

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Aaron Duncan

Date: Thursday, August 15, 2019

CC 0697-03-09W Surface PJR

API# 05-045-23930-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

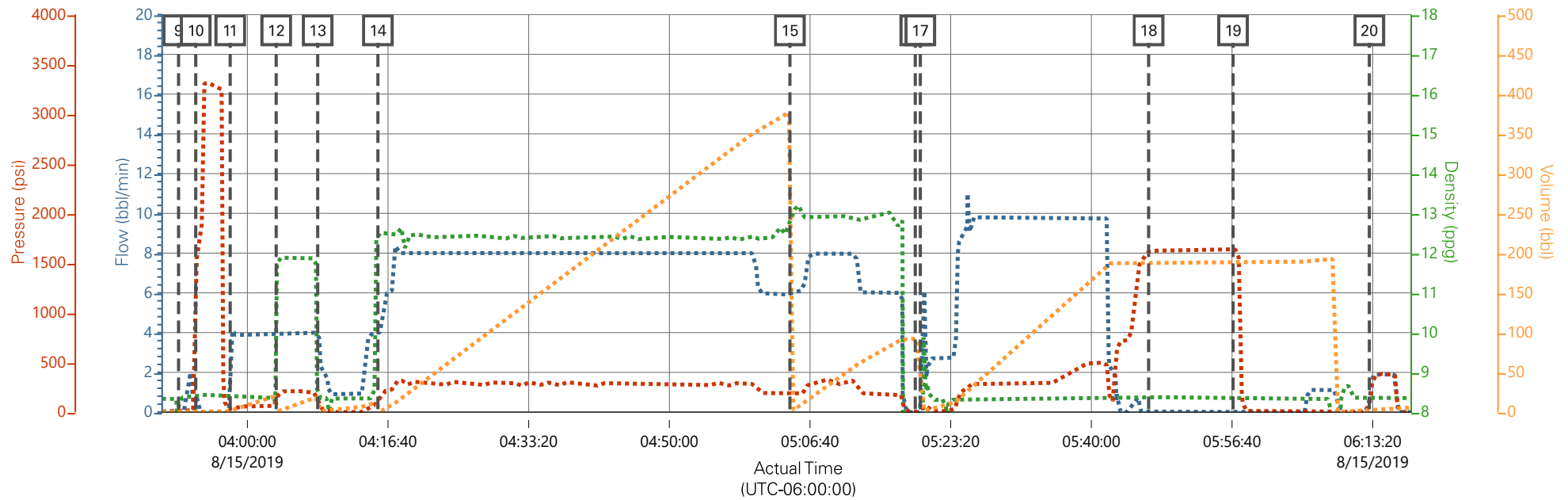
2.1 Job Event Log

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	8/14/2019	19:30:00	USER					REQUESTED ON LOCATION 8/15/19 @ 02:00
Event	2	Depart Yard Safety Meeting	8/14/2019	20:55:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	8/14/2019	21:00:00	USER					
Event	4	Arrive At Loc	8/15/2019	00:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	8/15/2019	00:15:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	8/15/2019	00:25:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	8/15/2019	00:30:00	USER					
Event	8	Pre-Job Safety Meeting	8/15/2019	03:30:00	USER					JSA COMPLETED, PRESSURIZED MUD SCALES CALIBRATED TO FRESH WATER
Event	9	Start Job	8/15/2019	03:51:51	COM4					9 5/8"-36# CASING IN 14 3/4" OH, TD 2594', TP 2584', ST 42.2', MUD 8.9 PPG, WATER TEMP 55, PH 7, CHLORIDES 0
Event	10	Test Lines	8/15/2019	03:53:53	COM4			3000.00		TEST LINES TO 3000 PSI
Event	11	Pump Spacer 1	8/15/2019	03:57:58	COM4	4.00	8.33	60.00	20.00	20 BBLS FRESH WATER
Event	12	Pump Spacer 1	8/15/2019	04:03:25	COM4	4.00	10.50	220.00	20.00	20 BBLS SUPERFLUSH 100
Event	13	Pump Spacer 1	8/15/2019	04:08:20	COM4	4.00	8.33	55.00	10.00	10 BBLS FRESH WATER

