

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

For: Aaron Duncan

Date: Saturday, June 15, 2019

CC 0697-04-03E Surface PJR

API#05-045-23984-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

2.1 Job Event Log

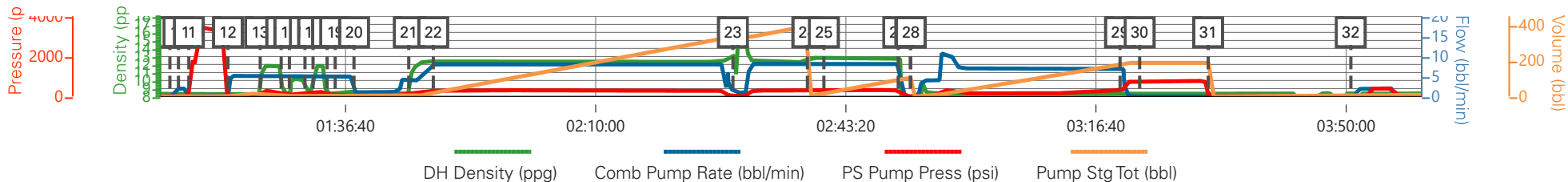
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	6/14/2019	17:00:00	USER					REQUESTED ON LOCATION @ 23:00
Event	2	Pre-Convoy Safety Meeting	6/14/2019	19:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	6/14/2019	19:10:00	USER					1 HT 400 PUMP TRUCK, 1 660 BULK TRUCK, 1 TRANSPORT, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	6/14/2019	21:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED AT LOCATION
Event	5	Assessment Of Location Safety Meeting	6/14/2019	21:10:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH-7.0, CHLORIDES-500, TEMP-62F). COMP REP WAS OFFERED SDS FOR ALL CHEMICALS USED BY HES. CALIBRATED MUD SCALES ON WATER.
										ALL HES PRESENT
Event	6	Pre-Rig Up Safety Meeting	6/14/2019	21:15:00	USER					
Event	7	Rig-Up Equipment	6/14/2019	21:20:00	USER					HES RIGGED UP 1 HT 400 PUMP TRUCK, 1 660 BULK TRUCK, 1 CEMENT SILO, 1 TRANSPORT, 2"

DISCHARGE IRON, AND 4" SUCTION HOSE
 WITHOUT ENTERING RED ZONE.

Event	8	Pre-Job Safety Meeting	6/15/2019	00:45:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT. RIG CIRCULATED @ 10 BPM PRIOR TO JOB. PRESSURE WAS 50PSI.
Event	9	Start Job	6/15/2019	01:13:16	COM4					TD 2601', TP 2591', CSG 9 5/8" J-55 36#, SJ 46.7', OH 14.5", MUD 8.8 PPG
Event	10	Prime Lines	6/15/2019	01:14:25	USER	8.33	2	23	3	FRESH WATER
Event	11	Test Lines	6/15/2019	01:15:48	COM4			3340		ALL LINES HELD PRESSURE AT 3340 PSI
Event	12	Pump H2O Spacer	6/15/2019	01:21:00	COM4	8.33	5	90	20	20BBLS FRESH WATER
Event	13	Super Flush	6/15/2019	01:25:18	COM4	11	5	285	10	10BBLS SUPER FLUSH
Event	14	Pump H2O Spacer	6/15/2019	01:28:06	COM4	8.33	5	100	5	5BBLS FRESH WATER
Event	15	CALCIUM CHLORIDE	6/15/2019	01:29:11	COM4	8.4	5	120	10	10BBLS CALCIUM CHLORIDE WATER
Event	16	Pump H2O Spacer	6/15/2019	01:31:16	COM4	8.33	5	95	5	5BBLS FRESH WATER
Event	17	Super Flush	6/15/2019	01:32:21	COM4	11	5	280	10	10BBLS SUPER FLUSH
Event	18	Pump H2O Spacer	6/15/2019	01:34:13	COM4	8.33	5	80	5	5BBLS FRESH WATER
Event	19	CALCIUM CHLORIDE	6/15/2019	01:35:18	COM4	8.4	5	80	10	10BBLS CALCIUM CHLORIDE WATER
Event	20	Pump H2O Spacer	6/15/2019	01:37:48	COM4	8.33	5	80	10	10BBLS FRESH WATER
Event	21	Pump Lead Cement	6/15/2019	01:45:06	COM4	12.3	8	300	370.6	878 SKS VARICEM CMT 12.3 PPG, 2.4 FT3/SK, 13.8 GAL/SK
Event	22	Check Weight	6/15/2019	01:48:22	USER					WEIGHT VERIFIED VIA PRISSEIZED MUD SCALES
Event	23	Slow Rate	6/15/2019	02:28:17	USER					SLOWED TO FIX DENSITY
Event	24	Pump Tail Cement	6/15/2019	02:38:12	COM4	12.8	8	350	94.7	252 SKS VARICEM CMT 12.8 PPG, 2.13 FT3/SK, 11.79 GAL/SK
Event	25	Check Weight	6/15/2019	02:40:24	COM4					WEIGHT VERIFIED VIA PRISSEIZED MUD SCALES

