

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie Energy

BRUTON 30-19E

API # 05-077-10473-00
Laramie BRUTON 30-19E Surface
Job Date: Sunday, January 14, 2018

Sincerely,

Grand Junction Cement Engineering

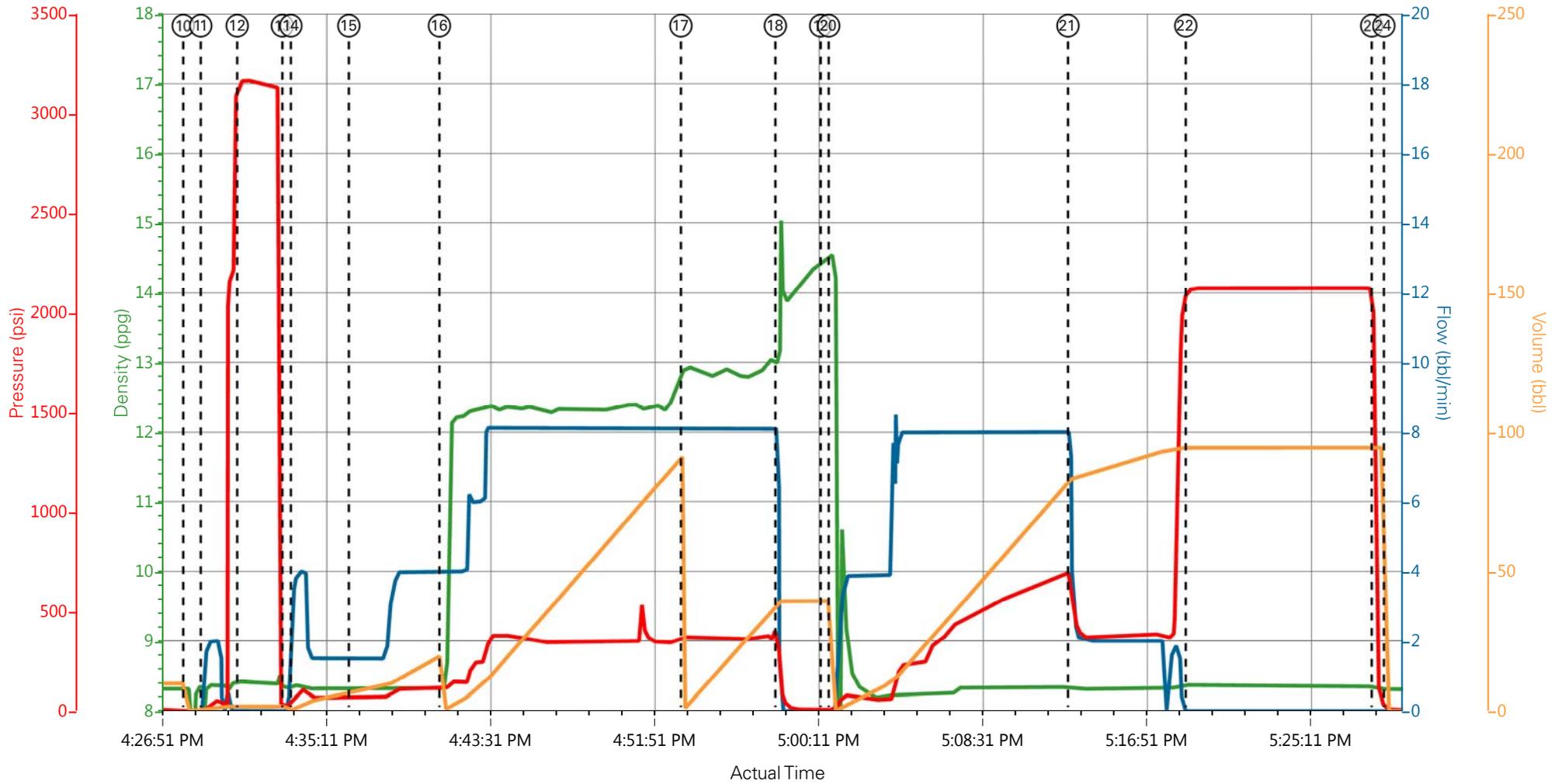
Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Downhole Density <i>(ppg)</i>	Combined Pump Rate <i>(bbl/min)</i>	Driv-Side Pump Pressure <i>(psi)</i>	Pump Stage Total <i>(bbl)</i>	Comments
Event	1	Call Out	1/14/2018	11:00:00	USER					ON LOCATION TIME 16:30
Event	2	Pre-Convoy Safety Meeting	1/14/2018	13:00:00	USER					JOURNEY CREATED - ALL HES INVOLVED IN SAFETY MEETING
Event	3	Crew Leave Yard	1/14/2018	13:15:00	USER					1-F-550 PICKUP, 1-ELITE PUMP TRUCK, 1-660 BULK TRUCK
Event	4	Arrive At Loc	1/14/2018	15:30:00	USER					HES ARRIVED 1-HOUR EARLY - HES REP MET WITH COMPANY REP
Event	5	Assessment Of Location Safety Meeting	1/14/2018	15:45:00	USER					RIG WAS RUNNING CASING - HES SPOTTED EQUIPMENT AND HELD SAFETY MEETING
Event	6	Pre-Rig Up Safety Meeting	1/14/2018	15:50:00	USER					JSA FILLED OUT AND REVIEWED BY ALL HES
Event	7	Rig-Up Equipment	1/14/2018	15:55:00	USER					RIG-UP IRON TO THE RIG STAND PIPE, WATER HOSES TO RIG UPRIGHT AND BULK TRUCK TO PUMP TRUCK
Event	8	Rig-Up Completed	1/14/2018	16:15:00	USER					COMPLETED SAFELY
Event	9	Water Test/Well Info	1/14/2018	16:20:00	USER					TEMP- 60 CHLOR- 0 PH- 7 / TD: 1550FT TP: 1540FT SJ: 42.55FT OH: 11" CSG: 8 5/8" 24# J-55 MUD WT: 9.1
Event	10	Start Job	1/14/2018	16:28:06	COM5					START JOB
Event	11	Fill Lines	1/14/2018	16:28:59	USER	8.34	2	52	2	2 BBLS OF WATER AHEAD TO PRESSURE TEST
Event	12	Test Lines	1/14/2018	16:30:50	COM5			3237		PRESSURE TEST LINES TO 3237 PSI, PRESSURE TEST GOOD
Event	13	Drop Bottom Plug	1/14/2018	16:33:08	USER					BOTTOM PLUG AWAY NO PROBLEMS
Event	14	Fresh Water Spacer	1/14/2018	16:33:34	COM5	8.34	4	100	20	20 BBL FRESH WATER SPACER AHEAD PUMPED AT 4 BPM - PRESSURE WAS 100 PSI
Event	15	Check weight	1/14/2018	16:36:30	COM5					VERIFIED WEIGHT OF FIRST TUB OF CEMENT VIA PRESSURIZED MUD SCALES

