

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Monday, June 18, 2018

PA 533-26 Production PJR

Job Date: Monday, June 18, 2018

API #: 05-045-23706

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

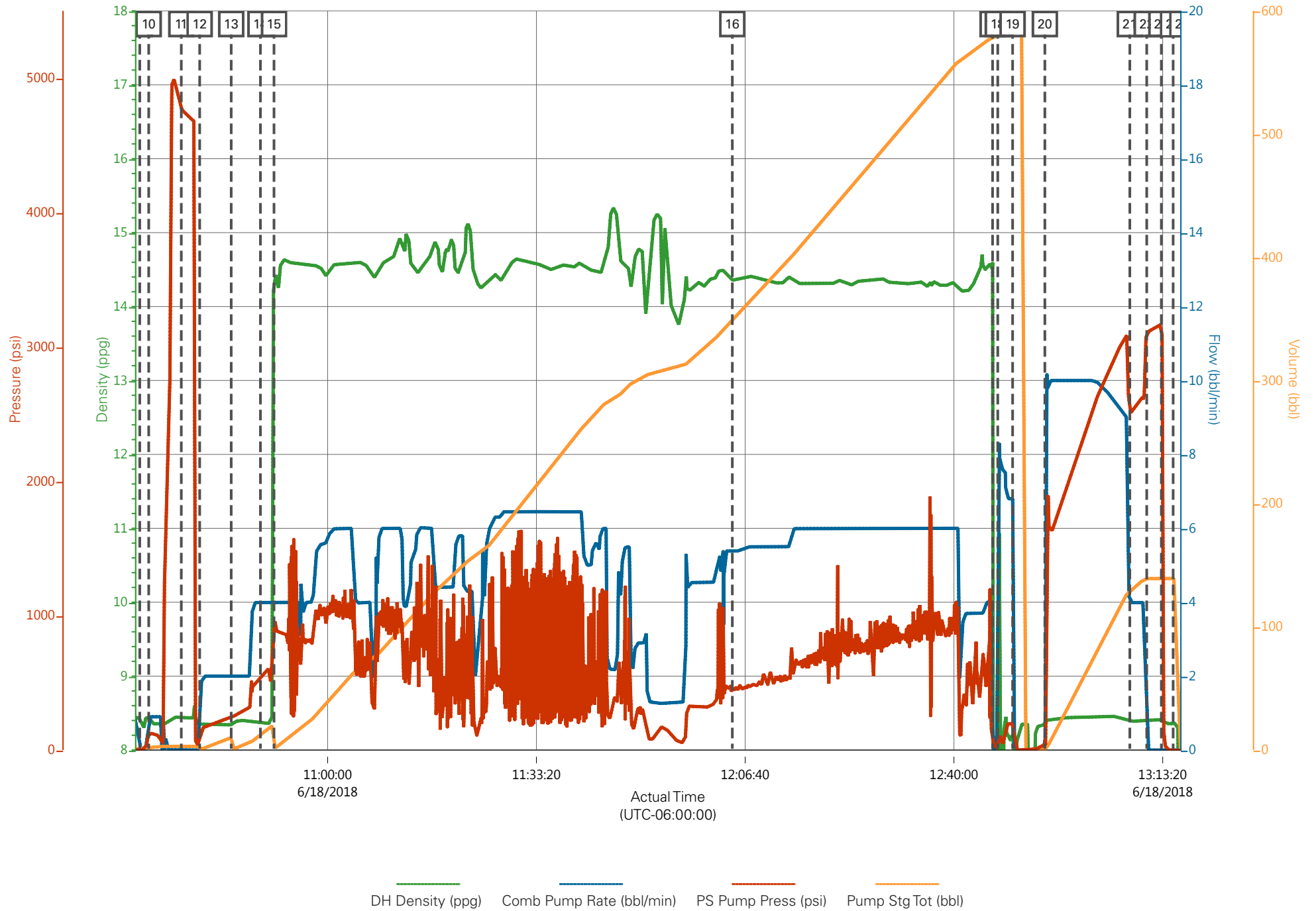
1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	6/18/2018	01:15:00	USER					REQUESTED ON LOCATION @ 0400
Event	2	Pre-Convoy Safety Meeting	6/18/2018	03:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	6/18/2018	03:05:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive at Location from Service Center	6/18/2018	04:20:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	6/18/2018	04:30:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 71F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	6/18/2018	07:00:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	6/18/2018	08:00:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	6/18/2018	09:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	6/18/2018	10:30:00	COM3					TD 8475', TP 8469.7', SJ 38.6', OH 8.75", CSG 4.5" 11.6#, MUD 12.5 PPG. RIG CIRCULATED AT 450 GPM WITH 500 PSI.

