HALLIBURTON

iCem® Service

Ward Petroleum Corp

For: RAY HOFFMAN

Date: Tuesday, March 01, 2016

Anderson 18-3-11HC

Production

Job Date: Wednesday, February 24, 2016

Sincerely,

Derek Trier

Legal Notice

Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

Table of Contents

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Anderson 18-3-11HC** cement **Production** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Ft. Lupton]

Job Times

	Date	Time	Time Zone
Called Out Time:	2/24/2016	1000	MTN
Arrived On Location At:		1310	
Job Started At:		1621	
Job Completed At:		1911	
Departed Location At:		2000	

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 306358	**Ship To #:** ~~366582~~53717206	**Quote #:** 0022160840	**Sales Order #:** 0903132988
Customer: WARD PETROLEUM CORP (E-BUS)		**Customer Rep:** RAY HOFFMAN	
Well Name: ~~WARD RIVERDALE~~ Anderson	**Well #:** ~~14-4-12HC~~ 18-3-11HC		**API/UWI #:** 05-001-09845-00
Field: WATTENBERG	**City (SAP):** BRIGHTON	**County/Parish:** ADAMS	**State:** COLORADO
Legal Description: NW SW-14-1S-67W-1880FSL-335FWL			
Contractor: PRECISION DRLG		**Rig/Platform Name/Num:** PRECISION 460	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB71271		**Srvc Supervisor:** Aaron Smith	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	12600ft		**Job Depth TVD**	7688
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	8.835	36	LTC	J-55	0	1540		0
Casing		5.5	4.778	20	BTC	P-110	0	12556		7688
Open Hole Section			8.75				1540	12600	0	7688

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			12556		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
2	12.0 lb/gal Tuned Spacer III	Tuned Spacer III	60	bbl	12	3.14			

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

HALLIBURTON

Cementing Job Summary

3	12.5 ElastiCem	ELASTICEM (TM) SYSTEM	740	sack	12.5	1.92		6	10.43
10.42 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
4	13.5 EconoCem	ECONOCEM (TM) SYSTEM	-1351	sack	13.5	1.65		6	7.86
7.87 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
5	Fresh Water Displacement		275	bbl	8.4				

