

HALLIBURTON

iCem[®] Service

Terra Energy Partners

For: Terra

Date: Monday, July 10, 2017

GM 411-10 Production PJR

API# 05-045-22685-00

Sincerely,

Grand Junction Cement Engineering

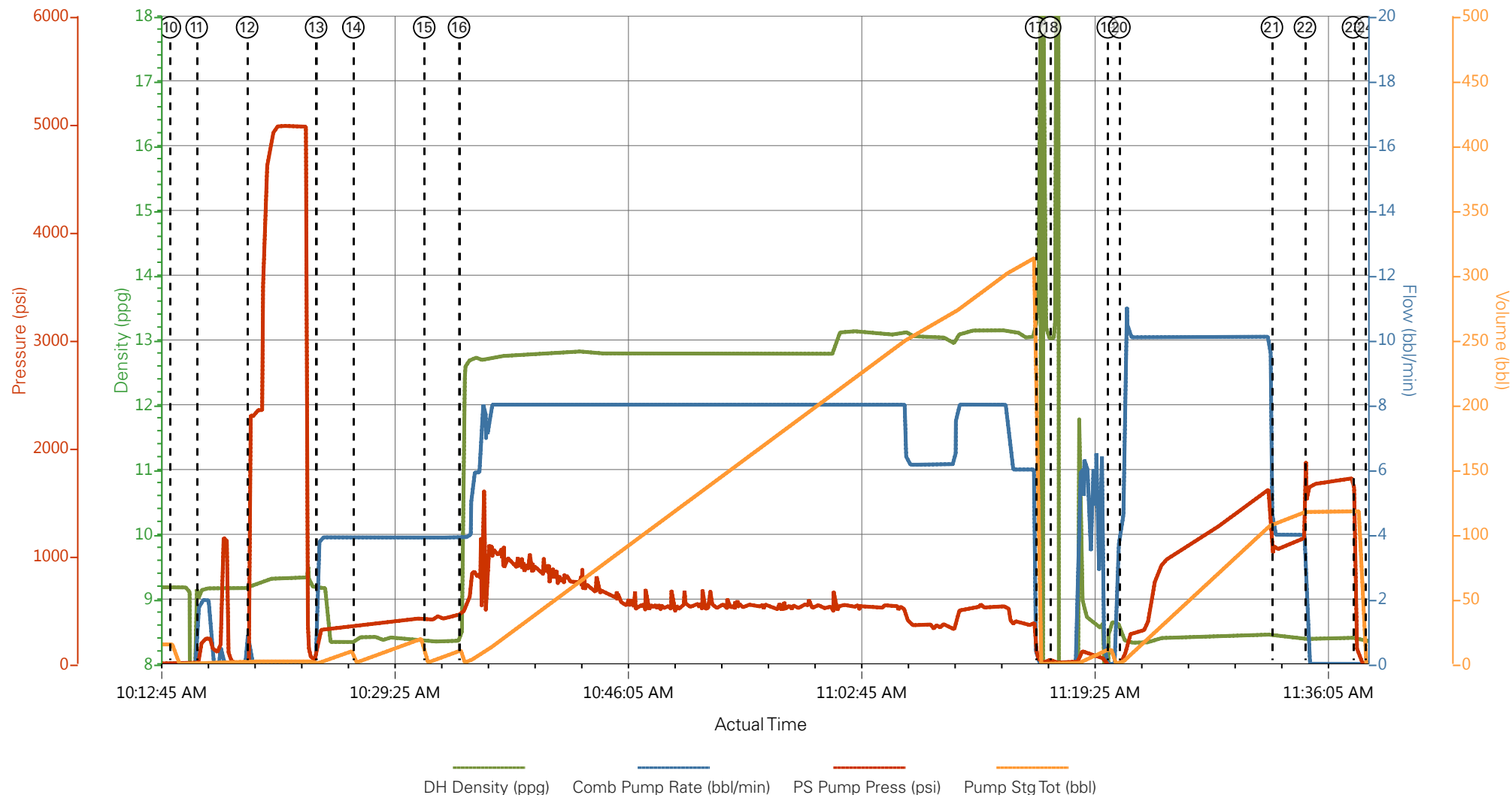
2.0 Real-Time Job Summary

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	7/9/2017	21:30:00	USER					
Event	2	Pre-Convoy Safety Meeting	7/10/2017	00:10:00	USER					
Event	3	Crew Leave Yard	7/10/2017	00:15:00	USER					
Event	4	Arrive At Loc	7/10/2017	01:30:00	USER					
Event	5	Assessment Of Location Safety Meeting	7/10/2017	05:30:00	USER					
Event	6	Spot Equipment	7/10/2017	05:35:00	USER					
Event	7	Pre-Rig Up Safety Meeting	7/10/2017	05:40:00	USER					
Event	8	Rig-Up Equipment	7/10/2017	05:45:00	USER					
Event	9	Pre-Job Safety Meeting	7/10/2017	06:24:32	USER					
Event	10	Start Job	7/10/2017	10:13:36	COM5					TD: 7292 TP: 7282 SJ: 31' MW: 9.7PPG 4 1/2" 11.6#/FT CSG IN 8 3/4" OH WATER TEST: PH: 7 POTASSIUM: 450 SULFATES: <200 CHLORIDES: 0 TEMP: 70 DEGREES
Event	11	Prime Pumps	7/10/2017	10:15:31	COM5	8.33	2.00	240.00	2.0	FILL LINES 2 BBL AHEAD
Event	12	Test Lines	7/10/2017	10:19:07	COM5					5000 PSI TEST
Event	13	Fresh H2O Spacer	7/10/2017	10:24:02	COM5	8.33	4.00	308.00	10.0	FRESH H2O SPACER

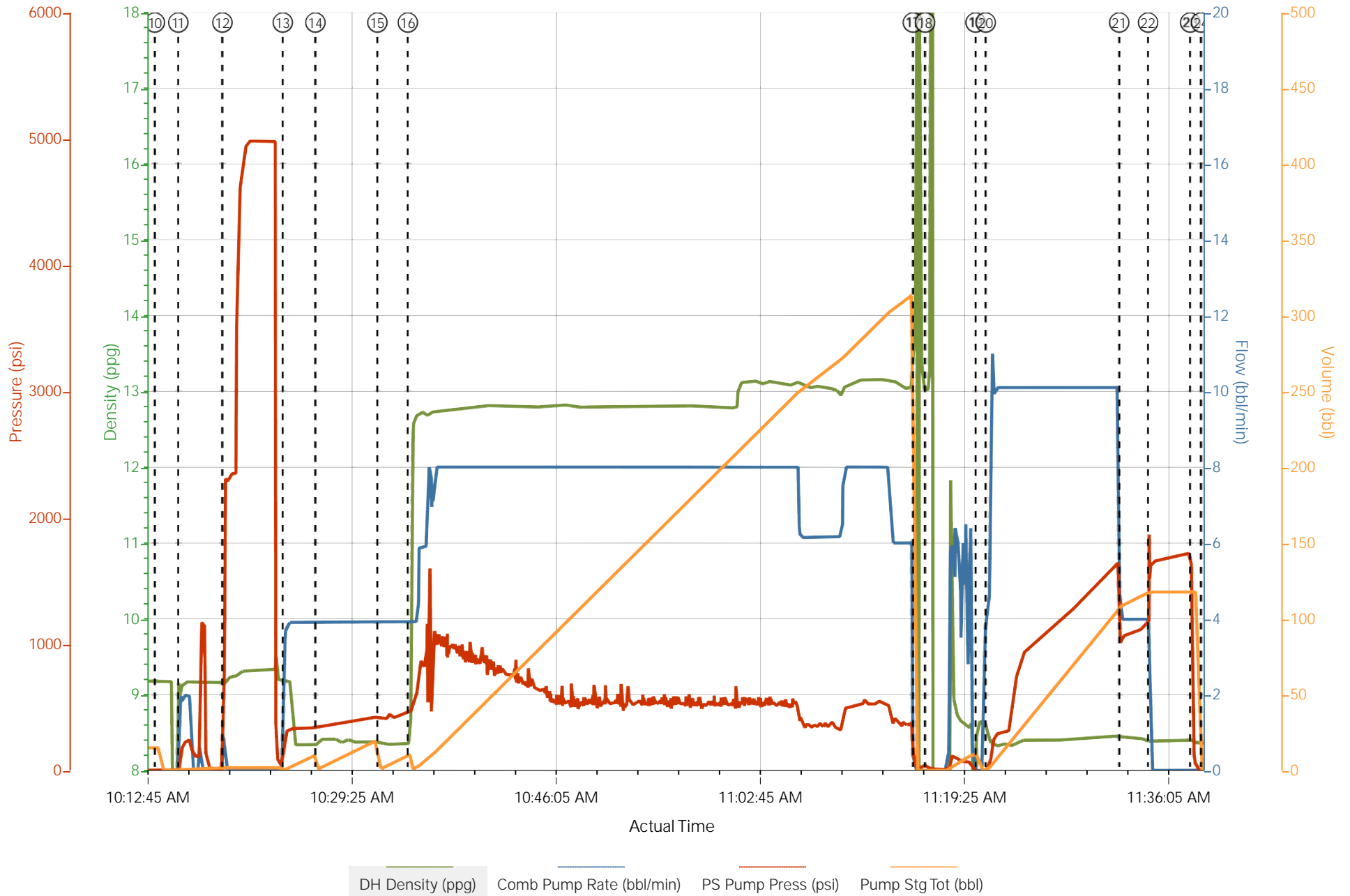
