

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

For: Terra

Date: Wednesday, August 15, 2018

PA 534-26 Production PJR

API# 05-045-23714-00

Sincerely,

Grand Junction Cement Engineering

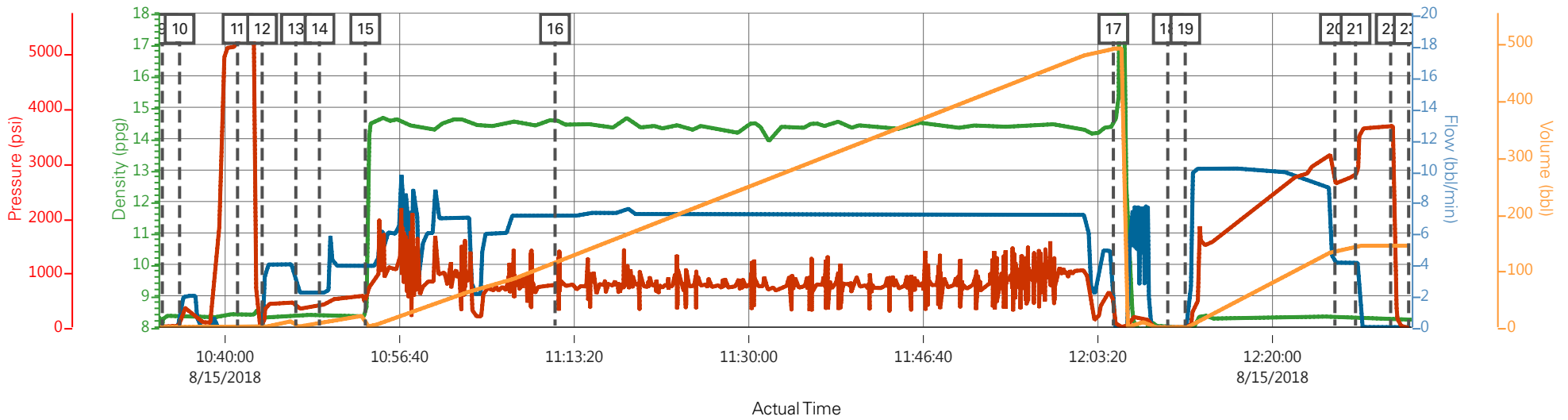
2.0 Real-Time Job Summary

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	8/15/2018	02:00:00	USER					Requested on Location @ 7:00
Event	2	Pre-Convoy Safety Meeting	8/15/2018	04:30:00	USER					All HES Present
Event	3	Crew Leave Yard	8/15/2018	04:45:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive at Location from Service Center	8/15/2018	06:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	8/15/2018	06:10:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 75 degrees
Event	6	Pre-Rig Up Safety Meeting	8/15/2018	06:30:00	USER					1 hardline to standpipe, water hoses to upright, bulk hose to 660 and silos
Event	7	Other	8/15/2018	09:05:00	USER					Rig Circulated 1 1/2 hours prior to cement job at 485 gpm 1400 psi
Event	8	Pre-Job Safety Meeting	8/15/2018	09:05:20	USER					All HES personnel, rig crew, and company rep
Event	9	Start Job	8/15/2018	10:34:00	USER	8.33	0.00	2.00	0.00	TD 8768', TP 8761.23', SJ 28.91', FC 8732.32', OH 8 3/4", Csg 4.5", 11.6 lb/ft, Mud 10.8 ppg, SCSG-9.625" 36lb/ft Shoe @ 1130'. Pipe reciprocated through job.
Event	10	Fill Lines	8/15/2018	10:35:39	USER	8.33	2.00	405.00	3.00	Fresh Water
Event	11	Test Lines	8/15/2018	10:41:11	USER	8.41	0.00	5260.00	3.10	Held pressure 2 minutes no leaks
Event	12	Pump Water	8/15/2018	10:43:32	COM5	8.33	4.00	400.00	10.00	Fresh water

