

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Friday, January 26, 2018

PA 41-26 Production

API#05-045-23656

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	1/26/2018	12:30:00	USER					ON LOCATION REQUESTED 17:00
Event	2	Pre-Convoy Safety Meeting	1/26/2018	15:15:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	1/26/2018	15:30:00	USER					
Event	4	Arrive at Location from Service Center	1/26/2018	16:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	1/26/2018	16:35:00	USER					MET WITH COMPANY REP SDS OFFERED
Event	6	Pre-Rig Up Safety Meeting	1/26/2018	16:45:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	1/26/2018	20:00:00	USER					1-ELITE, 1-660 BULK TRAILER, 2-FIELD SILO, 4.5" QL, 2" PUMP IRON, 4" SUCTION HOSE
Event	8	Pre-Job Safety Meeting	1/26/2018	20:15:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Other	1/26/2018	20:48:00	USER					RIG CIRCULATED 1 HOUR 495 GPM 1440 PSI, WATER:TEMP-68, CL-0, PH-7
Event	10	Start Job	1/26/2018	20:53:00	USER	8.32	0.00	5.00	0	TD-8840', TP-8834.67'SET @ 8830', SJ-29.1', CSG-4.5" 11.6# P110, SCSG-9.625" 32.3# SHOE AT 1150', OH-8.75", MUD-13.0PPG
Event	11	Prime Pumps	1/26/2018	20:53:51	USER	8.34	1.70	308.00	4.0	FRESH WATER
Event	12	Test Lines	1/26/2018	20:58:27	COM5	8.47	0.00	5613.00	4.0	PRESSURE HELD NO LEAKS
Event	13	Pump Water	1/26/2018	21:02:30	COM5	8.28	4.00	563.00	10.0	FRESH WATER
Event	14	Pump Mud Flush III	1/26/2018	21:06:19	COM5	8.39	4.00	750.00	20.0	MUD FLUSH III
Event	15	Check weight	1/26/2018	21:06:38	COM5					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES

Event	16	Pump Lead Cement	1/26/2018	21:11:36	COM5	14.50	7.50	1610.00	466.7	EXPANDACEM, 1985SKS, 14.5PPG, 1.32CF/SK, 5.86GAL/SK
Event	17	Shutdown	1/26/2018	22:24:43	USER					END OF CEMENT
Event	18	Clean Lines	1/26/2018	22:25:34	COM5					CLEANED LINES TO PIT, RIG BLEW AIR BACK TO CLEAR CEMENT
Event	19	Drop Plug	1/26/2018	22:32:00	USER					PLUG AWAY VERIFIED BY COMPANY REP
Event	20	Pump Displacement	1/26/2018	22:33:36	COM5	8.40	9.50	2740.00	126.5	KCL WATER, 1 GAL MMCR, 3# BE6
Event	21	Slow Rate	1/26/2018	22:51:35	USER	8.52	4.00	2523.00	127.0	SLOW RATE LAST 10 BBLS
Event	22	Bump Plug	1/26/2018	22:53:43	COM5	8.47	4.00	2648.00	136.5	PLUG BUMPED 2648 PSI
Event	23	Check Floats	1/26/2018	22:56:38	USER	8.45	0.00	3113.00	136.5	FLOATS HELD, 2 BBLS BACK TO DISPLACEMENT TANK
Event	24	End Job	1/26/2018	22:58:02	COM5	8.40	0.00	-4.00	0.0	PIPE WAS RECIPROCATED THROUGH HALF OF LEAD, GOOD RETURNS THROUGH OUT JOB.
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	1/26/2018	23:05:00	USER					ALL HES PRESENT
Event	26	Rig-Down Completed	1/27/2018	00:30:00	USER					
Event	27	Pre-Convoy Safety Meeting	1/27/2018	00:35:00	USER					ALL HES PRESENT
Event	28	Crew Leave Location	1/27/2018	00:45:00	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

Job Information

Request/Slurry	2448339/1	Rig Name	H&P 271	Date	22/JAN/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 41-26

Well Information

Casing/Liner Size	4.5 in	Depth MD	8840 ft	BHST	102°C / 216°F
Hole Size	8.75 in	Depth TVD	7978 ft	BHCT	63°C / 146°F
Pressure	4885 psi				

Drilling Fluid Information

Mud Supplier Name	AMC	Mud Trade Name		Density	
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Cement Information - Primary Design



