

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Laramie

Date: Sunday, November 25, 2018

SUP & SHEP FED 993-25-15W Surface PJR

API #: 05-077-10585

Sincerely,

Grand Junction Cement Engineering

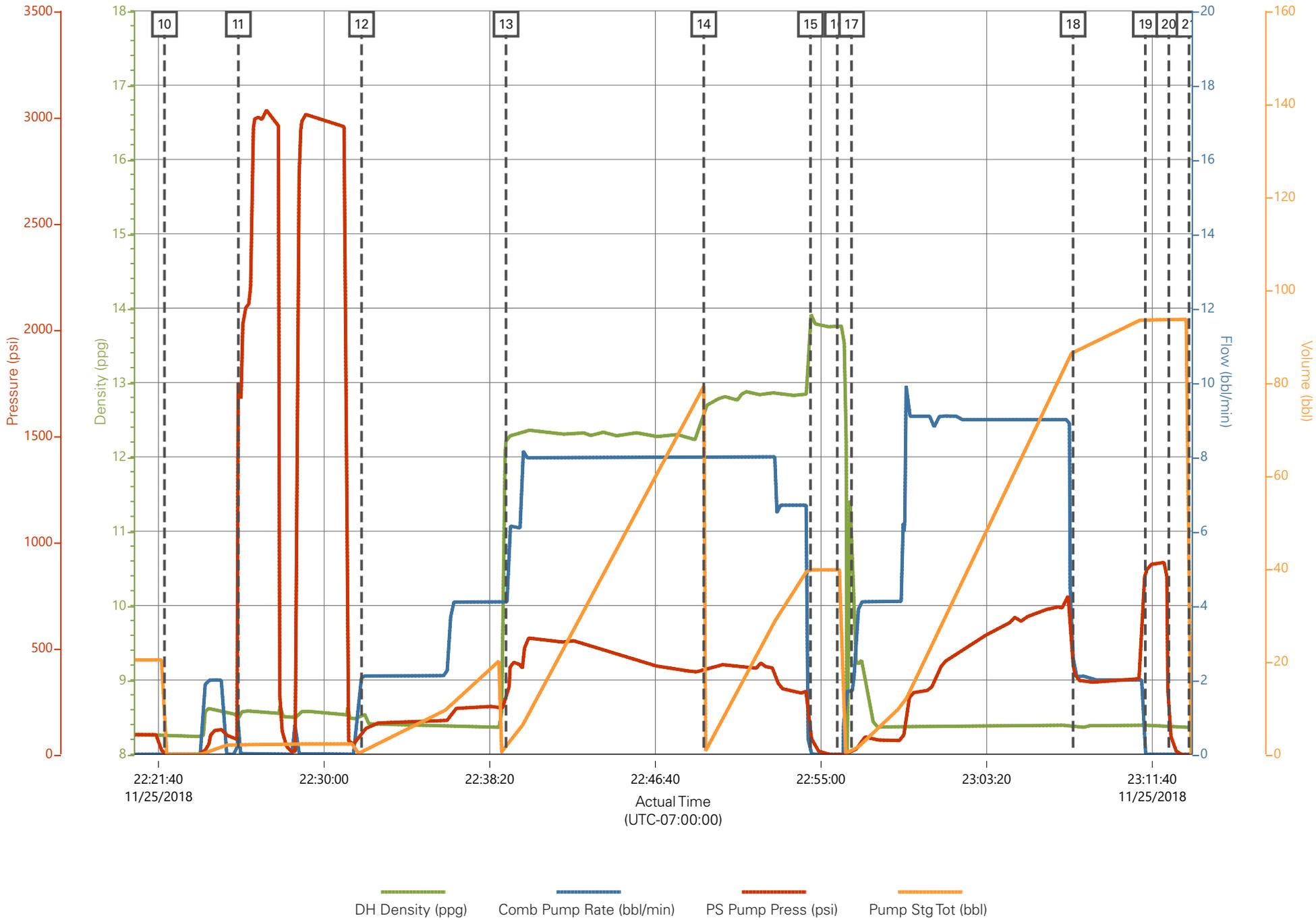
1.0 Real-Time Job Summary

1.1 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	11/25/2018	14:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	11/25/2018	16:15:00	USER					
Event	3	Crew Leave Yard	11/25/2018	16:30:00	USER					
Event	4	Arrive At Loc	11/25/2018	18:00:00	USER					CREW WAS REQUESTED TO BE ON LOC @ 2030 11/25, CREW ARRIVED AT 18:00. RIG RUNNING CASING.
Event	5	Assessment Of Location Safety Meeting	11/25/2018	18:10:00	USER					
Event	6	Spot Equipment	11/25/2018	18:15:00	USER					
Event	7	Pre-Rig Up Safety Meeting	11/25/2018	18:25:00	USER					
Event	8	Rig-Up Equipment	11/25/2018	18:30:00	USER					
Event	9	Pre-Job Safety Meeting	11/25/2018	22:00:00	USER					
Event	10	Start Job	11/25/2018	22:21:58	COM5					TD: 1550 TP: 1540 SJ: 44.4' MW: 9.4 8 5/8" 24#/FT CSG IN 11" OH WATER TEST: PH: 7 POTASSIUM: 450 CHLORIDES: 0 SULFATES:<200 TEMP: 60 DEGREES
Event	11	Test Lines	11/25/2018	22:25:41	COM5			3000.00		3000 PSI TEST. FOUND A SMALL LEAK IN ONE OF THE UNIONS, RETESTED SUCCESSFULLY