Event	13	Pump Mud Flush	8/15/2018	10:46:45	USER	8.33	4.00	500.00	20.00	Mud Flush
Event	14	Check Weight	8/15/2018	10:49:00	USER					Density Verified via Mud Scales
Event	15	Pump Tail Cement	8/15/2018	10:53:23	USER	14.50	7.30	1090.00	440.8	1875 Sks 14.5 ppg 1.32 yield, 5.85 gal/sk
Event	16	Check Weight	8/15/2018	11:11:30	COM5					Density Verified via Mud Scales
Event	17	Shutdown	8/15/2018	12:04:48	USER	14.50	0.00	213.00	440.80	Clean lines to pit
Event	18	Drop Top Plug	8/15/2018	12:10:00	USER					Plug away
Event	19	Pump Displacement	8/15/2018	12:11:40	USER	8.40	10.00	3140.00	135.40	3 lbs BE-6, 1 gal MMCR, 2% KCl
Event	20	Slow Rate	8/15/2018	12:25:58	USER	8.39	4.10	2603.00	125.40	Slow Rate 10 bbls to calculated displacement
Event	21	Bump Plug	8/15/2018	12:27:56	USER	8.38	4.10	2809.00	135.40	Plug Bumped at 2809 psi, Brought up to 3668 psi
Event	22	Check Floats	8/15/2018	12:31:17	USER	8.31	0.00	3668.00	135.40	Floats held – 2 bbl back to the truck
Event	23	End Job	8/15/2018	12:33:00	USER					Good returns throughout job.
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	8/15/2018	12:35:00	USER					All HES Present
Event	25	Pre-Convoy Safety Meeting	8/15/2018	13:15:00	USER					All HES Present
Event	26	Crew Leave Location	8/15/2018	13:30:00	USER					Thanks For Using Halliburton Cement. Andrew Brennecke And Crew.

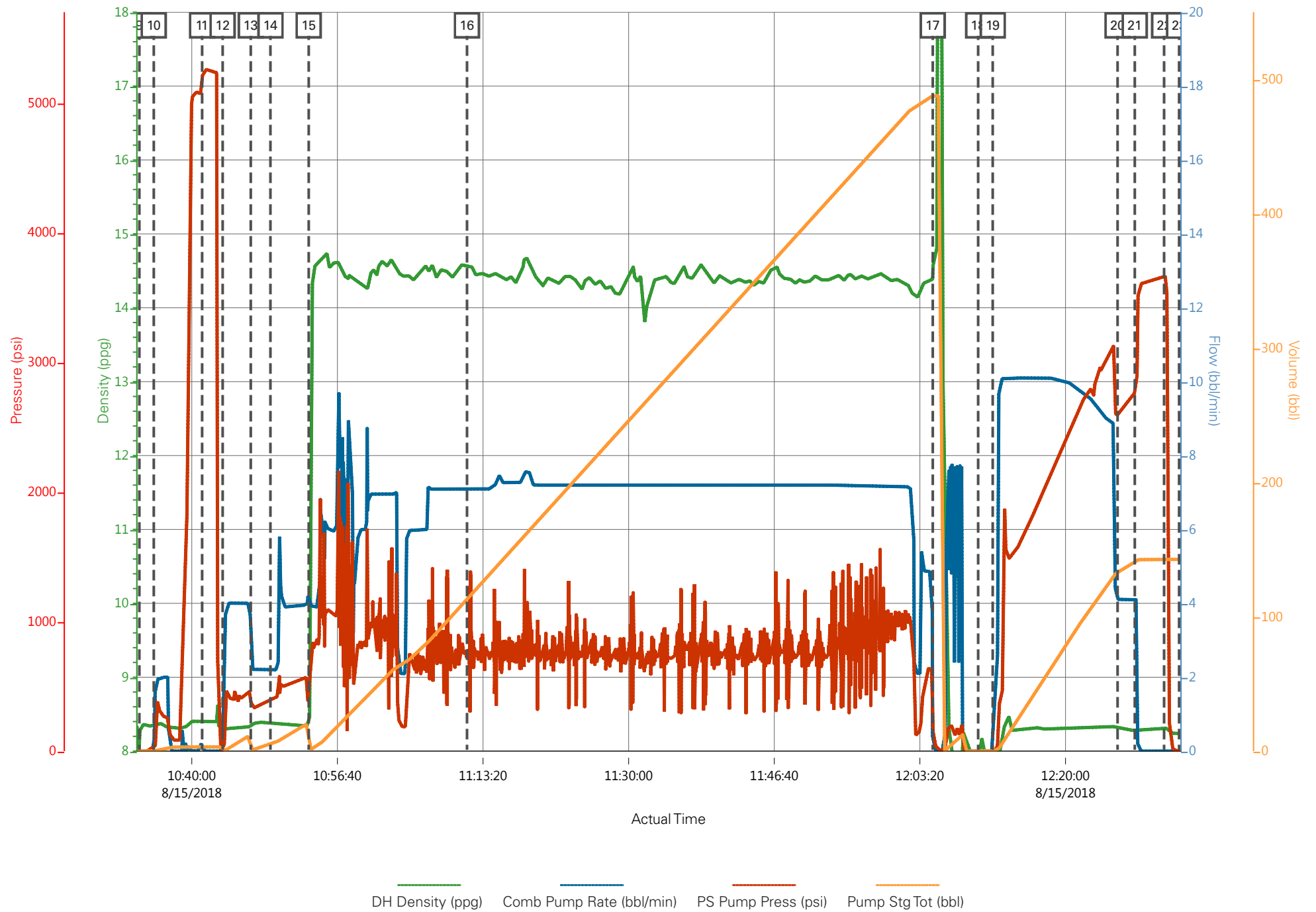
TEP - FEDERAL PA 534-26 - 4.5" PRODUCTION



