

HALLIBURTON

iCem[®] Service

TEP ROCKY MOUNTAIN LLC-EBUS

For: Terra Energy Partners

SR 334-12

SR 334-12 Production

API # 05-045-23451-00

Job Date: Wednesday, December 20, 2017

Sincerely,

Grand Junction Cement Engineering

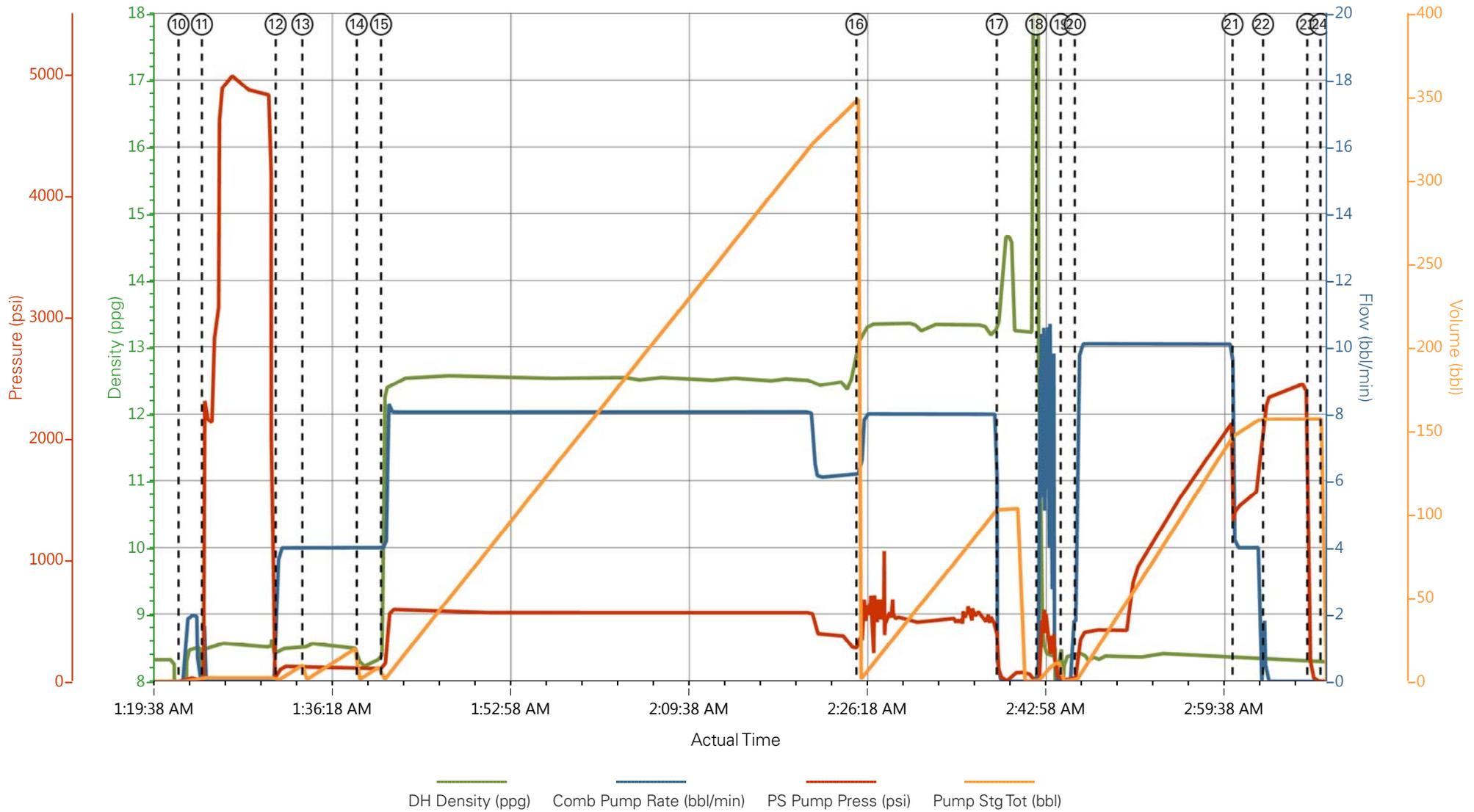
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	12/20/2017	15:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	12/20/2017	17:55:00	USER					
Event	3	Crew Leave Yard	12/20/2017	18:00:00	USER					
Event	4	Arrive At Loc	12/20/2017	19:30:00	USER					
Event	5	Assessment Of Location Safety Meeting	12/20/2017	19:35:00	USER					
Event	6	Spot Equipment	12/20/2017	19:40:00	USER					
Event	7	Pre-Rig Up Safety Meeting	12/20/2017	19:45:00	USER					
Event	8	Rig-Up Equipment	12/20/2017	20:00:00	USER					
Event	9	Pre-Job Safety Meeting	12/21/2017	00:45:00	USER					
Event	10	Start Job	12/21/2017	01:22:16	COM5					TD: 9735 TP: 9729 SJ: 31.43 MW: 9.4 PPG 4 1/2" 11.6#/FT CSG IN 8 3/4" OH WATER TEST: PH: 6.5 POTASSIUM: 700 CHLORIDES: 0 SULFATES: <200 TEMP: 66 DEGREES
Event	11	Test Lines	12/21/2017	01:24:27	COM5	8.33	0.00	5000.00	2.0	5000 PSI TEST
Event	12	Pump H2O Spacer	12/21/2017	01:31:20	COM5	8.33	4.00	74.00	10.0	FRESH H2O SPACER
Event	13	Pump Mudflush	12/21/2017	01:33:50	COM5	8.40	4.00	117.00	20.0	MUDFLUSH
Event	14	Pump H2O Spacer	12/21/2017	01:38:55	COM5	8.33	4.00	102.00	10.0	FRESH H2O SPACER