Event	16	Pump Lead Cement	1/14/2018	16:41:06	COM5	12.3	8	406	85.9	197 SKS OF VARICEM CEMENT (85.9BBL) 12.3PPG 2.45YIELD 14.17GAL/SK WEIGHT OF CEMENT VERIFIED VIA PRESSURIZED MUD SCALES THROUGHOUT LEAD CEMENT
Event	17	Pump Tail Cement	1/14/2018	16:53:22	USER	12.8	8	380	42.3	109 SKS OF VARICEM CEMENT (42.3BBL) 12.8PPG 2.18YIELD 12.11GAL/SK WEIGHT OF CEMENT VERIFIED VIA PRESSURIZED MUD SCALES THROUGHOUT TAIL CEMENT
Event	18	Shutdown	1/14/2018	16:58:10	USER					SHUTDOWN END OF CEMENT - HES WASHED UP ON TOP OF THE PLUG - READY TANKS FOR DISPLACEMENT
Event	19	Drop Top Plug	1/14/2018	17:00:28	USER					TOP PLUG AWAY NO PROBLEMS
Event	20	Pump Displacement	1/14/2018	17:00:52	COM5	8.34	8	695	85.2	FRESH WATER DISPLACEMENT
Event	21	Slow Rate	1/14/2018	17:13:01	USER	8.34	2	372	10	SLOW RATE TO BUMP THE PLUG - PRESSURE PRIOR TO SLOWING WAS 695 PSI AT 8 BPM - PRESSURE AFTER SLOWING WAS 372 PSI AT 2 BPM
Event	22	Bump Plug	1/14/2018	17:19:00	COM5	8.34	2	386	95.2	PLUG BUMPED AT CALCULATED DISPLACEMENT - PLUG BUMPED AT 386 PSI AT 2 BPM - TOOK TO 2120 PSI FOR 10-MIN CASING TEST
Event	23	Check Floats	1/14/2018	17:28:27	USER			2120		FLOATS HELD 1 BBL BACK TO TANKS - 35 BBL OF CEMENT TO SURFACE - RIG USED 40 POUNDS OF SUGAR
Event	24	End Job	1/14/2018	17:29:04	COM5					THANK YOU FOR CHOOSING HALLIBURTON CEMENT CARL KUKUS AND CREW
Event	25	Pre-Rig Down Safety Meeting	1/14/2018	17:35:00	USER					JSA REVIEWED - ALL HES INVOLVED IN SAFETY MEETING
Event	26	Rig-Down Equipment	1/14/2018	17:40:00	USER					WASH UP AND BLOW DOWN PUMP TRUCK - RIG DOWN ALL LINES AND EQUIPMENT
Event	27	Rig-Down Completed	1/14/2018	18:40:00	USER					COMPLETED SAFELY
Event	28	Pre-Convoy Safety Meeting	1/14/2018	18:45:00	USER					JOURNEY CREATED - ALL HES INVOLVED IN SAFETY MEETING
Event	29	Crew Leave Location	1/14/2018	18:50:00	USER					1-F-550 PICKUP, 1-ELITE PUMP TRUCK, 1-660 BULK TRUCK