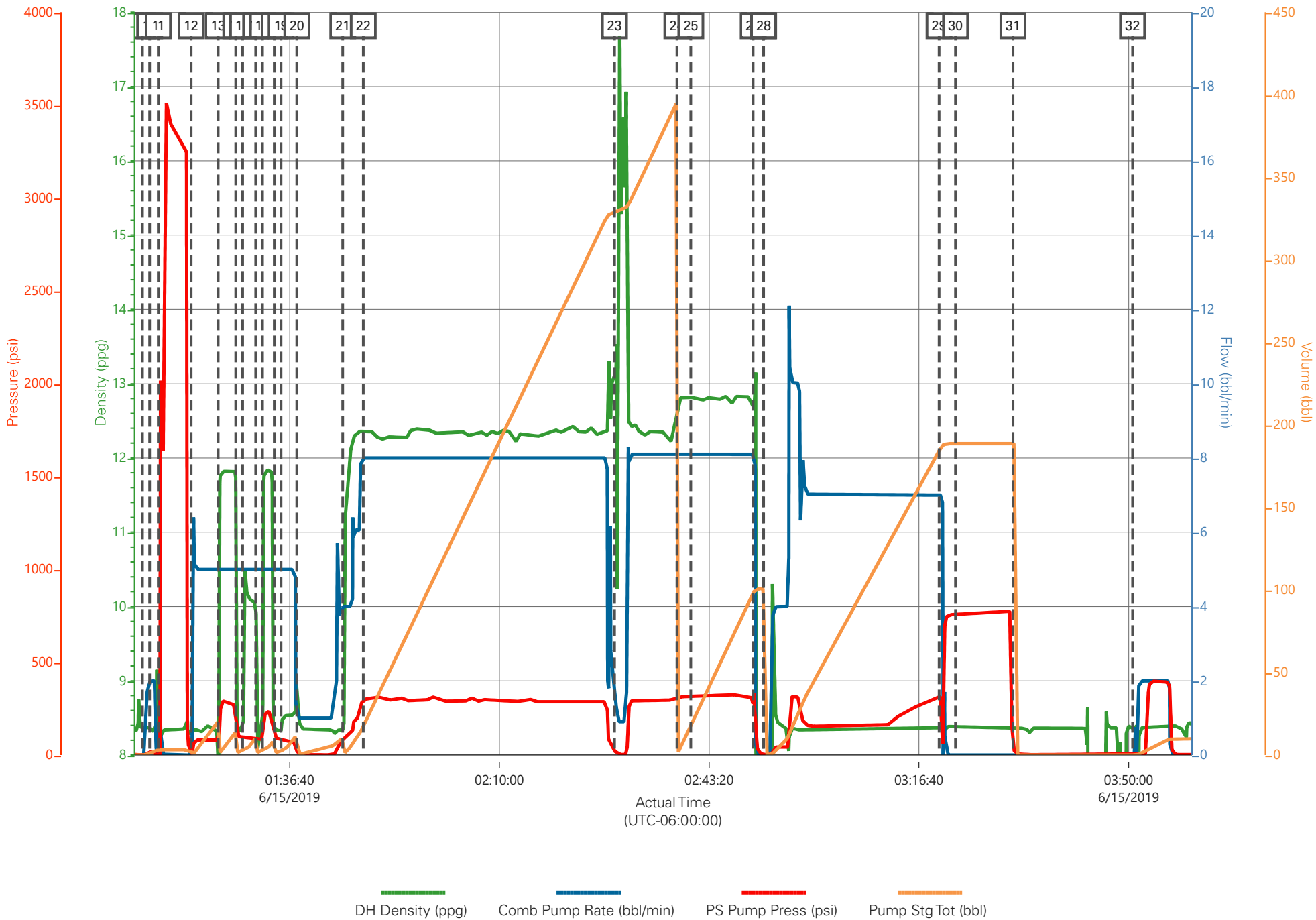
Event	26	Shutdown	6/15/2019	02:50:19	USER					END OF CEMENT, WASH UP ON TOP OF PLUG
Event	27	Drop Top Plug	6/15/2019	02:51:55	COM4					VERIFIED BY FLAG INDICATOR
Event	28	Pump Displacement	6/15/2019	02:51:59	COM4	8.33	7	320`	196.7	FRESH WATER
Event	29	Slow Rate	6/15/2019	03:19:52	USER	8.33	2	200	186.7	SLOW RATE TO 2 BPM TO BUMP PLUG
Event	30	Bump Plug	6/15/2019	03:22:29	COM4	8.33	2	200	196.7	LAND PLUG AT 250 PSI, BROUGHT UP TO 775 PSI
Event	31	Check Floats	6/15/2019	03:31:37	USER					FLOATS HELD, 1. BBL BACK TO TRUCK
Event	32	Pump Down Parasite	6/15/2019	03:50:37	COM4	8.33	2	400	10	CLEARED PARASITE LINE WITH 10BBLS SUGAR WATER
Event	33	Top Out	6/15/2019	04:57:10	COM4	15.6	1.5	80	56	264 SKS TYPE I-II CMT 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK. AND 4BBLS OF SUPER FLUSH AHEAD.
Event	34	End Job	6/15/2019	05:36:37	COM4					NO RETURNS THROUGHOUT JOB .USED 80# OF SUGAR AND TOP PLUG. NO CEMENT TO SURFACE. TOPPED OUT WELL WITH 56BBLS.
Event	35	Post-Job Safety Meeting (Pre Rig-Down)	6/15/2019	05:45:00	USER					ALL HES PRESENT
Event	36	Rig-Down Equipment	6/15/2019	06:00:00	USER					ALL HES PRESENT
Event	37	Pre-Convoy Safety Meeting	6/15/2019	07:30:00	USER					ALL HES PRESENT
Event	38	Crew Leave Location	6/15/2019	07:45:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW.