Event	10	Prime Pumps	6/18/2018	10:31:26	USER	149.00	8.33	1.00	2.00	8.33 PPG FRESH WATER
Event	11	Test Lines	6/18/2018	10:36:38	COM3	4767.00	8.33	0.50	0.50	ALL LINES HELD PRESSURE AT 4767 PSI
Event	12	Pump Spacer 1	6/18/2018	10:39:34	COM3	122.00	8.33	2.00	10.00	8.33 PPG FRESH WATER (10 BBL)
Event	13	Pump Spacer 2	6/18/2018	10:44:36	COM3	585.00	8.33	4.00	20.00	8.4 PPG MUDFLUSH III (20 BBL)
Event	14	Check Weight	6/18/2018	10:49:16	COM3					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	15	Pump Cement	6/18/2018	10:51:26	COM3	845.00	14.50	6.00	471.00	EXPANDACEM CEMENT 2002 SKS (471 BBLS), 14.5 PPG, 1.32 FT3/SK, 5.85 GAL/SK
Event	16	Check Weight	6/18/2018	12:04:37	COM3					
Event	17	Shutdown	6/18/2018	12:46:10	USER					END OF CMT
Event	18	Clean Lines	6/18/2018	12:47:00	USER					WASH UP PUMPS AND LINES
Event	19	Drop Top Plug	6/18/2018	12:49:22	USER					PLUG WENT, VERIFIED BY CO REP
Event	20	Pump Displacement	6/18/2018	12:54:31	COM3	3050.50	8.33	10.00	121.50	8.34 PPG FRESH WATER (132.5 BBLS) 3 BAGS BE6, 1 GAL MMCR & 13 SKS KCL
Event	21	Slow Rate	6/18/2018	13:08:05	USER	2507.00	8.33	4.00	10.00	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	22	Bump Plug	6/18/2018	13:10:47	USER	2600.00	8.33	4.00	131.50	LAND PLUG AT 1980 PSI, BROUGHT UP TO 3201 PSI FOR A 10 MIN CSG TEST.
Event	23	Check Floats	6/18/2018	13:13:07	USER	3170.00	8.33	0.00	131.50	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	24	End Job	6/18/2018	13:15:00	COM3					FULL RETURNS THROUGHOUT, PIPE WAS NOT RECIPROCATED

Event	25	Post-Job Safety Meeting (Pre Rig-Down)	6/18/2018	13:16:29	USER	ALL HES PRESENT
Event	26	Rig-Down Completed	6/18/2018	14:15:00	USER	ALL HES PRESENT
Event	27	Pre-Convoy Safety Meeting	6/18/2018	14:25:00	USER	ALL HES PRESENT
Event	28	Crew Leave Location	6/18/2018	14:30:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

TEP - PA 533-26 - 4.5" PRODUCTION



Job Information

Request/Slurry	2479886/1	Rig Name	H&P 271	Date	07/JUN/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 533-26

Well Information

Casing/Liner Size	4.5 in	Depth MD	8512 ft	BHST	105°C / 221°F
Hole Size	8.75 in	Depth TVD	8321 ft	BHCT	66°C / 151°F
Pressure	5125 psi				