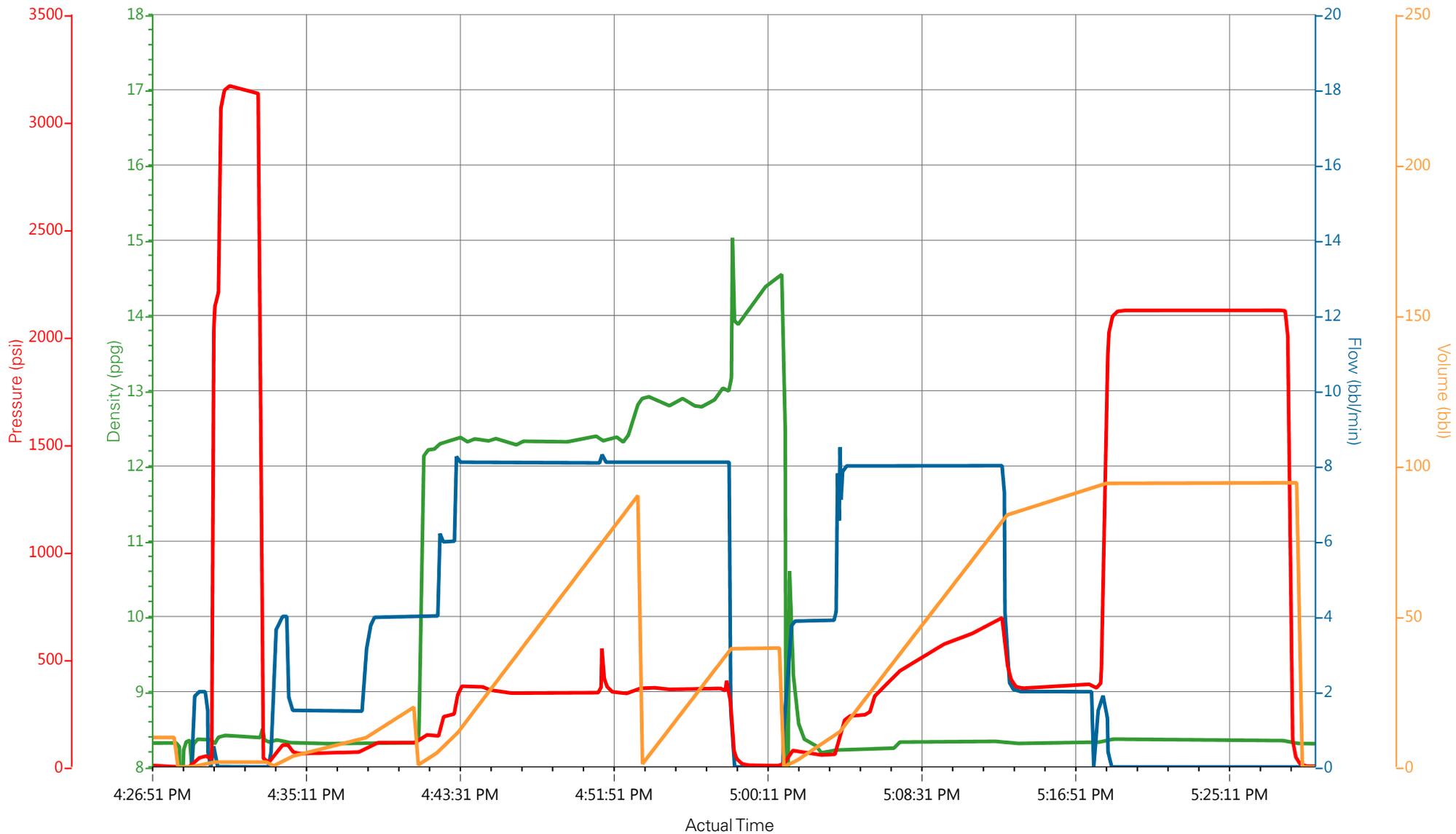
LARAMIE - BRUTON 30-19E - 904568256 - 8 5/8" SURFACE



DH Density (ppg) Comb Pump Rate (bbl/min) DS Pump Press (psi) Pump Stg Tot (bbl)

- | | | | |
|---|------------------------|----------------------|-----------------|
| ① Call Out | ⑧ Rig-Up Completed | ⑮ Check weight | 22 Bump Plug |
| ② Pre-Convoy Safety Meeting | ⑨ Water Test/Well Info | ⑯ Pump Lead Cement | 23 Check Floats |
| ③ Crew Leave Yard | ⑩ Start Job | ⑰ Pump Tail Cement | 24 End Job |
| ④ Arrive At Loc | ⑪ Fill Lines | ⑱ Shutdown | |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Test Lines | ⑲ Drop Top Plug | |
| ⑥ Pre-Rig Up Safety Meeting | ⑬ Drop Bottom Plug | 20 Pump Displacement | |
| ⑦ Rig-Up Equipment | ⑭ Fresh Water Spacer | 21 Slow Rate | |

LARAMIE - BRUTON 30-19E - 904568256 - 8 5/8" SURFACE



— DH Density (ppg)
 — Comb Pump Rate (bbl/min)
 — DS Pump Press (psi)
 — Pump Stg Tot (bbl)