Event	14	Pump Lead Cement	8/15/2019	04:15:28	COM4	8.00	12.30	250.00	370.60	370.6 BBLS LEAD CEMENT, 878 SKS @ 12.3 PPG / 2.37 YLD / 13.74 GAL/SK
Event	15	Pump Tail Cement	8/15/2019	05:04:17	COM4					94.7 BBLS TAIL CEMENT, 252 SKS @ 12.8 PPG / 2.11 YLD / 11.75 GAL/SK
Event	16	Drop Top Plug	8/15/2019	05:19:08	COM4					PLUG AWAY
Event	17	Pump Displacement	8/15/2019	05:19:44	COM4	10.00	8.33	500.00	196.50	196.5 BBLS FRESH WATER DISPLACEMENT
Event	18	Bump Plug	8/15/2019	05:46:47	COM4	2.00	8.33	100.00	196.50	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL LIFT PRESSURE 100 PSI @ 2 BBLS/MIN, BROUGHT TO 1600 PSI FOR 10 MINUTE CASING TEST
Event	19	CHECK FLOATS	8/15/2019	05:56:47	COM4			1638.00		FINAL PRESSURE ON CASING TEST 1638 PSI , FLOATS HELD, 1.5 BBLS BACK TO PUMP
Event	20	Pump Spacer 1	8/15/2019	06:12:56	COM4	3.00	8.33	390.00	8.00	CLEAR PARASITE LINE WITH 8 BBLS SUGAR WATER
Event	21	Pump Cement	8/15/2019	06:47:05	COM4	2.50	15.60	90.00	85.70	PUMP 85.7 BBLS TOP OUT CEMENT, 404 SKS @ 15.6 PPG / 1.19 YLD / 5.24 GAL/SK, 10 SKS CaCl AND 8 BBLS SUPERFLUSH USED
Event	22	Stop Pumping	8/15/2019	07:33:52	USER					WAIT 1 HOUR
Event	23	Pump Cement	8/15/2019	08:34:09	USER	2.50	15.60	90.00	30.10	PUMP 30.1 BBLS TOP OUT CEMENT, 142 SKS @ 15.6 PPG / 1.19 YLD / 5.24 GAL/SK, 4 BBLS SUPERFLUSH
Event	24	End Job	8/15/2019	08:59:00	COM4					PIPE LEFT STATIC, NO RETURNS THROUGHOUT. TOP PLUG USED. 546 SKS TOP OUT, 10 SKS CaCl AND 12 BBLS SUPERFLUSH TOTAL USED FOR TOPOUT. 70 LBS SUGAR AND 7 TRANSPORT HOURS
Event	25	Pre-Rig Down Safety Meeting	8/15/2019	09:15:00	USER					JSA COMPLETED
Event	26	Rig-Down Equipment	8/15/2019	09:25:00	USER					

Event	27	Pre-Convoy Safety Meeting	8/15/2019	09:55:00	USER	JSA COMPLETED
Event	28	Crew Leave Location	8/15/2019	10:00:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

LARAMIE - CC FEDERAL 697-03-09W - 9 5/8" SURFACE CASING



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	03:51:51	0.00	8.09	-2.00	0.00
10 Test Lines	03:53:53	0.00	8.38	22.00	1.30
11 Pump Spacer 1	03:57:58	0.80	8.40	19.00	1.50
12 Pump Spacer 1	04:03:25	3.90	10.72	79.00	0.00
13 Pump Spacer 1	04:08:20	4.00	8.33	108.00	0.00
14 Pump Lead Cement	04:15:28	4.00	12.53	138.00	0.00
15 Pump Tail Cement	05:04:17	5.90	12.81	187.00	0.00
16 Drop Top Plug	05:19:08	0.00	0.00	5.00	92.10
17 Pump Displacement	05:19:44	0.00	0.00	3.00	92.10
18 Bump Plug	05:46:47	0.00	8.37	1620.00	189.30
19 CHECK FLOATS	05:56:47	0.00	8.37	1638.00	189.30
20 Pump Spacer 1	06:12:56	1.10	8.35	73.00	0.50

