

HALLIBURTON

iCem[®] Service

Laramie Energy LLC-EBUS

United States of America, COLORADO

For: Aaron Duncan

Date: Sunday, May 06, 2018

Gunderson 994-13-17W Surface PJR

Sincerely,

Grand Junction Cement Engineering

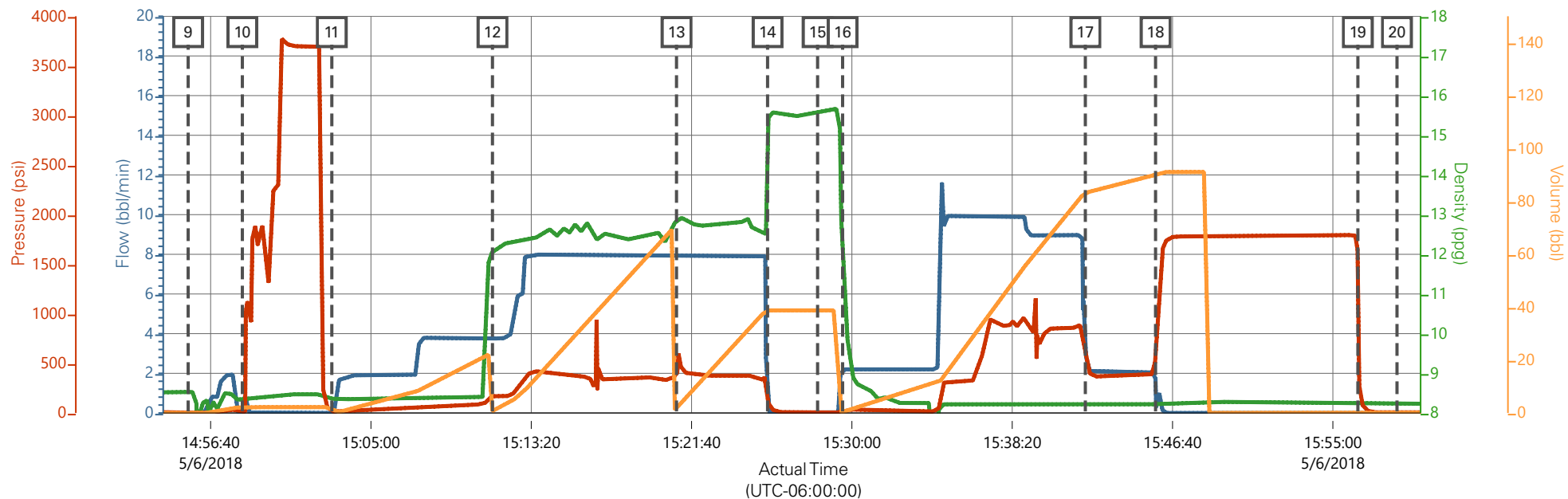
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	5/6/2018	08:00:00	USER					REQUESTED ON LOCATION TIME 5/6/2018 @ 14:00
Event	2	Depart Yard Safety Meeting	5/6/2018	09:55:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	5/6/2018	10:00:00	USER					
Event	4	Arrive At Loc	5/6/2018	12:00:00	USER					
Event	5	Assessment Of Location Safety Meeting	5/6/2018	12:05:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	5/6/2018	12:15:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	5/6/2018	12:20:00	USER					
Event	8	Pre-Job Safety Meeting	5/6/2018	14:45:00	USER					JSA COMPLETED
Event	9	Start Job	5/6/2018	14:55:30	COM4					
Event	10	Test Lines	5/6/2018	14:58:19	COM4			3000.00		TEST LINES TO 3000 PSI
Event	11	Pump Spacer 1	5/6/2018	15:02:58	COM4	4.00	8.33	160.00	20.00	PUMP 20 BBLS FRESHWATER SPACER, 160 PSI
Event	12	Pump Lead Cement	5/6/2018	15:11:19	COM4	8.00	12.30	360.00	69.20	69.2 BBLS LEAD CEMENT, 158 SKS / 12.3 PPG / 2.46 YLD / 14.17 GAL/SK H2O REQ, 360 PSI
Event	13	Pump Tail Cement	5/6/2018	15:20:53	COM4	8.00	12.80	380.00	36.90	36.9 BBLS TAIL CEMENT, 95 SKS / 12.8 PPG / 2.18 YLD/ 12.11 GAL/SK, 380 PSI
Event	14	Shutdown	5/6/2018	15:25:37	USER					