LARAMIE CC FED 0697-04-03E

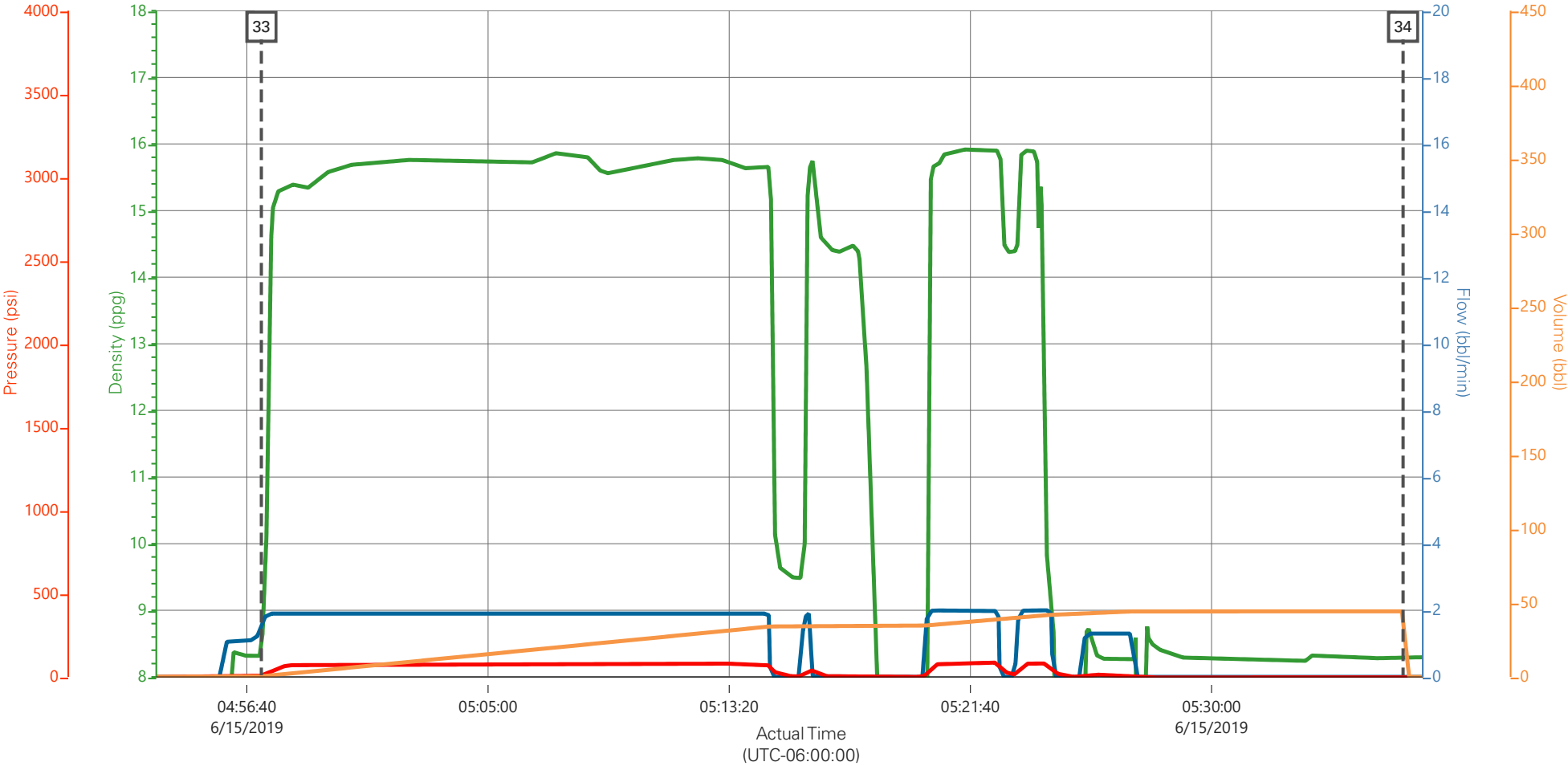


Description	Actual Time (UTC-06:00:00)	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	
9 Start Job	01:13:16	8.35	0.00	-4.00	0.00	
10 Prime Lines	01:14:25	8.33	2.00	17.00	1.10	
11 Test Lines	01:15:48	8.35	0.00	-1.00	3.10	
12 Pump H2O Spacer	01:21:00	8.33	0.00	1.00	0.00	
13 Super Flush	01:25:18	8.34	5.00	70.00	0.00	
14 Pump H2O Spacer	01:28:06	11.40	4.90	176.00	0.00	
15 CALCIUM CHLORIDE	01:29:11	8.32	5.00	87.00	5.50	
16 Pump H2O Spacer	01:31:16	10.04	5.00	94.00	0.00	
17 Super Flush	01:32:21	8.35	5.00	79.00	0.00	
18 Pump H2O Spacer	01:34:13	8.30	5.00	110.00	9.40	
19 CALCIUM CHLORIDE	01:35:18	8.32	5.00	75.00	5.40	
20 Pump H2O Spacer	01:37:48	8.81	1.00	19.00	0.00	
21 Pump Lead Cement	01:45:06	8.34	4.00	73.00	10.50	
22 Check Weight	01:48:22	12.32	8.00	296.00	17.60	
23 Slow Rate	02:28:17	13.07	1.80	21.00	329.50	
24 Pump Tail Cement	02:38:12	12.64	8.10	299.00	395.40	
25 Check Weight	02:40:24	12.82	8.10	318.00	17.90	
26 Shutdown	02:50:19	12.62	8.10	280.00	98.10	
27 Drop Top Plug	02:51:55	-0.01	0.00	3.00	100.80	
28 Pump Displacement	02:51:59	-0.01	0.00	3.00	100.80	
29 Slow Rate	03:19:52	8.37	7.00	316.00	184.50	
30 Bump Plug	03:22:29	8.38	0.00	756.00	188.70	
31 Check Floats	03:31:37	8.35	0.00	58.00	188.70	
32 Pump Down Parasite	03:50:37	8.35	0.00	1.00	0.00	