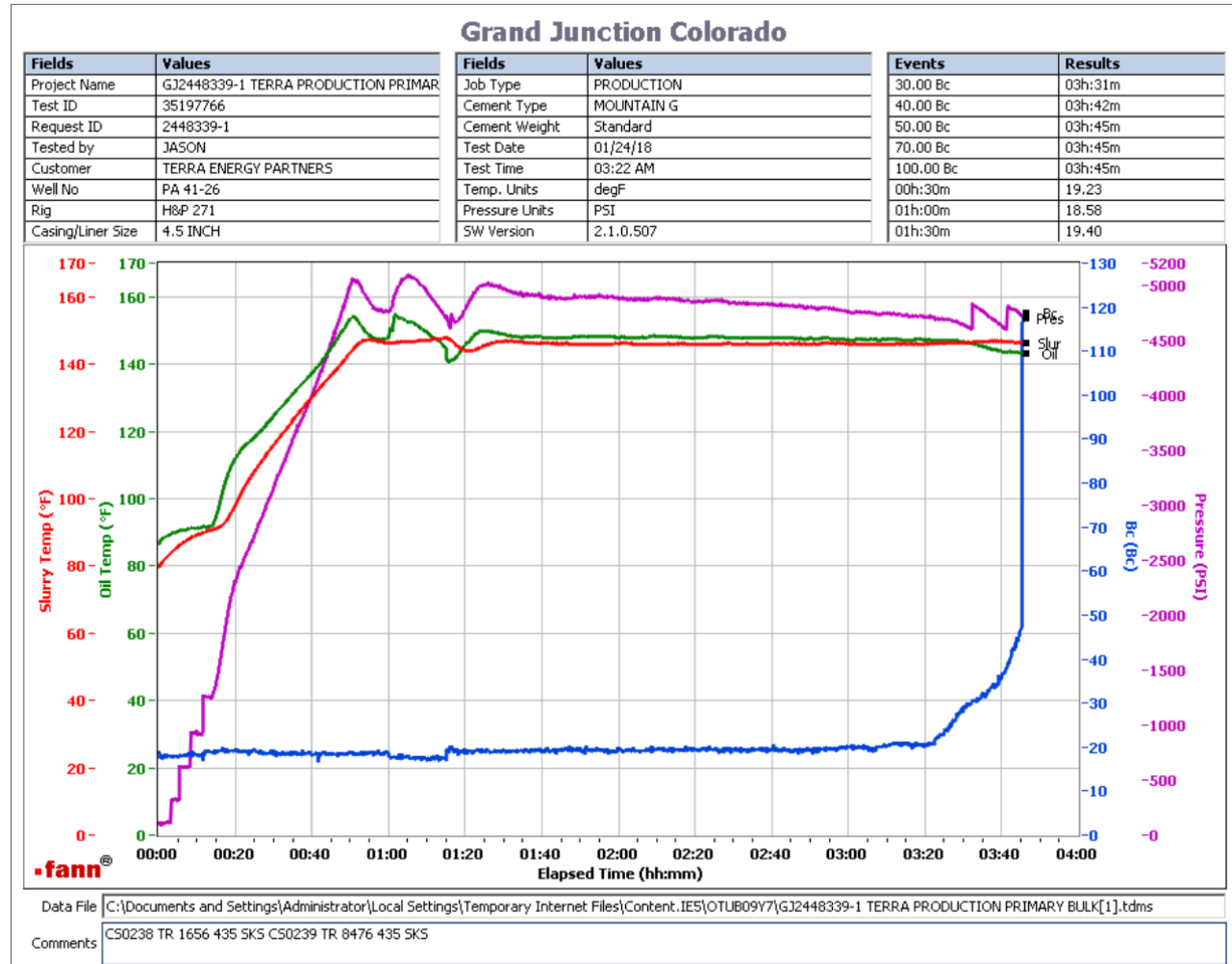
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		VariCem Primary				Slurry Density	14.5	lbm/gal
						Slurry Yield	1.32	ft3/sack
						Water Requirement	5.856	gal/sack
						Total Mix Fluid	5.856	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

24/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)
146	4885	50	3:31	3:45	3:45	3:45	19	60	15	20



1985 sks Total
 Composite:
 CS0238 TR 1656 435 SKS
 CS0239 TR 8476 435 SKS
 deflected from 18Bc--- > 20Bc