▼ HALLIBURTON | iCem® Service

Created: 2019-08-15 00:52:33, (UTC-06:00), Version: 4.5.139

Edit

Customer : Laramie Energy LLC

Job Date : 8/15/2019

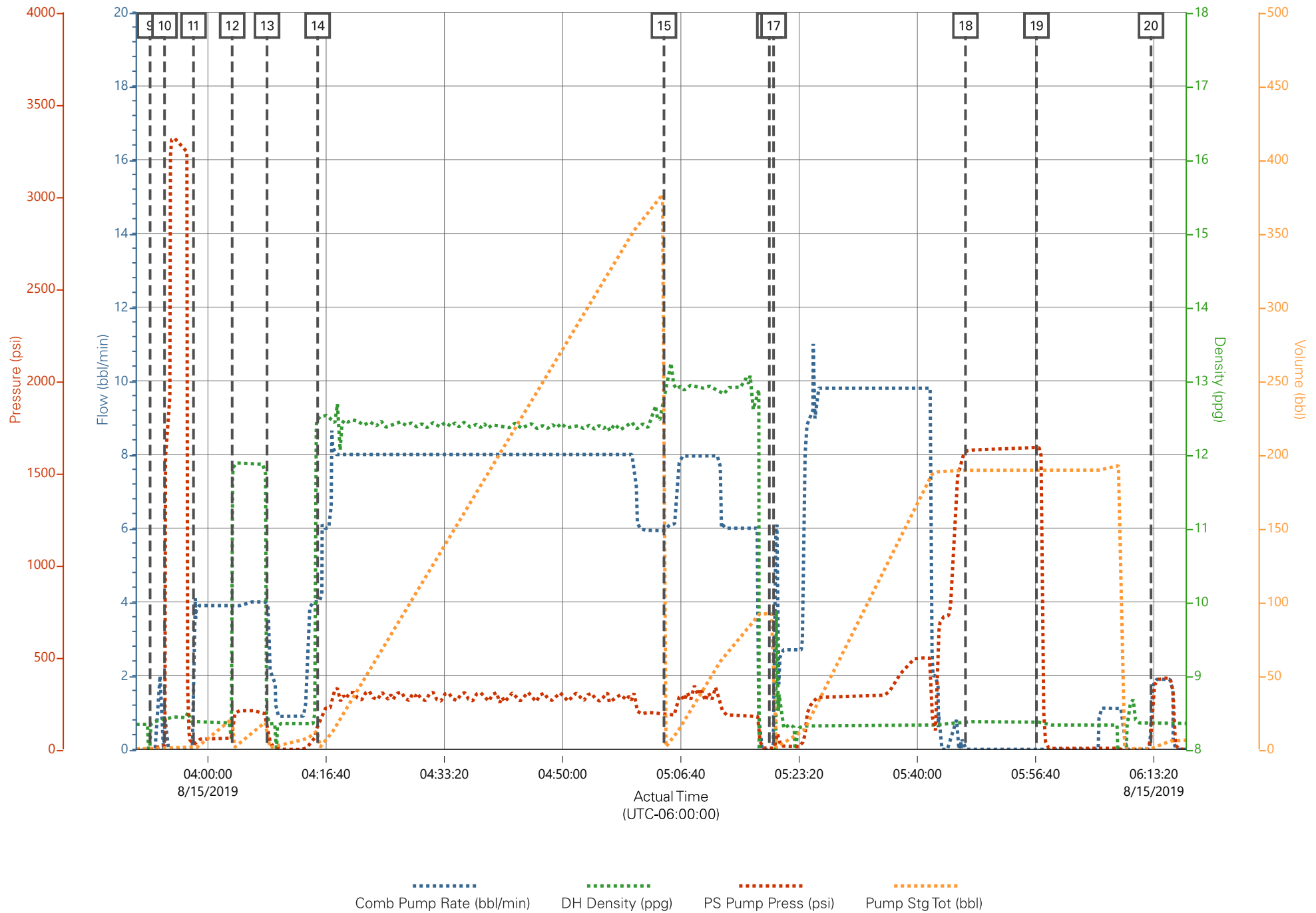
Well : CC FEDERAL 697-03-09W

Representative : SHANE HEARD

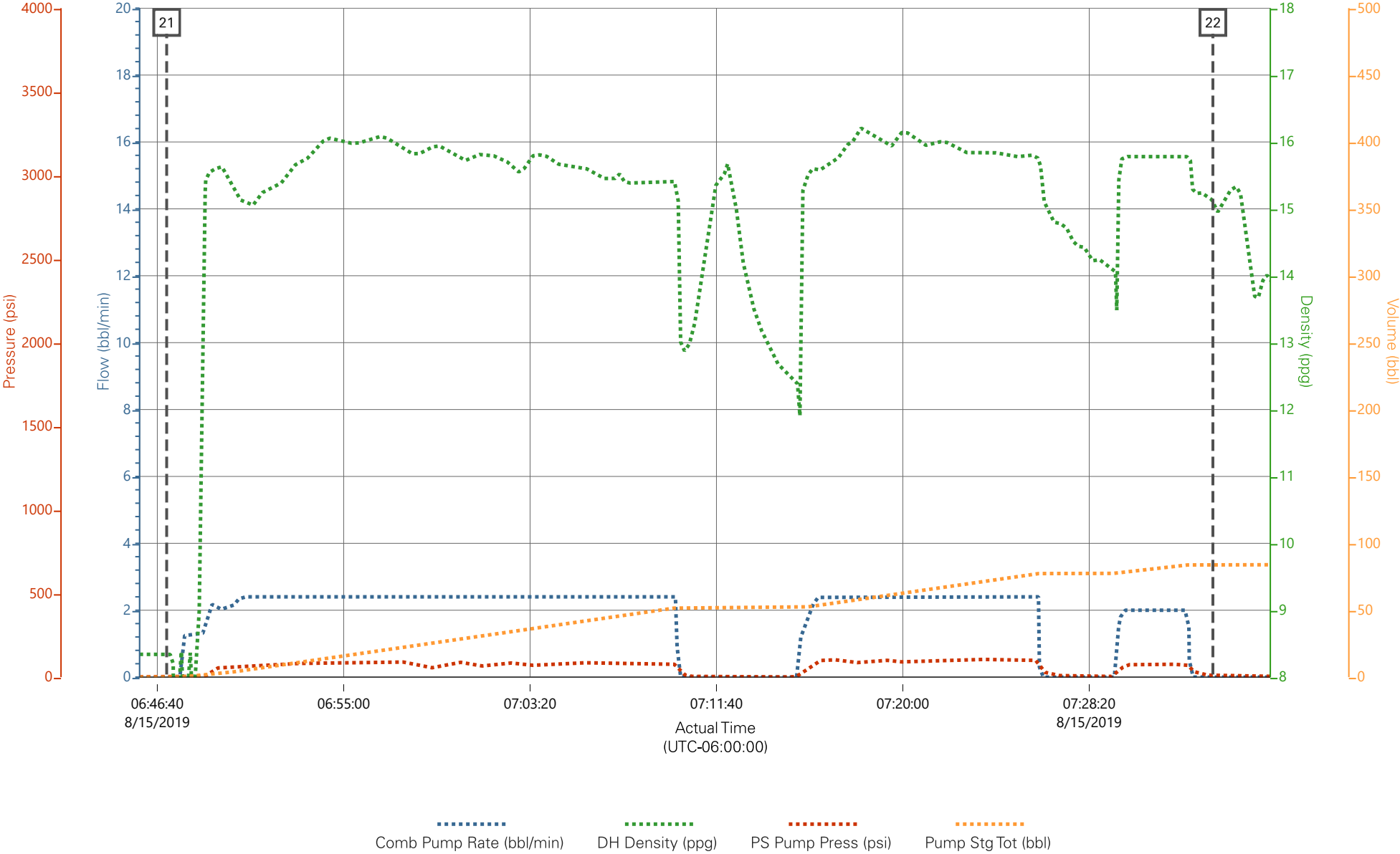
Sales Order # : 905907006

ELITE #8 : RUDY VASQUEZ / RYAN MARTIN

LARAMIE - CC FEDERAL 697-03-09W - 9 5/8" SURFACE CASING



LARAMIE - CC FEDERAL 697-03-09W - TOP OUT #1

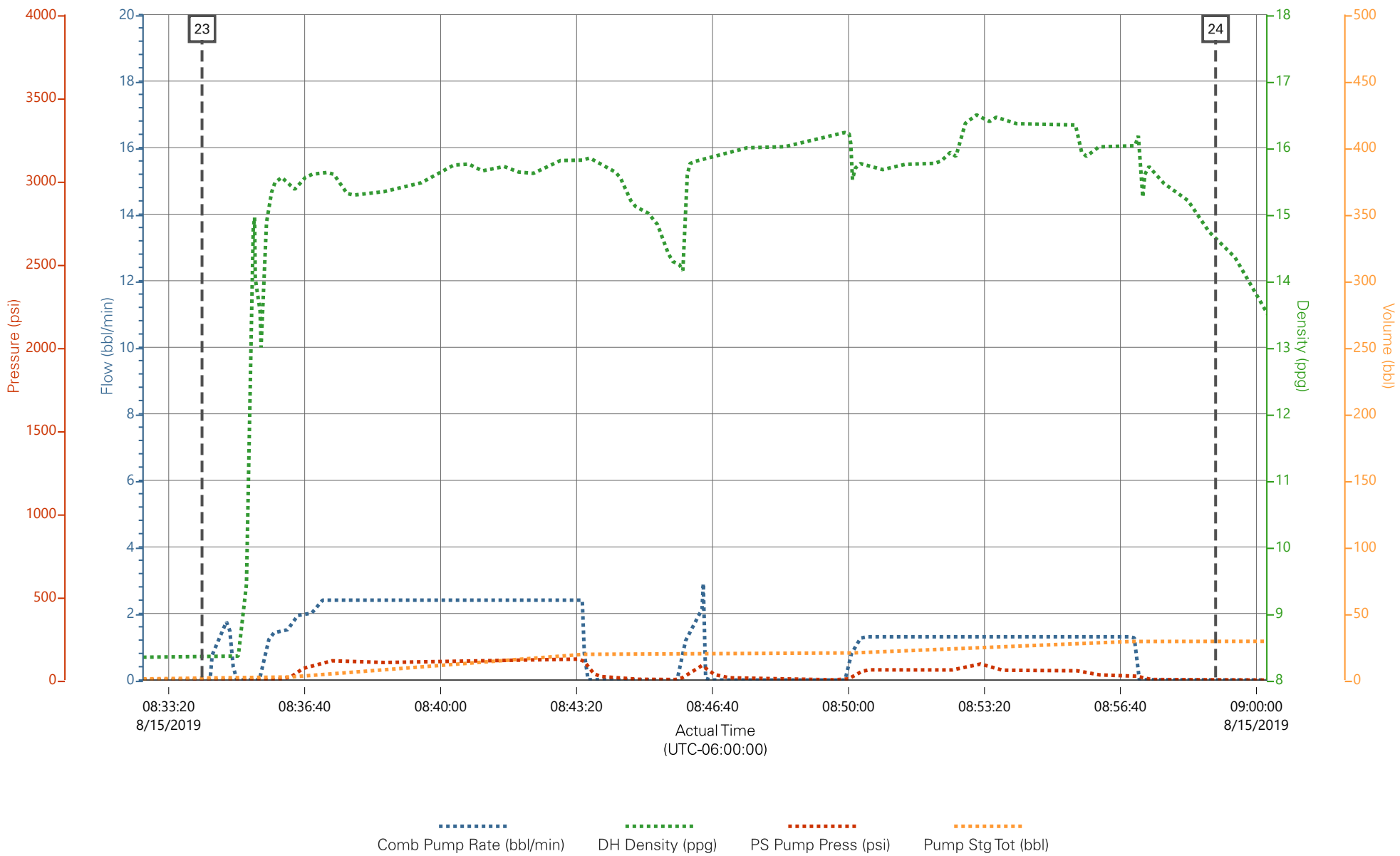


Description	Actual Time (UTC-06:00:00)	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	
21 Pump Cement	06:47:05	0.00	8.34	1.00	0.00	
22 Stop Pumping	07:33:52	0.00	15.11	10.00	84.00	

▼ HALLIBURTON | iCem® Service

Created: 2019-08-15 00:52:33, (UTC-06:00), Version: 4.5.139 [Edit](#)

LARAMIE - CC FEDERAL 697-03-09W - TOP OUT #2



Description	Actual Time (UTC-06:00:00)	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	
23 Pump Cement	08:34:09	0.00	8.34	2.00	0.70	
24 End Job	08:59:00	0.00	14.64	0.00	29.10	

▼ HALLIBURTON | iCem® Service

Created: 2019-08-15 00:52:33, (UTC-06:00), Version: 4.5.139 [Edit](#)