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie Energy

Bruton 30-19E

Bruton 30-19E Production

API # 05-077-10473-00

Job Date: Wednesday, January 17, 2018

Sincerely,

Grand Junction Cement Engineering

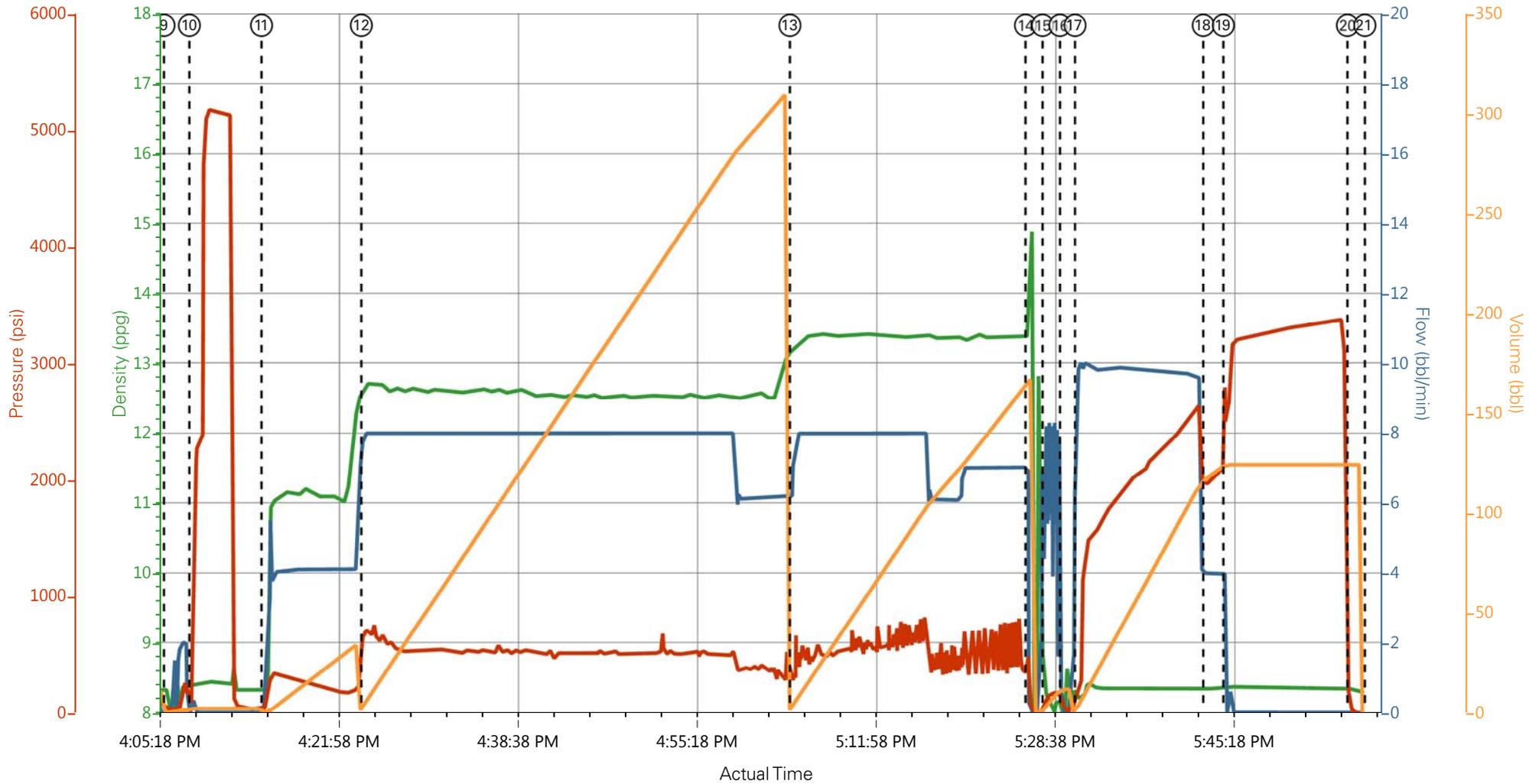
1.0 Real-Time Job Summary

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	1/17/2018	07:30:00	USER					
Event	2	Pre-Convoy Safety Meeting	1/17/2018	10:55:00	USER					
Event	3	Crew Leave Yard	1/17/2018	11:00:00	USER					
Event	4	Arrive At Loc	1/17/2018	12:30:00	USER					
Event	5	Assessment Of Location Safety Meeting	1/17/2018	12:35:00	USER					
Event	6	Pre-Rig Up Safety Meeting	1/17/2018	12:45:00	USER					
Event	7	Rig-Up Equipment	1/17/2018	13:00:00	USER					
Event	8	Pre-Job Safety Meeting	1/17/2018	15:45:00	USER					
Event	9	Start Job	1/17/2018	16:06:00	COM5					TD 8214', TP 8203', OH 7 7/8", SJ 82', 4 1/2" 11.6#/FT, MUD 9.2 PPG, WATER TEST TEMP 75, CHLORIDES 0, POTASSIUM 700, SULFATES <200
Event	10	Test Lines	1/17/2018	16:08:21	COM5	8.33	0.00	5184.00	0.0	TEST LINES TO 5184
Event	11	Pump Spacer 1	1/17/2018	16:15:04	COM5	11.0	4.00	280.00	40.0	40 BBL TUNED SPACER AT 11.0 PPG, 280 PSI
Event	12	Pump Lead Cement	1/17/2018	16:24:21	COM5	12.50	8.00	500.00	300.0	300 BBL LEAD @ 12.5 PPG, 1.94 YLD, 9.6 H2O REQ, 500 PSI @ 8 BBL/MIN
Event	13	Pump Tail Cement	1/17/2018	17:04:14	COM5	13.30	8.00	550.00	142.0	142 BBL TAIL @ 13.3 PPG, 1.73 YLD, 7.81 H2O REQ, 550 PSI @ 8 BBL/MIN
Event	14	Shutdown	1/17/2018	17:26:10	USER					