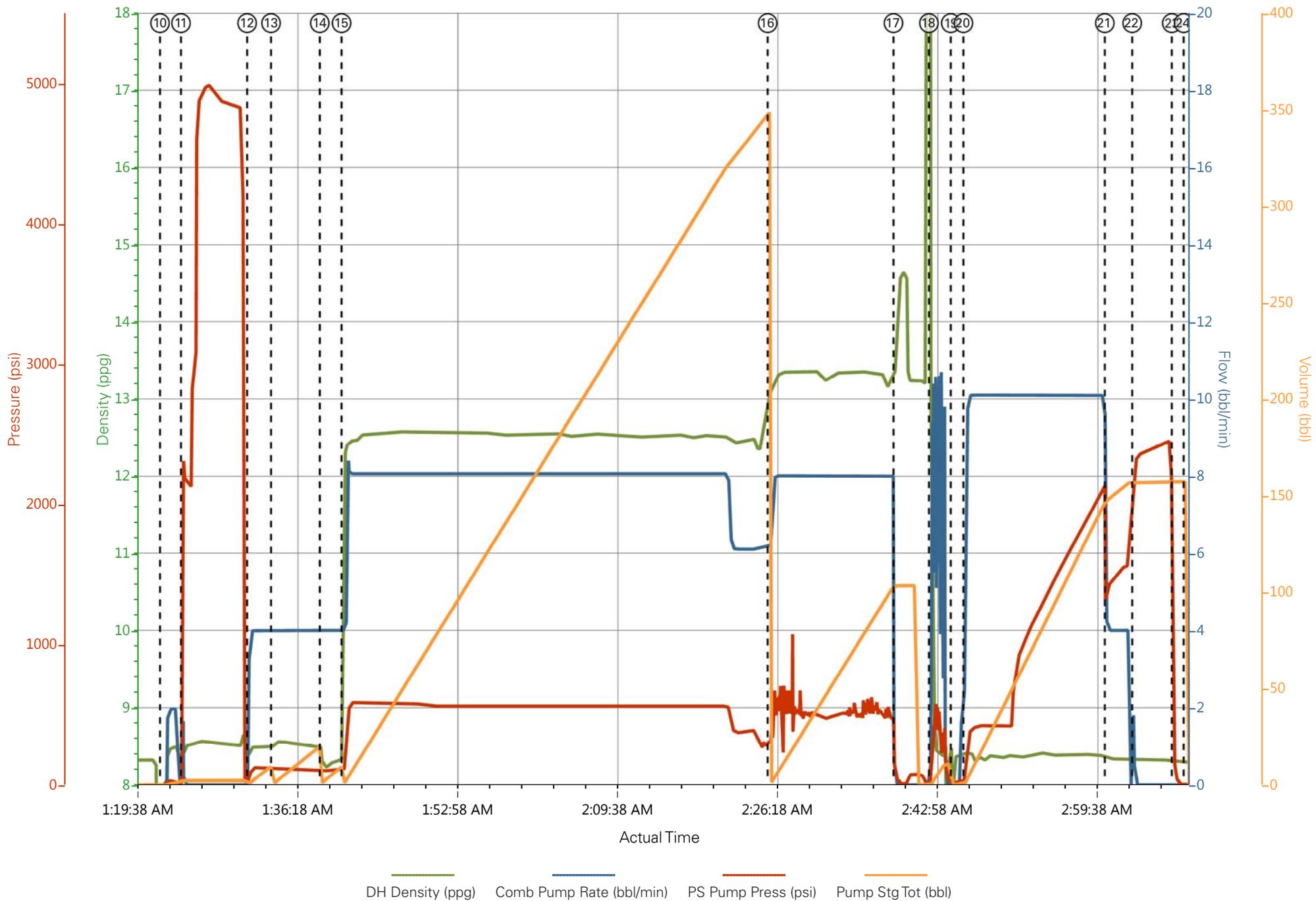
Event	15	Pump Lead Cement	12/21/2017	01:41:11	COM5	12.50	8.00	580.00	279.9	810 SKS @ 12.5 PPG 1.94 YLD 9.6 GAL/SK H2O
Event	16	Pump Tail Cement	12/21/2017	02:25:34	COM5	13.30	8.00	526.00	81.6	265 SKS @ 13.3 PPG 1.73 YLD 7.81 GAL/SK H2O
Event	17	Shutdown	12/21/2017	02:38:40	USER					
Event	18	Clean Lines	12/21/2017	02:42:22	COM5					
Event	19	Drop Top Plug	12/21/2017	02:44:39	COM5					PLUG AWAY
Event	20	Pump Displacement	12/21/2017	02:45:58	COM5	8.48	10.00	2190.00	150.3	FRESH H2O DISPLACEMENT W/ KCL, MMCR, BE-6
Event	21	Slow Rate	12/21/2017	03:00:41	USER	8.48	4.00	1416.00	140.0	
Event	22	Bump Plug	12/21/2017	03:03:33	USER	8.48	4.00	2300.00	150.3	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE WAS 1600PSI, BUMPED TO 2300 PSI
Event	23	Check Floats	12/21/2017	03:07:40	USER					FLOATS HELD, GAINED 1 1/2 BBL BACK TO PUMP.
Event	24	End Job	12/21/2017	03:08:54	COM5					
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	12/21/2017	03:15:00	USER					GOOD CIRCULATION THROUGHOUT JOB, PIPE WAS RECIPROCATED. NO ADD HOURS CHARGED.
Event	26	Rig-Down Equipment	12/21/2017	03:30:00	USER					
Event	27	Pre-Convoy Safety Meeting	12/21/2017	04:40:00	USER					
Event	28	Crew Leave Location	12/21/2017	04:45:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JCT, CO ANTHONY ANDREWS AND CREW