Customer : Laramie Energy LLC

Representative : SHANE HEARD

Job Date : 8/15/2019

Sales Order # : 905907006

Well : CC FEDERAL 697-03-09W

ELITE #8 : RUDY VASQUEZ / RYAN MARTIN

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Aaron Duncan

Date: Sunday, August 18, 2019

CC 0697-03-09W Production PJR

API# 05-045-23930-00

Sincerely,

Grand Junction Cement Engineering

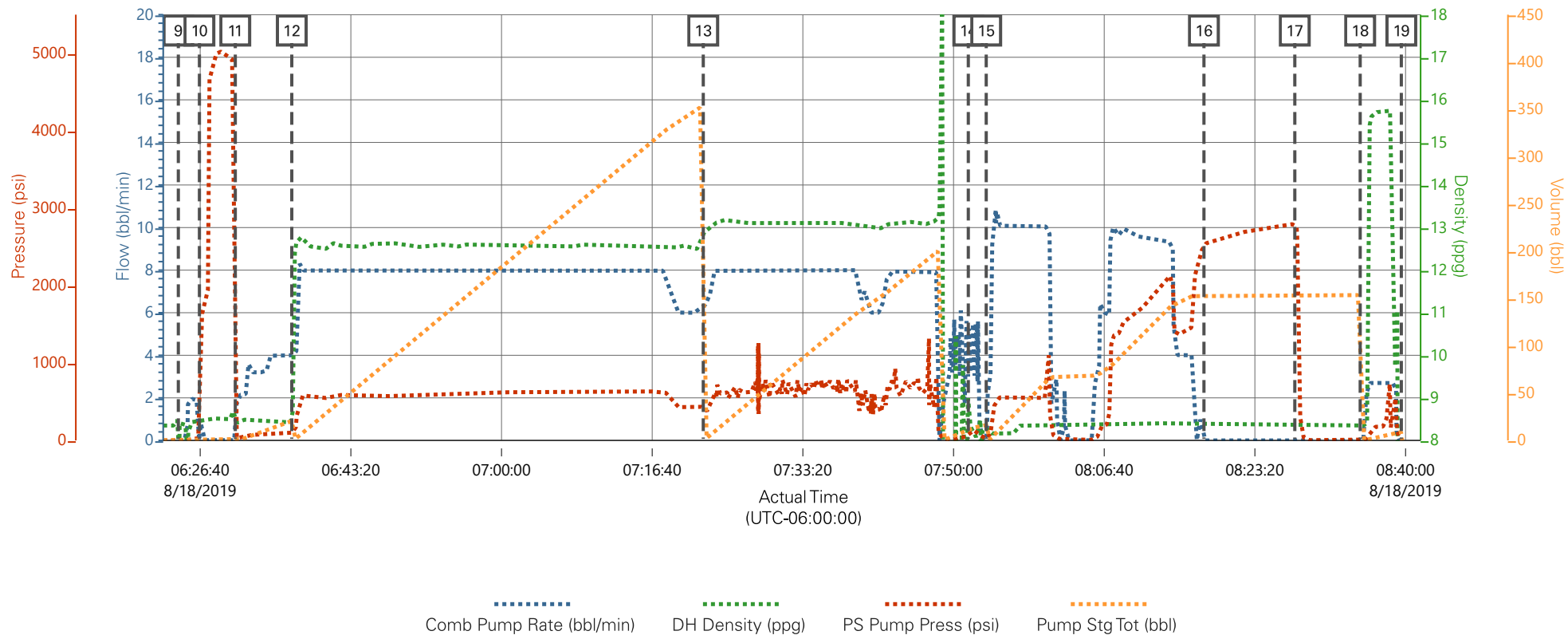
2.0 Real-Time Job Summary

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	8/17/2019	18:30:00	USER					REQUESTED ON LOCATION 8/18/19 @ 02:30
Event	2	Depart Yard Safety Meeting	8/17/2019	20:55:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	8/17/2019	21:00:00	USER					
Event	4	Arrive At Loc	8/17/2019	23:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	8/17/2019	23:15:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	8/17/2019	23:25:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	8/17/2019	23:30:00	USER					
Event	8	Pre-Job Safety Meeting	8/18/2019	06:00:00	USER					JSA COMPLETED, PRESSURIZED MUD SCALES CALIBRATED TO FRESH WATER
Event	9	Start Job	8/18/2019	06:24:15	COM4					4 1/2"-11.6# CASING IN 8 3/4" OH, TD 9962', TP 9952', ST 45.2', MUD 9.0 PPG, WATER TEMP 55, PH 7, CHLORIDES 0
Event	10	Test Lines	8/18/2019	06:26:35	COM4			5000.00		TEST LINES TO 5000 PSI
Event	11	Pump Spacer 1	8/18/2019	06:30:33	COM4	4.00	8.40	100.00	20.00	20 BBLS MUDFLUSH
Event	12	Pump Lead Cement	8/18/2019	06:36:48	COM4	8.00	12.50	600.00	344.30	344.3 BBLS LEAD CEMENT, 1111 SKS @ 12.5 PPG / 1.74 YLD / 9.01 GAL/SK