Drilling Fluid Information

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



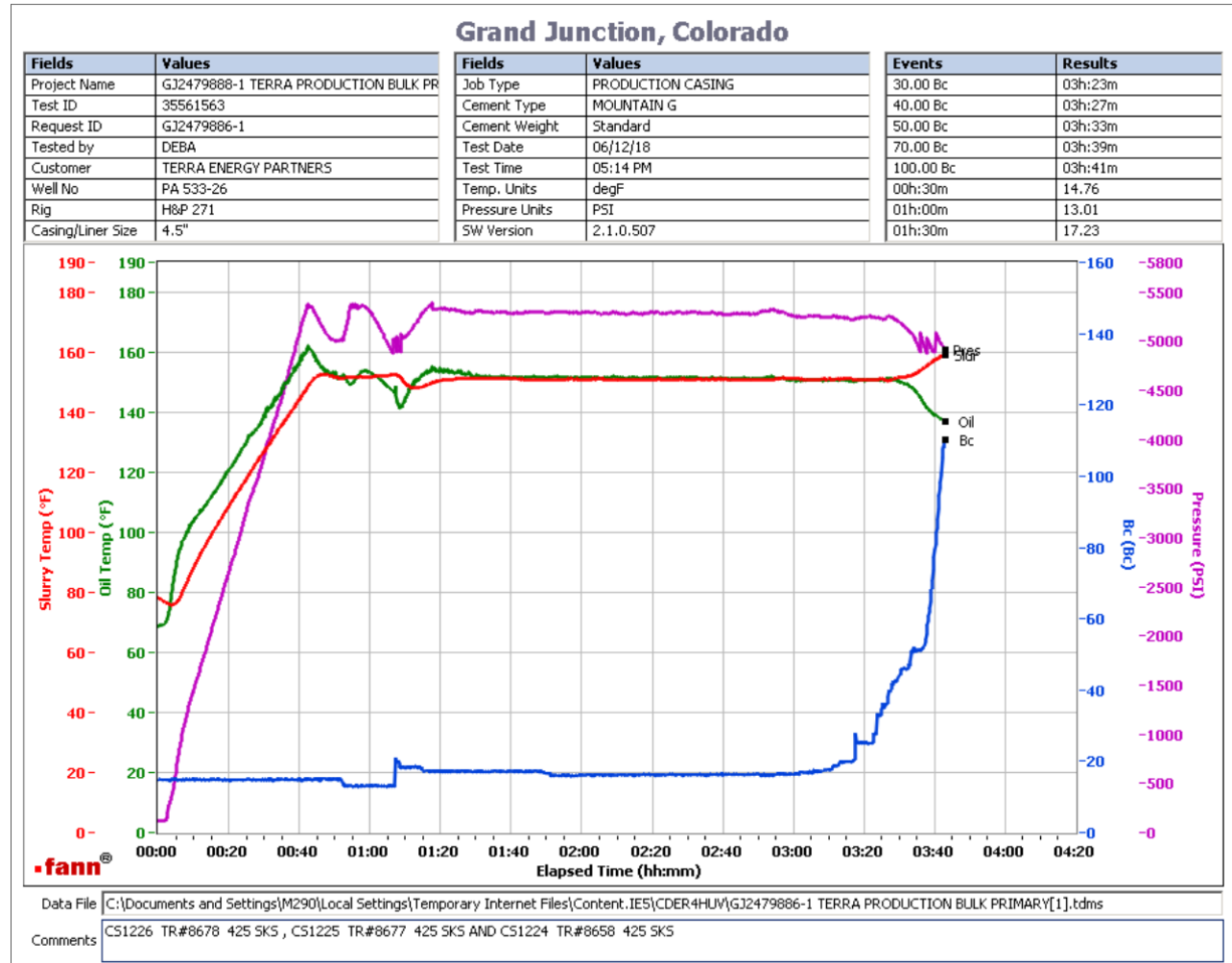
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		VariCem Primary				Slurry Density	14.5	lbm/gal
						Slurry Yield	1.32	ft3/sack
						Water Requirement	5.849	gal/sack
						Total Mix Fluid	5.849	gal/sack
						Water Source	Fresh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