Event	15	Clean Lines	1/17/2018	17:27:45	COM5					
Event	16	Drop Top Plug	1/17/2018	17:29:22	COM5					PLUG AWAY
Event	17	Pump Displacement	1/17/2018	17:30:46	COM5	8.33	10.00	2000.00	125.9	125.9 BBL DISPLACEMENT AT 8.33 PPG WITH 1 GAL MMCR AND 5 GAL CLA-WEB, 2000 PSI @ 10 BBL/MIN
Event	18	Slow Rate	1/17/2018	17:42:42	USER	8.33	4.00	1970.0	115.0	SLOW RATE TO 4 BBL/MIN, 2650 PSI TO 1970 PSI
Event	19	Bump Plug	1/17/2018	17:44:34	COM5	8.33	4.00	3000.0	125.9	PLUG BUMPED AT CALCULATED 2100 PSI FINAL CIRCULATING PRESSURE, PRESSURE UP TO 3000 PSI FOR 10 MIN CASING TEST
Event	20	Check Floats	1/17/2018	17:56:07	USER					FLOATS HELD, 1 1/2 BBL BACK
Event	21	End Job	1/17/2018	17:57:45	COM5					GOOD CIRCULATION THROUGHOUT, PIPE LEFT STATIC, 20 BBL TUNED SPACER TO SURFACE, NO SUGAR USED, NO ADD HOURS CHARGED
Event	22	Pre-Rig Down Safety Meeting	1/17/2018	18:15:00	USER					
Event	23	Rig-Down Equipment	1/17/2018	18:20:00	USER					
Event	24	Pre-Convoy Safety Meeting	1/17/2018	19:15:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW
Event	25	Crew Leave Location	1/17/2018	19:30:00	USER					

LARAMIE - BRUTON 30-19E - 4 1/2" PRODUCTION CASING



— DH Density (ppg)
 — Comb Pump Rate (bbl/min)
 — PS Pump Press (psi)
 — Pump Stg Tot (bbl)

- | | | | |
|---|--------------------------|---------------------|-------------------------------|
| ① Call Out | ⑧ Pre-Job Safety Meeting | ⑮ Clean Lines | ⑳ Pre-Rig Down Safety Meeting |
| ② Pre-Convoy Safety Meeting | ⑨ Start Job | ⑯ Drop Top Plug | ㉑ Rig-Down Equipment |
| ③ Crew Leave Yard | ⑩ Test Lines | ⑰ Pump Displacement | ㉒ Pre-Convoy Safety Meeting |
| ④ Arrive At Loc | ⑪ Pump Spacer 1 | ⑱ Slow Rate | ㉓ Crew Leave Location |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Pump Lead Cement | ⑲ Bump Plug | |
| ⑥ Pre-Rig Up Safety Meeting | ⑬ Pump Tail Cement | ㉔ Check Floats | |
| ⑦ Rig-Up Equipment | ⑭ Shutdown | ㉕ End Job | |

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Created: 2018-01-17 13:47:21, Version: 4.2.393