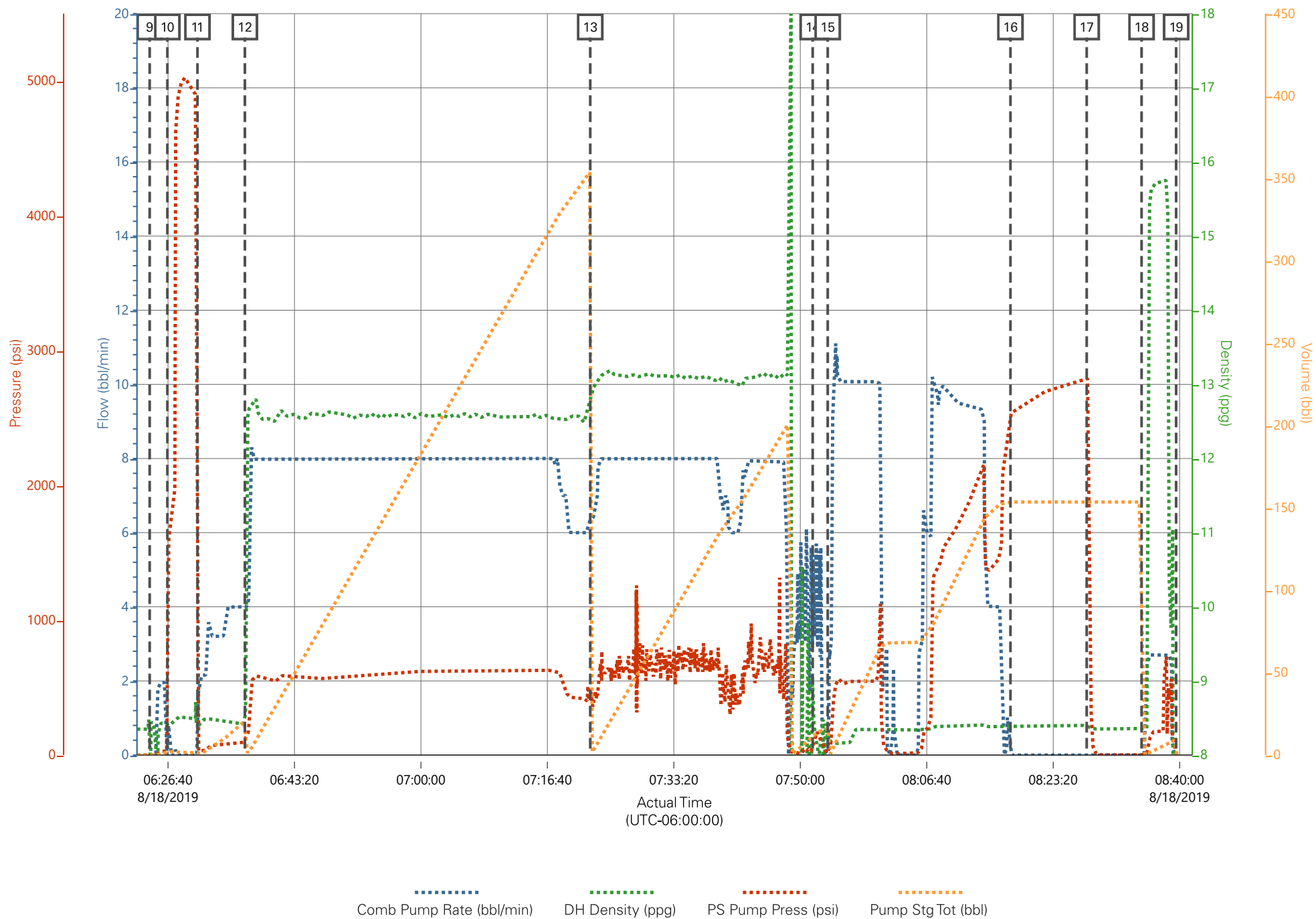
Event	13	Pump Tail Cement	8/18/2019	07:22:19	COM4	8.00	13.00	650.00	160.80	160.8 BBLS TAIL CEMENT, 519 SKS @ 13.0 PPG / 1.74 YLD / 7.99 GAL/SK
Event	14	Drop Top Plug	8/18/2019	07:51:38	COM4					PLUGS AWAY
Event	15	Pump Displacement	8/18/2019	07:53:37	COM4	10.00	8.33	2150.00	153.60	153.6 BBLS FRESH WATER DISPLACEMENT WITH 1 GALLONS MMCR AND 5 GALLONS CLA-WEB
Event	16	Bump Plug	8/18/2019	08:17:42	COM4	4.00	8.33	1460.00	153.60	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL LIFT PRESSURE 1460 PSI @ 4 BBL/MIN, BROUGHT TO 2500 PSI FOR 10 MINUTE CASING TEST
Event	17	CHECK FLOATS	8/18/2019	08:27:45	COM4			2798.00		FINAL CASING TEST PRESSURE 2798 PSI, FLOATS HELD, 1.5 BBLS BACK TO PUMP
Event	18	Pump Cement	8/18/2019	08:34:59	COM4	3.00	15.60	400.00	10.50	PUMP 10.5 BBLS TOP OUT CEMENT DOWN PARASITE LINE, 50 SKS @ 15.6 PPG / 1.18 YLD / 5.23 GAL/SK
Event	19	End Job	8/18/2019	08:39:32	COM4					GOOD RETURNS WITH AIR ON, SPACER @ 80 BBLS INTO DISPLACEMENT, AIR SHUT OFF, 10 BBLS SPACER TO SURFACE, NO SUGAR
Event	20	Pre-Rig Down Safety Meeting	8/18/2019	08:45:00	USER					JSA COMPLETED
Event	21	Rig-Down Equipment	8/18/2019	08:50:00	USER					
Event	22	Pre-Convoy Safety Meeting	8/18/2019	09:25:00	USER					JSA COMPLETED
Event	23	Crew Leave Location	8/18/2019	09:30:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