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Thickening Time - ON-OFF-ON

13/JUN/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)
151	5125	42	3:23	3:33	3:39	3:41	14	52	10	29



total sks= 1840

CS1224 TR#8658 425 SKS

CS1225 TR#8677 425 SKS

CS1226 TR#8678 425 SKS

Deflection: 13 - 29 to 20 after one minute

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Operation Test Results Request ID 2479886/2

Thickening Time - ON-OFF-ON

13/JUN/2018

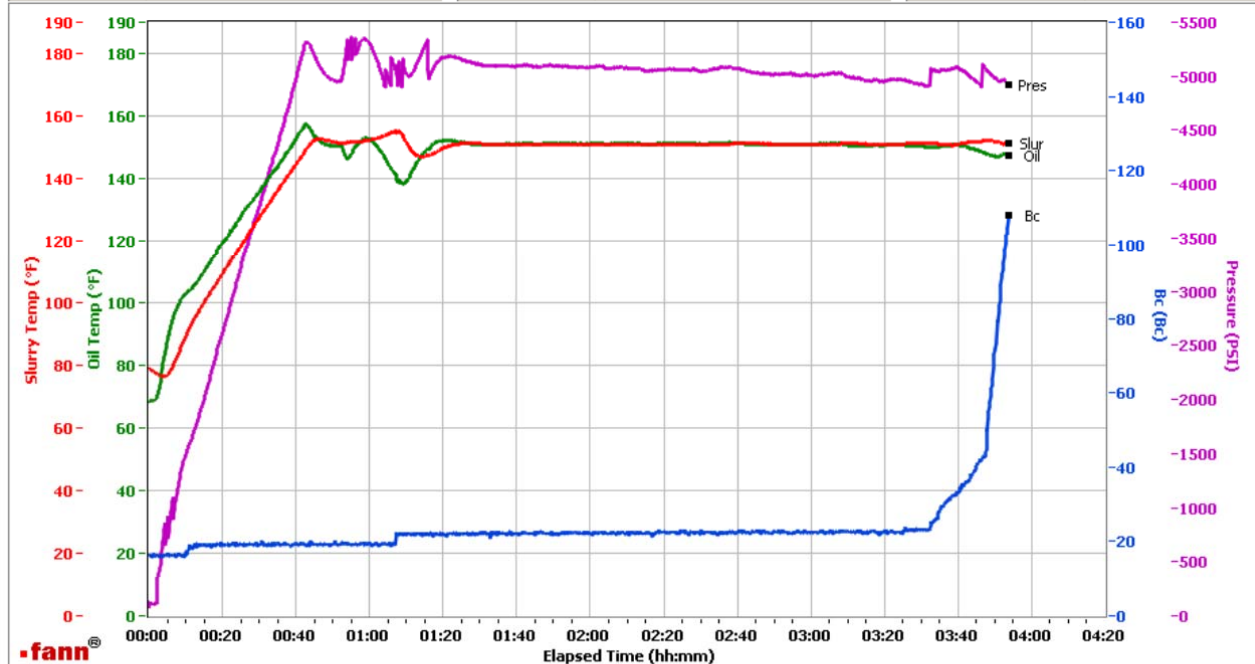
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
151	5125	42	3:36	3:47	3:49	3:52	16	52	15	22

Grand Junction Colorado

Fields	Values
Project Name	GJ2479886-2 TERRA PRODUCTION BULK PR
Test ID	35574374
Request ID	GJ2479886-2
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	PA 533-26
Rig	H&P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	07/20/11
Test Time	03:54 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.1219

Events	Results
30.00 Bc	03h:36m
40.00 Bc	03h:45m
50.00 Bc	03h:47m
70.00 Bc	03h:49m
100.00 Bc	03h:52m
00h:30m	19.30
01h:00m	19.37
01h:30m	22.41



Data File C:\Documents and Settings\HPHT\Local Settings\Temporary Internet Files\Content.IE5\09ERK9UN\GJ2479886-2 TERRA PRODUCTION BULK PRIMARY[1].tdms