LARAMIE CC FED 0697-04-03E



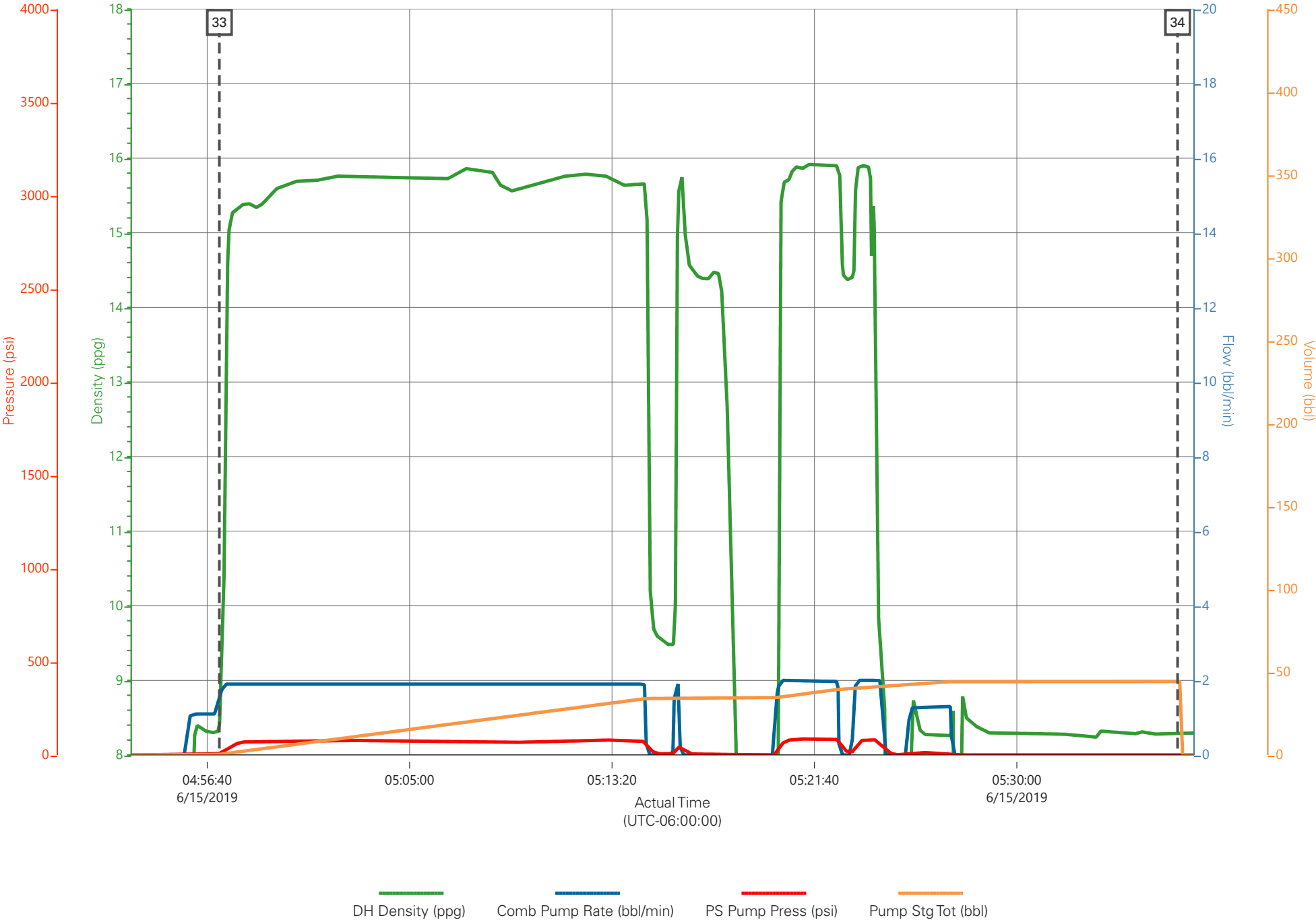
LARAMIE CC FED 0697-04-03E



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)	
<div>33</div> Top Out	04:57:10	8.36	1.50	7.00	0.30	
<div>34</div> End Job	05:36:37	8.30	0.00	-3.00	44.30	

