

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Thursday, July 27, 2017

GM 11-10 Production

API# 05-045-22694

Sincerely,

Grand Junction Cement Engineering

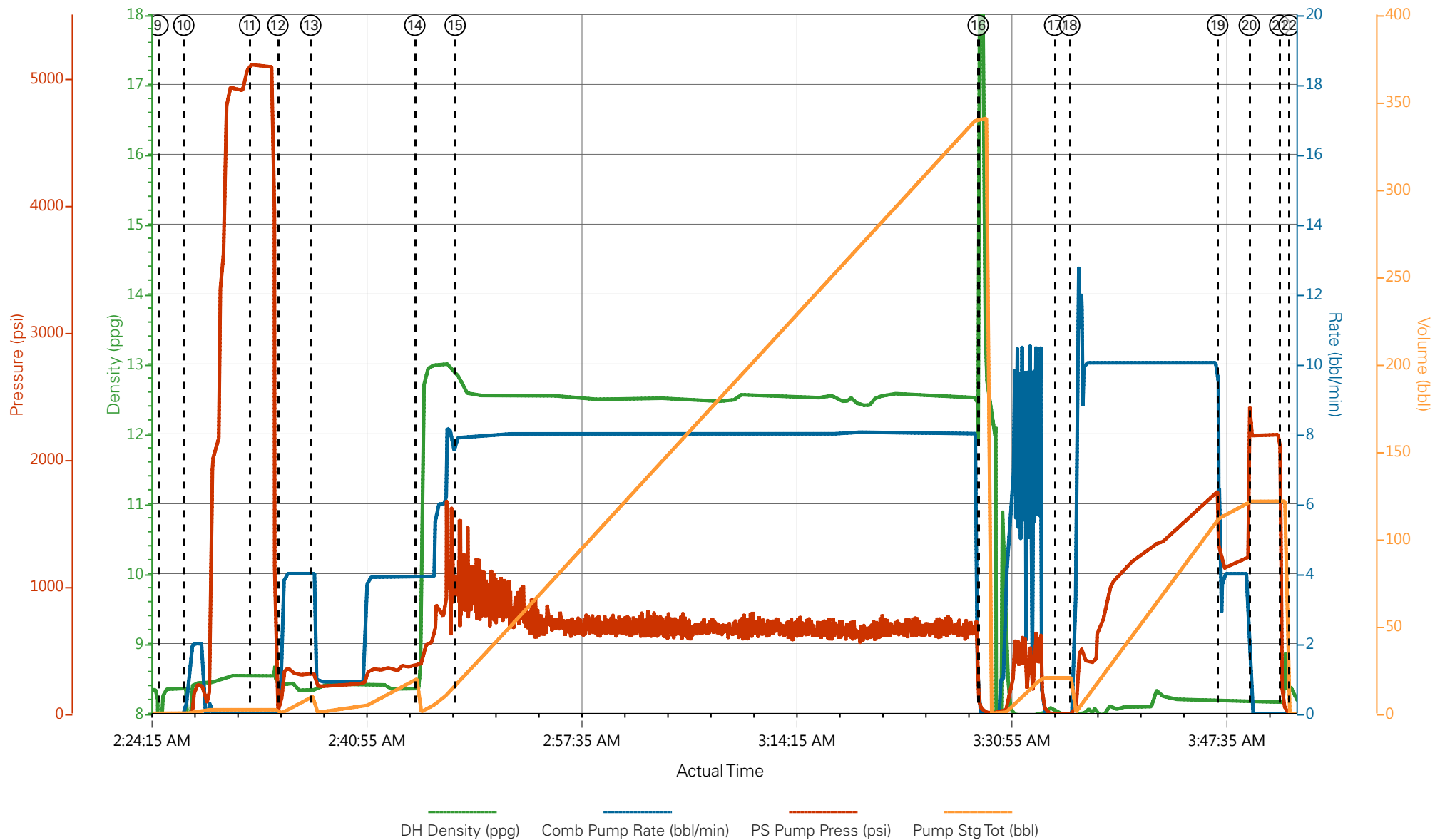
1.0 Real-Time Job Summary

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	7/26/2017	16:00:00	USER					O/L time 2330
Event	2	Pre-Convoy Safety Meeting	7/26/2017	18:15:00	USER					
Event	3	Crew Leave Yard	7/26/2017	18:30:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	7/26/2017	20:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	7/26/2017	20:15:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 64 degrees
Event	6	Pre-Rig Up Safety Meeting	7/26/2017	21:45:00	USER					
Event	7	Rig-Up Equipment	7/26/2017	22:00:00	USER					Manifold on ground, hard line to standpipe, hard line to pit, water hoses to upright and water truck, bulk hoses to silo and 660
Event	8	Pre-Job Safety Meeting	7/27/2017	02:15:00	USER					All HES personnel, rig crew, and company rep - Rig circulating @ 9 bpm w/ 378 psi for about 2 hours - 2 bottoms-up
Event	9	Start Job	7/27/2017	02:25:00	USER					TD 7541', TP 7531', SJ 30.5', Mud 9.6 ppg, 8 3/4" OH, Surface casing @ 1116', 4 1/2" 11.6# P110 casing
Event	10	Prime Lines	7/27/2017	02:26:59	USER	8.33	2.0	247	2.0	Fresh water
Event	11	Test Lines	7/27/2017	02:32:06	COM5			5125		Pressure held well
Event	12	Pump H2O Spacer	7/27/2017	02:34:17	COM5	8.33	4.0	310	10.0	Fresh water - returns established
Event	13	Pump Mud Flush	7/27/2017	02:36:50	COM5	8.33	4.0	370	20.0	80 lbs Mud Flush III
Event	14	Pump Primary Cement	7/27/2017	02:44:54	COM5	12.5	8.0	760	312.4	895 sks, 12.5 ppg, 1.96 yield, 9.38 gal/sk – 1 box Tuf Fiber added on fly
Event	15	Check weight	7/27/2017	02:48:02	COM5	12.5				Recirc matched mud scales
