow Rate	
⑭	0	Pre-Rig Down Safety Meeting	
⑮	0	Call Out	
⑯	0	Rig-Down Completed	

2.0 Hydraulics Summary

3.0 Temperature Modeling

4.0 Real-Time Job Summary

4.1 Stage Summary - Liquid Volume, Density, & Design Shutdown

4.2 Stage Summary - Pump Pressure & ECD

4.3 Stage Summary - Pump Rate & Nitrogen Rate

4.4 Shutdown Summary

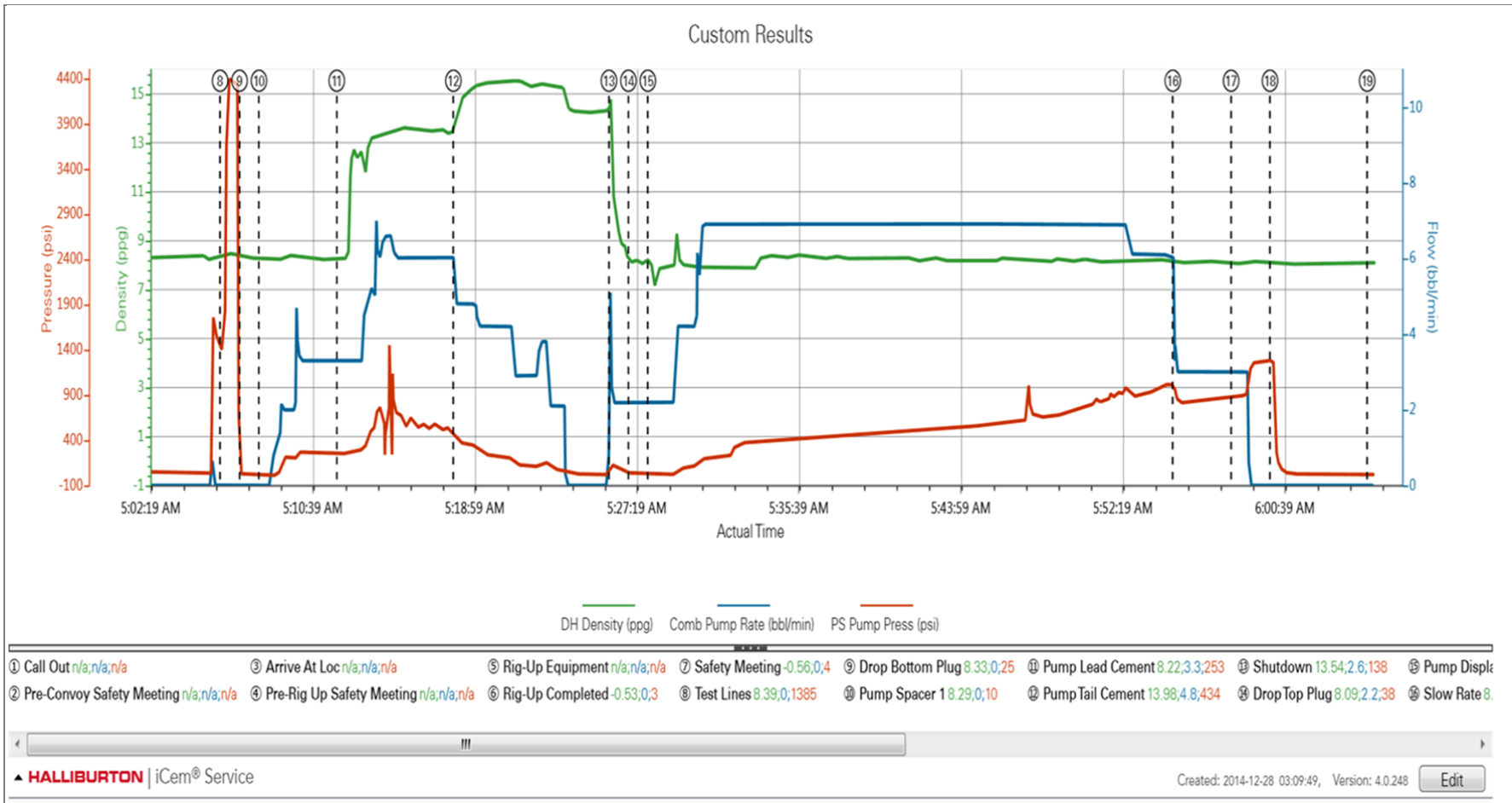
4.5 Job Event Log

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	12/27/2014	17:00:00	USER				requested on loc at 23:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/27/2014	19:30:00	USER				stay on route
Event	3	Arrive At Loc	Arrive At Loc	12/27/2014	21:00:00	USER				arrive on location wait on casing to be run
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/28/2014	03:00:00	USER				stay clear of line of fire, watch footing on ice
Event	5	Rig-Up Equipment	Rig-Up Equipment	12/28/2014	03:10:00	USER				
Event	6	Rig-Up Completed	Rig-Up Completed	12/28/2014	04:20:00	USER				
Event	7	Safety Meeting	Safety Meeting	12/28/2014	04:35:00	USER				stay clear on red zone, don't hammer on pressurized iron
Event	8	Test Lines	Test Lines	12/28/2014	05:06:00	COM7	8.34	0.00	4500.00	test low 500 and high 4500 psi
Event	9	Drop Bottom Plug	Drop Bottom Plug	12/28/2014	05:07:00	USER	8.34			drop bottom plug
Event	10	Pump Spacer 1	Pump Spacer 1	12/28/2014	05:08:00	COM7	8.34	5.00	720.00	pump 10 bbls mudflush ahead
Event	11	Pump Lead Cement	Pump Lead Cement	12/28/2014	05:12:00	COM7	13.60	6.00	800.00	pump 37 bbls (140sks) lead at 13.6# good returns
Event	12	Pump Tail Cement	Pump Tail Cement	12/28/2014	05:18:00	COM7	15.56	5.00	434.00	pump 19 bbls (90 sks) tail at 15.6# good returns
Event	13	Shutdown	Shutdown	12/28/2014	05:26:00	USER		0.00	38.00	
Event	14	Drop Top Plug	Drop Top Plug	12/28/2014	05:27:00	COM7	8.34	3.00	38.00	drop top plug
Event	15	Pump Displacement	Pump Displacement	12/28/2014	05:28:00	COM7	8.34	7.00	228.00	pump 195 bbls displacement...good returns
Event	16	Slow Rate	Slow Rate	12/28/2014	05:55:00	USER	8.34	3.00	890.00	slow rate to 3 bbls min
Event	17	Bump Plug	Bump Plug	12/28/2014	05:58:00	COM7	8.34	3.00	1300.00	land plug from 890-1300 psi
Event	18	Check Floats	Check Floats	12/28/2014	06:00:00	USER	8.34	0.00	0.00	floats holding 1 bbls back

