

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

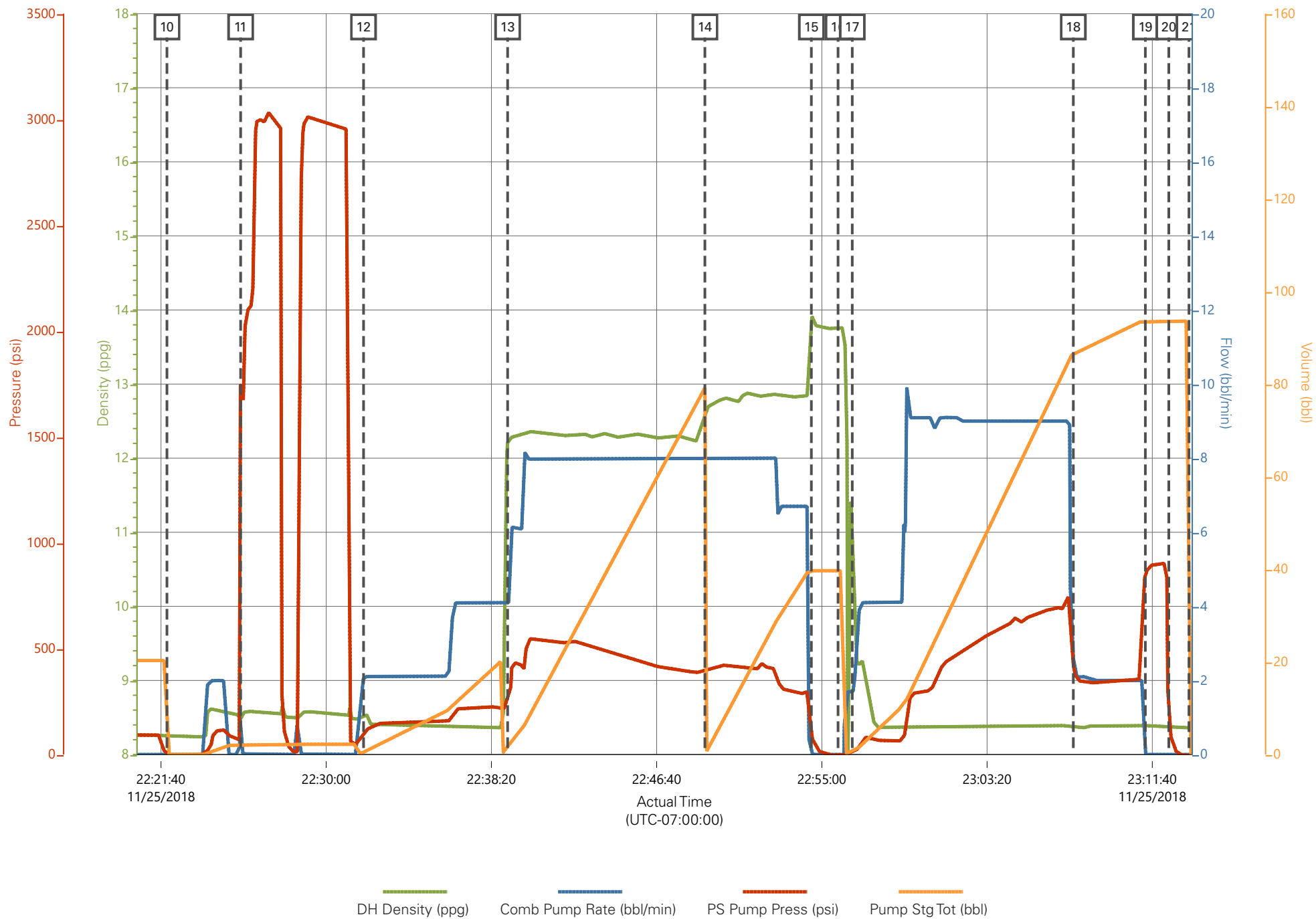
1.0 Real-Time Job Summary

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

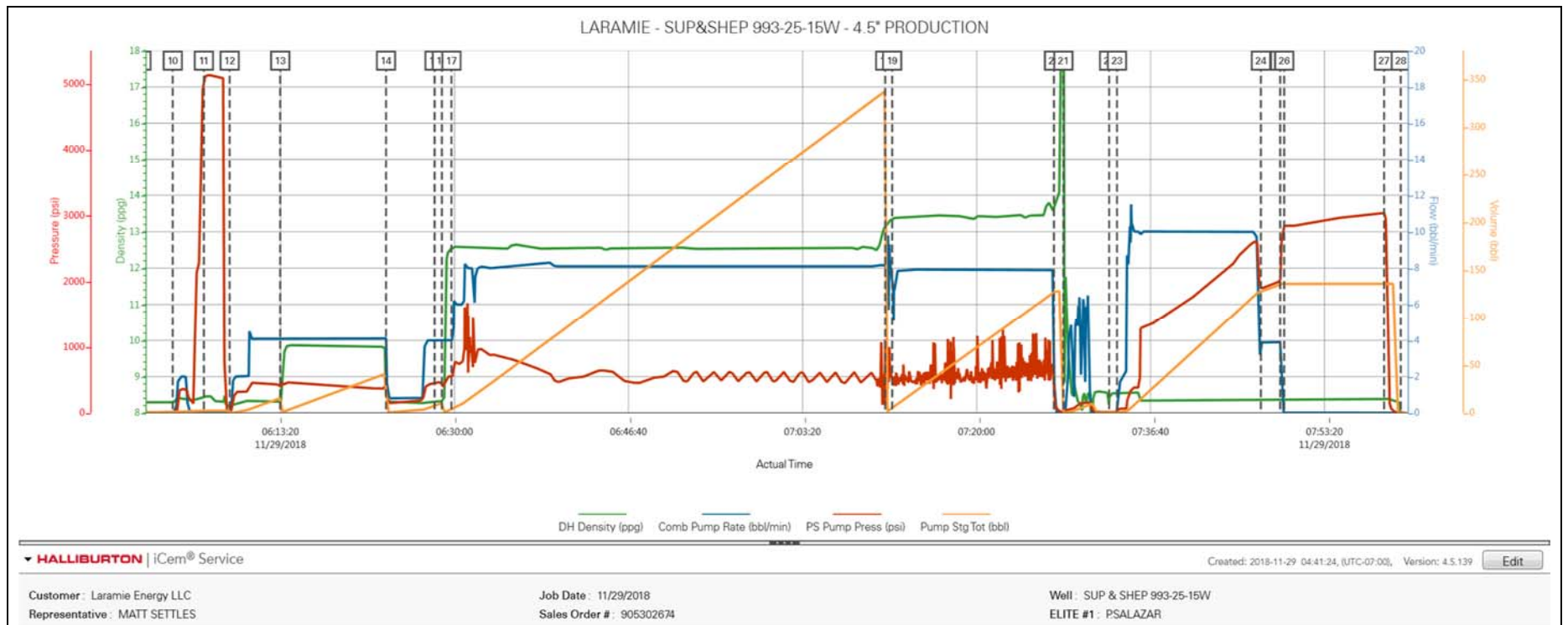
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	11/28/2018	22:00:00	USER					Requested on Location @ 4:00
Event	2	Pre-Convoy Safety Meeting	11/29/2018	00:45:00	USER					All HES present
Event	3	Crew Leave 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