Event	16	Shutdown	7/27/2017	03:28:34	USER					Wash and blow lines to pit

Event	17	Drop Top Plug	7/27/2017	03:34:30	USER					Plug launched - verified by company rep
Event	18	Pump Displacement	7/27/2017	03:35:40	COM5	8.4	10.0	1840	116.3	1 gal MMCR, 3 lbs BE-6, 2% KCl
Event	19	Slow Rate	7/27/2017	03:47:08	USER	8.4	4.0	1195	@ 106	Good returns throughout job
Event	20	Bump Plug	7/27/2017	03:49:36	COM5			1347		Pipe reciprocated throughout job
Event	21	Check Floats	7/27/2017	03:51:57	USER			2195		Floats held – 1 bbl flowback
Event	22	End Job	7/27/2017	03:52:40	USER					No derrick charge, no add hours, no sugar
Event	23	Pre-Rig Down Safety Meeting	7/27/2017	04:00:00	USER	11.97	3.00	18.30	3.1	
Event	24	Rig-Down Equipment	7/27/2017	04:15:00	USER					
Event	25	Pre-Convoy Safety Meeting	7/27/2017	04:45:00	USER					
Event	26	Crew Leave Location	7/27/2017	05:00:00	USER					Thank you for using Halliburton - Ed Deussen and crew

TERRA ENERGY - GM 11-10 - 4 1/2" Production



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|---|-----------------------------|-----------------------|---------------------|--------------------------------|------------------------|
| ① Call Out | ⑥ Pre-Rig Up Safety Meeting | ⑪ Test Lines | ⑯ Shutdown | 21 Check Floats | 26 Crew Leave Location |
| ② Pre-Convoy Safety Meeting | ⑦ Rig-Up Equipment | ⑫ Pump H2O Spacer | ⑰ DropTop Plug | 22 End Job | |
| ③ Crew Leave Yard | ⑧ Pre-Job Safety Meeting | ⑬ Pump Mud Flush | ⑱ Pump Displacement | 23 Pre-Rig Down Safety Meeting | |
| ④ Arrive At Location | ⑨ Start Job | ⑭ Pump Primary Cement | 20 Bump Plug | 24 Rig-Down Equipment | |
| ⑤ Assessment Of Location Safety Meeting | ⑩ Prime Lines | ⑮ Check weight | | 25 Pre-Convoy Safety Meeting | |

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Created: 2017-07-26 18:46:25, Version: 4.2.393