Event	15	Drop Top Plug	5/6/2018	15:28:13	COM4					PLUG AWAY
Event	16	Pump Displacement	5/6/2018	15:29:31	COM4	10.00	8.33	870.00	91.1	91.1 BBLS FRESHWATER DISPLACEMENT 870 PSI
Event	17	Slow Rate	5/6/2018	15:42:08	USER	2.00	8.33	400.00	81.1	SLOW TO 2 BBL/MIN, 900 PSI TO 400 PSI
Event	18	Bump Plug	5/6/2018	15:45:47	COM4	2.00	8.33	1600.00	91.1	PLUG BUMPED AT CALCULATED, FINAL CIRCULATING PRESSURE 380 PSI, BROUGHT TO 1600 PSI FOR 10 MIN. CASING TEST
Event	19	Other	5/6/2018	15:56:18	COM4					FLOATS HELD, 1/2 BBL BACK TO PUMP
Event	20	End Job	5/6/2018	15:58:20	COM4					GOOD CIRCULATION THROUGHOUT JOB, PIPE LEFT STATIC, 40# SUGAR USED, NO ADD HOURS CHARGED, 15 BBLS OF LEAD BACK TO SURFACE
Event	21	Pre-Rig Down Safety Meeting	5/6/2018	16:40:00	USER					JSA COMPLETED
Event	22	Rig-Down Equipment	5/6/2018	16:45:00	USER					
Event	23	Pre-Convoy Safety Meeting	5/6/2018	17:25:00	USER					JSA COMPLETED
Event	24	Crew Leave Location	5/6/2018	17:30:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

LARAMIE - GUNDERSON 994-13-17W - 8 5/8" SURFACE CASING



Comb Pump Rate (bbl/min) DH Density (ppg) PS Pump Press (psi) Pump Stg Tot (bbl)

Description	Actual Time (UTC-06:00:00)	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	
9 Start Job	14:55:30	0.00	8.52	3.00	0.00	
10 Test Lines	14:58:19	0.00	8.35	12.00	2.10	
11 Pump Spacer 1	15:02:58	0.00	8.36	16.00	0.00	
12 Pump Lead Cement	15:11:19	3.80	12.07	176.00	0.70	
13 Pump Tail Cement	15:20:53	8.00	12.84	385.00	1.90	
14 Shutdown	15:25:37	0.00	14.66	122.00	38.80	
15 Drop Top Plug	15:28:13	0.00	15.61	5.00	38.80	
16 Pump Displacement	15:29:31	2.20	12.27	28.00	0.40	
17 Slow Rate	15:42:08	3.70	8.22	563.00	83.20	
18 Bump Plug	15:45:47	1.70	8.23	623.00	90.70	
19 Other	15:56:18	0.00	8.28	1500.00	0.00	
20 End Job	15:58:20	0.00	8.22	5.00	0.00	