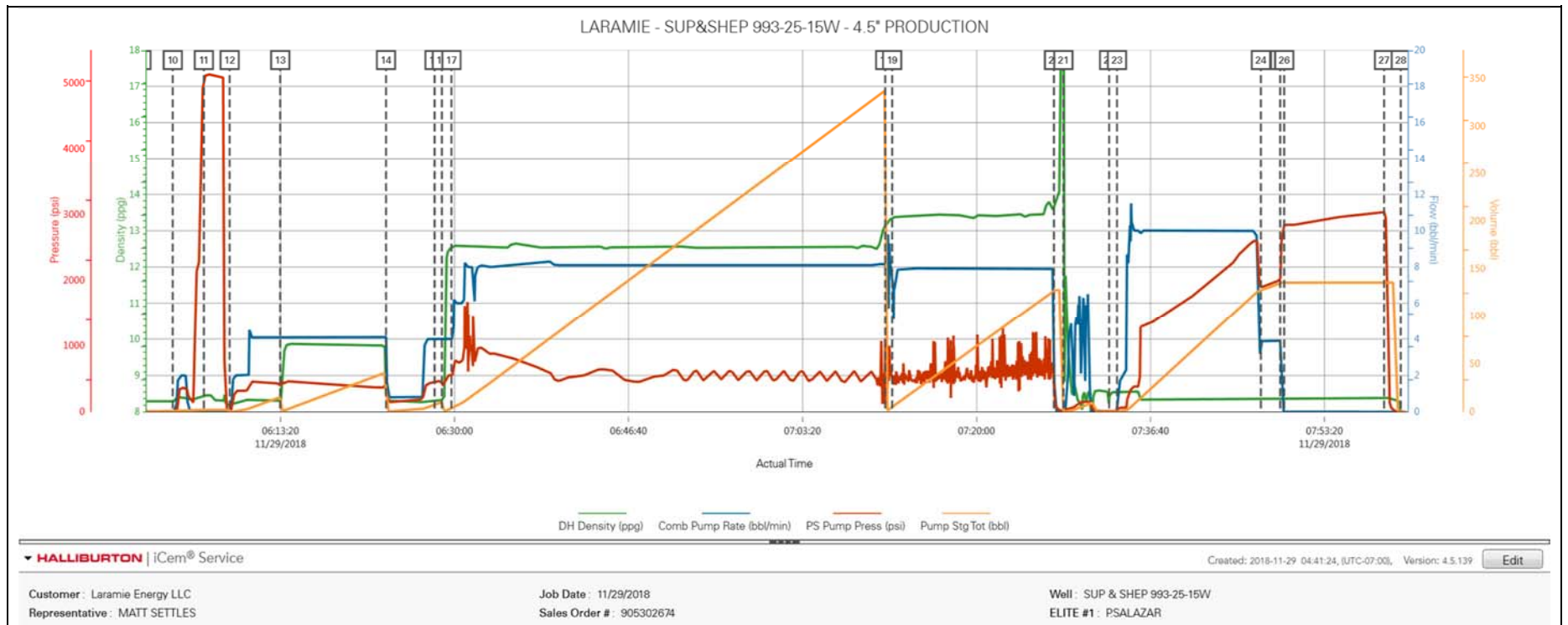
Event	28	End Job	11/29/2018	08:00:38	USER	Good returns throughout job. 20 bbls spacer to surface.
Event	29	Post-Job Safety Meeting (Pre Rig-Down)	11/29/2018	08:05:20	USER	All HES Present
Event	30	Pre-Convoy Safety Meeting	11/29/2018	09:15:00	USER	All HES Present
Event	31	Crew Leave Location	11/29/2018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