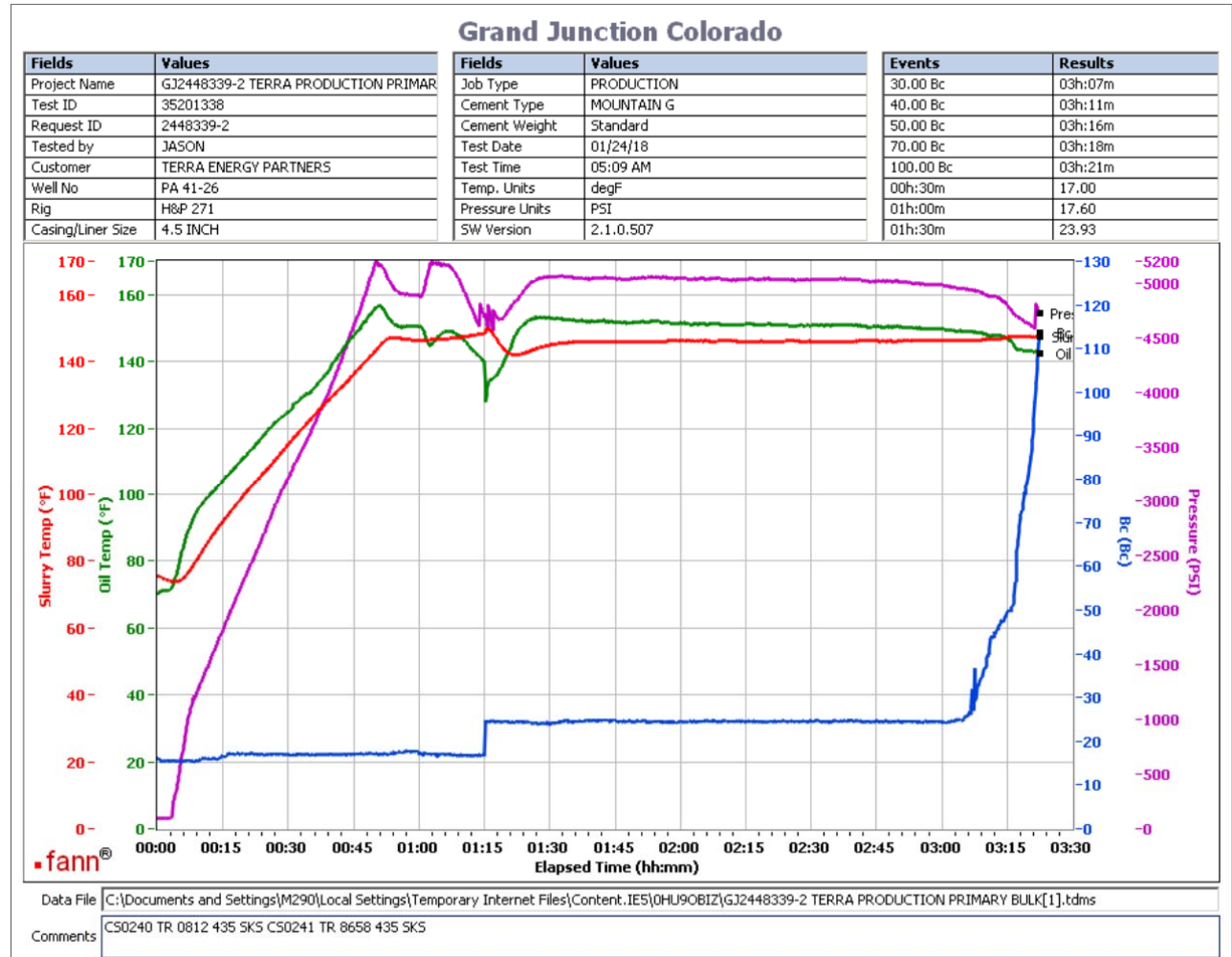
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Operation Test Results Request ID 2448339/2

Thickening Time - ON-OFF-ON

24/JAN/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)
146	4885	50	3:07	3:16	3:18	3:21	16	60	15



1985 sks Total

Composite:

CS0240 TR 0812 435 SKS

CS0241 TR 8658 435 SKS

no deflection was recorded on the graph. 16Bc---16Bc

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Operation Test Results Request ID 2448339/3

