

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS-EBUS

For: Terra

Date: Saturday, June 23, 2018

PA 411-26 Production PJR

API# 05-045-23713-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

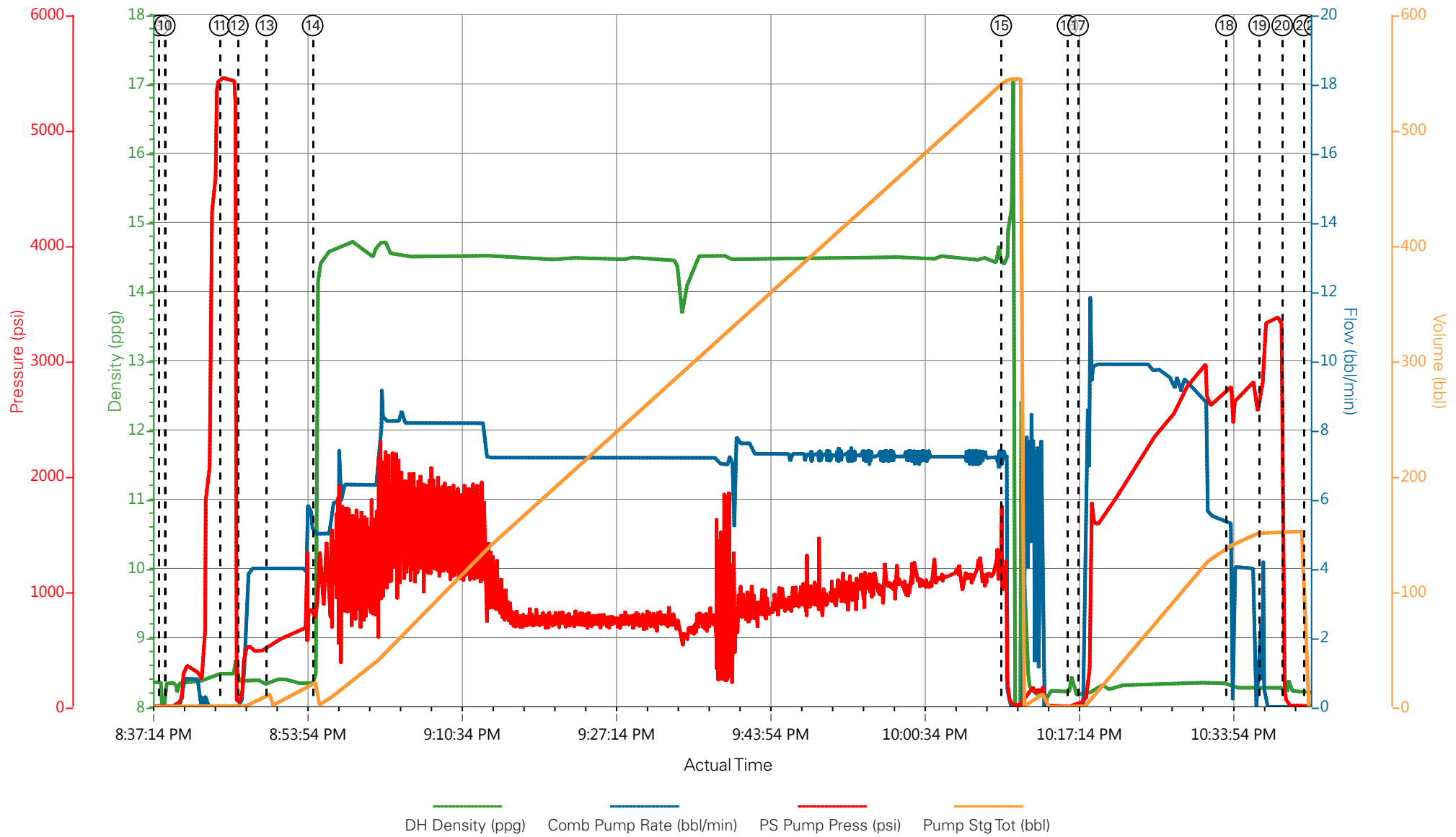
2.1 Job Event Log

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	6/23/2018	12:00:00	USER					REQUESTED ON LOCATION @ 15:30
Event	2	Pre-Convoy Safety Meeting	6/23/2018	14:00:00	USER					ALL HES EMPLOYEES PRESENT
Event	3	Crew Leave Yard	6/23/2018	14:15:00	USER					1 HT 400 PUMP TRUCK E2, 1 660 BULK TRUCK, 1 F450 SERVICE TRUCK
Event	4	Arrive At Loc	6/23/2018	16:30:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	6/23/2018	16:45:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7.0, CHLORIDES- 500, TEMP- 65F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	6/23/2018	16:50:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	6/23/2018	16:55:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	6/23/2018	20:15:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 12 BPM PRIOR TO JOB PRESSURE @ 2380 PSI.