HALLIBURTON | iCem® Service

Created: 2018-05-06 10:23:22, (UTC-06:00), Version: 4.5.139

Edit

Customer : Laramie Energy LLC

Job Date : 5/6/2018

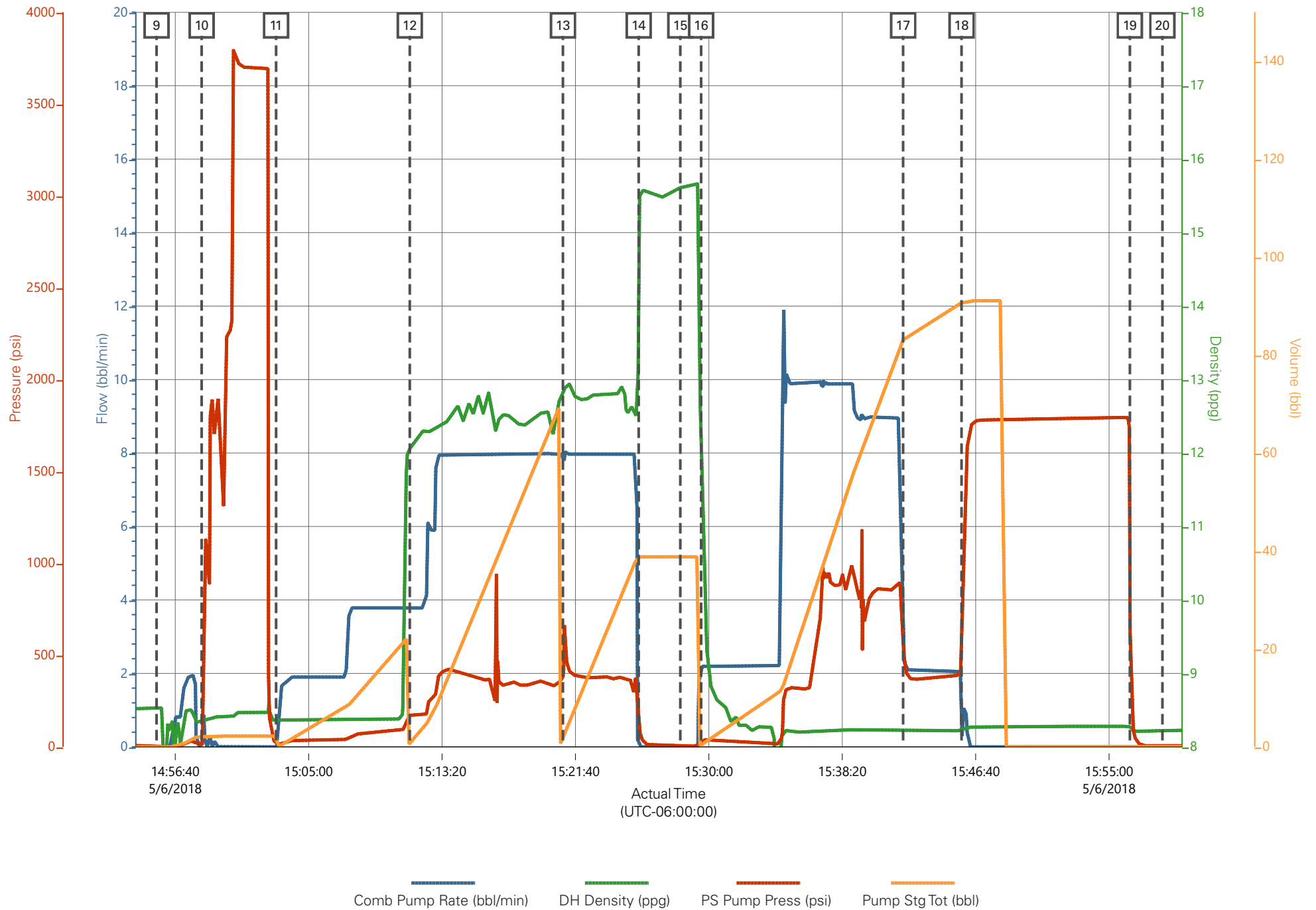
Well : GUNDERSON

Representative : TYLER HALE

Sales Order # : 904835083

ELITE #1 : KIEL CRIST / RYAN MARTIN

LARAMIE - GUNDERSON 994-13-17W - 8 5/8" SURFACE CASING



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC-EBUS

For: Aaron Duncan

Date: Tuesday, May 08, 2018

Gunderson 994-13-17W Production PJR

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	5/8/2018	12:30:00	USER					REQUESTED ON LOCATION @ 1630
Event	2	Pre-Convoy Safety Meeting	5/8/2018	14:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	5/8/2018	14:55:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive at Location from Service Center	5/8/2018	16:55:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	5/8/2018	17:00:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 64F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	5/8/2018	17:05:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	5/8/2018	18:15:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	5/8/2018	19:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	5/8/2018	20:14:00	COM6					TD 7594', TP 7584', SJ 83', OH 7.875", CSG 4.5" 11.6#, MUD 9.4 PPG. RIG CIRCULATED WELL @ APPROX 10 BPM WITH 780 PSI.
Event	10	Drop Bottom Plug	5/8/2018	20:14:37	USER					PLUG WENT, VERIFIED BY CO REP
Event	11	Prime Pumps	5/8/2018	20:14:48	USER	88.00	8.33	1.00	2.00	8.33 PPG FRESH WATER
Event	12	Test Lines	5/8/2018	20:19:19	COM6	5138.00	8.33	0.50	0.50	ALL LINES HELD PRESSURE AT 5138 PSI

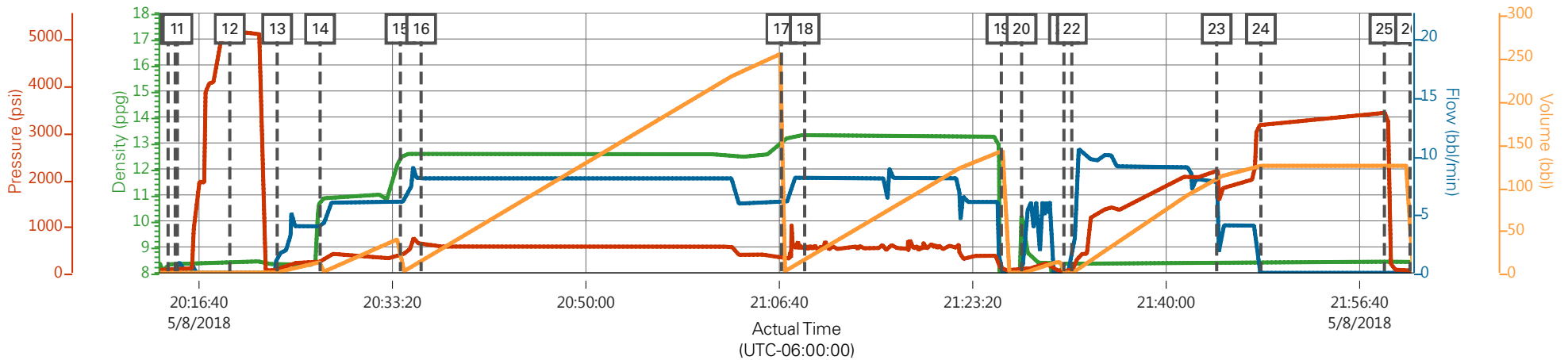