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

Description	Actual Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	
9 Start Job	10:34:00	8.11	0.00	-2.00	0.00	
10 Fill Lines	10:35:39	8.33	0.00	25.00	0.00	
11 Test Lines	10:41:11	8.41	0.00	5195.00	3.10	
12 Pump Water	10:43:32	8.30	0.00	12.00	0.00	
13 Pump Mud Flush	10:46:45	8.33	2.90	423.00	0.40	
14 Check Weight	10:49:00	8.36	2.20	401.00	5.40	
15 Pump Tail Cement	10:53:23	8.34	3.90	535.00	0.20	
16 Check Weight	11:11:30	14.56	7.10	782.00	112.60	
17 Shutdown	12:04:48	14.37	0.00	213.00	487.90	
18 Drop Top Plug	12:10:00	7.99	0.00	-5.00	0.00	
19 Pump Displacement	12:11:40	-0.44	0.00	-10.00	0.00	
20 Slow Rate	12:25:58	8.31	4.10	2603.00	133.20	
21 Bump Plug	12:27:56	8.28	4.10	2769.00	141.40	
22 Check Floats	12:31:17	8.31	0.00	3661.00	142.70	
23 End Job	12:33:00	8.24	0.00	-9.00	142.70	

TEP - FEDERAL PA 534-26 - 4.5" PRODUCTION



Job Information

Request/Slurry	2493474/1	Rig Name	H&P 271	Date	08/AUG/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 534-26

Well Information

Casing/Liner Size	4.5 in	Depth MD	8776 ft	BHST	104°C / 220°F
Hole Size	8.75 in	Depth TVD	8231 ft	BHCT	66°C / 150°F
Pressure	5062 psi				