Event	12	H2O Spacer	11/25/2018	22:31:53	COM5	8.33	4.00	189.00	20.00	20 BBL FRESH H2O SPACER
Event	13	Pump Lead Cement	11/25/2018	22:39:09	COM5	12.3	8.00	430.00	77.5	177 SKS @ 12.3 PPG 2.46 YLD 14.17 GAL/SK H2O
Event	14	Pump Tail Cement	11/25/2018	22:49:06	COM5	12.80	8.00	403.00	38.0	98 SKS @ 12.8 PPG 2.18 YLD 12.11 GAL/SK H2O
Event	15	Shutdown	11/25/2018	22:54:28	USER					

Event	16	Drop Top Plug	11/25/2018	22:55:49	COM5						PLUG AWAY
Event	17	Pump Displacement	11/25/2018	22:56:32	COM5	8.33	9.00	740.00	95.1		FRESH H2O DISPLACEMENT
Event	18	Slow Rate	11/25/2018	23:07:41	USER	8.33	2.00	350.00	85.0		
Event	19	Bump Plug	11/25/2018	23:11:19	COM5	8.33	2.00	902.00	95.1		PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	20	Check Floats	11/25/2018	23:12:30	COM5						FLOATS HELD, GAINED 0.5 BBL BACK TO PUMP
Event	21	End Job	11/25/2018	23:13:31	COM5						
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	11/25/2018	23:20:00	USER						GOOD CIRCULATION THROUGHOUT JOB. PIPE WAS LEFT STATIC. CIRCULATED 40 BBL CMT TO SURFACE. TOP PLUG ONLY, 40# SUGAR USED, NO ADD HOURS CHARGED.
Event	23	Rig-Down Equipment	11/25/2018	23:25:00	USER						
Event	24	Pre-Convoy Safety Meeting	11/26/2018	00:25:00	USER						
Event	25	Crew Leave Location	11/26/2018	00:30:00	USER						THANK YOU FOR CHOOSING HALLIBURTON CEMENTING ANTHONY ANDREWS AND CREW