Event	13	Pump Spacer 1	5/8/2018	20:23:24	COM6	226.00	8.33	4.00	10.00	FRESH WATER (10), 8.33 PPG
Event	14	Pump Spacer 2	5/8/2018	20:27:06	COM6	243.00	11.00	4.00	40.00	TUNED SPACER III (40 BBL), 11 PPG
Event	15	Pump Lead Cement	5/8/2018	20:34:01	COM6	530.00	12.50	8.00	258.00	NEOCER CEMENT 692 SKS (240 BBLs), 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK
Event	16	Check Weight	5/8/2018	20:35:48	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	17	Pump Tail Cement	5/8/2018	21:06:51	COM6	558.00	13.30	8.00	122.00	THERMACER CEMENT 354 SKS (110 BBLs), 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	18	Check Weight	5/8/2018	21:08:51	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Shutdown	5/8/2018	21:25:48	USER					END OF CMT
Event	20	Clean Lines	5/8/2018	21:27:33	USER					WASH UP PUMPS AND LINES
Event	21	Drop Top Plug	5/8/2018	21:31:11	USER					PLUG WENT, VERIFIED BY CO REP
Event	22	Pump Displacement	5/8/2018	21:31:52	COM6	2348.00	8.33	10.00	106.30	8.34 PPG FRESH WATER (116.3 BBLs) 5 GAL CLA WEB & 1 GAL MMCR
Event	23	Slow Rate	5/8/2018	21:44:21	USER	1950.00	8.33	4.00	10.30	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	24	Bump Plug	5/8/2018	21:48:10	USER	3149.00	8.33	4.00	116.30	LAND PLUG AT 1950 PSI, BROUGHT UP TO 3150 PSI FOR A 10 MIN CSG TEST.
Event	25	Check Floats	5/8/2018	21:58:48	USER	3390.00	8.33	0.00	116.30	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	26	End Job	5/8/2018	22:01:01	COM6					PIPE WAS NOT RECIPROCATED DURING THE JOB, 20 BBL OF SPACER BACK TO SURFACE
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	5/8/2018	22:02:35	USER					ALL HES PRESENT
Event	28	Rig-Down Completed	5/8/2018	22:20:00	USER					ALL HES PRESENT
Event	29	Pre-Convoy Safety	5/8/2018	22:30:00	USER					ALL HES PRESENT