Thickening Time - ON-OFF-ON

24/JAN/2018

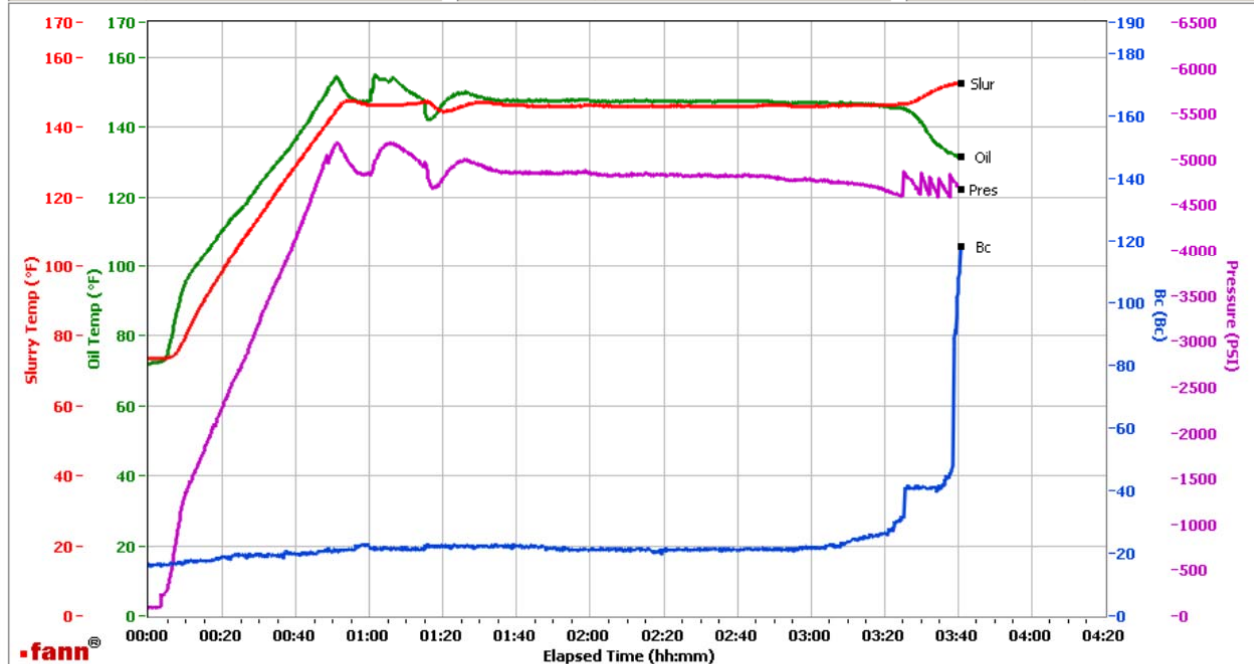
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
146	4885	50	3:22	3:38	3:38	3:39	16	60	15	22

Grand Junction Colorado

Fields	Values
Project Name	2448339-3 TERRA BULK PRODUCTION PRIM
Test ID	35203268 - TT
Request ID	2448339-3
Tested by	CT
Customer	TERRA ENERGY PARTNERS
Well No	PA 41-26
Rig	H&P 271
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	01/24/18
Test Time	08:33 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:22m
40.00 Bc	03h:25m
50.00 Bc	03h:38m
70.00 Bc	03h:38m
100.00 Bc	03h:39m
00h:30m	19.18
01h:00m	22.26
01h:30m	22.05



Data File: C:\Documents and Settings\Administrator\Desktop\Test Data\GJ2448339-3 TERRA BULK PRODUCTION PRIMARY.tdms