TEP - SR 334-12 - 4 1/2" PRODUCTION



- | | | | |
|---|--------------------------|----------------------|---|
| ① Call Out | ⑧ Rig-Up Equipment | ⑮ Pump Lead Cement | 22 Bump Plug |
| ② Pre-Convoy Safety Meeting | ⑨ Pre-Job Safety Meeting | ⑯ Pump Tail Cement | 23 Check Floats |
| ③ Crew Leave Yard | ⑩ Start Job | ⑰ Shutdown | 24 End Job |
| ④ Arrive At Loc | ⑪ Test Lines | ⑱ Clean Lines | 25 Post-Job Safety Meeting (Pre Rig-Down) |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Pump H2O Spacer | ⑲ Drop Top Plug | 26 Rig-Down Equipment |
| ⑥ Spot Equipment | ⑬ Pump Mudflush | 20 Pump Displacement | 27 Pre-Convoy Safety Meeting |
| ⑦ Pre-Rig Up Safety Meeting | ⑭ Pump H2O Spacer | 21 Slow Rate | 28 Crew Leave Location |

TEP - SR 334-12 - 4 1/2" PRODUCTION



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

Job Information

Request/Slurry	2439114/1	Rig Name	H&P 318	Date	18/DEC/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 334-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9910 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9701 ft	BHCT	79°C / 175°F
Pressure	6090 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Lead 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		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft ³ /sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2439114/1

Thickening Time - ON-OFF-ON

19/DEC/2017

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)
175	6090	49	4:45	5:25	8:49	10:21	12	59	15	12

Total sks=810

Composite:

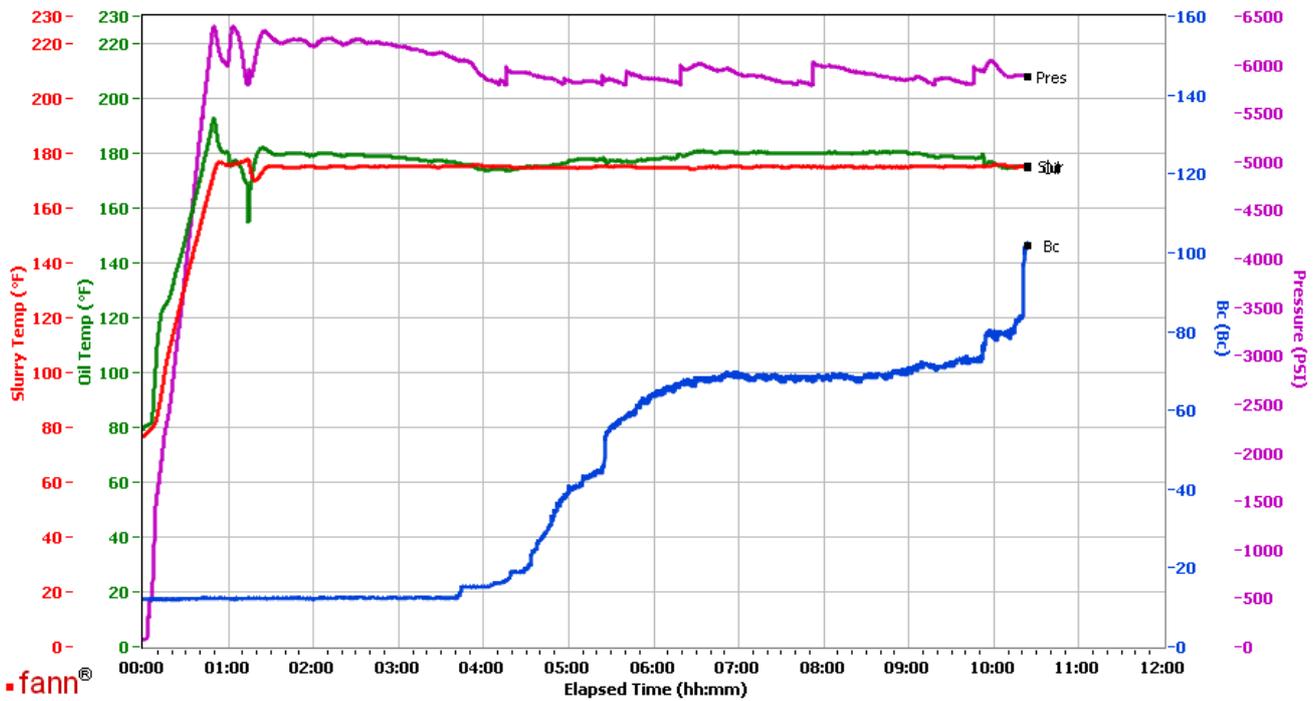
CS3423 TR 8658 405 SKS

CS3427 TR 8678 405 SKS

Deflection: 12 - 12

Grand Junction Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2439114-1 TERRA PRODUCTION LEAD BL	Job Type	PRODUCTION	30.00 Bc	04h:45m
Test ID	35113741	Cement Type	HOLCIM TYPE I-II	40.00 Bc	05h:00m
Request ID	2439114-1	Cement Weight	Light Weight	50.00 Bc	05h:25m
Tested by	JASON	Test Date	12/19/17	70.00 Bc	08h:49m
Customer	TERRA	Test Time	03:34 AM	100.00 Bc	10h:21m
Well No	SR 334-12	Temp. Units	degF	00h:30m	12.06
Rig	H&P 318	Pressure Units	PSI	01h:00m	11.98
Casing/Liner Size	4.5"	SW Version	2.1.0.507	01h:30m	12.55



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\4TIJ89YN\GJ2439114-1 TERRA PRODUCTION LEAD BULK COMPOSITE[1].tdms

Comments CS3423 TR 8658 405 SKS CS3427 TR 8678 405 SKS

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Job Information

Request/Slurry	2439115/1	Rig Name	H&P 318	Date	18/DEC/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 334-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9910 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9701 ft	BHCT	79°C / 175°F
Pressure	6090 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	
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Cement Information - Tail 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	
						Slurry Density	13.3 lbm/gal
						Slurry Yield	1.733 ft3/sack
						Water Requirement	7.799 gal/sack
						Total Mix Fluid	7.799 gal/sack
						Water Source	Fresh Water
						Water Chloride	

