

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United State of America, COLORADO

Date: Friday, January 18, 2019

Sup & Shep 0993-25-07W Surface

Laramie Sup & Shep 0993-25-07W Surface

API# 05-077-10575

Job Date: Friday, November 30, 2018

Sincerely,

Grand Junction Cement Engineering

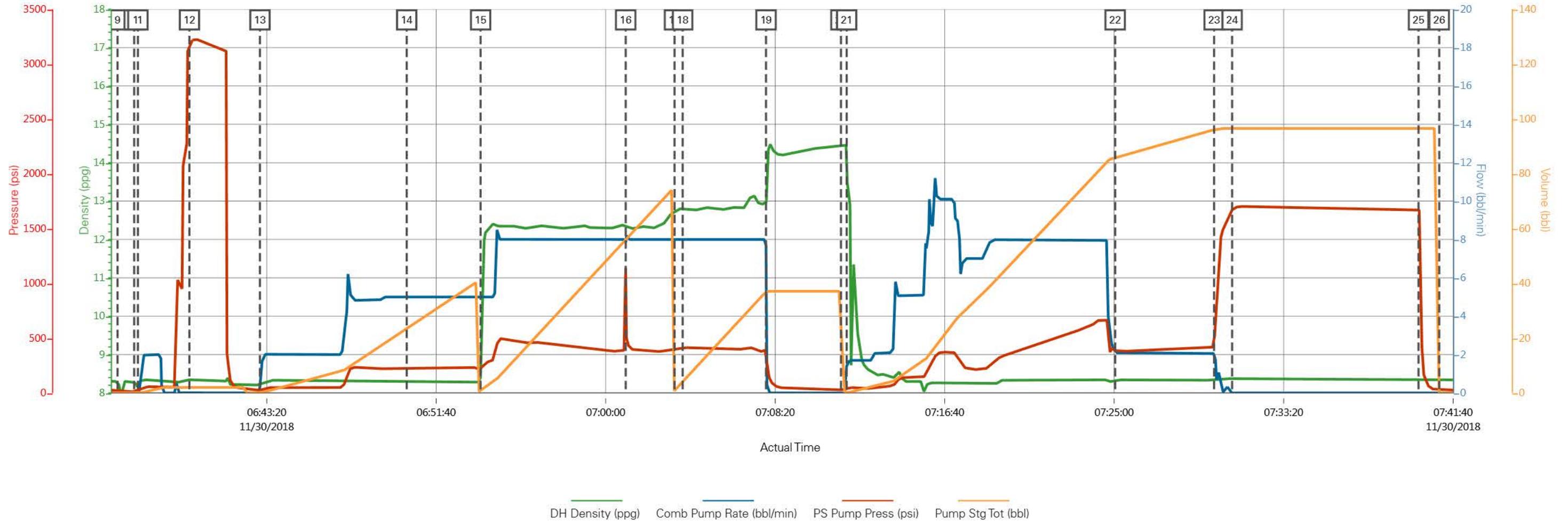
1.0 Real-Time Job Summary

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	11/29/2018	21:00:00	USER					Requested on Location @ 3:30
Event	2	Pre-Convoy Safety Meeting	11/29/2018	22:45:00	USER					
Event	3	Crew Leave Yard	11/29/2018	23:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive at Location from Service Center	11/30/2018	01:00:00	USER					Righad not started running casing
Event	5	Assessment Of Location Safety Meeting	11/30/2018	01:15:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 60 degrees
Event	6	Pre-Rig Up Safety Meeting	11/30/2018	05:30:00	USER					1 hardline to standpipe, water hoses to upright, bulk hose to 660.
Event	7	Other	11/30/2018	06:05:47	USER					Rig Circulated 30 mins prior to cement job at 450 gpm 110 psi
Event	8	Pre-Job Safety Meeting	11/30/2018	06:05:53	USER					All HES personnel, rig crew, and company rep
Event	9	Start Job	11/30/2018	06:36:00	USER	8.30	0.00	7.00	0.00	TD 1588', TP 1578, SJ 47', OH 11'', Csg 8.625" 24 lb/ft J-55, Mud 9.0 ppg.
Event	10	Drop Bottom Plug	11/30/2018	06:36:49	USER	8.28	0.00	11.00	0.00	Plug Away
Event	11	Fill Lines	11/30/2018	06:37:00	USER	8.20	0.00	35.00	2.00	Fresh Water
Event	12	Test Lines	11/30/2018	06:39:32	USER	8.35	0.00	3179.00	2.00	Held pressure 2 minutes no leaks
Event	13	Pump Spacer 1	11/30/2018	06:43:00	USER	8.35	5.00	300.00	40.00	Fresh Water