LARAMIE - SUP & SHEP FED 993-25-15W - 8 5/8" SURFACE



HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

Date: Thursday, November 29, 2018

Sup & Shep 0993-25-15W Production

Laramie SUP & SHEP 993-25-15W Production

API# 05-077-10585-00

Job Date: Thursday, November 29, 2018

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

1.1 Job Event Log

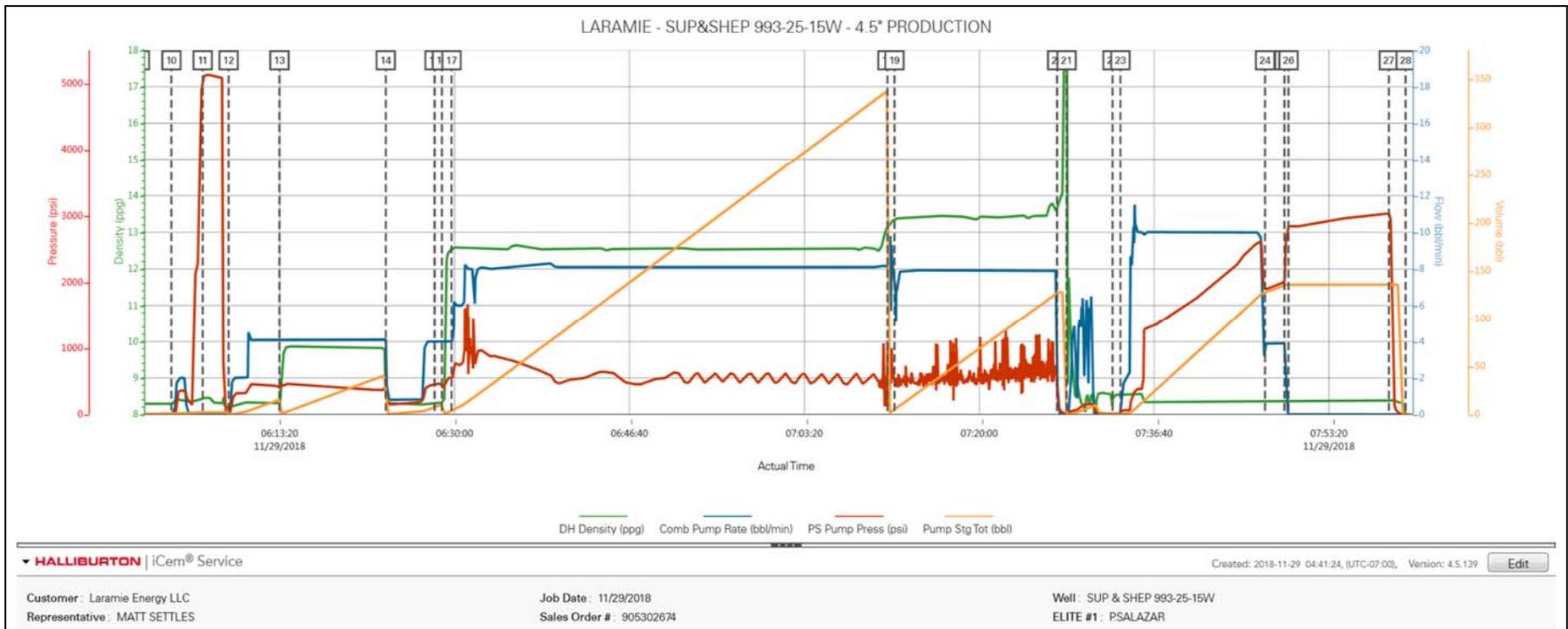
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	11/28/2018	22:00:00	USER					Requested on Location @ 4:00
Event	2	Pre-Convoy Safety Meeting	11/29/2018	00:45:00	USER					All HES present
Event	3	Crew Leave Yard	11/29/2018	01:00:00	USER					1 Elite, 1 660, 1 pickup, 1 transport
Event	4	Arrive at Location from Service Center	11/29/2018	04:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	11/29/2018	04:05:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 65 degrees
Event	6	Pre-Rig Up Safety Meeting	11/29/2018	04:15:00	USER					1 hardline to standpipe, water hoses to upright, bulk hose to 660 and silos
Event	7	Other	11/29/2018	05:45:00	USER					Rig Circulated 1 hour 30 mins prior to cement job at 550 gpm 1115 psi
Event	8	Pre-Job Safety Meeting	11/29/2018	05:46:00	USER					All HES personnel, rig crew, and company rep
Event	9	Start Job	11/29/2018	06:00:00	USER	8.29	0.00	5.00	0.00	TD 8773', TP 8768, SJ 85.94', OH 7 7/8", Csg 4.5", 11.6 lb/ft p-110, Scsg 8 5/8 32lb/ft @ 1540', Mud 9.2 ppg.