Meeting

Event	30	Crew Leave Location	5/8/2018	22:35:00	USER
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THANK YOU FOR CHOOSING HALLIBURTON
CEMENT, CHRIS SMITH AND CREW

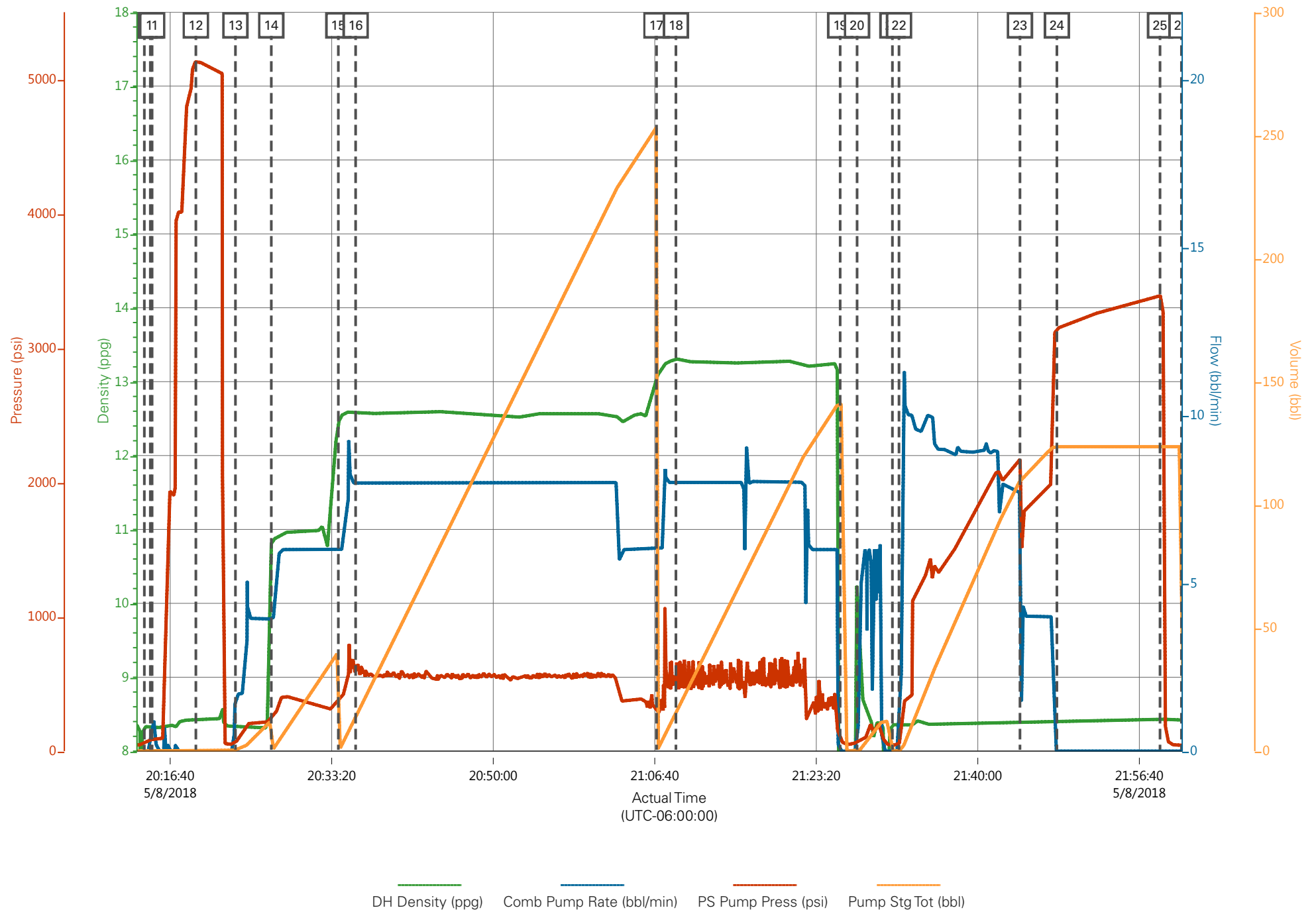
LARAMIE - GUNDERSON 0994-13-17W - 4.5" PRODUCTION