Event	14	Check Weight	11/30/2018	06:50:13	USER					Density Verified via Mud Scales
Event	15	Pump Lead Cement	11/30/2018	06:53:51	USER	12.30	8.00	468.00	73.20	167 Skts 12.3 ppg 2.46 yield 14.17 gal/sk
Event	16	Bottom Plug Rupture	11/30/2018	07:00:59	COM5					Ruptured at 1140 psi
Event	17	Pump Tail Cement	11/30/2018	07:03:23	USER	12.80	8.00	412.00	35.70	92 Skts 12.8 ppg 2.18 yield 12.11 gal/sk
Event	18	Check Weight	11/30/2018	07:03:47	COM5					Density Verified via Mud Scales
Event	19	Shutdown	11/30/2018	07:07:53	USER					Wash up on top of plug
Event	20	Drop Top Plug	11/30/2018	07:11:34	USER					Plug away
Event	21	Pump Displacement	11/30/2018	07:11:51	USER	8.35	8.00	670.00	93.20	Fresh Water
Event	22	Slow Rate	11/30/2018	07:25:03	USER	8.31	2.10	386.00	83.00	Slow Rate 10 bbls to calculated displacement
Event	23	Bump Plug	11/30/2018	07:29:55	USER	8.34	2.00	408.00	93.20	Plug Bumped at 408 psi, Brought up to 1673 psi
Event	24	Casing Test	11/30/2018	07:30:48	COM5	8.37	0.00	1671.00	93.70	10 minute casing test
Event	25	Check Floats	11/30/2018	07:39:58	USER	8.36	0.00	1673.00	93.70	Floats held – ½ bbl back to the truck
Event	26	End Job	11/30/2018	07:40:59	USER					Good returns throughout job, 10 bbls of cement to surface.
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	11/30/2018	07:45:00	USER					40 lbs sugar, No add hours
Event	28	Pre-Convoy Safety Meeting	11/30/2018	08:15:00	USER					All HES Present
Event	29	Crew Leave Location	11/30/2018	08:30:00	USER					Thanks For Using Halliburton Cement. Andrew Brennecke And Crew.

LARAMIE ENERGY - SUP & SHEP 993-25-07W - 8.625" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY II LLC