Event	10	Fill Lines	11/29/2018	06:03:00	USER	8.33	2.00	250.00	2.00	Fresh Water
Event	11	Test Lines	11/29/2018	06:05:59	USER	8.46	0.00	5069.00	2.10	Held pressure 2 minutes no leaks
Event	12	Pump Spacer 1	11/29/2018	06:08:27	COM5	8.33	4.00	380.00	15.00	15 BBLS Fresh Water
Event	13	Pump Spacer 2	11/29/2018	06:13:18	COM5	10.00	4.00	430.00	40.00	40 BBLS Super Flush
Event	14	Pump Spacer 1	11/29/2018	06:23:26	COM5	8.35	4.10	392.00	10.00	10 BBLS Fresh water
Event	15	Drop Bottom Plug	11/29/2018	06:28:05	USER					Plug away
Event	16	Pump Lead Cement	11/29/2018	06:28:47	USER	12.50	8.00	870.00	323.10	1045 Sks 12.5 ppg 1.96 yield, 9.4 gal/sk
Event	17	Check Weight	11/29/2018	06:29:42	COM5					Density Verified via Mud Scales
Event	18	Pump Tail Cement	11/29/2018	07:11:15	COM5	13.30	8.00	570.00	112.20	362 sks, 13.3ppg, 1.74 yeid, 7.8 gal/sk
Event	19	Check Weight	11/29/2018	07:11:55	COM5					Density Verified via Mud Scales
Event	20	Shutdown	11/29/2018	07:27:25	USER					End of Cement
Event	21	Clean Lines	11/29/2018	07:28:19	COM5					Cleaned lines to cellar
Event	22	Drop Top Plug	11/29/2018	07:32:42	USER					Co-Rep Verify Plug Launched
Event	23	Pump Displacement	11/29/2018	07:33:27	USER	8.34	10.00	2600.00	134.60	5 lbs BE-6, 1 gal MMCR, 5 gal ClaWeb
Event	24	Slow Rate	11/29/2018	07:47:14	USER	8.37	3.90	1862.00	124.50	Slow Rate 10 bbls to calculated displacement
Event	25	Bump Plug	11/29/2018	07:49:05	USER	8.36	3.90	2000.00	134.60	Plug Bumped at 2000 psi, Brought up to 3038 psi
Event	26	Casing Test	11/29/2018	07:49:28	COM5					10 minute casing test
Event	27	Check Floats	11/29/2018	07:59:02	USER	8.37	0.00	3038.00	135.70	Floats held – 1 ½ bbl back to the truck