LARAMIE CC FED 0697-04-03E



HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Aaron Duncan

Date: Tuesday, June 18, 2019

CC Federal 697-04-03E Production PJR

API# 05-045-23984-00

Sincerely,

Grand Junction Cement Engineering

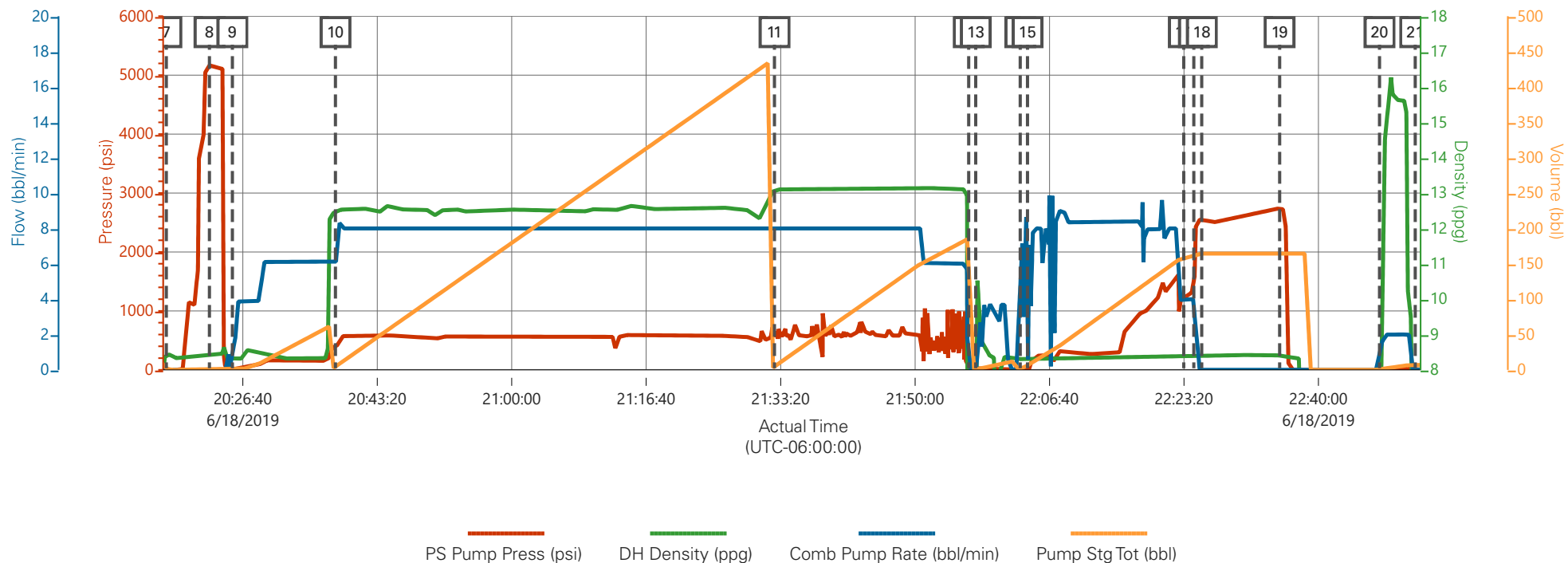
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	CALL OUT	6/18/2019	12:00:00	USER					
Event	2	PRE-CONVOY	6/18/2019	14:30:00	USER					
Event	3	ARRIVE AT LOC	6/18/2019	17:00:00	USER					RIG RUNNING CASING
Event	4	Pre-Rig Up Safety Meeting	6/18/2019	17:10:00	USER					JSA COMPLETE
										WATER TEST: PH-7, TEMP- 55, CL-0
Event	5	Comment	6/18/2019	18:00:00	USER					JOB INFO: 4.5 11.6# CASING RAN TO 9675 FT., TD - 9685 FT., FLOAT COLLAR SET AT 9589.44 FT., 8 3/4" OPEN HOLE, MUD # 9.0
Event	6	Pre-Job Safety Meeting	6/18/2019	19:30:00	USER					JSA COMPLETE
Event	7	Start Job	6/18/2019	20:17:11	COM5					
Event	8	Test Lines	6/18/2019	20:22:32	USER			5180.00		5180 PSI
Event	9	Pump Spacer 1	6/18/2019	20:25:22	USER	8.33	6.00	150.0	60.00	MUD FLUSH
Event	10	Pump Lead Cement	6/18/2019	20:38:09	USER	12.30	8.00	580.0	401.7	1122 SKS NEOCEM 12.5 PPG, 2.01 FT3/SK, 10.32 GAL/SK
Event	11	Pump Tail Cement	6/18/2019	21:32:34	USER	13.00	8.00	537.00	159.7	421 SKS NEOCEM 13.0 PPG, 2.13 FT3/SK, 10.17 GAL/SK
Event	12	Shutdown	6/18/2019	21:56:39	USER					TO WASH PUMPS AND LINES, AND DROP TOP PLUGS