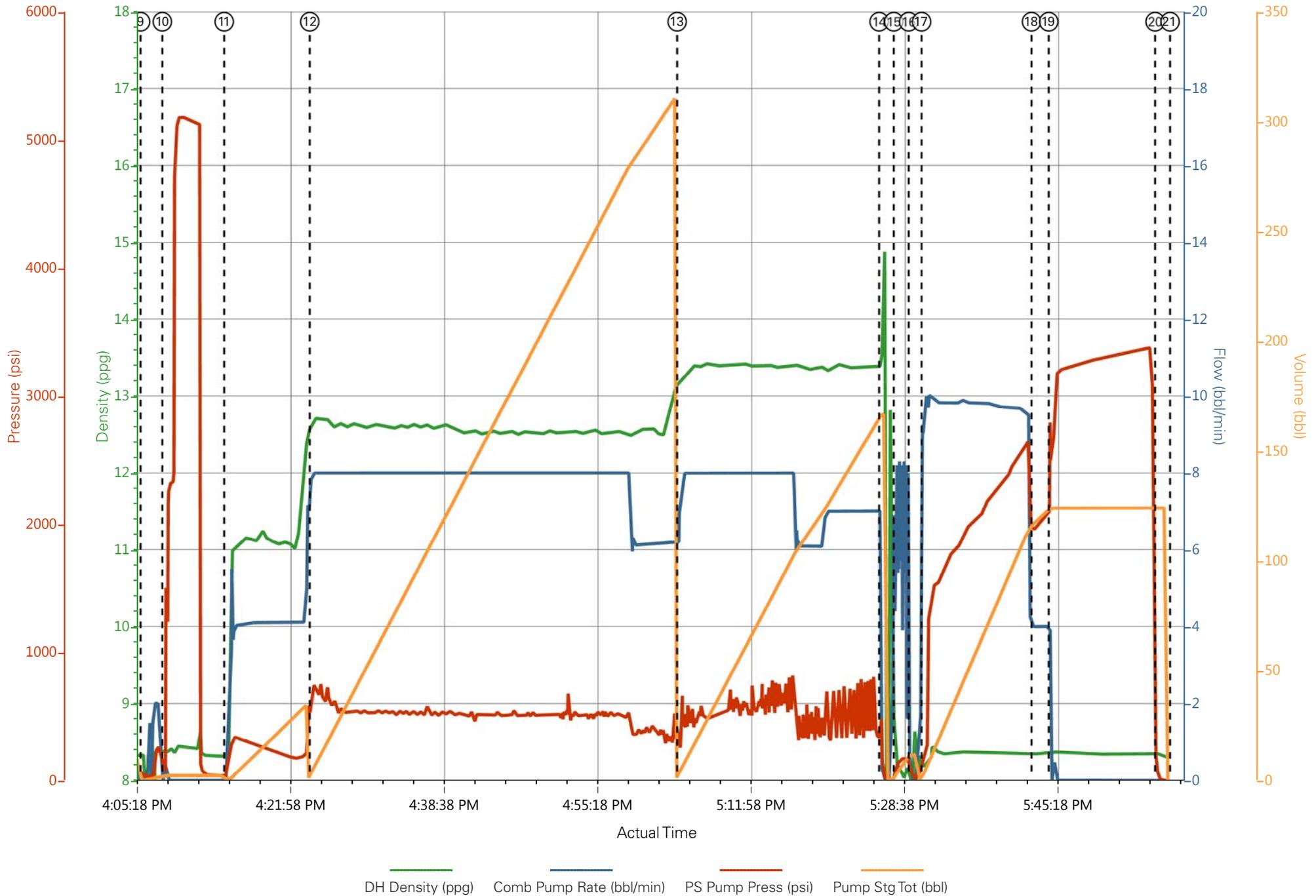
[Edit](#)

Customer : LARAMIE ENERGY LLC-EBUS
 Representative : SHANE HERD

Job Date : 1/17/2018 1:49:53 PM
 Sales Order # : 904572851

Well : BRUTON 30-19E
 ELITE #2 : TRAVIS BROWN/ RYAN MARTIN

LARAMIE - BRUTON 30-19E - 4 1/2" PRODUCTION CASING



Job Information

Request/Slurry	2444629/1	Rig Name	H&P 522	Date	14/JAN/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Bruton 30-19E

Well Information

Casing/Liner Size	4.5 in	Depth MD	8215 ft	BHST	115°C / 239°F
Hole Size	7.875 in	Depth TVD	7699 ft	BHCT	77°C / 171°F
Pressure	4689 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	9.9 lbm/gal
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Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft ³ /sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

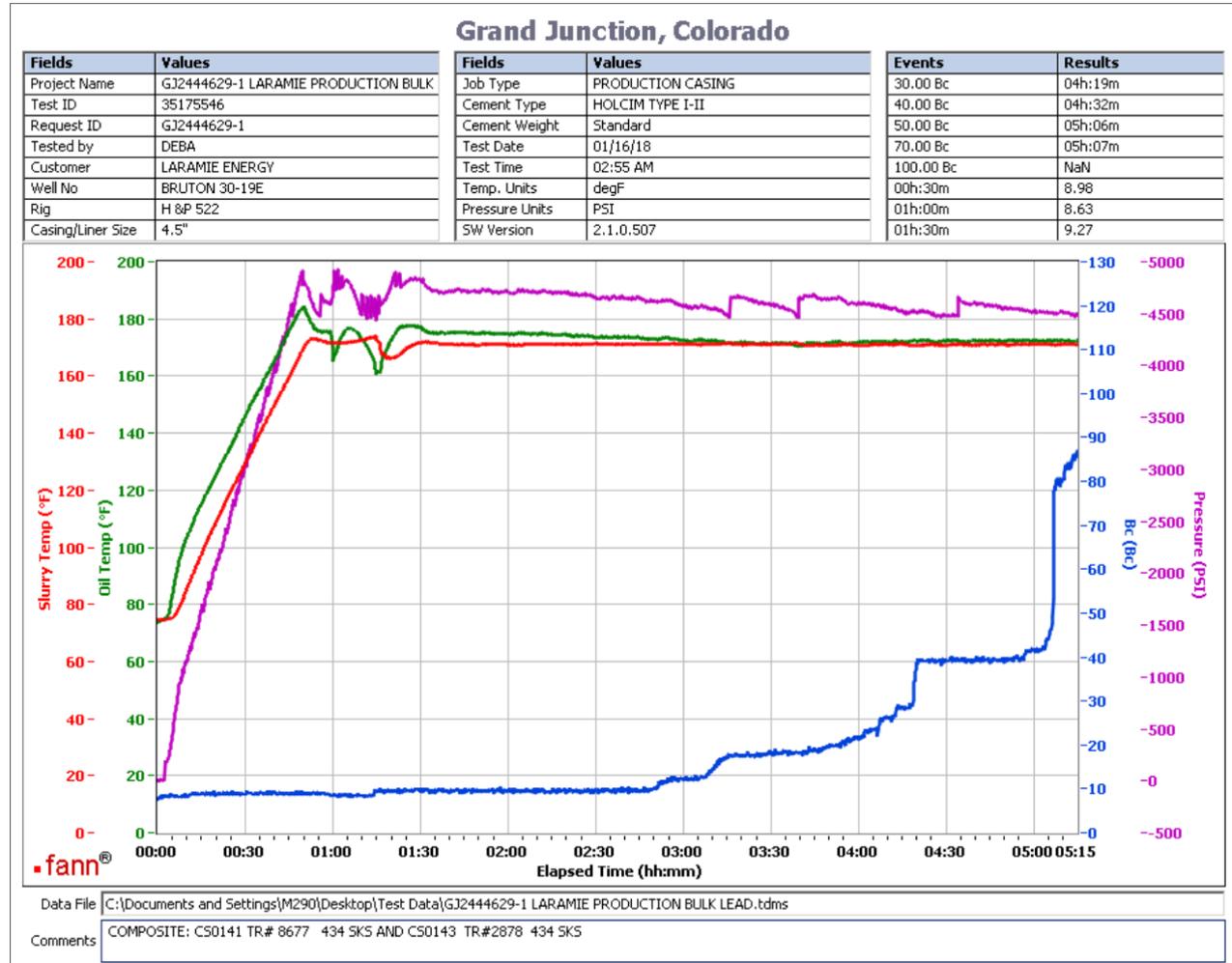
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Thickening Time - ON-OFF-ON