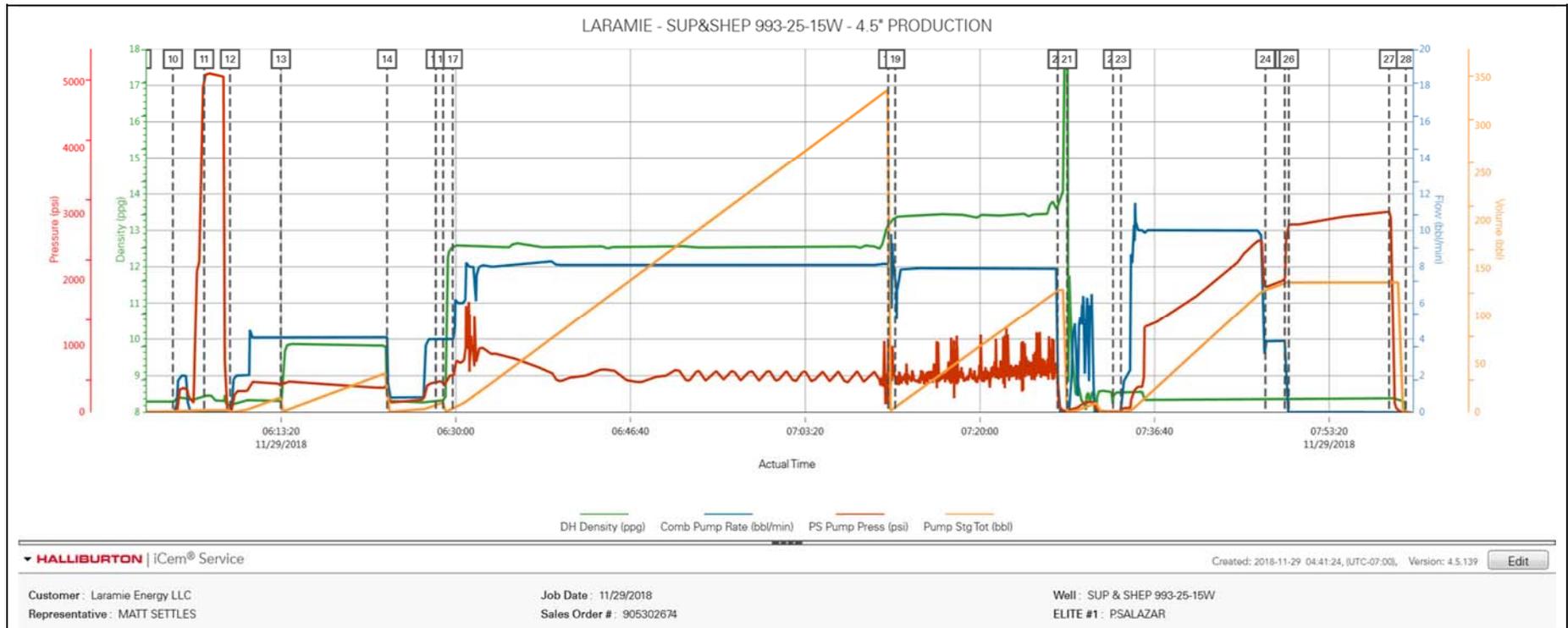
Event	28	End Job	11/29/2018	08:00:38	USER	Good returns throughout job. 20 bbls spacer to surface.
Event	29	Post-Job Safety Meeting (Pre Rig-Down)	11/29/2018	08:05:20	USER	All HES Present
Event	30	Pre-Convoy Safety Meeting	11/29/2018	09:15:00	USER	All HES Present
Event	31	Crew Leave Location	11/29/2018	09:30:00	USER	Thanks For Using Halliburton Cement. Andrew Brennecke And Crew.