Event	14	Mudflush Spacer	7/10/2017	10:26:42	COM5	8.38	4.00	350.00	20.0	20 BBL MUDDLUSH III SPACER
Event	15	Fresh H2O Spacer	7/10/2017	10:31:46	COM5	8.33	4.00	426.00	10.0	FRESH H2O SPACER
Event	16	Pump Cement	7/10/2017	10:34:15	COM5	12.50	8.00	640.00	291.5	835 SKS @ 12.5 PPG 1.96 YLD 9.38 GAL/SK H2O
Event	17	Shutdown	7/10/2017	11:15:28	USER					
Event	18	Clean Lines	7/10/2017	11:16:28	COM5					
Event	19	Drop Top Plug	7/10/2017	11:20:35	COM5					PLUG AWAY
Event	20	Pump Displacement	7/10/2017	11:21:25	COM5	8.48	10.00	475.00	112.4	FRESH H2O DISPLACEMENT W/ MMCR, BE-6, KCL
Event	21	Slow Rate	7/10/2017	11:32:19	USER	8.48	4.00	1068.00	102.0	
Event	22	Bump Plug	7/10/2017	11:34:40	COM5	8.48	4.00	1650.00	112.4	PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	23	Check Floats	7/10/2017	11:38:06	COM5					FLOATS HELD, GAINED 0.5 BBLBACK TO PUMP TRUCK
Event	24	End Job	7/10/2017	11:39:00	COM5					
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	7/10/2017	11:45:00	USER					GOOD CIRCULATION THROUGHOUT JOB. PIPE WAS LEFT STATIC THROUGHOUT JOB. NO ADD HOURS CHARGED, DID NOT USE TUFF FIBER.
Event	26	Rig-Down Equipment	7/10/2017	12:00:00	USER					
Event	27	Pre-Convoy Safety Meeting	7/10/2017	12:55:00	USER					
Event	28	Crew Leave Location	7/10/2017	13:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, COLORADO ANTHONY ANDREWS AND CREW