16/JAN/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)	Termination time (hh:min)	Termination Bc
171	4689	49	4:19	5:06	5:07	8	59	15	9	12:15	90



Total sks = 868
 Composite:
 CS0141 TR#8677 434 SKS
 CS0145 TR#2878 434 SKS
 No deflection.

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Job Information

Request/Slurry	2444630/1	Rig Name	H&P 522	Date	14/JAN/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Bruton 30-19E

Well Information

Casing/Liner Size	4.5 in	Depth MD	8215 ft	BHST	115°C / 239°F
Hole Size	7.875 in	Depth TVD	7699 ft	BHCT	77°C / 171°F
Pressure	4689 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	9.9 lbm/gal
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Cement Information - Tail Design 

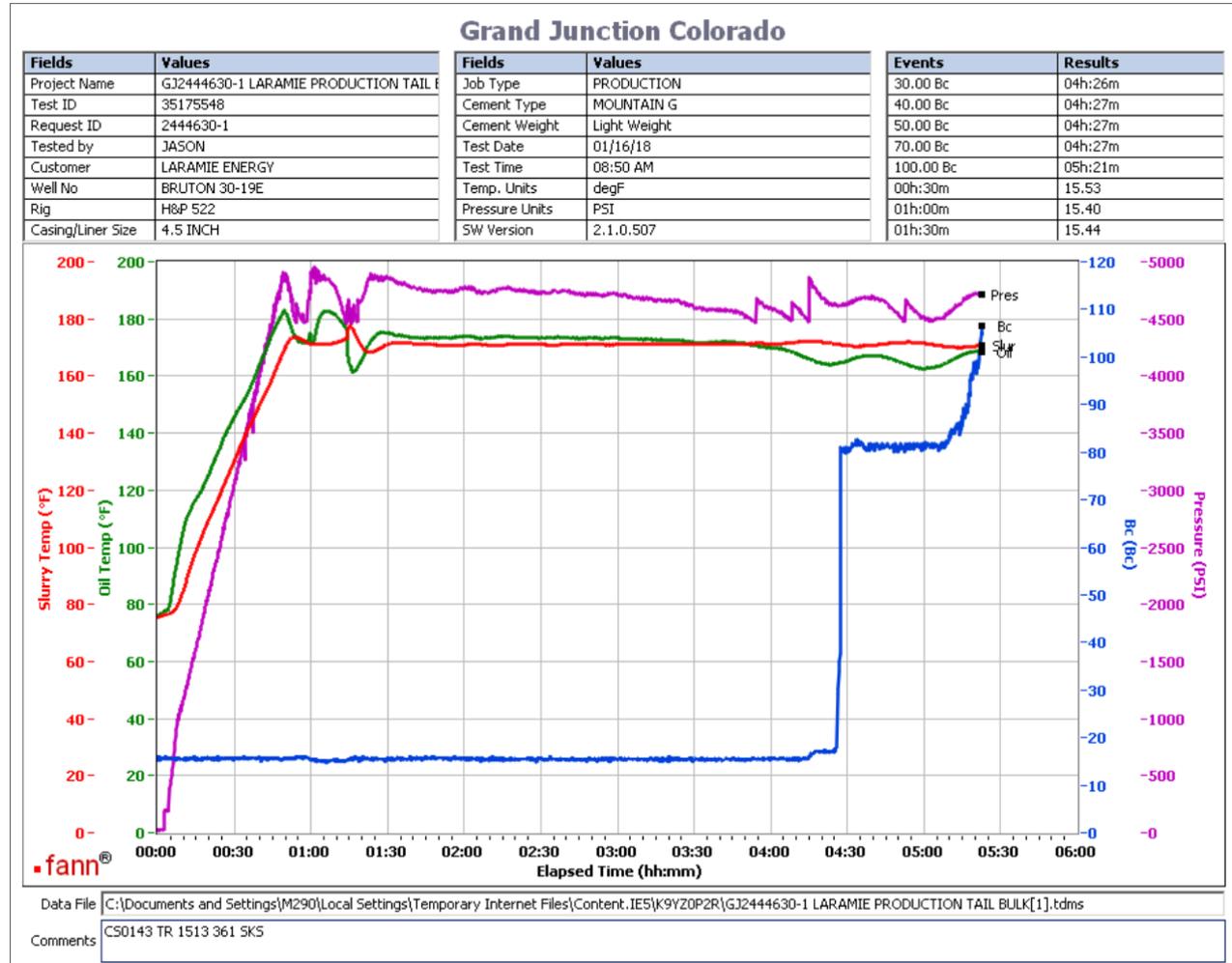
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