Comments CS1227 TR#2878 425 SKS

total sks=1840
CS1227 TR#2878 425 SKS
Deflection: 17 – 22

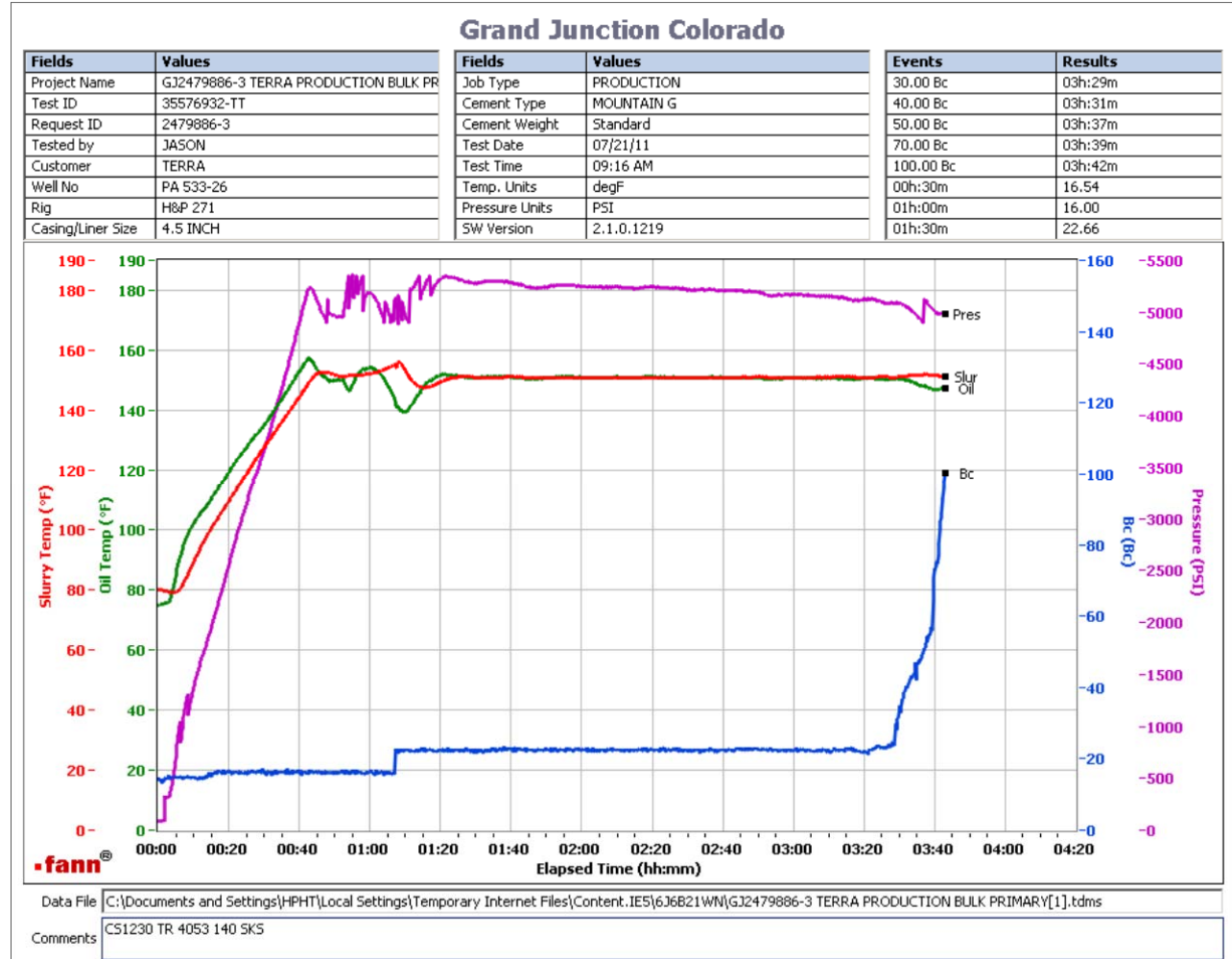
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Operation Test Results Request ID 2479886/3