LARAMIE - CC FEDERAL 697-03-09W - 4 1/2" PRODUCTION CASING



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	06:24:15	0.00	7.49	-2.00	0.00
10 Test Lines	06:26:35	0.00	8.42	29.00	2.10
11 Pump Spacer 1	06:30:33	0.00	8.38	19.00	2.10
12 Pump Lead Cement	06:36:48	4.00	8.41	93.00	20.60
13 Pump Tail Cement	07:22:19	6.30	12.85	420.00	0.10
14 Drop Top Plug	07:51:38	4.80	8.95	57.00	10.50
15 Pump Displacement	07:53:37	0.00	8.25	8.00	16.20
16 Bump Plug	08:17:42	0.00	8.40	2526.00	153.60
17 CHECK FLOATS	08:27:45	0.00	8.40	2798.00	153.60
18 Pump Cement	08:34:59	0.00	8.35	1.00	0.00
19 End Job	08:39:32	0.00	0.01	4.00	8.90

LARAMIE - CC FEDERAL 697-03-09W - 4 1/2" PRODUCTION CASING



Job Information

Request/Slurry	2576645/1	Rig Name	H&P 522	Date	12/AUG/2019
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	CC 0697-03-09W

Well Information

Casing/Liner Size	4.5 in	Depth MD	10087 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9717 ft	BHCT	79°C / 175°F
Pressure	6102 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Lead Design



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		EconoCem Lead					Slurry Density	12.5	lbm/gal
							Slurry Yield	1.74	ft3/sack
							Water Requirement	9.1	gal/sack
							Total Mix Fluid	9.1	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

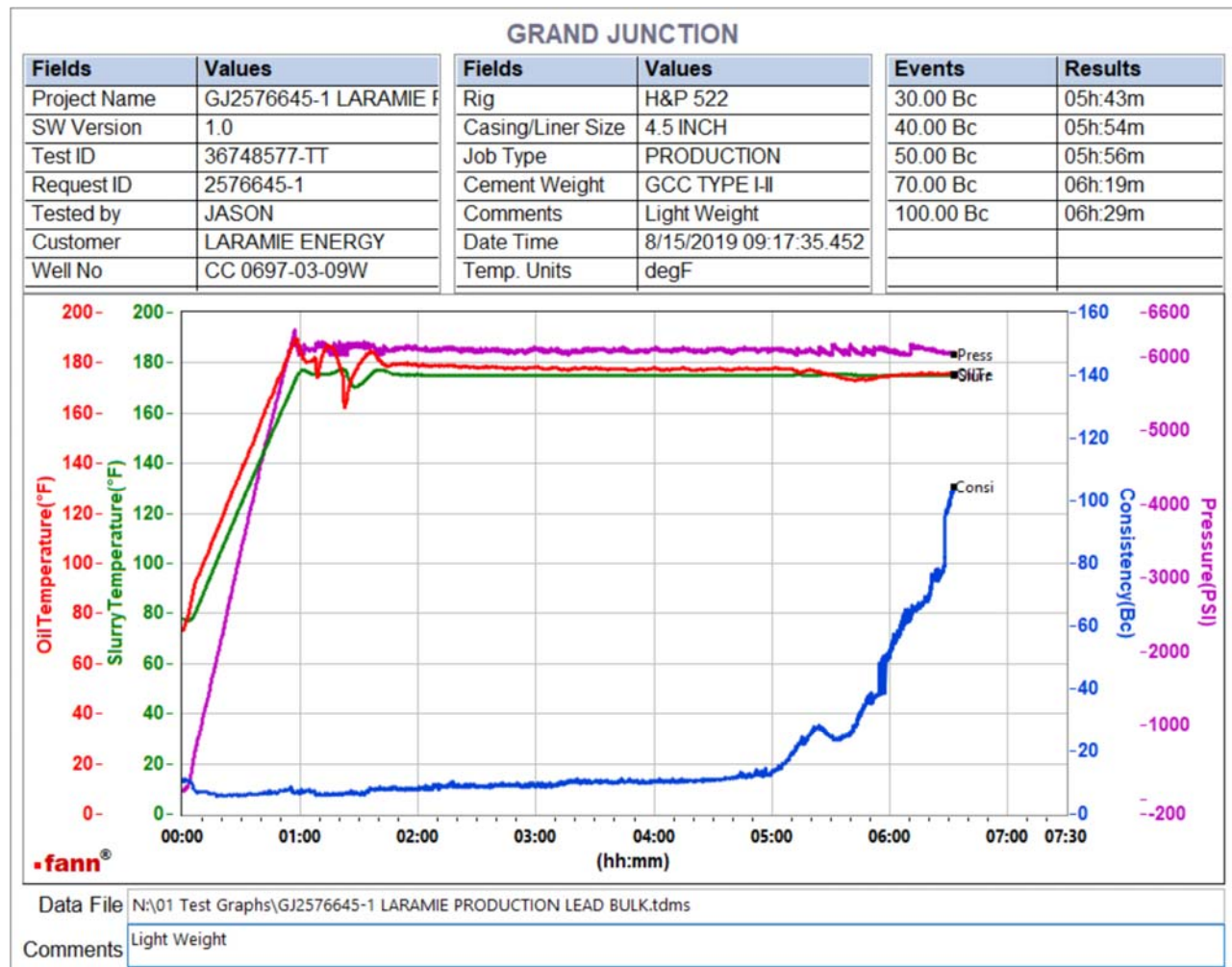
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Operation Test Results Request ID 2576645/1

Thickening Time - ON-OFF-ON, Request Test ID:36748577

16/AUG/2019

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)
175	6102	57	5:43	5:56	6:19	6:29	11	67	15	8



Total sks=1111

CS0946 TR#0812 500 SKS

CS0948 TR#0813 500 SKS

CS0949 TR 6813 111 SKS

Deflected 6-- > 8. Please note small heat of hydration at 5:26.