For: Laramie

Date: Tuesday, December 04, 2018

SUP & SHEP 993-25-07W Production PJR

API #: 05-077-10575

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

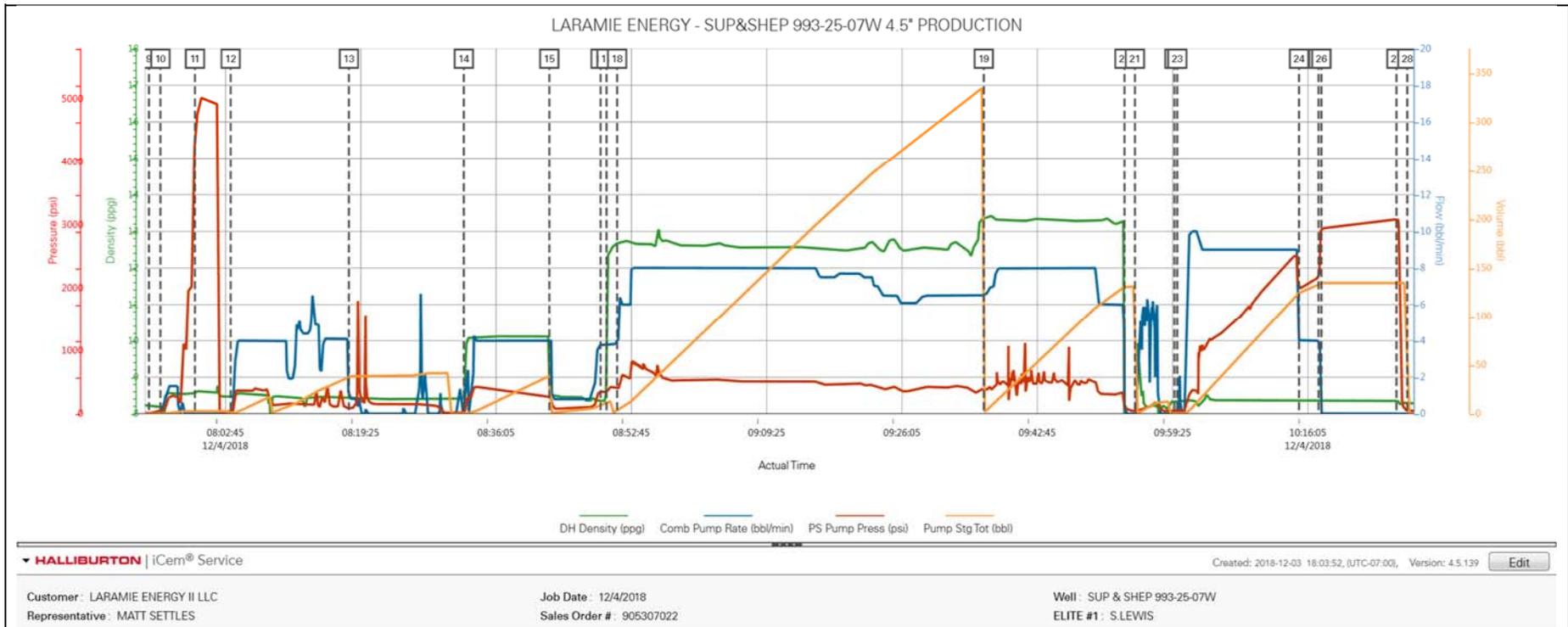
2.1 Job Event Log

Type	Seq No.	Activity	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	12/3/2018	22:00:00	USER					ON LOCATION REQUESTED 4:00
Event	2		Pre-Convoy Safety Meeting	12/4/2018	00:45:00	USER					ALL HES PRESENT
Event	3		Crew Leave Yard	12/4/2018	01:00:00	USER					1 ELITE, 1 660, 1 TRANSPORT, 1 PICK UP
Event	4		Arrive at Location from Service Center	12/4/2018	04:15:00	USER					RIG RUNNING CASING
Event	5		Assessment Of Location Safety Meeting	12/4/2018	04:30:41	USER					MET WITH COMPANY REP SDS OFFERED
Event	6		Pre-Rig Up Safety Meeting	12/4/2018	05:00:00	USER					1-ELITE, 1-660 BULK TRAILER, 4.5" QL, 2" PUMP IRON, 4" SUCTION HOSE, 2-SILOS
Event	7		Rig-Up Completed	12/4/2018	06:15:00	USER					WATER: TEMP 60, CI-0, PH-7
Event	8		Pre-Job Safety Meeting	12/4/2018	06:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	9		Start Job	12/4/2018	07:53:20	USER	8.24	0.00	11.00	0.00	TD-8700', TP-8689.35', SJ-85.5', CSG-4.5" 11.6# P-110, SCSG-8.625" 24# @ 1178', OH-7.875", MUD-9.2PPG
Event	10		Prime Pumps	12/4/2018	07:54:45	USER	8.40	1.50	400.00	3.00	FRESH WATER
Event	11		Test Lines	12/4/2018	07:59:00	USER	8.59	0.00	5030.00	3.20	ALL PRESSURE HELD
Event	12		Pump Spacer 1	12/4/2018	08:03:24	COM5	8.40	4.00	309.00	10.00	FRESH WATER
Event	13		Super Flush Valve Failure	12/4/2018	08:17:58	COM5					TRANSPORT DISCHARGE HANDLE MALFUNCTION, USED STEAM LINE FROM RIG TO OPEN
Event	14		Pump Spacer 2	12/4/2018	08:32:07	COM5	10.00	4.00	380.00	40.00	SUPER FLUSH 101 40BBLs
Event	15		Pump Spacer 1	12/4/2018	08:42:39	COM5	8.38	4.00	265.00	10.00	FRESH WATER