— DH Density (ppg)
 — Comb Pump Rate (bbl/min)
 — PS Pump Press (psi)
 — Pump Stg Tot (bbl)

Description	Actual Time (UTC-06:00:00)	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)
9 Start Job	20:14:00	8.36	0.00	46.00	0.00
10 Drop Bottom Plug	20:14:37	8.33	0.00	86.00	0.00
11 Prime Pumps	20:14:48	8.32	0.90	88.00	0.10
12 Test Lines	20:19:19	8.43	0.00	5138.00	0.40
13 Pump Spacer 1	20:23:24	8.33	1.70	66.00	0.00
14 Pump Spacer 2	20:27:06	10.81	4.00	243.00	0.00
15 Pump Lead Cement	20:34:01	12.42	6.00	393.00	40.30
16 Check Weight	20:35:48	12.57	8.00	614.00	12.80
17 Pump Tail Cement	21:06:51	13.05	6.10	358.00	0.10
18 Check Weight	21:08:51	13.31	8.00	571.00	14.40
19 Shutdown	21:25:48	0.59	0.00	85.00	141.00
20 Clean Lines	21:27:33	10.24	0.00	72.00	0.00
21 Drop Top Plug	21:31:11	8.36	0.00	45.00	0.00
22 Pump Displacement	21:31:52	8.36	0.90	48.00	0.00
23 Slow Rate	21:44:21	8.38	7.70	2185.00	109.80
24 Bump Plug	21:48:10	8.41	0.00	3149.00	123.60

LARAMIE - GUNDERSON 0994-13-17W - 4.5" PRODUCTION



Job Information

Request/Slurry	2472245/1	Rig Name	H&P 522	Date	03/MAY/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 994-13-17W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7594 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7574 ft	BHCT	76°C / 169°F
Pressure	4602 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Lead Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		NeoCem				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2472245/1

Thickening Time - ON-OFF-ON

06/MAY/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
169	4602	39	4:00	4:41	4:53	5:16	19	49	15	24