2.0 Attachments

2.1 SUP & SHEP 993-25-15W-Custom Results.png

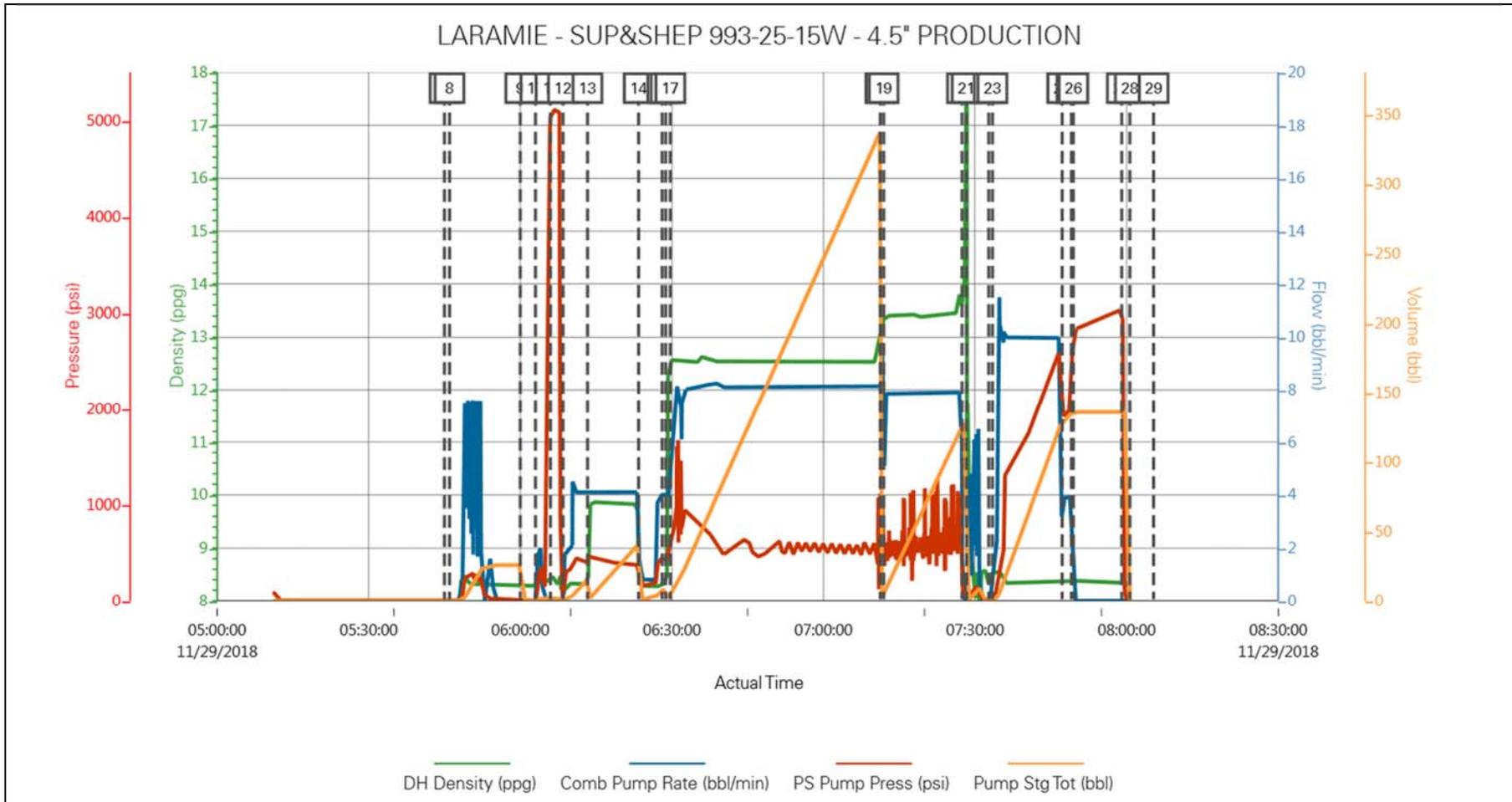


2.2 SUP & SHEP 993-25-15W-Custom Results.png



3.0 Custom Graphs

3.1 Custom Graph



Job Information

Request/Slurry	2517176/1	Rig Name	H&P 522	Date	23/NOV/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Sup & Shep Federal 25-15W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8822 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	8641 ft	BHCT	74°C / 165°F
Pressure	5349 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
--------------------------	--------	-----------------------	------------	----------------	-------------

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		
							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	Field (Fresh) Water	
							Water Chloride		

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

Operation Test Results Request ID 2517176/1

Thickening Time - ON-OFF-ON, Request Test ID:36006578

26/NOV/2018

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)
165	5349	44	4:51	5:08	5:12	5:32	16	54	15	14