Event	9	Start Job	6/23/2018	20:38:10	COM6					TD 9195', TP 9187.99', SJ 29.38', SURFACE CSG 9 5/8" 36# H-40 SET @ 1105' PRODUCTION CSG 4 1/2" 11.6# P-110, OH 8 3/4", MUD 12.5#
Event	10	Prime Lines	6/23/2018	20:38:50	USER	8.33	2	315	2	8.33 PPG FRESH WATER
Event	11	Test Lines	6/23/2018	20:44:46	COM6			5348		ALL LINES HELD PRESSURE AT PSI 5348
Event	12	H2O Spacer	6/23/2018	20:46:43	COM6	8.33	2	499	10	8.33 PPG FRESH WATER
Event	13	Mud Flush	6/23/2018	20:49:48	COM6	8.4	4	680	20	20 BBL MUDFLUSH III
Event	14	Pump Cement	6/23/2018	20:54:48	COM6	14.5	7	900	460	1955 SKS EXPANDACEM CMT 14.5 PPG, 1.32 FT3/SK, 5.85 GAL/SK
Event	15	Shutdown	6/23/2018	22:09:10	USER					END OF CEMENT. CLEAN PUMPS AND LINES TO PIT.
Event	16	Drop Top Plug	6/23/2018	22:16:20	USER					VERIFIED BY PLUG INDICATOR
Event	17	Pump Displacement	6/23/2018	22:17:29	COM6	8.4	10	2880	142	1 GAL MMCR IN FIRST 10 BBLS, 3 LBS BE-6 IN FIRST 30 BBLS, 1 50 LB. BAG KCL THROUGHOUT DISPLACEMENT
Event	18	Slow Rate	6/23/2018	22:33:27	USER	8.4	4	2680	132	SLOW RATE TO 4 BPM TO BUMP PLUG
Event	19	Bump Plug	6/23/2018	22:37:02	USER	8.4	4	2800	142	LANDED PLUG AT 2800 PSI, BROUGHT UP TO 3350 PSI
Event	20	Check Floats	6/23/2018	22:39:32	USER					FLOATS HELD. 1.5BBLS BACK TO TRUCK.
Event	21	End Job	6/23/2018	22:41:50	COM6					RETURNS THROUGHT JOB. PIPE WAS RECIPRICATED DURING JOB.

Event	22	Post-Job Safety Meeting (Pre Rig-Down)	6/23/2018	22:43:00	USER	ALL HES PRESENT
Event	23	Rig-Down Equipment	6/23/2018	22:50:00	USER	ALL HES PRESENT
Event	24	Pre-Convoy Safety Meeting	6/23/2018	23:45:00	USER	ALL HES PRESENT
Event	25	Crew Leave Location	6/23/2018	23:50:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

TERRA PA 411-26, 4.5" PRODUCTION



- | | | | | |
|---|--------------------------|---------------------|---|------------------------|
| ① Call Out | ⑦ Rig-Up Equipment | ⑬ Mud Flush | ⑲ Bump Plug | 25 Crew Leave Location |
| ② Pre-Convoy Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑭ Pump Cement | 20 Check Floats | |
| ③ Crew Leave Yard | ⑨ Start Job | ⑮ Shutdown | 21 End Job | |
| ④ Arrive At Loc | ⑩ Prime Lines | ⑯ Drop Top Plug | 22 Post-Job Safety Meeting (Pre Rig-Down) | |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Test Lines | ⑰ Pump Displacement | 23 Rig-Down Equipment | |
| ⑥ Pre-Rig Up Safety Meeting | ⑫ H2O Spacer | ⑱ Slow Rate | 24 Pre-Convoy Safety Meeting | |

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Created: 2018-06-23 16:32:21, Version: 4.2.393