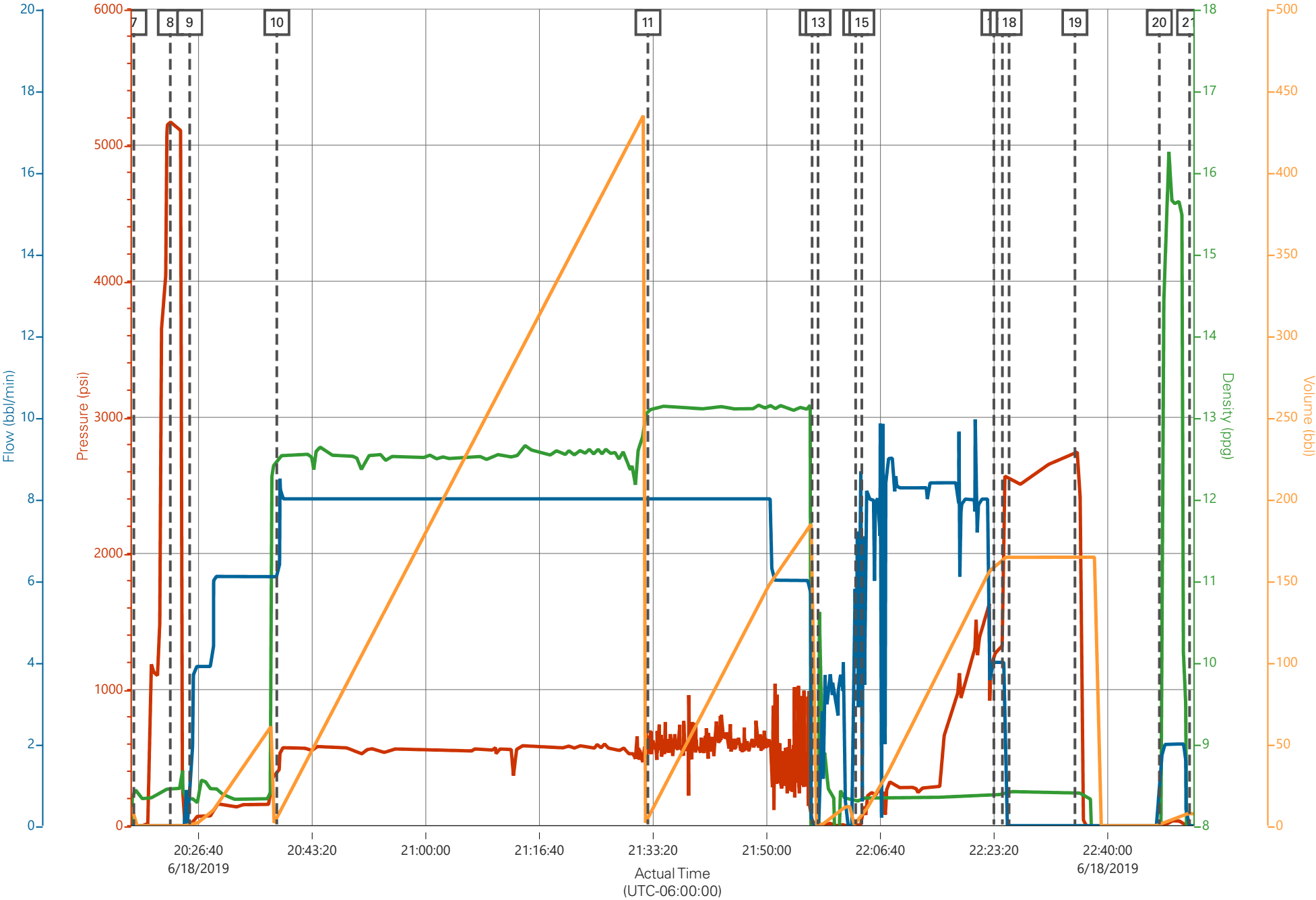
Event	13	Clean Lines	6/18/2019	21:57:31	USER					TO CELLAR
Event	14	Drop Top Plug	6/18/2019	22:03:02	USER					AWAY X2
Event	15	Pump Displacement	6/18/2019	22:03:56	USER	8.33	8.00	1634.0	149.6	FRESH WATER WITH 5 GAL CLA WEB, 1 GAL MMCR
Event	16	SLOW RATE	6/18/2019	22:23:18	USER	8.33	4.00	1237.00	139.0	SLOW RATE TO BUMP PLUG
Event	17	Bump Plug	6/18/2019	22:24:33	USER	8.33	4.00	1322.00	149.6	PLUG BUMPED, 1.5 BBLS BACK TO TRUCK
Event	18	CASING TEST	6/18/2019	22:25:32	USER	8.33	0.00	2541.00		AFTER PLUG WAS BUMPED, DID A CASING TEST TO 2541 PSI AND HELD FOR 10 MINS. TEST GOOD
Event	19	Check Floats	6/18/2019	22:35:11	USER	8.33	0.00	2740.00		2740 PSI
Event	20	Other	6/18/2019	22:47:34	COM5	15.6	2.00	30.0	6.30	PUMP PARASITE STRING WITH 6.3 BBLS OF TOP OUT CEMENT 15.6 PPG, 1.18 FT3/SK, 5.23 GAL/SK
Event	21	End Job	6/18/2019	22:52:00	USER					CUT PARASITE AIR AT 70 BBLS GONE IN DISPLACEMENT, 20 BBLS SPACER TO SURFACE, NO RETURNS AFTER CUTTING AIR. NO PIPE MOVEMENT, GOOD CIRCULATION THROUGHOUT JOB WHILE AIR WAS ON.
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	6/18/2019	22:56:13	USER					JSA COMPLETE
Event	23	Rig-Down Equipment	6/18/2019	23:08:13	USER					
Event	24	Crew Leave Location	6/18/2019	23:30:16	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

Laramie CC Federal 0697-04-03E Production



Description	Actual Time (UTC-06:00:00)	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	
7 Start Job	20:17:11	-17.00	8.44	0.00	0.00	
8 Test Lines	20:22:32	5175.00	8.46	0.00	0.00	
9 Pump Spacer 1	20:25:22	-5.00	8.34	0.90	0.30	
10 Pump Lead Cement	20:38:09	420.00	12.48	6.10	4.10	
11 Pump Tail Cement	21:32:34	537.00	13.09	8.00	4.80	
12 Shutdown	21:56:39	34.00	0.24	0.00	185.00	
13 Clean Lines	21:57:31	3.00	1.75	0.00	0.00	
14 Drop Top Plug	22:03:02	20.00	8.30	4.00	1.20	
15 Pump Displacement	22:03:56	-7.00	8.31	1.10	6.50	
16 SLOW RATE	22:23:18	1237.00	8.38	4.00	158.50	
17 Bump Plug	22:24:33	1322.00	8.38	4.00	163.50	
18 CASING TEST	22:25:32	2541.00	8.42	0.00	164.40	
19 Check Floats	22:35:11	2740.00	8.41	0.00	164.40	
20 Other	22:47:34	-15.00	-0.02	0.90	0.10	
21 End Job	22:52:00	-18.00	1.08	0.00	7.40	

Laramie CC Federal 0697-04-03E Production



Job Information

Request/Slurry	2563437/2	Rig Name	H&P 522	Date	14/JUN/2019
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Cascade Creek Fed 0697-04-03E

Well Information

Casing/Liner Size	4.5 in	Depth MD	9703 ft	BHST	117°C / 243°F
Hole Size	8.75 in	Depth TVD	9594 ft	BHCT	78°C / 173°F
Pressure	6016 psi				

Drilling Fluid Information

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



Conc	UOM	Cement/Additive	MP	Sample Type	Sample Date	Lot No.	Cement Properties		
							Slurry Density	12.5	lbm/gal
							Slurry Yield	1.95	ft3/sack
							Water Requirement	9.61	gal/sack
							Total Mix Fluid	9.61	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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Operation Test Results Request ID 2563437/2