Total sks = 935

CS2516 TR#8658 400 SKS

C S2518 TR#8677 400 SKS

CS2519 TR#3212 Front 135 SKS

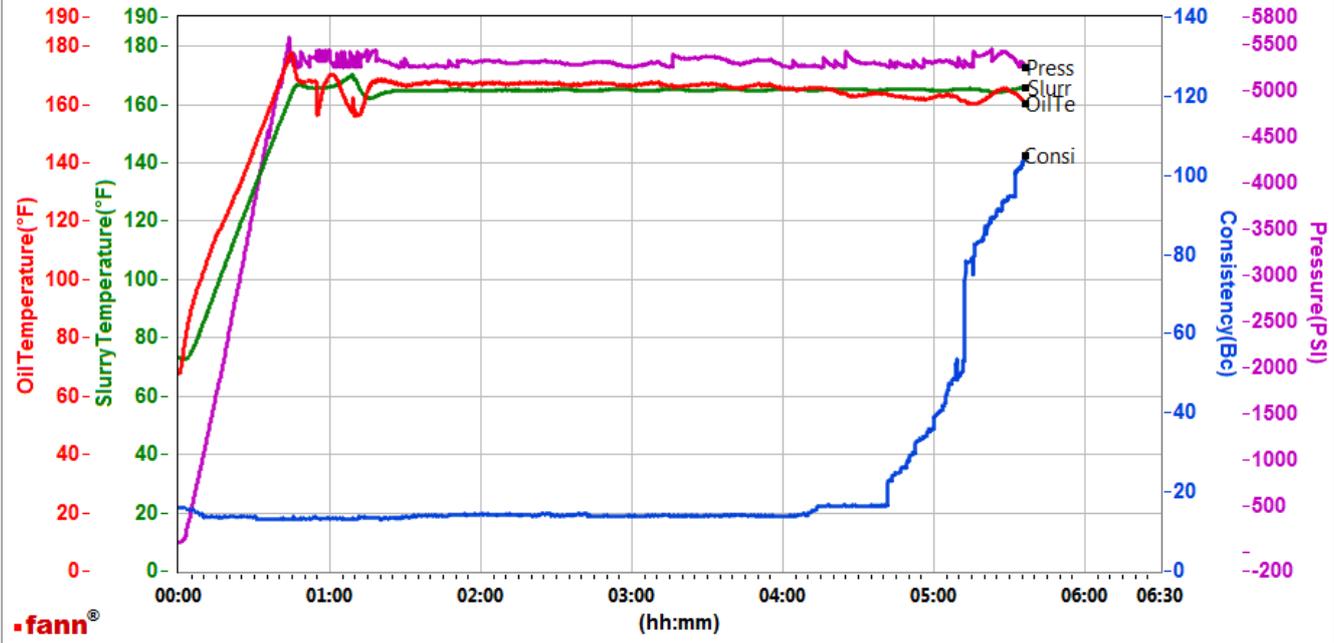
No deflection. Please note temperature oscillation started around 4:04.

GRAND JUNCTION

Fields	Values
Project Name	GJ2517176-1 Laramie Pr
SW Version	1.0
Test ID	36006578 - TT
Request ID	2517176-1
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	SUP&SHEP FED 25-15V

Fields	Values
Rig	H&P 522
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTIONCASING
Cement Weight	MOUNTAIN G
Comments	Standard
Date Time	11/25/2018 09:26:39.815
Temp. Units	degF

Events	Results
30 Bc	04:51
50 Bc	05:08
70 Bc	05:12
100 Bc	05:32



Data File N:\01 Test Graphs\GJ2517176-1 LARAMIE PRODUCTION BULK LEAD.tdms

Comments Standard

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2517177/1	Rig Name	H&P 522	Date	23/NOV/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Sup & Shep Federal 25-15W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8822 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	8641 ft	BHCT	74°C / 165°F
Pressure	5349 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
-------------------	--------	----------------	------------	---------	-------------

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>	<u>Cement Properties</u>		
							Slurry Density	13.3	lbm/gal
							Slurry Yield	1.74	ft ³ /sack
							Water Requirement	7.79	gal/sack
							Total Mix Fluid	7.79	gal/sack
							Water Source	Field (Fresh) Water	
							Water Chloride		