Comments: CS0247, TRAILER 1283, 245 SKS

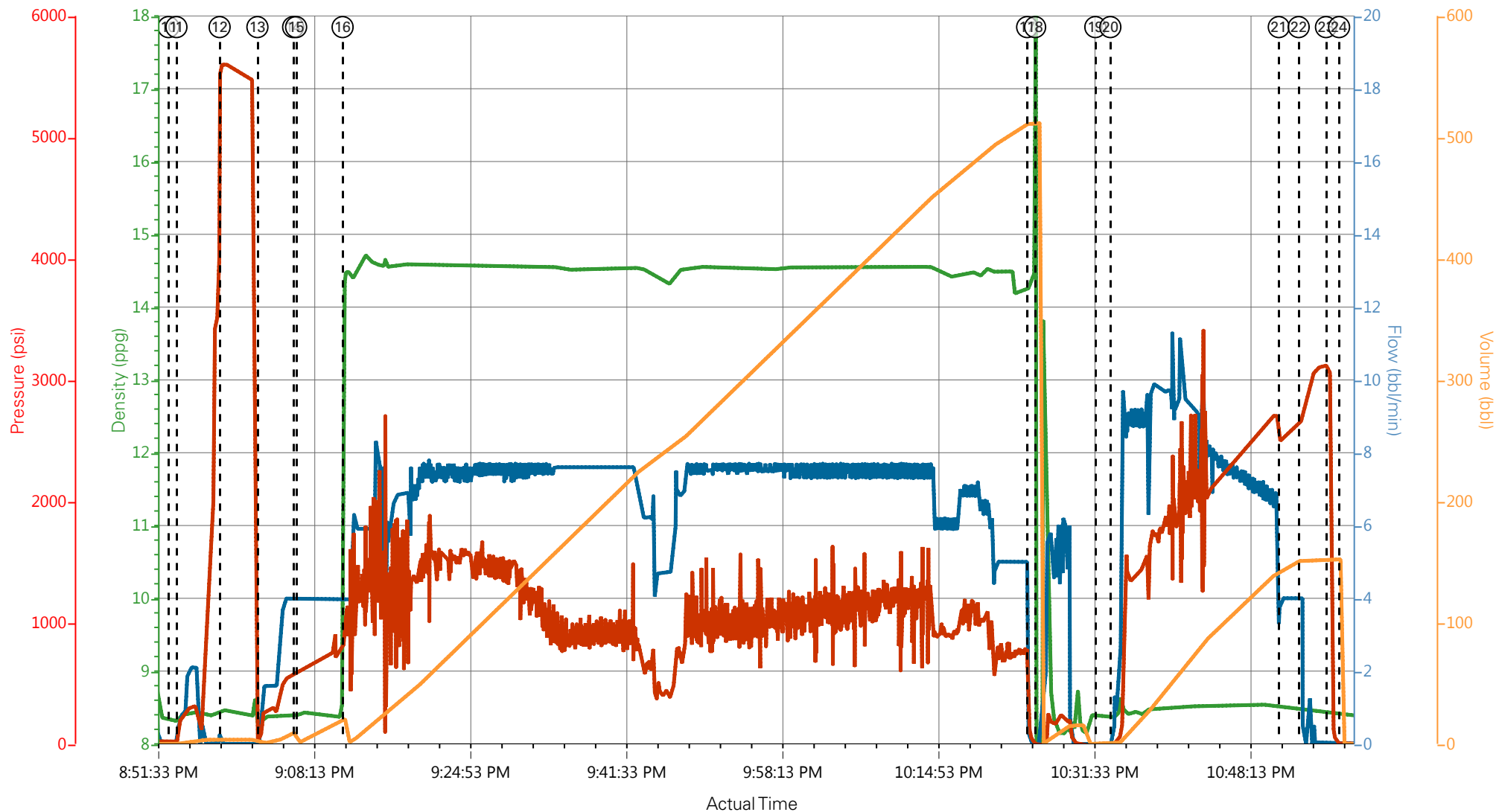
1985 sks Total

CS0247, Trailer 1283, 245 sks

deflected 21-- > 22.. Heat of hydration started around 3:23. 70% of slurry was core set and balled around paddle.

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TEP - PA 41-26 - 4.5" PRODUCTION



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

- | | | | | | | |
|--|---|---------------|----------------------|----------------------|-----------------|------------------------------|
| ① Call Out | ⑤ Assessment Of Location Safety Meeting | ⑨ Other | ⑬ Pump Water | ⑰ Shutdown | 21 Slow Rate | 25 Post-Job Safety Meeting (|
| ② Pre-Convoy Safety Meeting | ⑥ Pre-Rig Up Safety Meeting | ⑩ Start Job | ⑭ Pump Mud Flush III | ⑱ Clean Lines | 22 Bump Plug | 26 Rig-Down Completed |
| ③ Crew Leave Yard | ⑦ Rig-Up Completed | ⑪ Prime Pumps | ⑮ Check weight | ⑲ Drop Plug | 23 Check Floats | 27 Pre-Convoy Safety Meeting |
| ④ Arrive at Location from Service Center | ⑧ Pre-Job Safety Meeting | ⑫ Test Lines | ⑯ Pump Lead Cement | 20 Pump Displacement | 24 End Job | 28 Crew Leave Location |

TEP - PA 41-26 - 4.5" PRODUCTION