Drilling Fluid Information

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

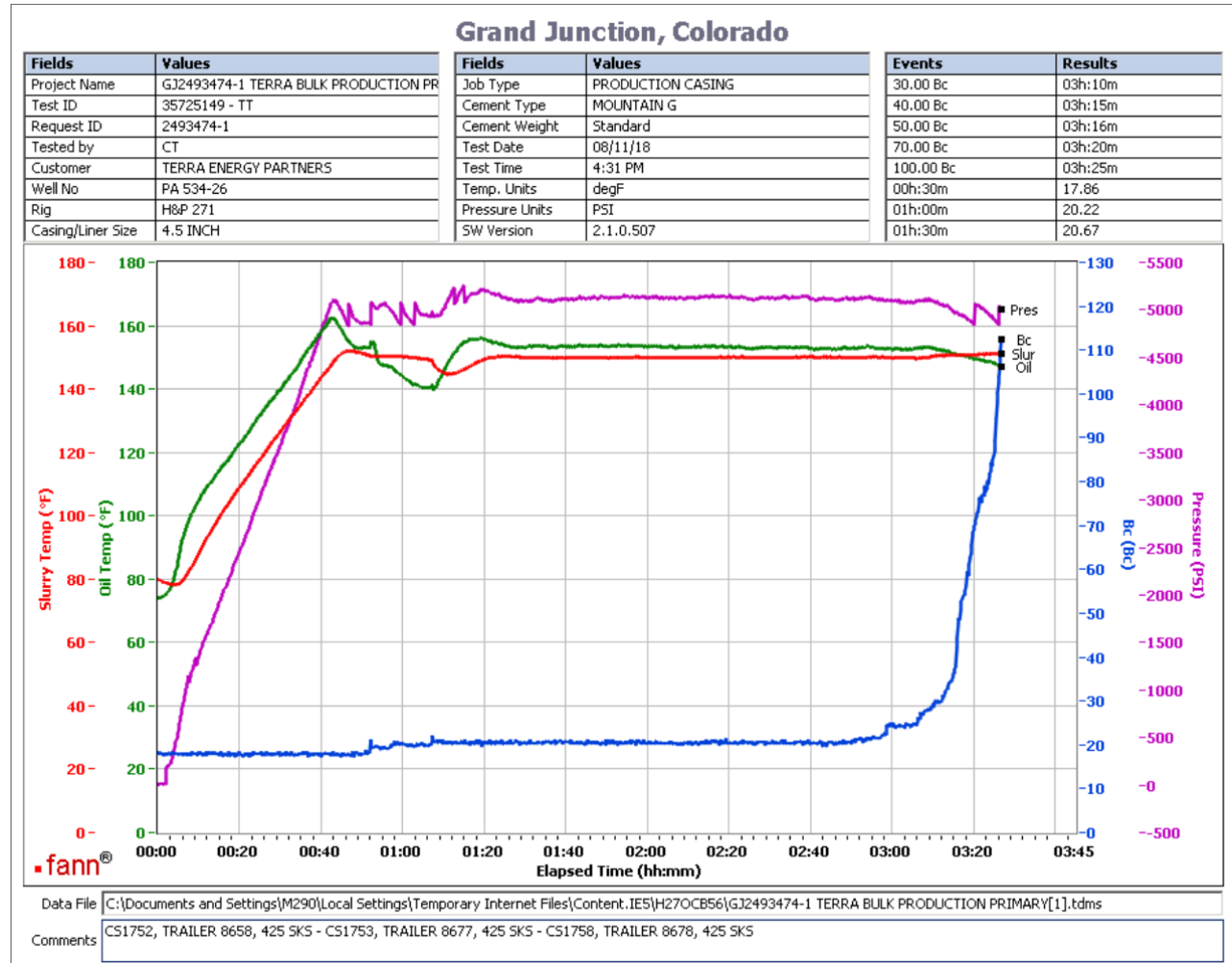
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		Expandacem Primary				Slurry Density	14.5	lbm/gal
						Slurry Yield	1.32	ft3/sack
						Water Requirement	5.849	gal/sack
						Total Mix Fluid	5.849	gal/sack
						Water Source	Fresh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

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Thickening Time - ON-OFF-ON

12/AUG/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)
150	5062	42	3:10	3:16	3:20	3:25	18	52	15	21



total sks=1875

CS1752, Trailer 8658, 425 sks

CS1753, Trailer 8677, 425 sks

CS1758, Trailer 8678, 425 sks

no deflection was observed 21Bc--- > 21Bc

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Operation Test Results Request ID 2493474/2