16/JAN/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)
171	4689	49	4:26	4:27	4:27	5:21	16	59	15	15



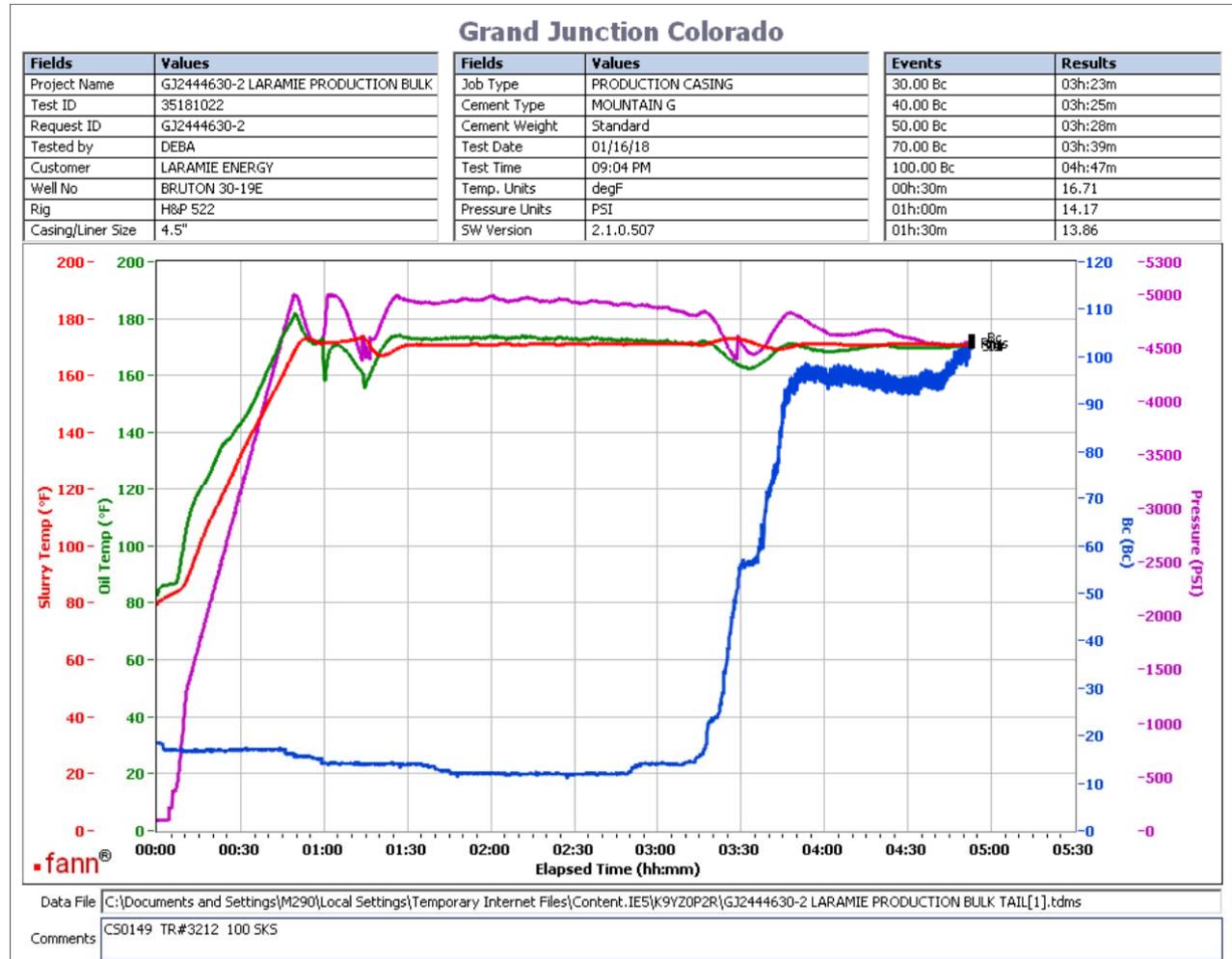
sks Total = 461
 CS0143 TR#1513 361 SKS
 no deflection was observed. 15Bc--- > 15Bc

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Operation Test Results Request ID 2444630/2

Thickening Time - ON-OFF-ON 16/JAN/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)
171	4689	49	3:23	3:28	3:39	4:47	18	59	15	14



Total sks = 461
 CS149 TR#3212 100 sks
 no deflection was observed. 14Bc--> > 14 Bc please note the heat of hydration at 3:15

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