Thickening Time - ON-OFF-ON, Request Test ID:36588115

17/JUN/2019

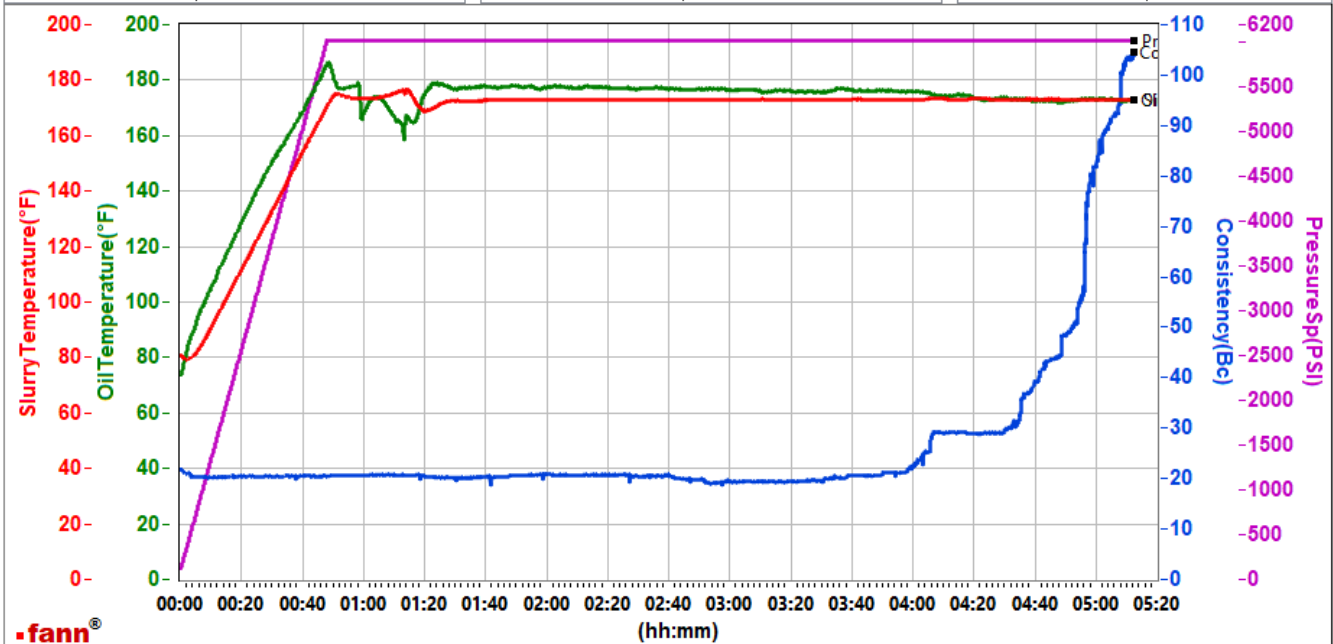
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
173	6016	48	4:31	4:53	4:56	5:08	20	58	15	20

GRAND JUNCTION

Fields	Values
Project Name	GJ2563437-2 Laramie Pr
SW Version	1.0
Test ID	36588115-TT
Request ID	2563437-2
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	CC FED 0697-04-03E

Fields	Values
Rig	H&P 522
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION
Cement Weight	GCC TYPE I-II
Comments	Light Weight
Date Time	6/17/2019 03:30:38.798
Temp. Units	degF

Events	Results
30 Bc	4:31
50 Bc	4:53
70 Bc	4:56
100 Bc	5:08



Data File C:\Users\HX25273\Desktop\HPHT Graphs\GJ2563437-2 LARAMIE PRODUCTION BULK LEAD RETEST.tdms

Comments Light Weight

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Operation Test Results Request ID 2563437/1

Thickening Time - ON-OFF-ON, Request Test ID:36580920

16/JUN/2019

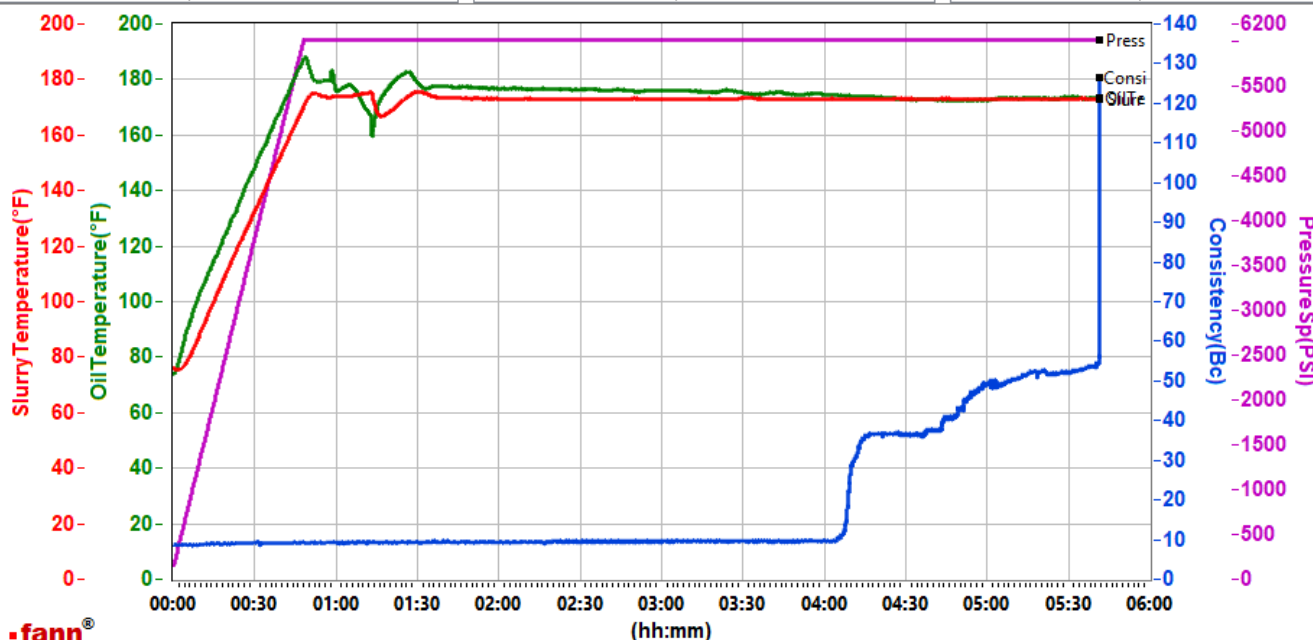
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173	6016	48	4:11	5:09	5:41	5:41	7	58	15	10