Total sks = 748

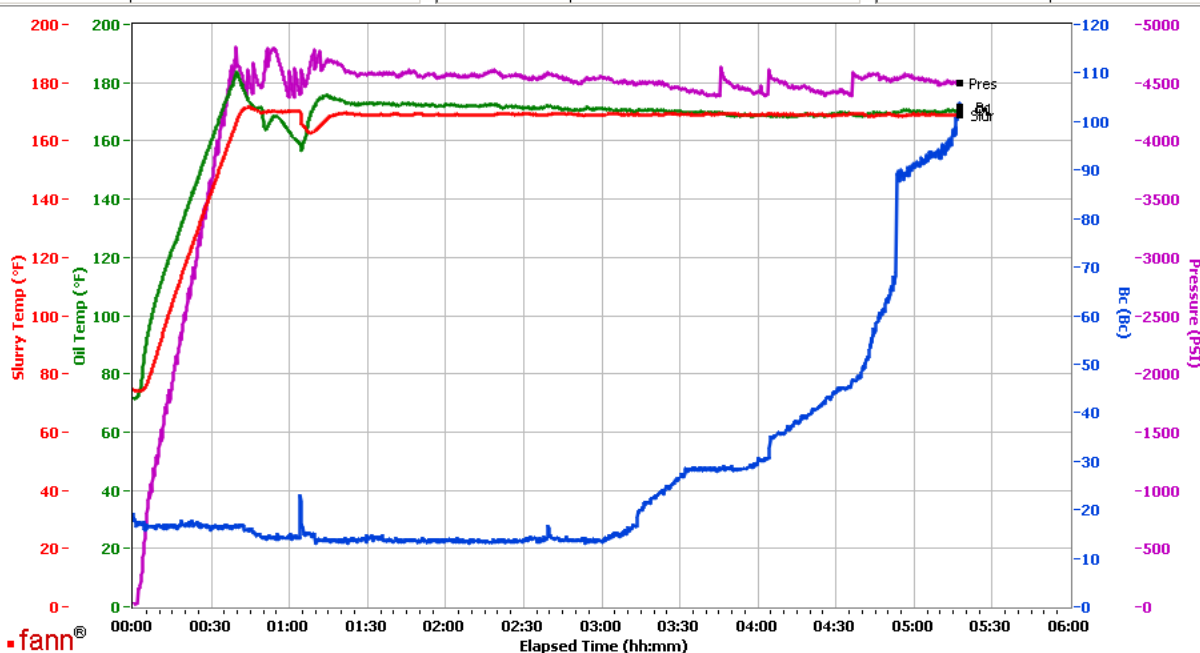
CS1000, Trailer 2878, 374 sks

CS1002, Trailer 1913, 374 sks

deflected from 14Bc--- > 24Bc--- > 16 BC within one minute

Grand Junction, Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2472245-1 LARAMIE BULK PRODUCTION	Job Type	PRODUCTION CASING	30.00 Bc	04h:00m
Test ID	35468544 - TT	Cement Type	GCC TYPE I-II	40.00 Bc	04h:20m
Request ID	2472245-1	Cement Weight	Standard	50.00 Bc	04h:41m
Tested by	CT	Test Date	05/06/18	70.00 Bc	04h:53m
Customer	LARAMIE ENERGY	Test Time	05:27 PM	100.00 Bc	05h:16m
Well No	GUNDERSON 994-13-17W	Temp. Units	degF	00h:30m	16.09
Rig	H&P 522	Pressure Units	PSI	01h:00m	14.69
Casing/Liner Size	4.5 INCH	SW Version	2.1.0.507	01h:30m	14.13



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\0HU9OBIZ\GJ2472245-1 LARAMIE BULK PRODUCTION LEAD[1].tdms

Comments CS1000, TRAILER 2878, 374 SKS - CS1002, TRAILER 1913, 374 SKS

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2472246/1	Rig Name	H&P 522	Date	03/MAY/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 994-13-17W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7594 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7574 ft	BHCT	76°C / 169°F
Pressure	4602 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Tail Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
		ThermaCem				Slurry Density	13.3 lbm/gal
						Slurry Yield	1.733 ft3/sack
						Water Requirement	7.799 gal/sack
						Total Mix Fluid	7.799 gal/sack
						Water Source	Field (Fresh) Water
						Water Chloride	N/A

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Operation Test Results Request ID 2472246/1