Event	16	Drop Bottom Plug	12/4/2018	08:48:58	USER					PLUG AWAY
Event	17	Pump Lead Cement	12/4/2018	08:49:42	USER	12.30	8.00	710.00	319.90	926SKS, 12.5PPG, 1.94CF/SK, 9.59GL/SK
Event	18	Check Weight	12/4/2018	08:51:00	USER					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES
Event	19	Pump Tail Cement	12/4/2018	09:36:10	USER	13.33	8.00	532.00	112.20	362SKS, 13.3PPG, 1.74CF/SK, 7.8GL/SK
Event	20	Shutdown	12/4/2018	09:53:30	USER					END OF CEMENT
Event	21	Clean Lines	12/4/2018	09:54:47	COM5					CLEAN PUMPS AND LINES TO CELLAR
Event	22	Drop Top Plug	12/4/2018	09:59:39	USER					2 TOP PLUGS AWAY
Event	23	Pump Displacement	12/4/2018	10:00:00	USER	8.33	9.00	2532.00	133.40	1 GAL MMCR, 5 GAL CLAWEB, 5 1#BE6, FRESH WATER
Event	24	Slow Rate	12/4/2018	10:15:00	USER	8.35	4.00	1961.00	124.60	SLOW RATE 10 BBLS BEFORE CALCULATED DISPLACEMENT
Event	25	Bump Plug	12/4/2018	10:17:24	USER	8.35	4.00	2171.00	134.10	PLUG BUMPED AT 2171 PSI, PRESSURED UP TO
Event	26	Casing Test	12/4/2018	10:17:45	USER	8.37	0.00	2943.00	134.10	10 MINUTE CASING TEST
Event	27	Check Floats	12/4/2018	10:27:00	USER	8.35	0.00	3090.00	134.10	PRESSURED UP TO 3090 PSI, 1 1/2 BBLS BACK
Event	28	End Job	12/4/2018	10:28:20	USER	8.28	0.00	5.00	0.00	GOOD RETRUNS THROUGHOUT JOB, 20 BBLS SPACER BACK
Event	29	Post-Job Safety Meeting (Pre Rig-Down)	12/4/2018	10:35:00	USER					ALL HES PRESENT
Event	30	Rig-Down Completed	12/4/2018	11:20:00	USER					
Event	31	Pre-Convoy Safety Meeting	12/4/2018	11:30:00	USER					ALL HES PRESENT
Event	32	Crew Leave Location	12/4/2018	11:45:00	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

3.0 Attachments

3.1 SUP & SHEP 993-25-07W-Custom Results.png



Job Information

Request/Slurry	2517671/2	Rig Name	H&P 522	Date	26/NOV/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Sup & Shep 0993-25-07W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8763 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	8646 ft	BHCT	74°C / 165°F
Pressure	5352 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 2517671/2

Thickening Time - ON-OFF-ON, Request Test ID:36025330

30/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	5352	44	4:31	4:51	4:52	5:02	5	54	15	7