GRAND JUNCTION

Fields	Values
Project Name	GJ2563437-1 Laramie Pr
SW Version	1.0
Test ID	36580920-TT
Request ID	2563437-1
Tested by	JASON
Customer	LARAMIE ENERGY
Well No	CC FED 0697-04-03E

Fields	Values
Rig	H&P 522
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION
Cement Weight	GCC TYPE I-II
Comments	Light Weight
Date Time	6/15/2019 11:53:30.777
Temp. Units	degF

Events	Results
30 Bc	4:11
50Bc	5:09
70 Bc	5:41
100 Bc	5:41



Data File C:\Users\HX25273\Desktop\HPHT Graphs\GJ2563437-1 LARAMIE PRODUCTION BULK LEAD.tdms

Comments Light Weight

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2563438/1	Rig Name	H&P 522	Date	14/JUN/2019
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Cascade Creek Fed 0697-04-03E

Well Information

Casing/Liner Size	4.5 in	Depth MD	9703 ft	BHST	117°C / 243°F
Hole Size	8.75 in	Depth TVD	9594 ft	BHCT	78°C / 173°F
Pressure	6016 psi				

Drilling Fluid Information

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

Conc	UOM	Cement/Additive	MP	Sample Type	Sample Date	Lot No.	Cement Properties		
							Slurry Density	13	lbm/gal
							Slurry Yield	2.07	ft3/sack
							Water Requirement	9.42	gal/sack
							Total Mix Fluid	9.42	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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Operation Test Results Request ID 2563438/1

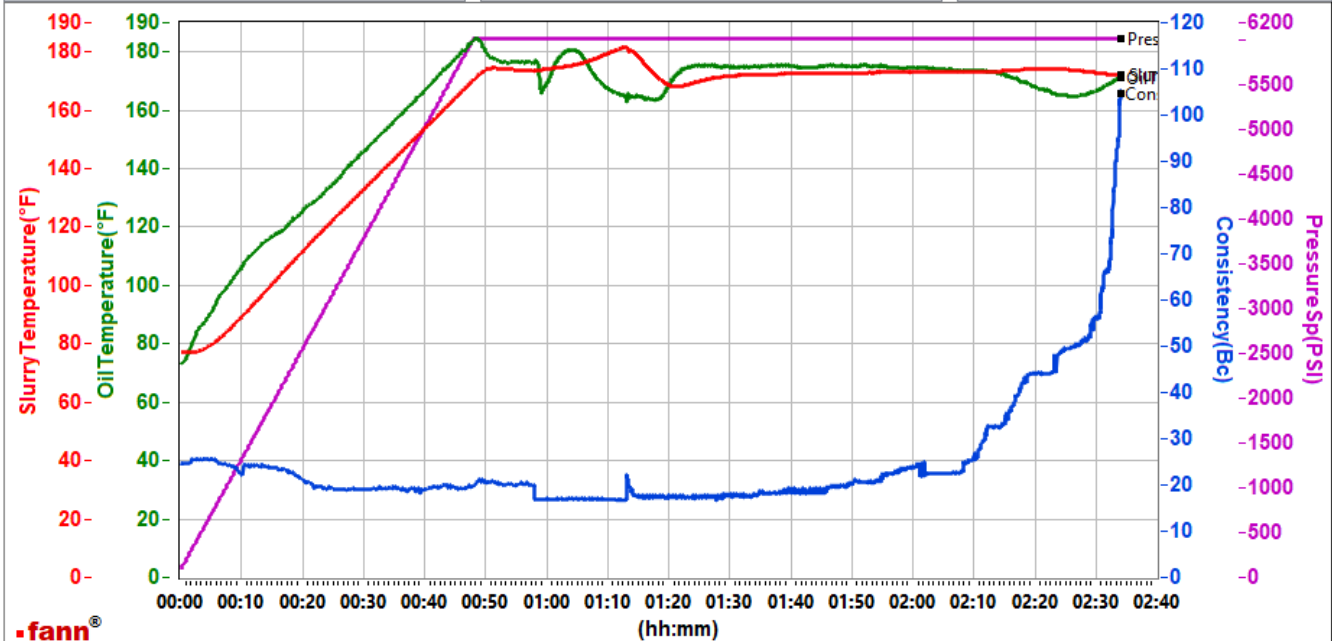
Thickening Time - ON-OFF-ON, Request Test ID:36580922

16/JUN/2019

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
173	6016	48	2:11	2:26	2:32	2:33	25	58	15	22

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2563438-1 Laramie Pr	Rig	H&P 522	30 Bc	2:11
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 Bc	2:26
Test ID	36580922-TT	Job Type	PRODUCTION	70 Bc	2:32
Request ID	2563438-1	Cement Weight	GCC TYPE I-II	100 Bc	2:33
Tested by	JASON	Comments	Light Weight		
Customer	LARAMIE ENERGY	Date Time	6/15/2019 13:43:21.430		
Well No	CC FED 0697-04-03E	Temp. Units	degF		



Data File C:\Users\HX25273\Desktop\HPHT Graphs\GJ2563438-1 LARAMIE PRODUCTION BULK TAIL.tdms

Comments Light Weight

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