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/28/2014	06:05:00	USER				watch ice, watch ditches, clear of line of fire
Event	20	Rig-Down Equipment	Rig-Down Equipment	12/28/2014	06:10:00	USER				
Event	21	Rig-Down Completed	Rig-Down Completed	12/28/2014	07:00:00	USER				
Event	22	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/28/2014	07:05:00	USER				stay on route
Event	23	Depart Location	Depart Location	12/28/2014	07:15:00	USER				

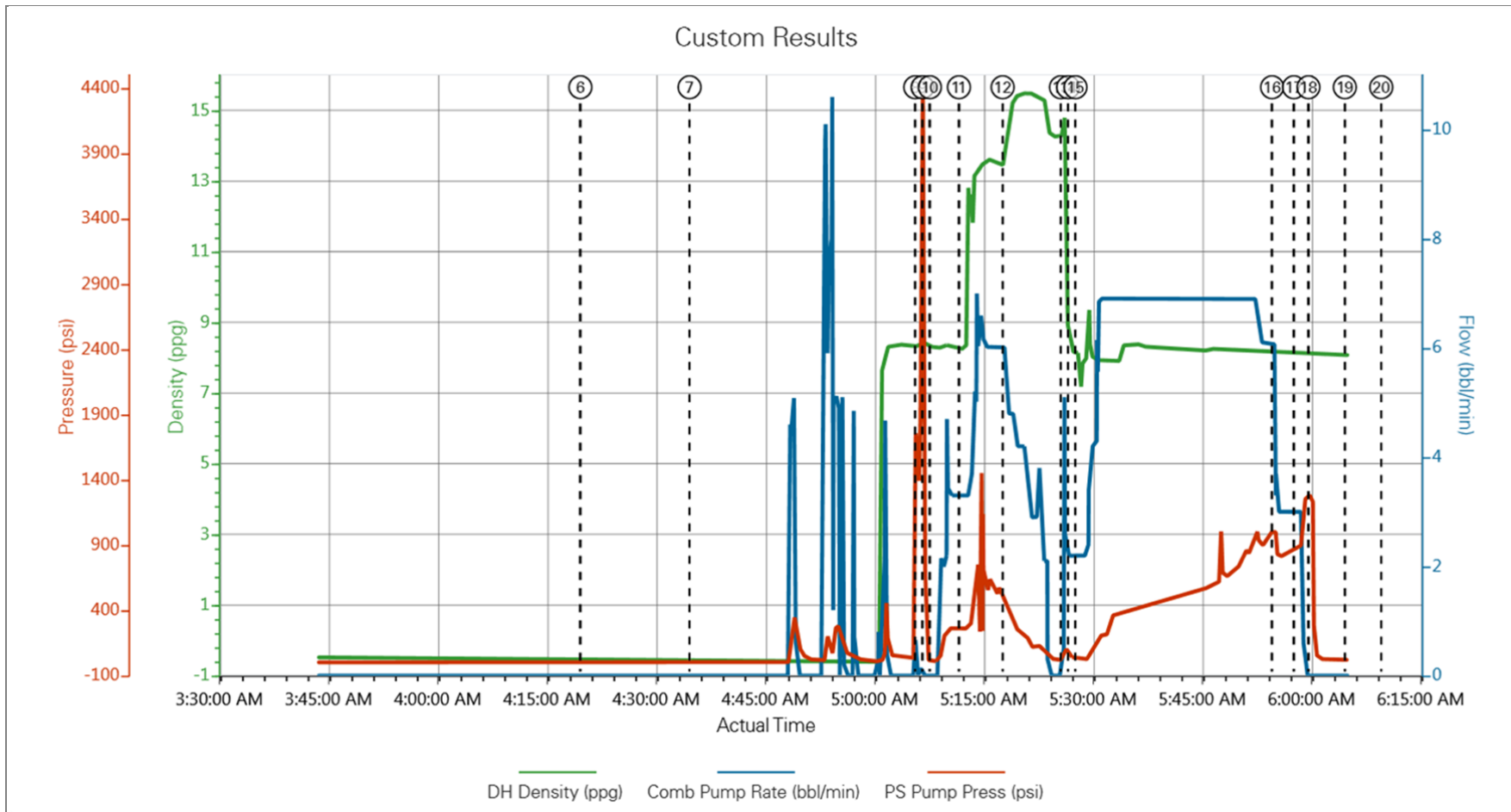
5.0 Attachments

5.1 Case 1-Custom Results.png



6.0 Custom Graphs

6.1 Custom Graph



7.0 Appendix

7.1 One-Minutes Real-Time Data Listing