Total sks = 926

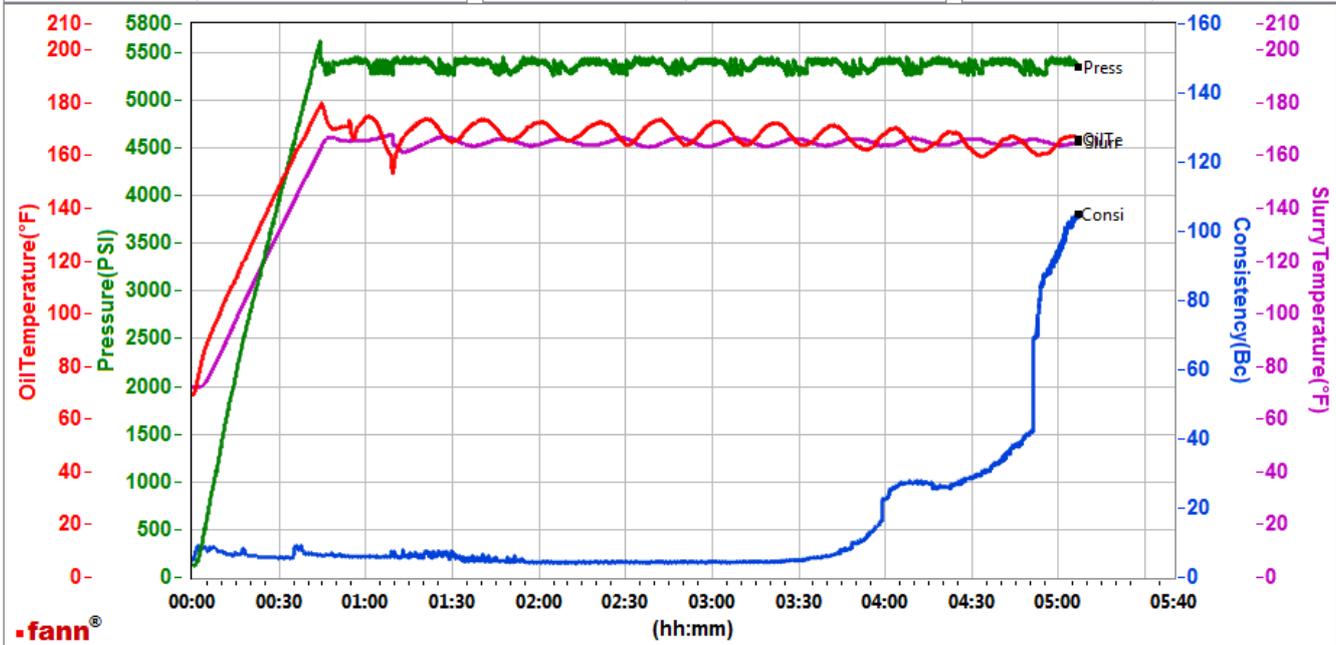
CS2535 TR 4549 126 SKS

Deflection: 6 - 7

The sample reached heat of hydration around 3:50. The sample was about 30% core set around the paddle.

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	2517671-2 H&P 522 Lara	Rig	H&P 522	30 BC	4:31
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 BC	4:51
Test ID	36025330-TT	Job Type	PRODUCTION	70 BC	4:52
Request ID	2517671-2	Cement Weight	GCC TYPE I-II	100 BC	5:02
Tested by	JM	Comments	Light Weight		
Customer	LARAMIE ENERGY	Date Time	11/30/2018 06:04:28.148		
Well No	SUP & SHEP 0993-25-07	Temp. Units	degF		



Data File C:\Users\H185329\Desktop\000 Graphs\GJ2517671-2 LARAMIE PRODUCTION BULK LEAD.tdms
 Comments Light Weight

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Operation Test Results Request ID 2517671/1

Thickening Time - ON-OFF-ON, Request Test ID:36013409

29/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	5352	44	4:46	4:48	5:03	5:31	5	54	15	9