TEP - FEDERAL GM 411-10 - 4 1/2" PRODUCTION



① Call Out n/a;n/a;n/a;n/a	⑨ Pre-Job Safety Meeting n/a;n/a;n/a;n/a	⑰ Shutdown 23.91;0;14;0	25 Post-Job Safety Meeting (Pre Rig-Down) -0.22;0;-4;0
② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a	⑩ Start Job 9.18;0;1;15	⑱ Clean Lines 13.02;0;24;0	26 Rig-Down Equipment 7.07;7.4;62;37.3
③ Crew Leave Yard n/a;n/a;n/a;n/a	⑪ Prime Pumps 9.12;1.8;144;0.3	⑲ Drop Top Plug 8.63;0;-26;10.7	27 Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a
④ Arrive At Loc n/a;n/a;n/a;n/a	⑫ Test Lines 9.21;0;2294;1.9	20 Pump Displacement 8.39;4.1;27;1.6	28 Crew Leave Location n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a	⑬ Fresh H2O Spacer 9.19;3.9;308;0.7	21 Slow Rate 8.42;4;1064;108.9	
⑥ Spot Equipment n/a;n/a;n/a;n/a	⑭ Mudflush Spacer 8.39;3.9;351;1.2	22 Bump Plug 8.39;0;1652;117.7	
⑦ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a	⑮ Fresh H2O Spacer 8.37;4;422;1.1	23 Check Floats 8.38;0;162.28;117.7	
⑧ Rig-Up Equipment n/a;n/a;n/a;n/a	⑯ Pump Cement 9.76;3.9;459;0.5	24 End Job 8.35;0;-6;0	

TEP - FEDERAL GM 411-10 - 4 1/2" PRODUCTION



Job Information

Request/Slurry	2399849/1	Rig Name	H&P 273	Date	07/JUL/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 411-10

