

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS-EBUS

For: Terra Energy Partners

Date: Friday, November 17, 2017

SR 13-12

SR 13-12

904439002

Job Date: Friday, November 17, 2017

Sincerely,

Grand Junction Cement Engineering

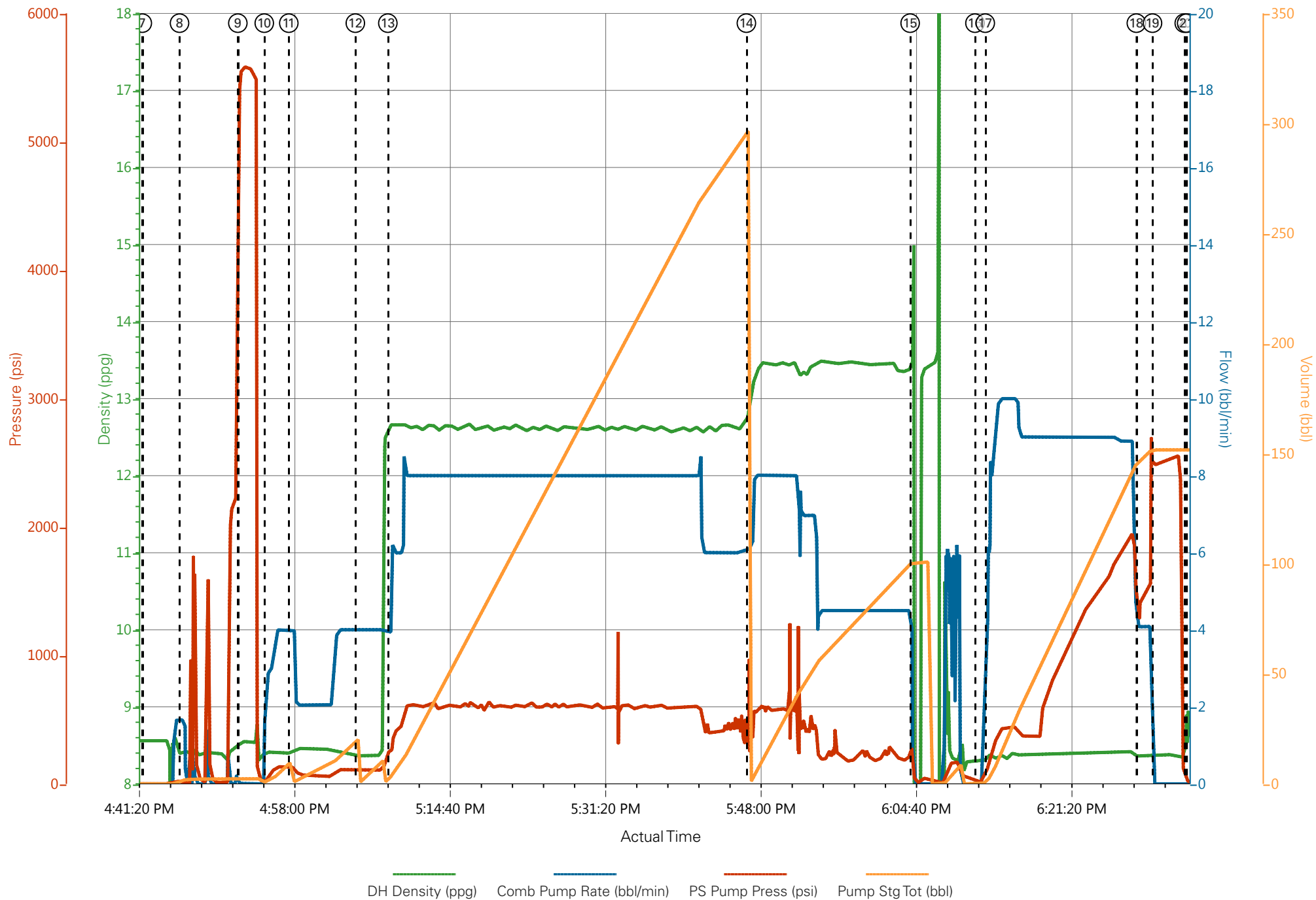
1.0 Real-Time Job Summary

1.1 Job Event Log

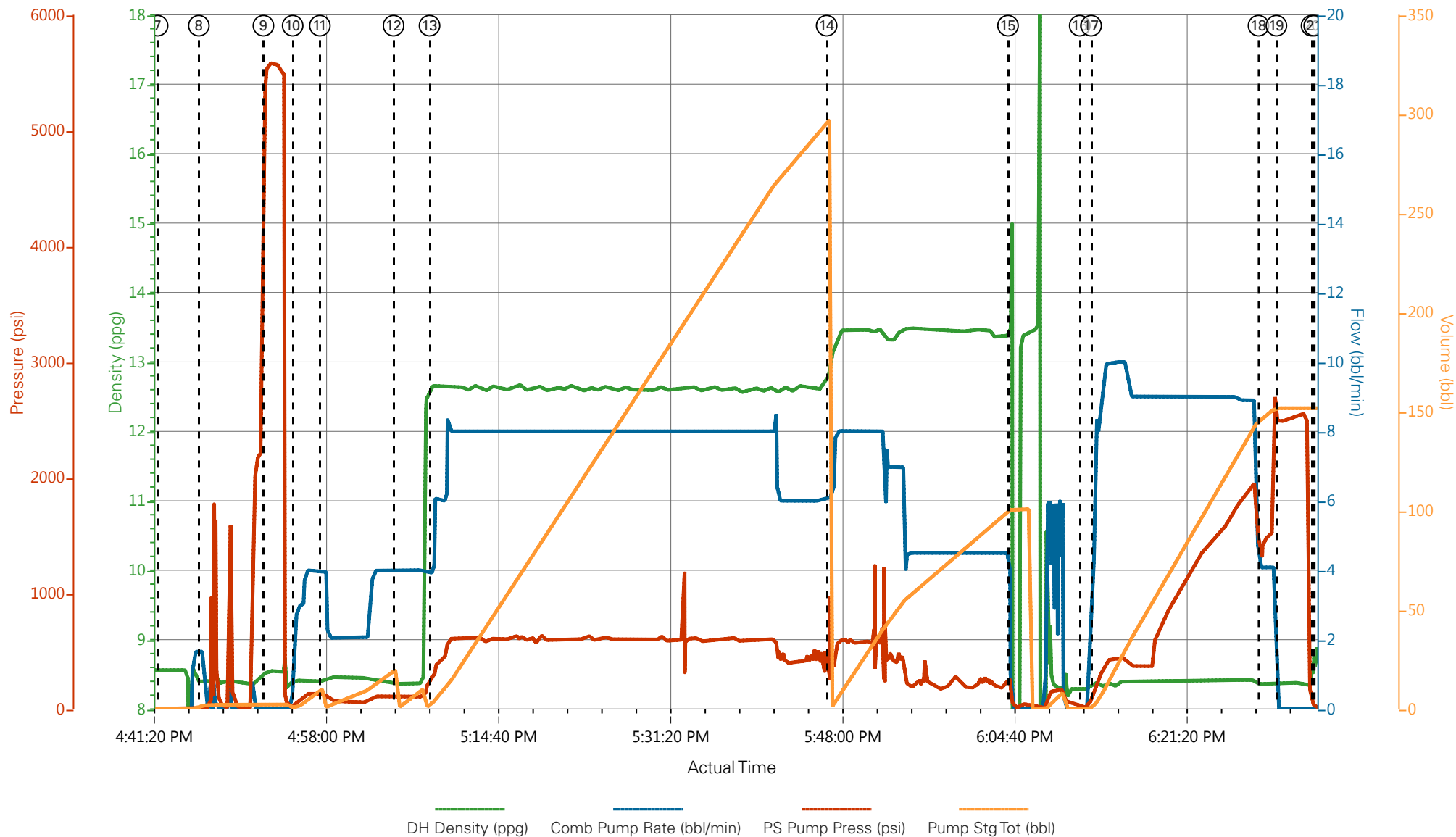
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	11/17/2017	09:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	11/17/2017	11:00:00	USER					ALL HES PERSONNEL
Event	3	Arrive At Loc	11/17/2017	13:00:00	USER					RIG RUNNING CASING
Event	4	Assessment Of Location Safety Meeting	11/17/2017	13:30:00	USER					ALL HES PERSONNEL
Event	5	Pre-Rig Up Safety Meeting	11/17/2017	13:45:00	USER					ALL HES PERSONNEL
Event	6	Pre-Job Safety Meeting	11/17/2017	16:25:00	USER					ALL ON LOCATION PERSONNEL
Event	7	Start Job	11/17/2017	16:42:00	COM5					RETURNS STARTED ABOUT 60 BBLS INTO JOB THEN MAINTAINED UNTIL WE SHUT DOWN TO DROP PLUG, THEN RETURNED ABOUT 40 BBLS INTO DISPLACEMENT, NO PIPE MOVEMENT
Event	8	Prime Pumps	11/17/2017	16:45:59	COM5					
Event	9	Test Lines	11/17/2017	16:52:14	COM5			5586.00		5586 PSI
Event	10	Pump Spacer 1	11/17/2017	16:55:04	COM5	8.40	4.00	132.00	10	FRESH WATER
Event	11	Pump Spacer 2	11/17/2017	16:57:42	COM5	8.40	4.00	140.00	10.0	MUD FLUSH
Event	12	Pump Spacer 1	11/17/2017	17:04:50	COM5	8.36	4.00	105.00	10.0	FRESH WATER