Total sks = 926

CS2528 TR 8658 400 SKS

CS2529 TR 2878 400 SKS

Deflection: 6 - 9

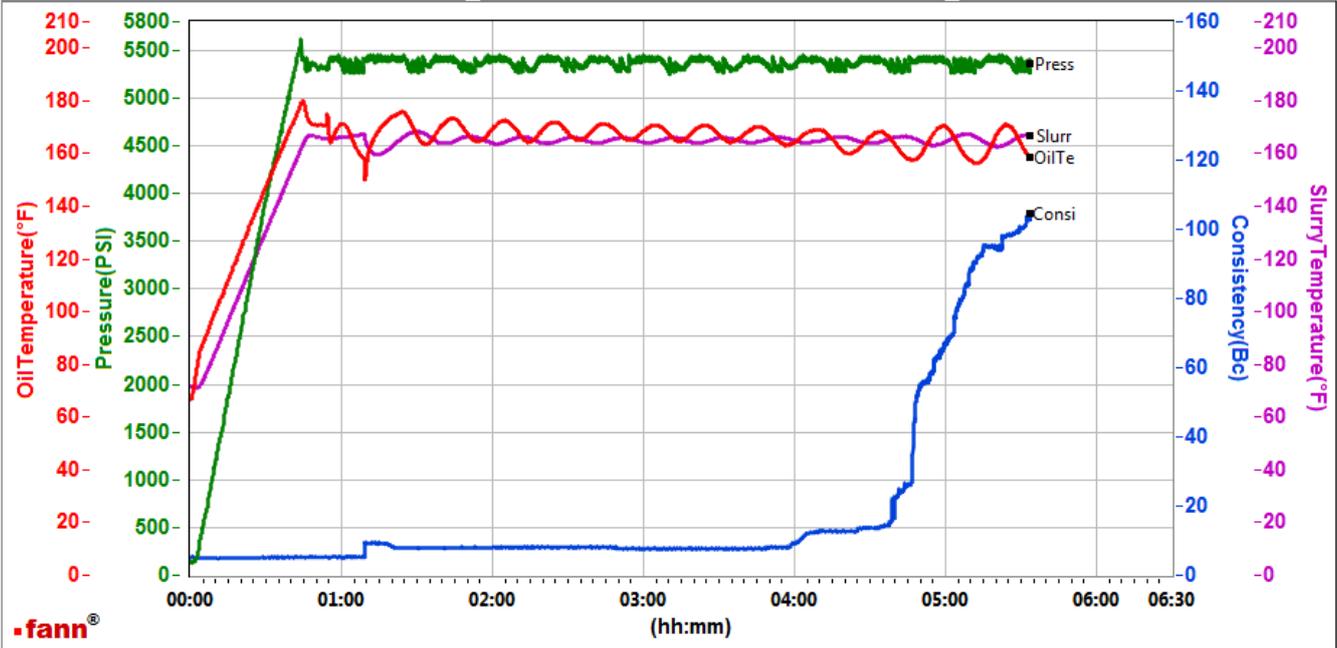
The sample sat in the machine for 10-15 minutes before being removed. About 30-40% of the sample was core set on the paddle. Heat of hydration appears to happen at 4:15.

GRAND JUNCTION

Fields	Values
Project Name	2517671-1 Laramie Bulk
SW Version	1.0
Test ID	36013409-TT
Request ID	2517671-1
Tested by	JM
Customer	LARAMIE ENERGY
Well No	SUP & SHEP 0993-25-07

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	11/29/2018 06:01:16.586
Temp. Units	degF

Events	Results
30 BC	4:46
50 BC	4:48
70 BC	5:03
100 BC	5:31



Data File C:\Users\H185329\Desktop\000 Graphs\GJ2517671-1 LARAMIE PRODUCTION BULK LEAD.tdms
 Comments Light Weight

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Job Information

Request/Slurry	2517672/1	Rig Name	H&P 522	Date	26/NOV/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Sup & Shep 0993-25-07W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8763 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	8646 ft	BHCT	74°C / 165°F
Pressure	5352 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	ft ³ /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 2517672/1