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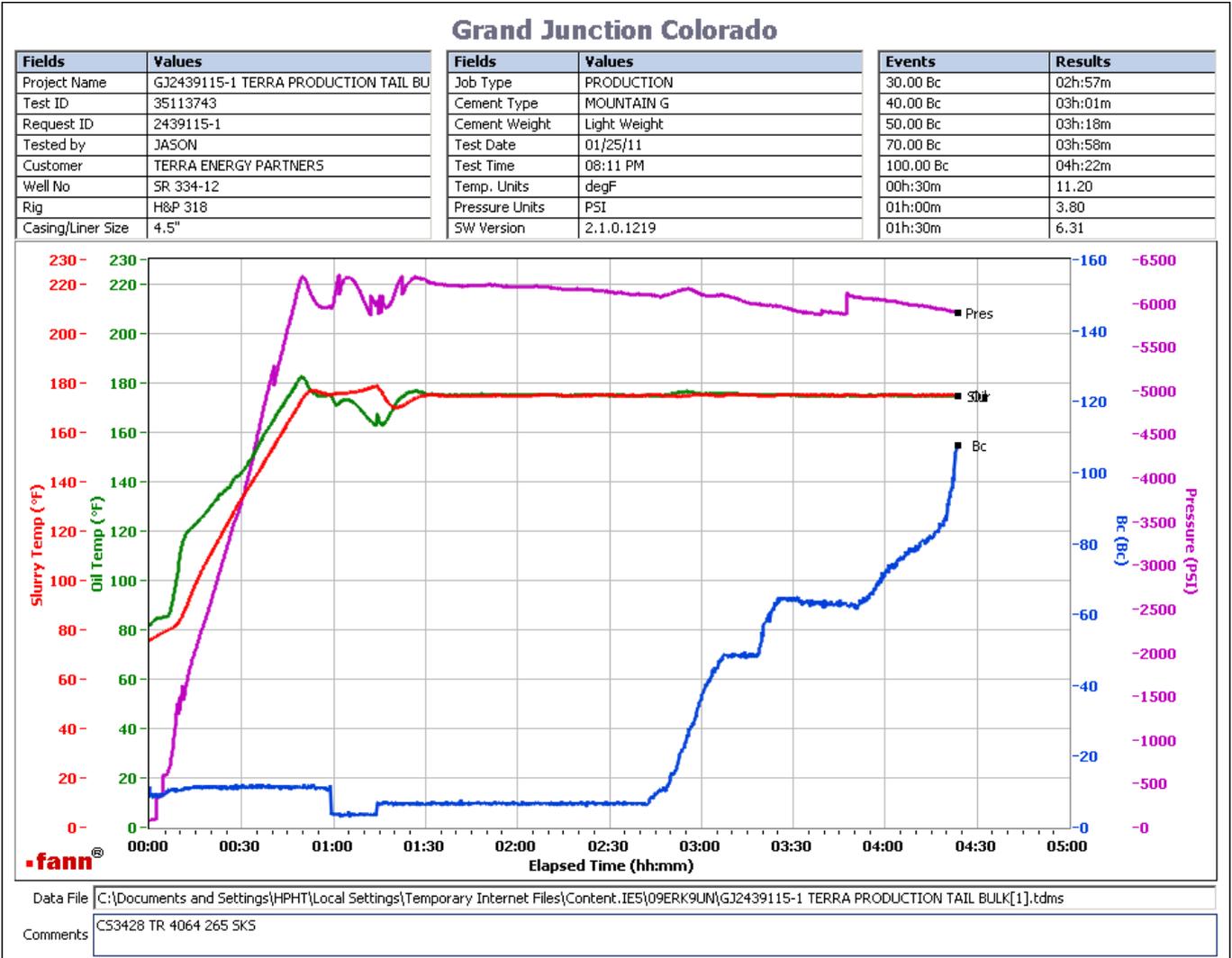
Operation Test Results Request ID 2439115/1

Thickening Time - ON-OFF-ON

19/DEC/2017

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)
175	6090	49	2:57	3:18	3:58	4:22	11	59	15	7

265 sks tail
 CS3428 TR 4064 265 SKS
 Deflection: 11 - 7



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