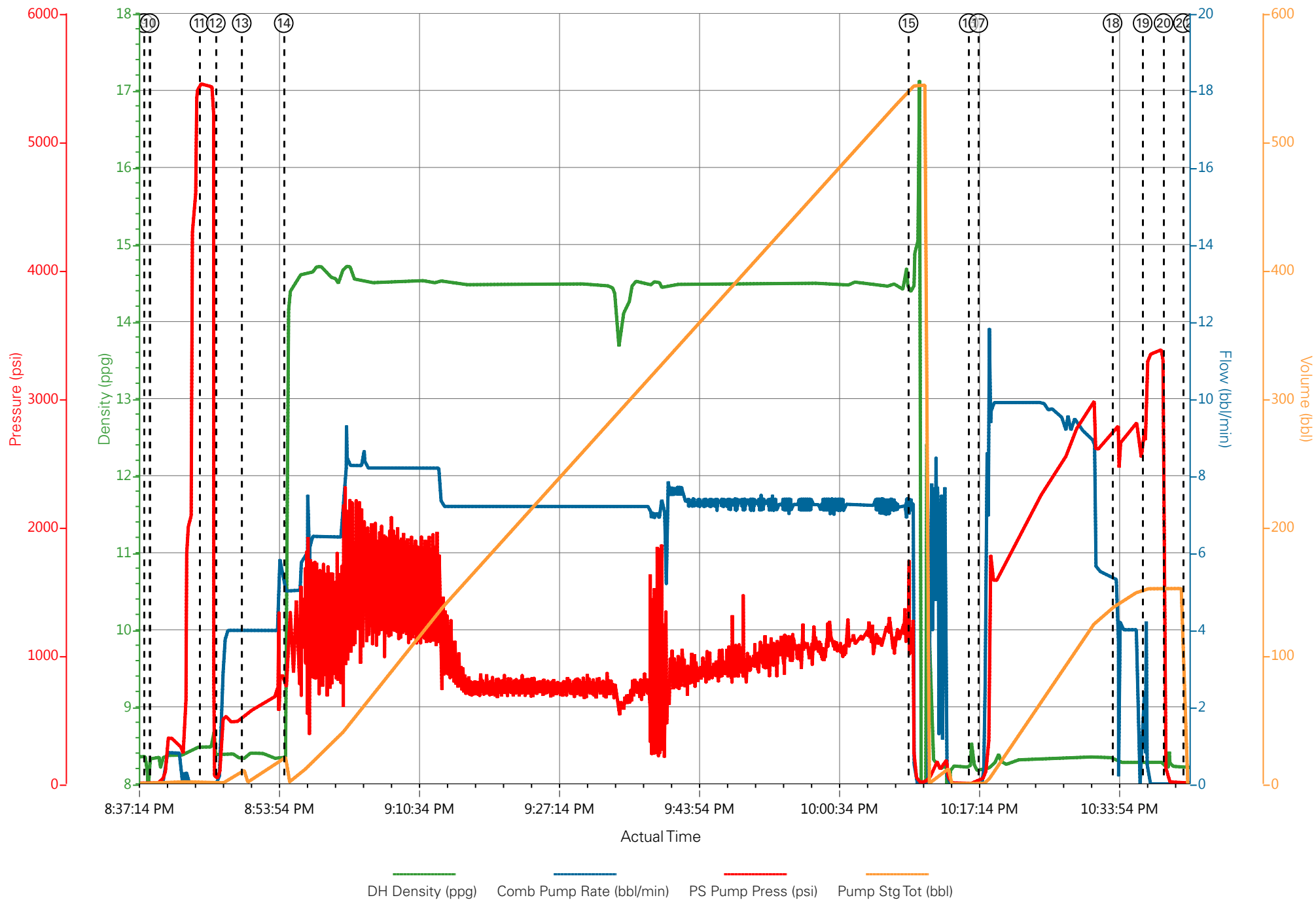
Edit

Customer: TERRA ENERGY PARTNERS-EBUS
Representative: D.BURR

Job Date: 6/23/2018
Sales Order #: 904930482

Well: PA 411-26
ELITE 4: S.LEWIS/S.BLOSSOM

TERRA PA 411-26, 4.5" PRODUCTION



Job Information

Request/Slurry	2480990/2	Rig Name	H&P 271	Date	12/JUN/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 411-26