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

Operation Test Results Request ID 2517177/1

Thickening Time - ON-OFF-ON, Request Test ID:36006580

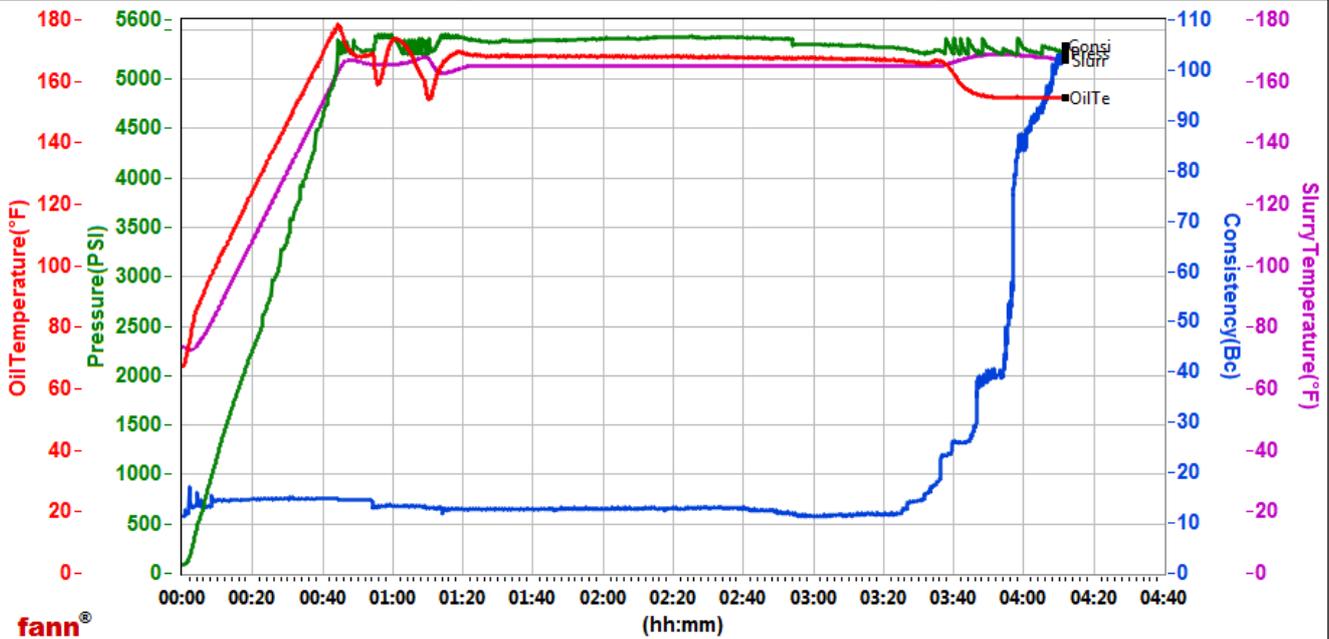
25/NOV/2018

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)
165	5349	44	3:46	3:55	3:56	4:08	14	54	15	13

Total sks = 362
 CS2517 TR#8678 362 SKS
 No deflection: 13Bc--- > 13Bc
 Heat of hydration at 3:36

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	TempTest	Rig	H&P522		
SW Version	1.0	Casing/Liner Size	4.5 INCH		
Test ID	36000489 - TT	Job Type	PRODUCTION CASING		
Request ID	2517177-1	Cement Weight	MOUNTAIN G		
Tested by	DEBA	Comments	Standard		
Customer	LARAMIE ENERGY	Date Time	11/25/2018 05:55:28.500		
Well No	SUP & SHEP FED 25-15\	Temp. Units	degF		



Data File C:\Users\hx25273\Desktop\new Graph M290\GJ2517177-1 LARAMIE BULK PRODUCTION TAIL.tdms

Comments Standard

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.