Cement Left In Pipe	Amount	ft	Reason	Shoe Joint

Comment 50 BBLS CEMENT TO SURFACE

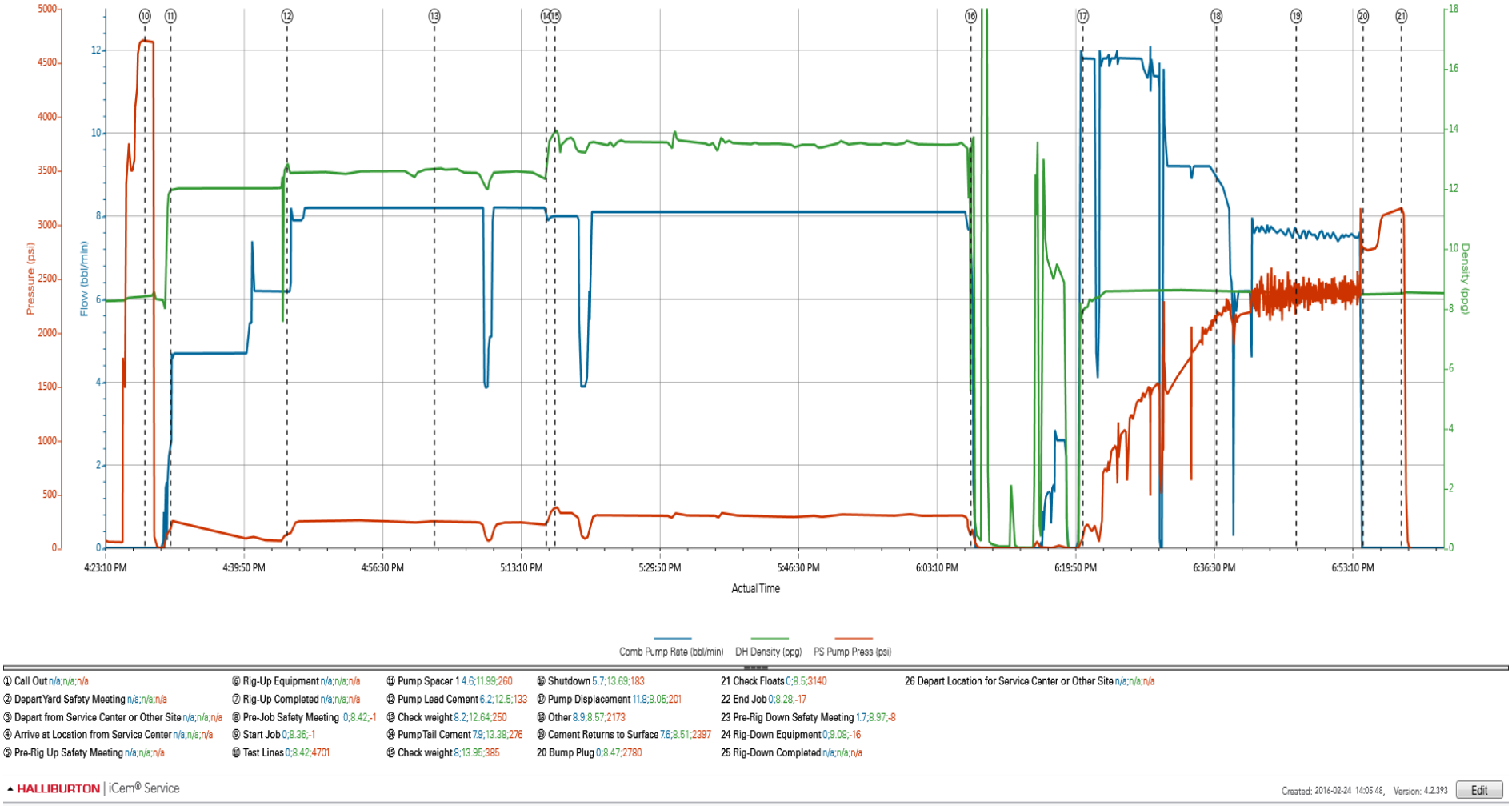
2.0 Real-Time Job Summary

2.1 Job Event Log

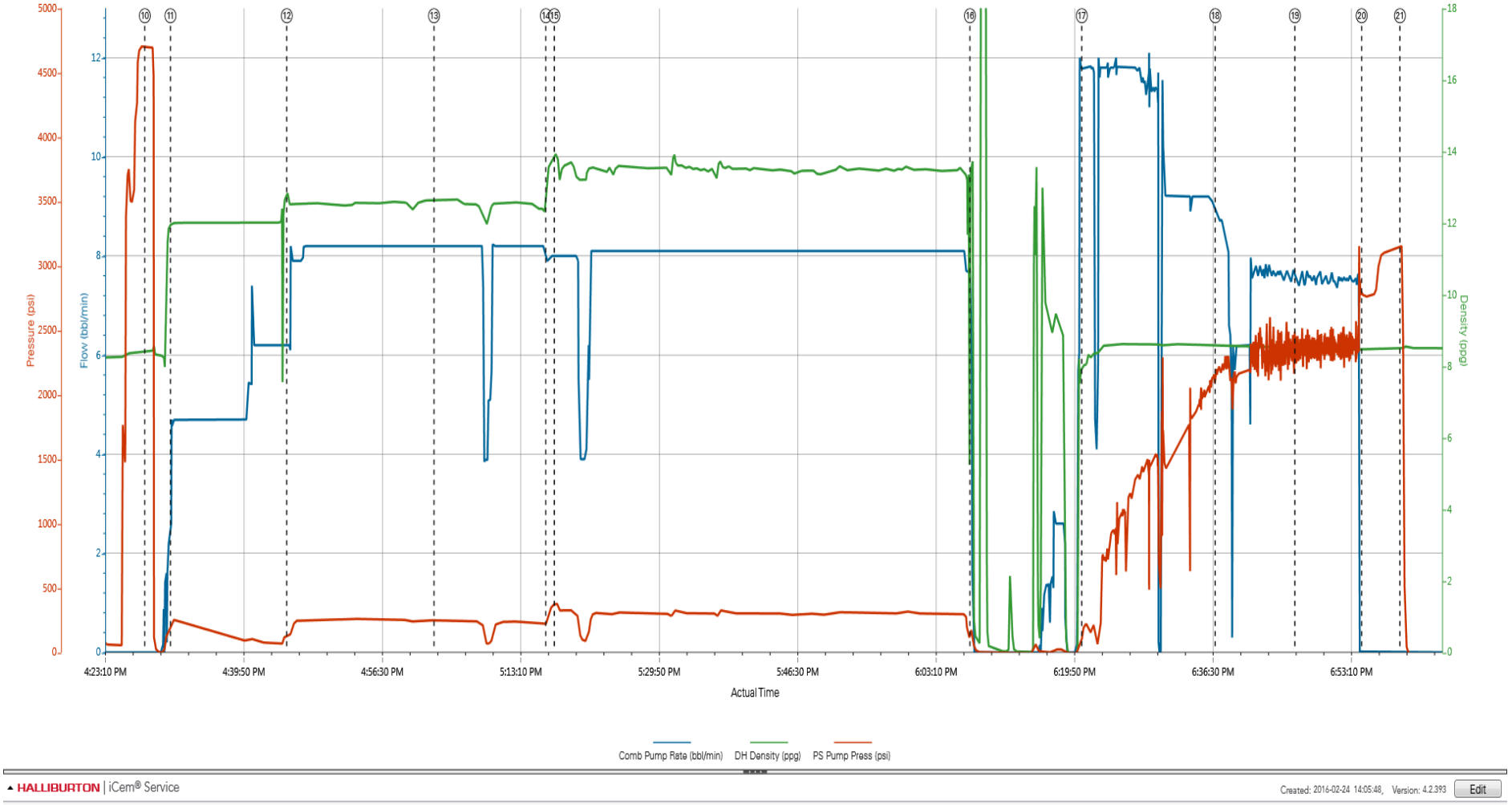
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	2/24/2016	10:00:00	USER				FOR ON LOCATION @ 1400,
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	2/24/2016	12:45:00	USER				JOURNEY MANAGMENT MEETING PRIOR TO DEPARTURE
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	2/24/2016	13:00:00	USER				JOURNEY CALLED INTO DISPATCH
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	2/24/2016	13:10:00	USER				
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/24/2016	13:20:00	USER				RIG-UP JSA TO DISCUSS THE HAZARDS OF RIG-DOWN
Event	6	Rig-Up Equipment	Rig-Up Equipment	2/24/2016	14:15:00	USER				
Event	7	Rig-Up Completed	Rig-Up Completed	2/24/2016	14:50:00	USER				
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/24/2016	16:00:00	USER				WITH CUSTOMER REP AND RIG-CREW
Event	9	Start Job	Start Job	2/24/2016	16:21:12	COM5				WITH WATER SUPPLIED FROM FRAC TANKS WATER TESTED GOOD TO MIX CEMENT TEMP 63, CL 96, PH 6
Event	10	Test Lines	Test Lines	2/24/2016	16:28:08	COM5	0.00	8.42	4701.00	@4800 PSI
Event	11	Pump Spacer 1	Pump Spacer 1	2/24/2016	16:31:13	COM5	4.60	11.99	260.00	60 BBLS SPACER @ 12.5 PPG,
Event	12	Pump Lead Cement	Pump Lead Cement	2/24/2016	16:45:14	COM5	6.20	12.50	133.00	740 SKS ELASTICEM @ 12.5 PPG, VERIFIED WITH PRESSURIZED SCALES
Event	13	Check Weight	Check weight	2/24/2016	17:02:57	COM5	8.20	12.64	250.00	
Event	14	Pump Tail Cement	Pump Tail Cement	2/24/2016	17:16:25	COM5	7.90	13.38	276.00	1351 SKS ECONOCEM @ 13.5 PPG, VERIFIED WITH PRESSURIZED SCALES
Event	15	Check Weight	Check weight	2/24/2016	17:17:26	COM5	8.00	13.95	385.00	
Event	16	Shutdown	Shutdown	2/24/2016	18:07:28	USER				