Well Information

Casing/Liner Size	4.5 in	Depth MD	9233 ft	BHST	107°C / 224°F
Hole Size	8.75 in	Depth TVD	8451 ft	BHCT	68°C / 154°F
Pressure	5216 psi				

Drilling Fluid Information

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

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ExpandaCem				Slurry Density	14.5	lbm/gal
						Slurry Yield	1.32	ft3/sack
						Water Requirement	5.849	gal/sack
						Total Mix Fluid	5.849	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2480990/2

Thickening Time - ON-OFF-ON

19/JUN/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)
154	5216	43	1:08	3:40	3:50	3:50	29	52	15	38

total sks=1955

CS1271, Trailer 1513, 450 sks

CS1275, Trailer 8658, 450 sks

CS1276, Trailer 7428 - Front Pod, 155 sks

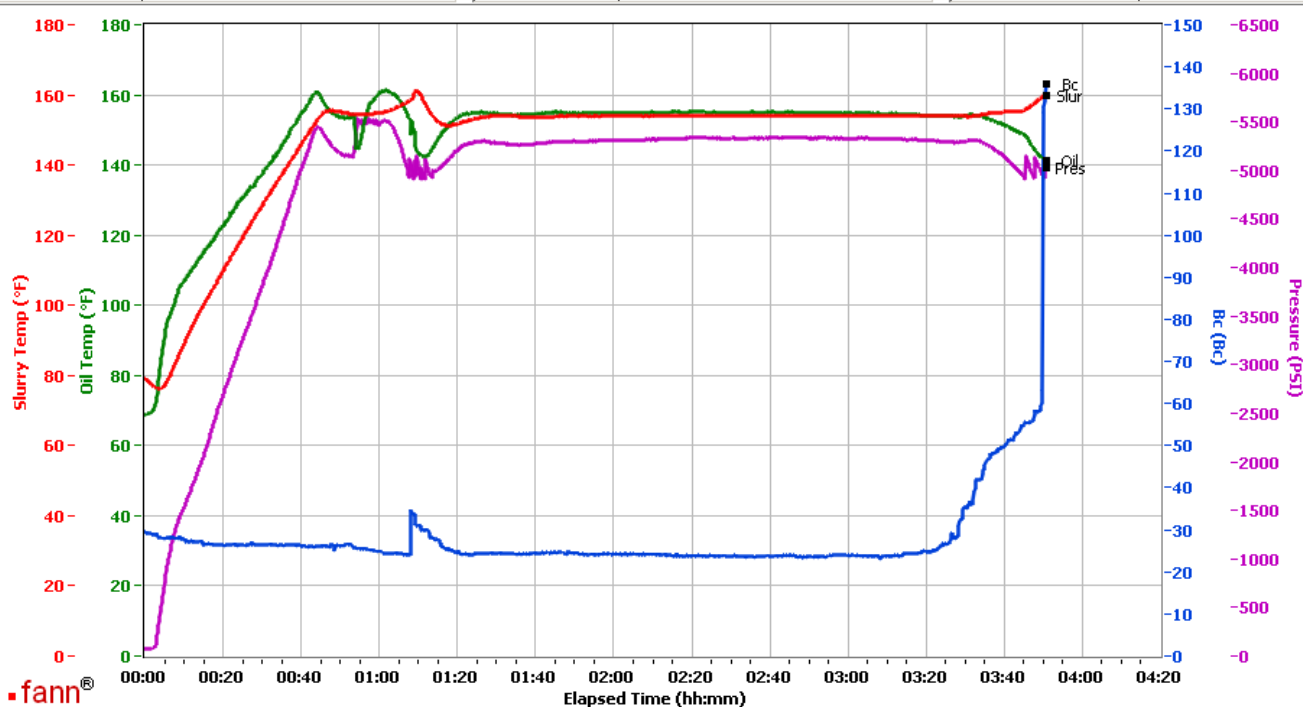
Deflection: 24 - 38 to 34 after one minute

Grand Junction Colorado

Fields	Values
Project Name	GJ2480990-2 TERRA BULK PRODUCTION PR
Test ID	35592314 - TT
Request ID	2480990-2
Tested by	CT
Customer	TERRA ENERGY PARTNERS
Well No	PA 411-26
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	06/19/18
Test Time	10:02 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	01h:08m
40.00 Bc	03h:32m
50.00 Bc	03h:40m
70.00 Bc	03h:50m
100.00 Bc	03h:50m
00h:30m	26.33
01h:00m	24.69
01h:30m	24.50