Edit

Customer : TERRA ENERGY PARTNERS

Job Date : 7/27/2017 12:02:54 AM

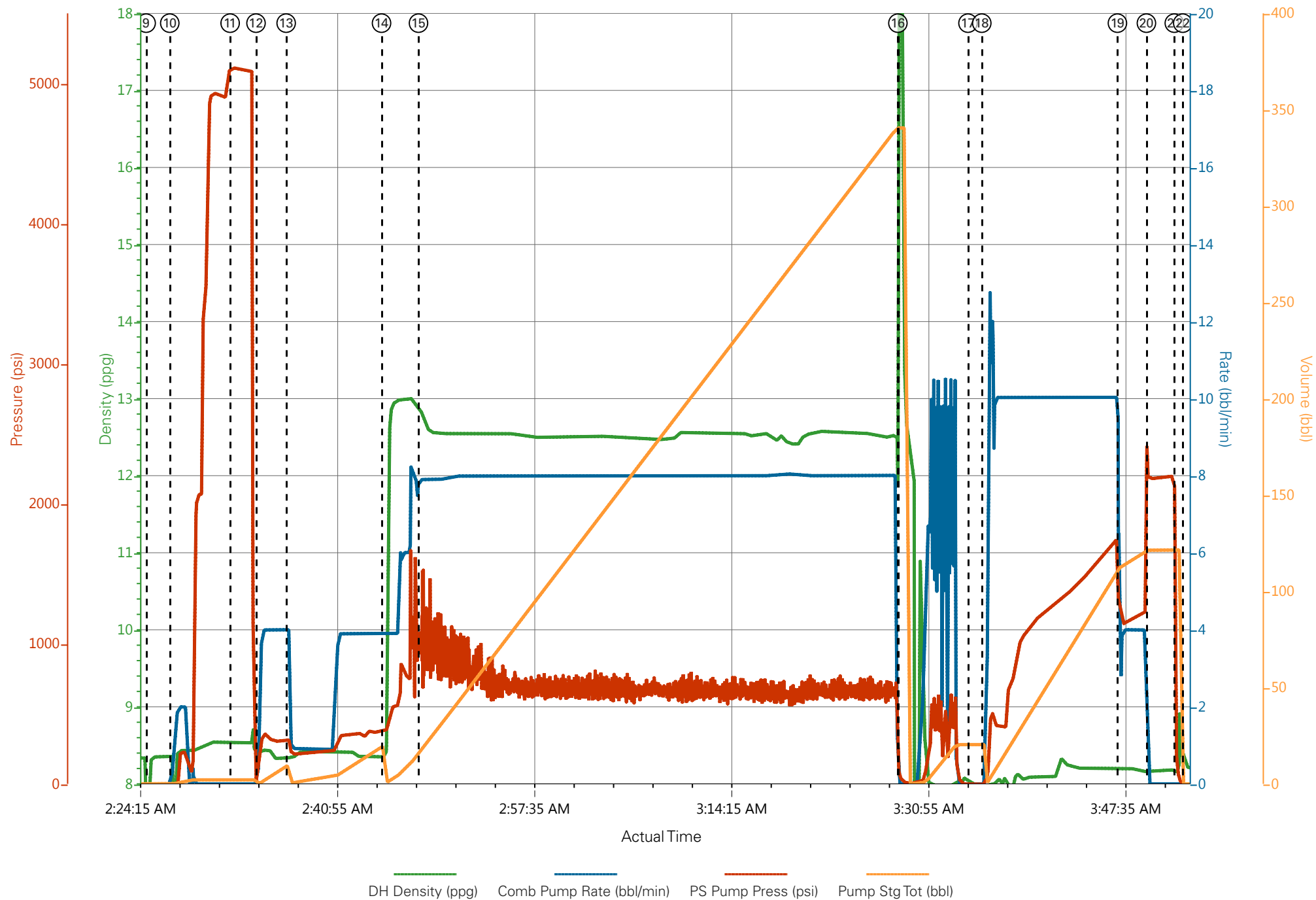
Well : GM 11-10

Representative : Curt Patterson

Sales Order # : 904188036

Elite #4 : Ed Deussen / Dillon Martin

TERRA ENERGY - GM 11-10 - 4 1/2" Production



Job Information

Request/Slurry	2404827/1	Rig Name	H&P 273	Date	22/JUL/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 11-10

Well Information

Casing/Liner Size	4.5 in	Depth MD	7557 ft	BHST	92°C / 197°F
Hole Size	8.75 in	Depth TVD	6862 ft	BHCT	55°C / 131°F
Pressure	4100 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.2 lbm/gal
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Cement Information - Primary Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.962	ft3/sack
						Water Requirement	9.434	gal/sack
						Total Mix Fluid	9.434	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2404827/1