Thickening Time - ON-OFF-ON

12/AUG/2018

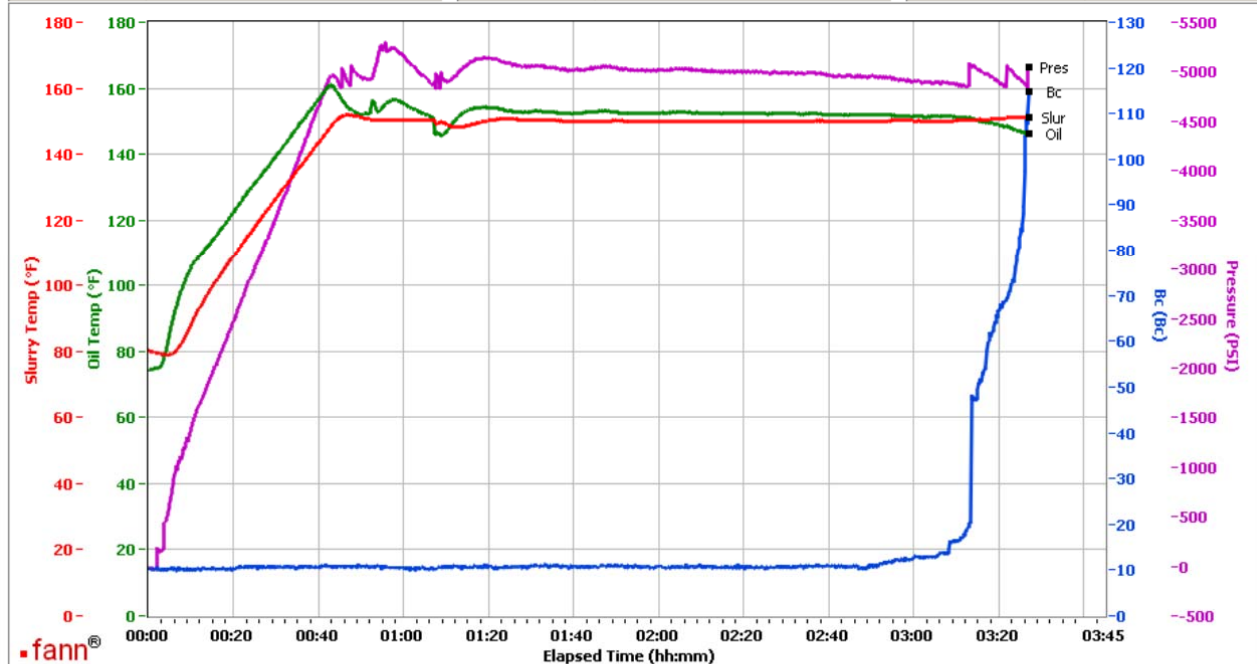
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
150	5062	42	3:13	3:15	3:22	3:26	10	52	15	10

Grand Junction Colorado

Fields	Values
Project Name	GJ2493474-2 TERRA BULK PRODUCTION PR
Test ID	35732753 - TT
Request ID	2493474-2
Tested by	CT
Customer	TERRA ENERGY PARTNERS
Well No	PA 534-26
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	08/11/18
Test Time	5:56 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:13m
40.00 Bc	03h:13m
50.00 Bc	03h:15m
70.00 Bc	03h:22m
100.00 Bc	03h:26m
00h:30m	10.61
01h:00m	10.55
01h:30m	10.97



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\0HU90BIZ\GJ2493474-2 TERRA BULK PRODUCTION PRIMARY[1].tdms

Comments CS1760, TRAILER 2878, 425 SKS - CS1761, TRAILER 7428, 175 SKS

total sks=1875

CS1760, Trailer 2878, 425 sks

CS1761, Trailer 7428, 175 sks

no deflection was recorded on the graph 10Bc--- > 10Bc

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