Thickening Time - ON-OFF-ON

13/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)
151	5125	42	3:29	3:37	3:39	3:42	14	52	15	22



total sks=1840
CS1230 TR 4053 140 SKS
Deflection: 16 – 22

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Operation Test Results Request ID 2479886/4

Thickening Time - ON-OFF-ON

17/JUN/2018

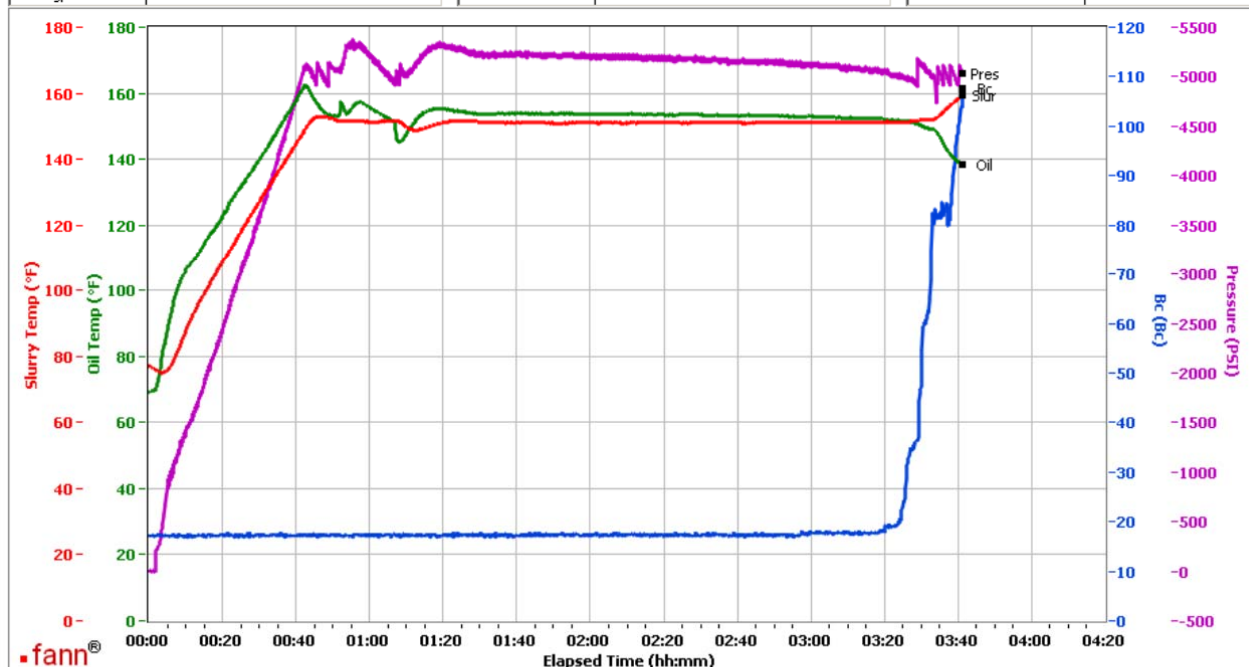
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
151	5125	42	3:26	3:30	3:32	3:40	17	52	15	17

Grand Junction Colorado

Fields	Values
Project Name	GJ2479886-4 TERRA BULK PRODUCTION PR
Test ID	35584810 - TT
Request ID	2479886-4
Tested by	CT
Customer	TERRA ENERGY PARTNERS
Well No	PA 533-26
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	06/16/18
Test Time	2:54 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:26m
40.00 Bc	03h:29m
50.00 Bc	03h:30m
70.00 Bc	03h:32m
100.00 Bc	03h:40m
00h:30m	17.13
01h:00m	17.03
01h:30m	17.80



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\4TJ389YN\GJ2479886-4 TERRA BULK PRODUCTION PRIMARY[1].tdms

Comments CS1254, TRAILER 4053 - REAR POD, 162 SKS

Add-on

CS1254, Trailer 4053 - Rear Pod, 162 sks

no deflection was recorded on the graph, 17Bc--> 17Bc

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