Thickening Time - ON-OFF-ON

25/JUL/2017

Test Temp (°F)	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)
131	4100	36	3:21	3:54	3:59	4:06	9	46	15	9

Total sks = 895 No Deflection was recorded on the graph

Composite:

CS1929 TR 8658 370 SKS

CS1930 TR 8678 370 SKS

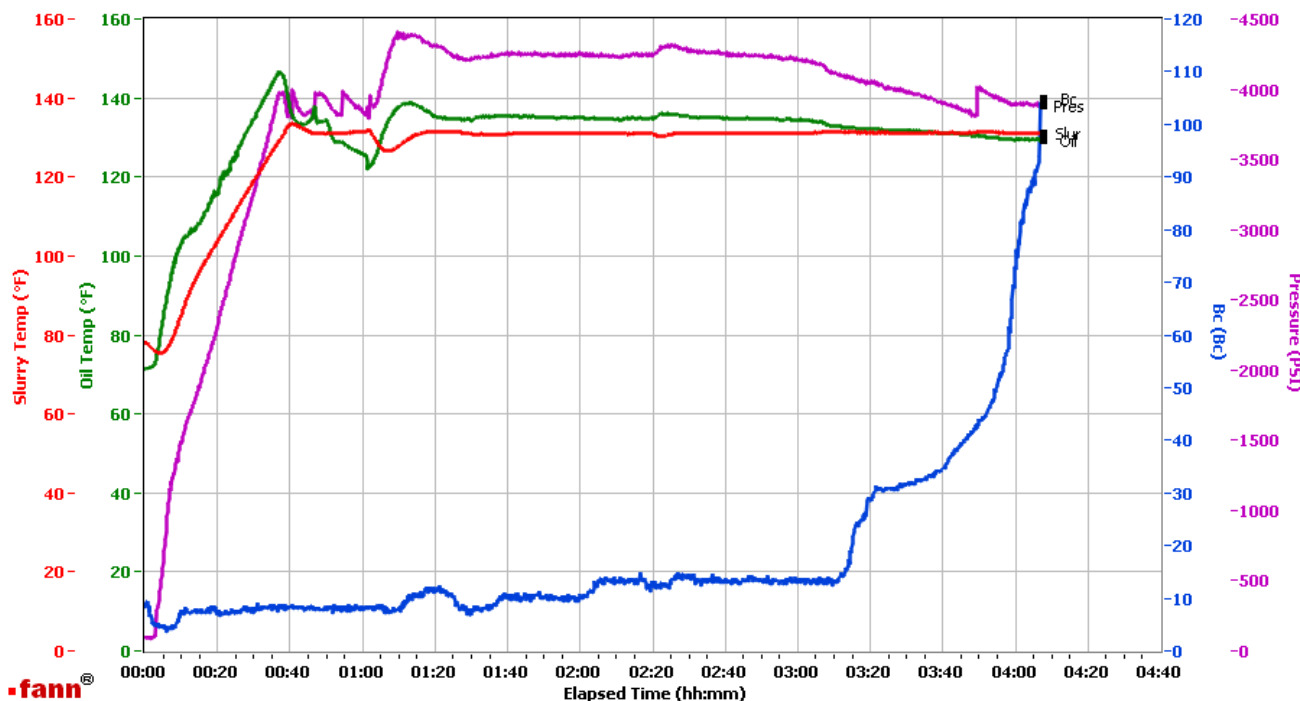
CS1931 TR 4053 155 SKS

Grand Junction Colorado

Fields	Values
Project Name	GJ2404827-1 TERRA PRODUCTION BULK PR
Test ID	34725512
Request ID	GJ2404827-1 TERRA PRODUCTION BULK PR
Tested by	JASON
Customer	TERRA ENERGY PARTNERS
Well No	GM 11-10
Rig	H&P 273
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	TYPE I/II
Cement Weight	Light Weight
Test Date	07/25/17
Test Time	03:45 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:21m
40.00 Bc	03h:46m
50.00 Bc	03h:54m
70.00 Bc	03h:59m
100.00 Bc	04h:06m
00h:30m	7.42
01h:00m	8.35
01h:30m	7.46



Data File C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files\Content.IE5\O3KLGZVR\GJ2404827-1 TERRA PRODUCTION BULK PRIMARY

Comments CS1929 TR 8658 370 SKS CS1930 TR 8678 370 SKS CS1931 TR 4053 155 SKS

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