Thickening Time - ON-OFF-ON, Request Test ID:36013411

29/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	5352	44	3:23	3:34	3:36	4:05	15	54	15	26

Total sks = 362

CS2530 TR 1513 362 SKS

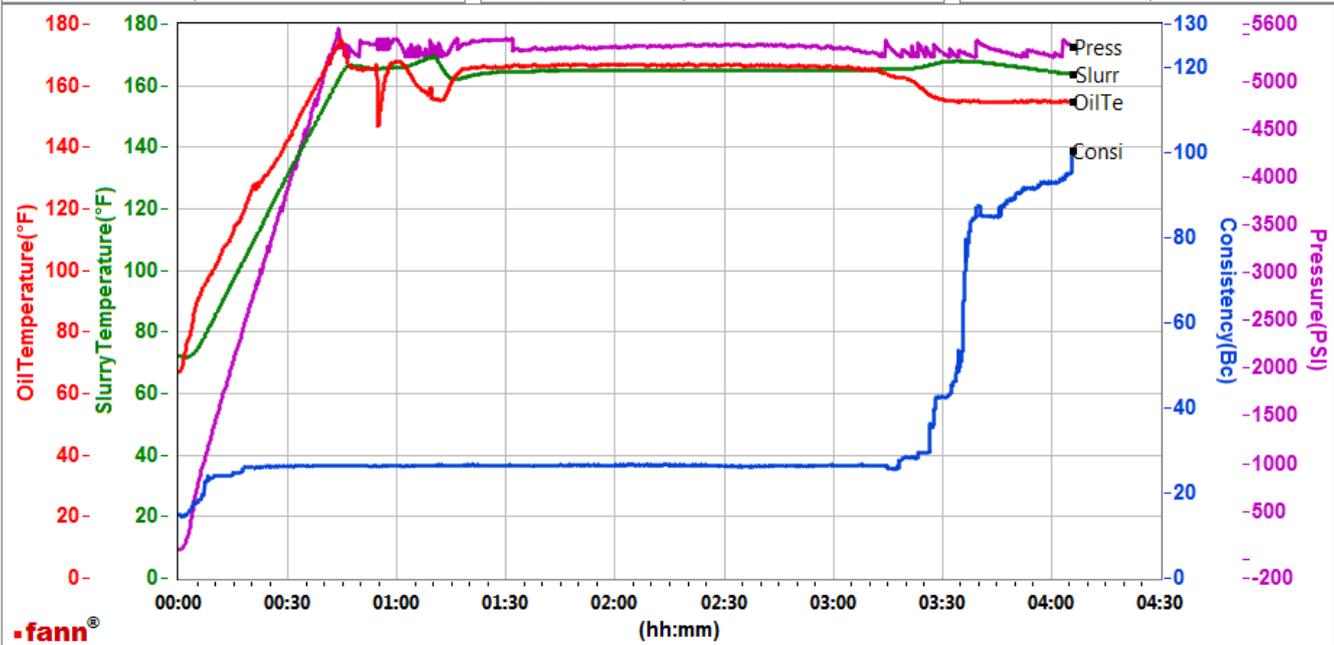
No deflection. Please note heat of hydration started around 3:10.

GRAND JUNCTION

Fields	Values
Project Name	GJ2517672-1 Laramie Pr
SW Version	1.0
Test ID	36013411-TT
Request ID	2517672-1
Tested by	JM
Customer	LARAMIE ENERGY
Well No	SUP & SHEP 0993-25-07

Fields	Values
Rig	H&P 522
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION
Cement Weight	MOUNTAIN G
Comments	Light Weight
Date Time	11/29/2018 06:17:07.47
Temp. Units	degF

Events	Results
30 Bc	03:23
50 Bc	03:34
70 Bc	03:36
100 Bc	04:05



Data File P:\Z Lab\HPHT 2\GJ2517672-1 LARAMIE PRODUCTION BULK TAIL.tdms
 Comments Light Weight

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