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Comments CS1271, TRAILER 1513, 450 SKS - CS1275, TRAILER 8658, 450 SKS - CS1276, TRAILER 7428, 155 SKS

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Operation Test Results Request ID 2480990/1

Thickening Time - ON-OFF-ON

19/JUN/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)
154	5216	43	3:38	3:49	3:54	3:54	20	53	15	30

total sks= 1955

CS1269 TR#8678 450 SKS

CS1270 TR#2878 450 SKS

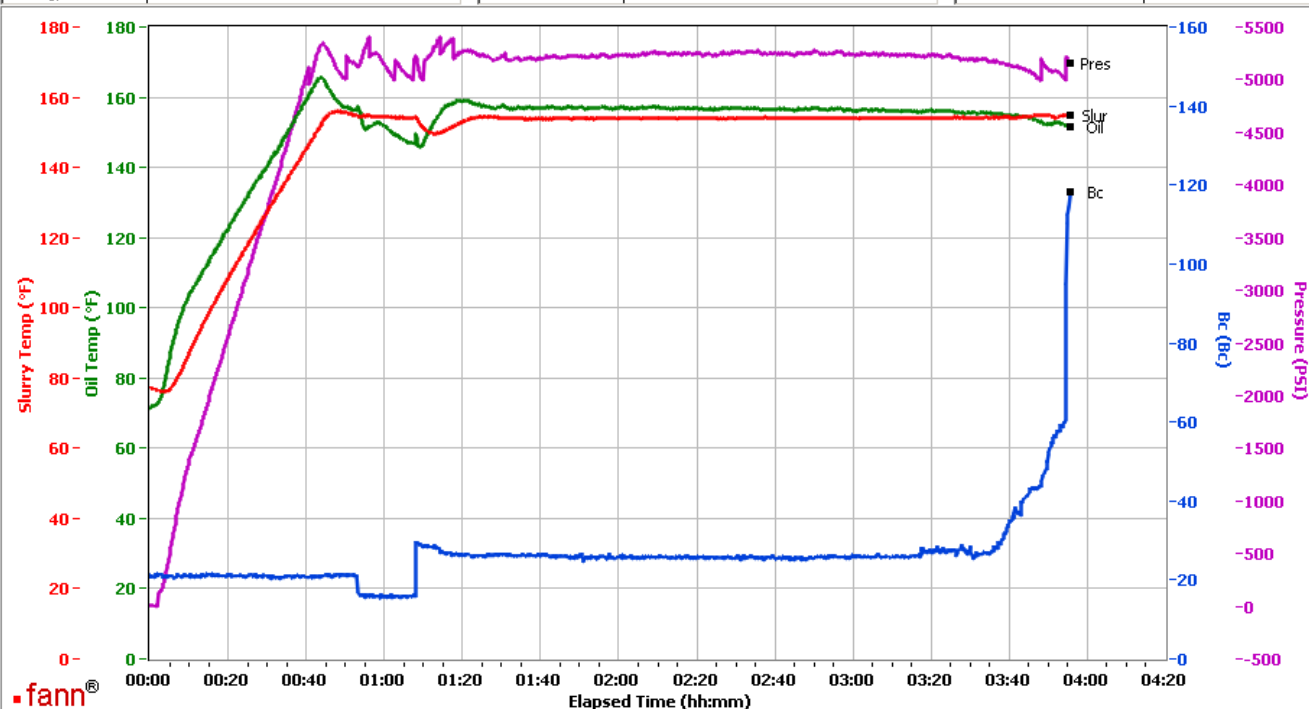
Deflected 16-- > 30

Grand Junction, Colorado

Fields	Values
Project Name	GJ2480990-1 TERRA PRODUCTION BULK PR
Test ID	35574371
Request ID	GJ2480990-1
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	PA 411-26
Rig	H&P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION LINER
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	06/19/18
Test Time	06:37 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:38m
40.00 Bc	03h:43m
50.00 Bc	03h:49m
70.00 Bc	03h:54m
100.00 Bc	03h:54m
00h:30m	20.65
01h:00m	15.70
01h:30m	26.59



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Comments CS1269 TR#8678 450 SKS AND CS1270 TR#2878 450 SKS

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