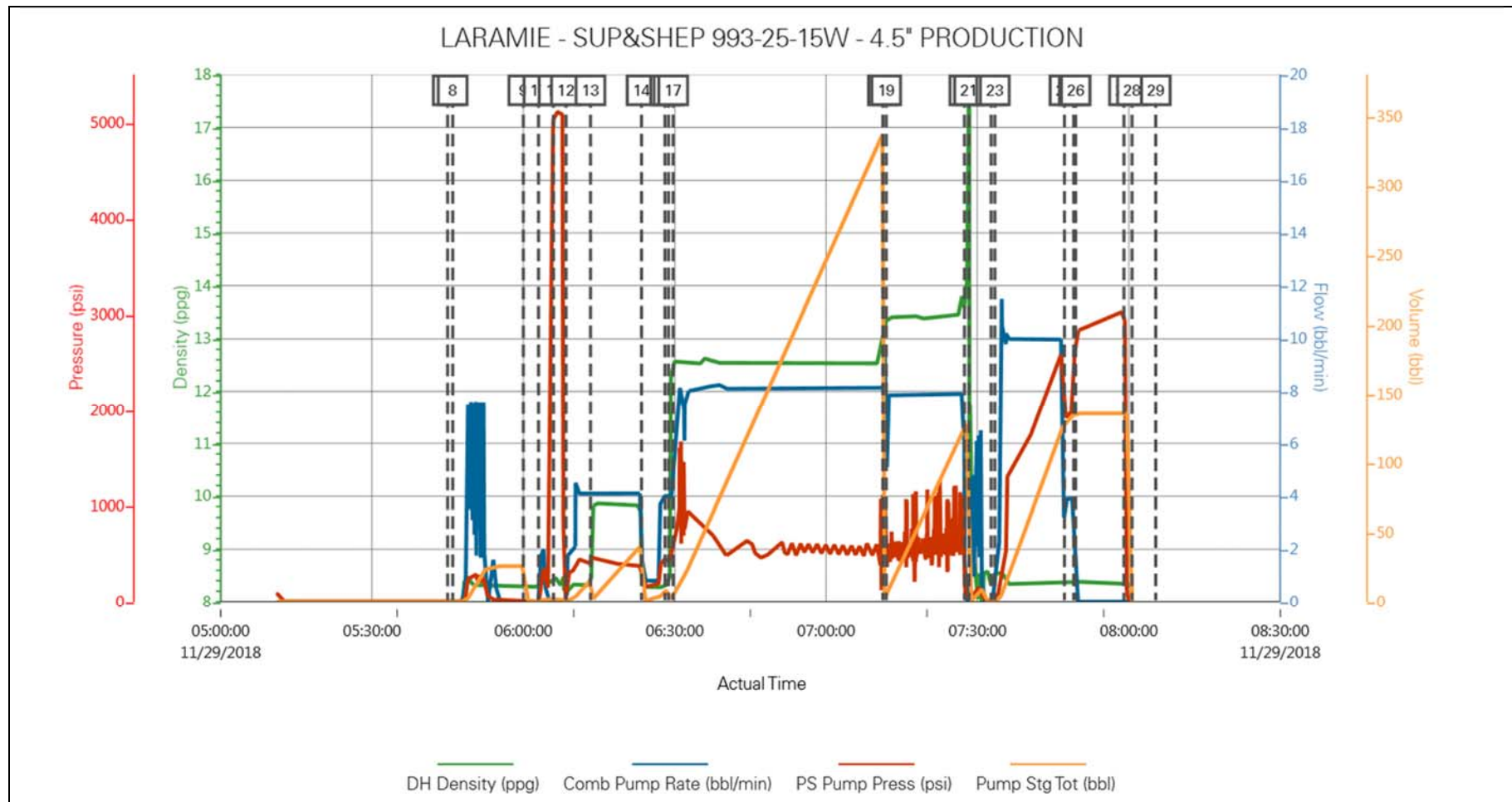


2.2 SUP & SHEP 993-25-15W-Custom Results.png



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
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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		
							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		

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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