Thickening Time - ON-OFF-ON

06/MAY/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
169	4602	39	3:25	3:25	3:32	5:51	14	49	15	14

Total sks = 395

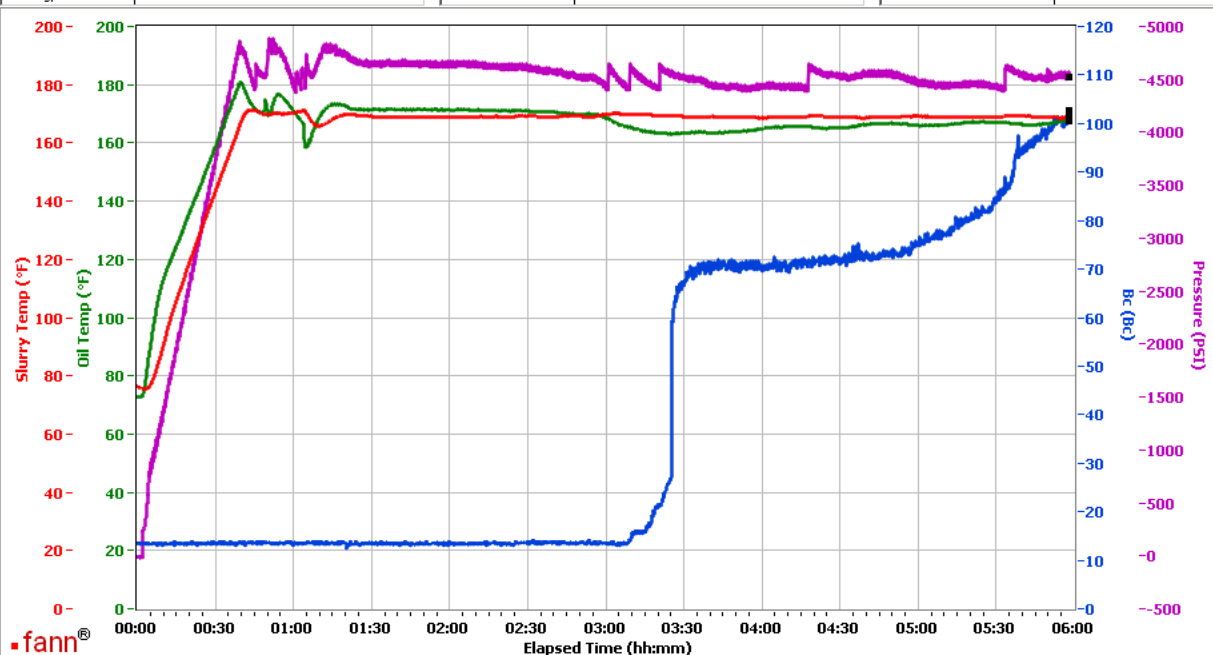
CS1001, Trailer 8476, 395 sks

no deflection, 14Bc--- > 14Bc

please note heat of hydration at 3:01

Grand Junction Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2472246-1 LARAMIE BULK PRODUCTION	Job Type	PRODUCTION CASING	30.00 Bc	03h:25m
Test ID	35468546 - TT	Cement Type	MOUNTAIN G	40.00 Bc	03h:25m
Request ID	2472246-1	Cement Weight	Standard	50.00 Bc	03h:25m
Tested by	CT	Test Date	05/05/18	70.00 Bc	03h:32m
Customer	LARAMIE ENERGY	Test Time	05:49 PM	100.00 Bc	05h:51m
Well No	GUNDERSON 994-13-17W	Temp. Units	degF	00h:30m	13.13
Rig	H&P 522	Pressure Units	PSI	01h:00m	13.76
Casing/Liner Size	4.5 INCH	SW Version	2.1.0.507	01h:30m	13.31



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9YZ0P2R\GJ2472246-1 LARAMIE BULK PRODUCTION TAIL[1].tdms

Comments CS1001, TRAILER 8476, 395 SKS

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