Well Information

Casing/Liner Size	4.5 in	Depth MD	7306 ft	BHST	91°C / 196°F
Hole Size	8.75 in	Depth TVD	6835 ft	BHCT	55°C / 131°F
Pressure	4085 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 2399849/1

Thickening Time - ON-OFF-ON

08/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	4085	36	3:03	3:12	3:27	4:13	5	46	15	5

Total sks = 835

Composite:

CS1726, Trailer 1656, 367.5 sks

CS1727, Trailer 2398, 100 sks

CS1730, Trailer MT613, 367.5 sks

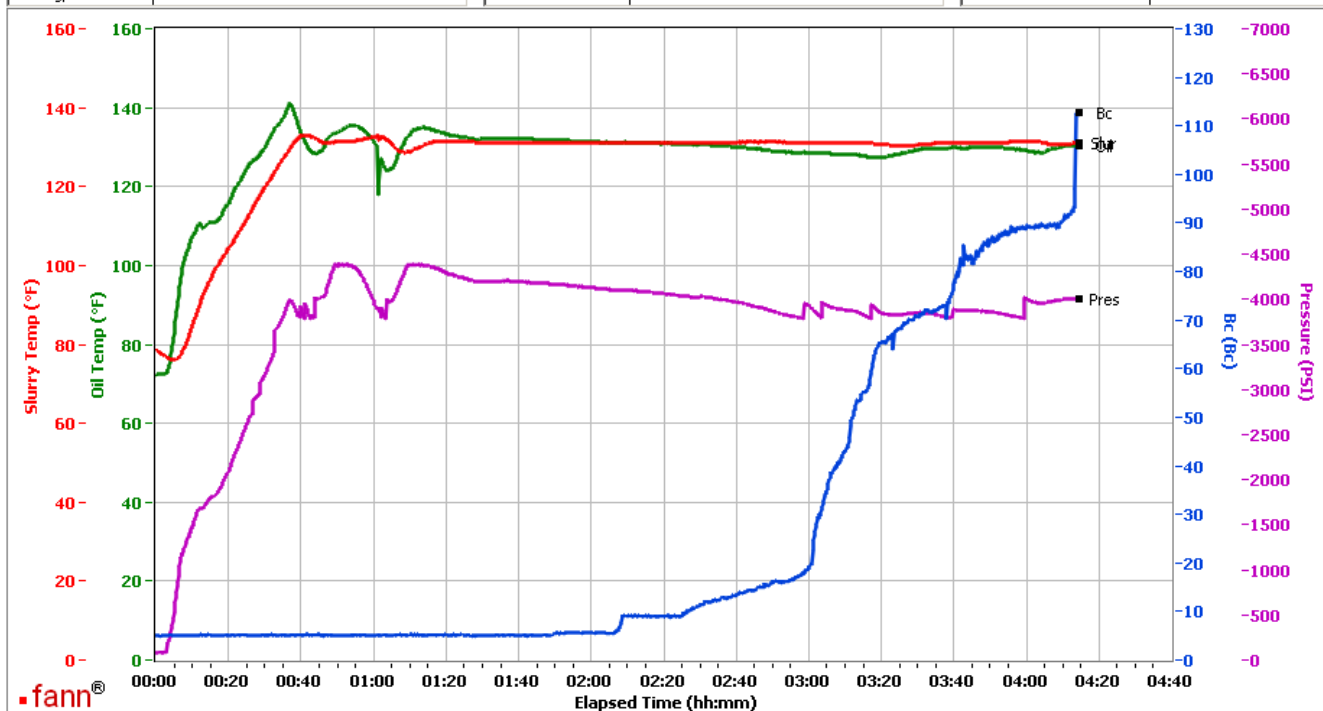
Deflection: 5 - 5

Grand Junction Colorado

Fields	Values
Project Name	2399849-1 TERRA ENERGY BULK PRODUCTI
Test ID	34687007 TT
Request ID	2399849-1
Tested by	CT
Customer	TERRA ENERGY
Well No	GM 411-10
Rig	H&P 273
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	TYPE I-II
Cement Weight	Standard
Test Date	07/08/17
Test Time	08:36 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:03m
40.00 Bc	03h:07m
50.00 Bc	03h:12m
70.00 Bc	03h:27m
100.00 Bc	04h:13m
00h:30m	5.09
01h:00m	5.09
01h:30m	5.01



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Comments OPERATION - COMPOSITE TT - CS1726, TRAILER 1656, 367.5 SKS - CS1727, 2398, 100 SKS - CS1730, TRAILER MT613, 367.5 SKS

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