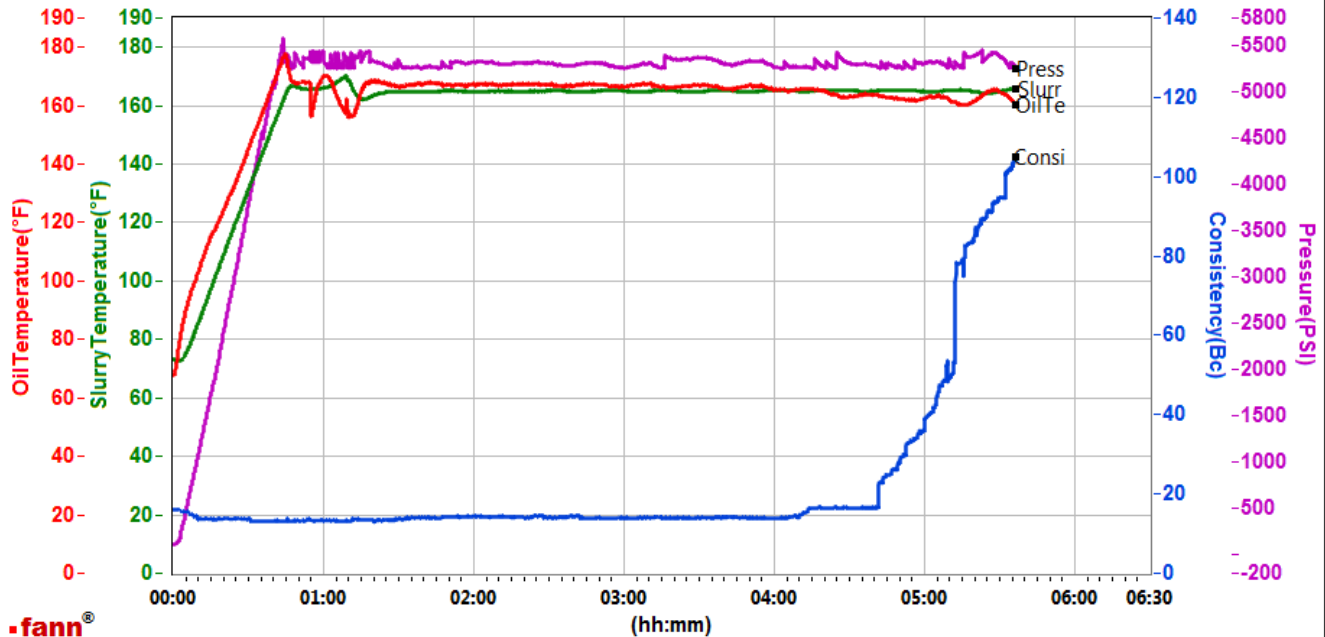
C S2518 TR#8677 400 SKS

CS2519 TR#3212 Front 135 SKS

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

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2517176-1 Laramie Pr	Rig	H&P 522	30 Bc	04:51
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 Bc	05:08
Test ID	36006578 - TT	Job Type	PRODUCTIONCASING	70 Bc	05:12
Request ID	2517176-1	Cement Weight	MOUNTAIN G	100 Bc	05:32
Tested by	DEBA	Comments	Standard		
Customer	LARAMIE ENERGY	Date Time	11/25/2018 09:26:39.815		
Well No	SUP&SHEP FED 25-15V	Temp. Units	degF		



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

Comments Standard

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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
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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		
							Slurry Density	13.3	lbm/gal
							Slurry Yield	1.74	ft3/sack
							Water Requirement	7.79	gal/sack
							Total Mix Fluid	7.79	gal/sack
							Water Source	Field (Fresh) Water	
							Water Chloride		

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

Total sks = 362

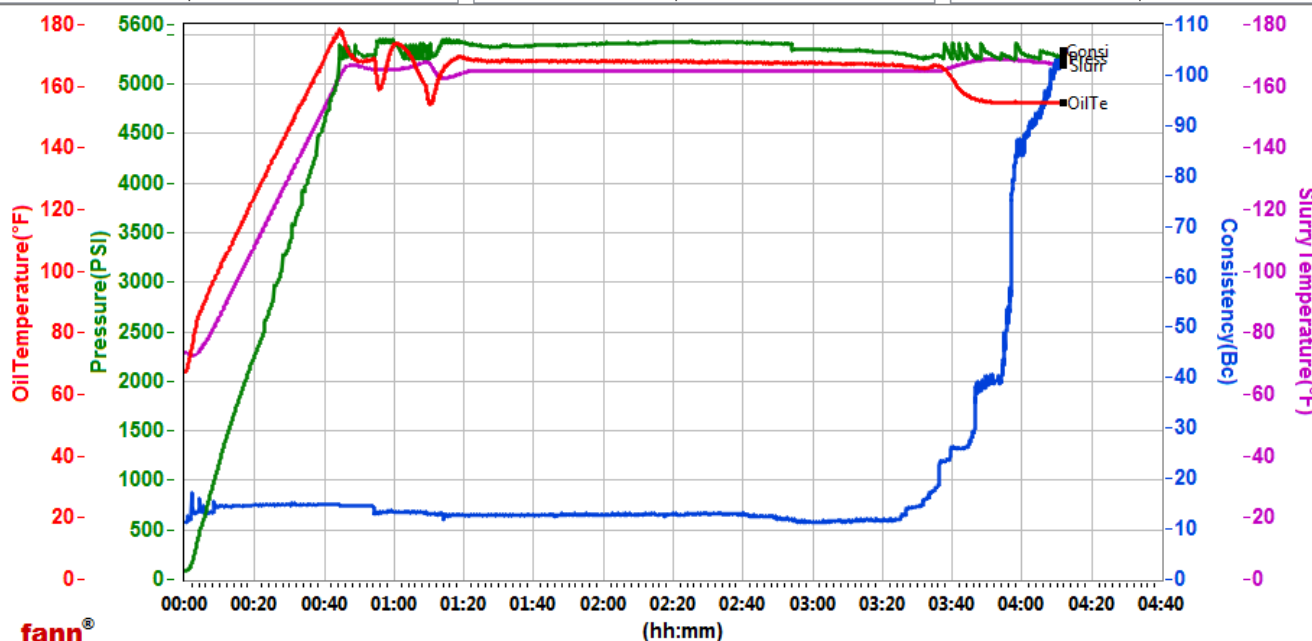
CS2517 TR#8678 362 SKS

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

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