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Job Information

Request/Slurry	2576646/1	Rig Name	H&P 522	Date	12/AUG/2019
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	CC 0697-03-09W

Well Information

Casing/Liner Size	4.5 in	Depth MD	10087 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9717 ft	BHCT	79°C / 175°F
Pressure	6102 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Tail Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail					Slurry Density	13	lbm/gal
							Slurry Yield	1.74	ft3/sack
							Water Requirement	7.99	gal/sack
							Total Mix Fluid	7.99	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

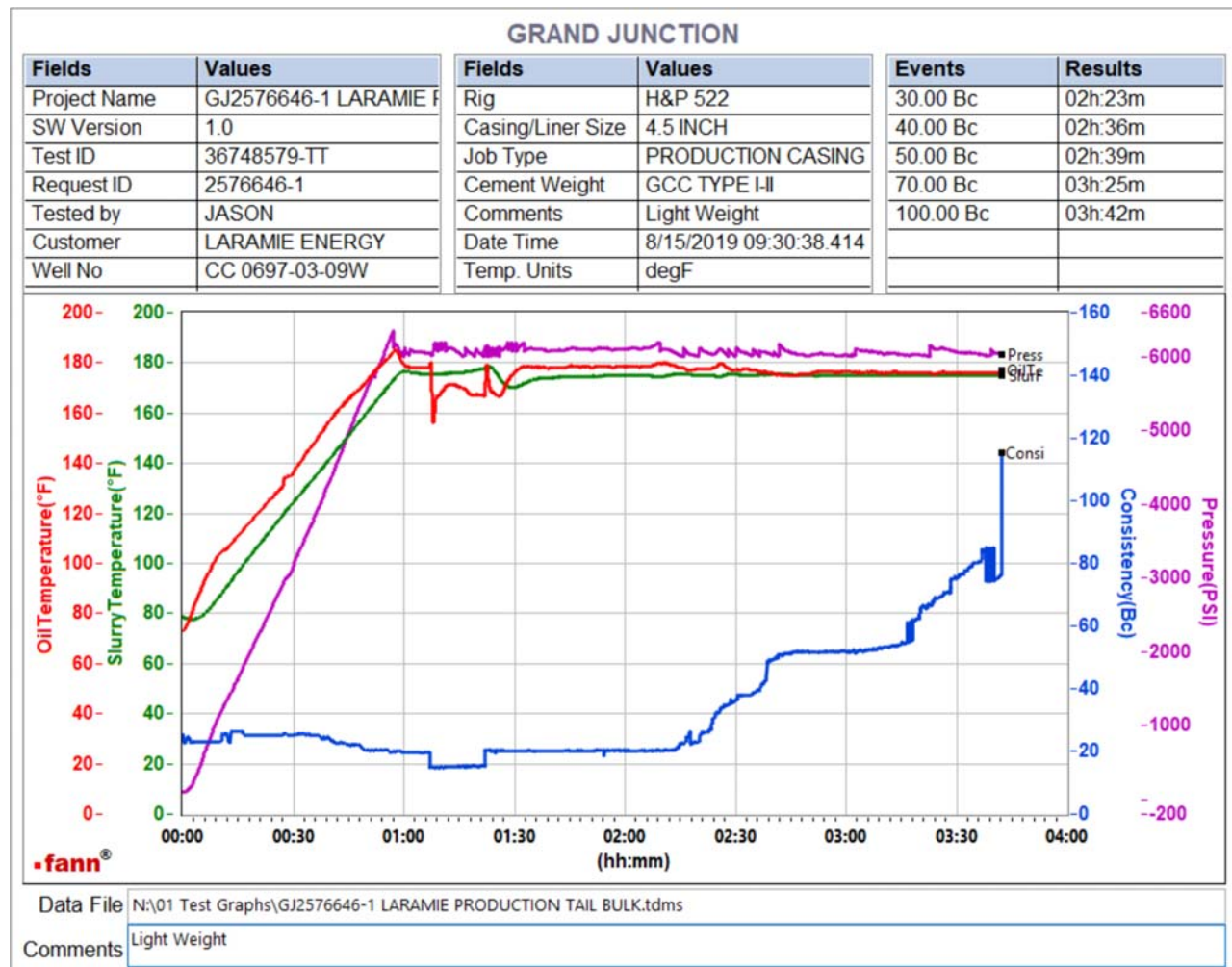
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Operation Test Results Request ID 2576646/1

Thickening Time - ON-OFF-ON, Request Test ID:36748579

16/AUG/2019

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)
175	6102	57	2:23	2:39	3:25	3:42	25	67	15	20



Total sks=519
 CS0947 TR#1513 400 SKS
 CS0950 TR 6813 119 SKS
 Deflected 15-- > 20

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