Event	17	Pump Displacement	Pump Displacement	2/24/2016	18:20:56	COM5	11.80	8.05	201.00	275 BBLS KCL WATER
Event	18	Other	Other	2/24/2016	18:37:00	COM5	8.90	8.57	2173.00	165 BBLS DISPLACEMENT 60 BBLS TO SURFACE
Event	19	Other	Cement Returns to Surface	2/24/2016	18:46:35	COM5	7.60	8.51	2397.00	@ 225 BBLS DISPLACEMENT 50 BBLS TO SURFACE
Event	20	Bump Plug	Bump Plug	2/24/2016	18:54:37	COM5	0.00	8.47	2780.00	@ 500 OVER, FINAL CIRCULATING PRESSURE 2470 PSI
Event	21	Check Floats	Check Floats	2/24/2016	18:59:14	USER	0.00	8.50	3140.00	FLOATS GOOD 2.5 BBLS BACK
Event	22	End Job	End Job	2/24/2016	19:11:19	COM5				THANKS AARON SMITH AND CREW
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/24/2016	19:15:00	USER				JSA TO DISCUSS THE HAZARDS OF RIG-DOWN
Event	24	Rig-Down Equipment	Rig-Down Equipment	2/24/2016	19:20:00	USER				
Event	25	Rig-Down Completed	Rig-Down Completed	2/24/2016	19:45:00	USER				
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/24/2016	20:00:00	USER				JOURNEY CALLED INTO DISPATCH

2.2 Job Chart w/ Events



2.3 Job Chart


Pressure (psi)
Flow (bbl/min)
Density (ppg)
Actual Time
4:23:10 PM
4:39:50 PM
4:56:30 PM
5:13:10 PM
5:29:50 PM
5:46:30 PM
6:03:10 PM
6:19:50 PM
6:36:30 PM
6:53:10 PM
Comb Pump Rate (bbl/min)
DH Density (ppg)
PS Pump Press (psi)
HALLIBURTON | iCem® Service
Created: 2016-02-24 14:05:48, Version: 4.2.393
Edit