Event	13	Pump Lead Cement	11/17/2017	17:08:19	COM5	12.7	8	630	279.8	810 SKS, 12.7 PPG, 1.94 FT3/SK, 9.6 GAL/SK
Event	14	Pump Tail Cement	11/17/2017	17:46:46	COM5					265 SKS, 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK
Event	15	Shutdown	11/17/2017	18:04:20	USER	13.7	8.00	600	81.6	TO WASH PUMPS AND LINES AND DROP TOP PLUG
Event	16	Drop Top Plug	11/17/2017	18:11:17	COM5					AWAY
Event	17	Pump Displacement	11/17/2017	18:12:23	COM5	8.40	9.00	1780	152.4	KCL WATER WITH 3 BAGS BE-6, 1 GAL MMCR
Event	18	Slow Rate	11/17/2017	18:28:36	USER	8.40	4.10	1440	142.0	TO BUMP PLUG
Event	19	Bump Plug	11/17/2017	18:30:20	COM5	8.38	0.00	1550	152.4	BUMPED
Event	20	Check Floats	11/17/2017	18:33:44	USER			2510		FLOATS HELD, 1.5 BBL BACK TO TRUCK
Event	21	End Job	11/17/2017	18:34:00	USER					
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	11/17/2017	19:00:00	USER					ALL HES PERSONNEL
Event	23	Rig Down Lines	11/17/2017	19:30:00	USER					
Event	24	Pre-Convoy Safety Meeting	11/17/2017	19:45:00	USER					ALL HES PERSONNEL
Event	25	Crew Leave Location	11/17/2017	20:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

TEP - SR 13-12 4.5 PRODUCTION CASING



TEP - SR 13-12 4.5 PRODUCTION CASING



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

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Created: 2017-11-17 10:27:51, Version: 4.2.393

Edit

Customer : TERRA ENERGY PARTNERS-EBUS
Representative : DARRELL LEATHERMAN

Job Date : 11/17/2017 2:26:34 PM
Sales Order # : 904439002

Well : SR 13-12
ELITE 1 : SHAWN BLOSSOM

Job Information

Request/Slurry	2430203/1	Rig Name	H&P 318	Date	13/NOV/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 13-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9860 ft	BHST	116°C / 241°F
Hole Size	8.75 in	Depth TVD	9467 ft	BHCT	77°C / 171°F
Pressure	5927 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Lead Design

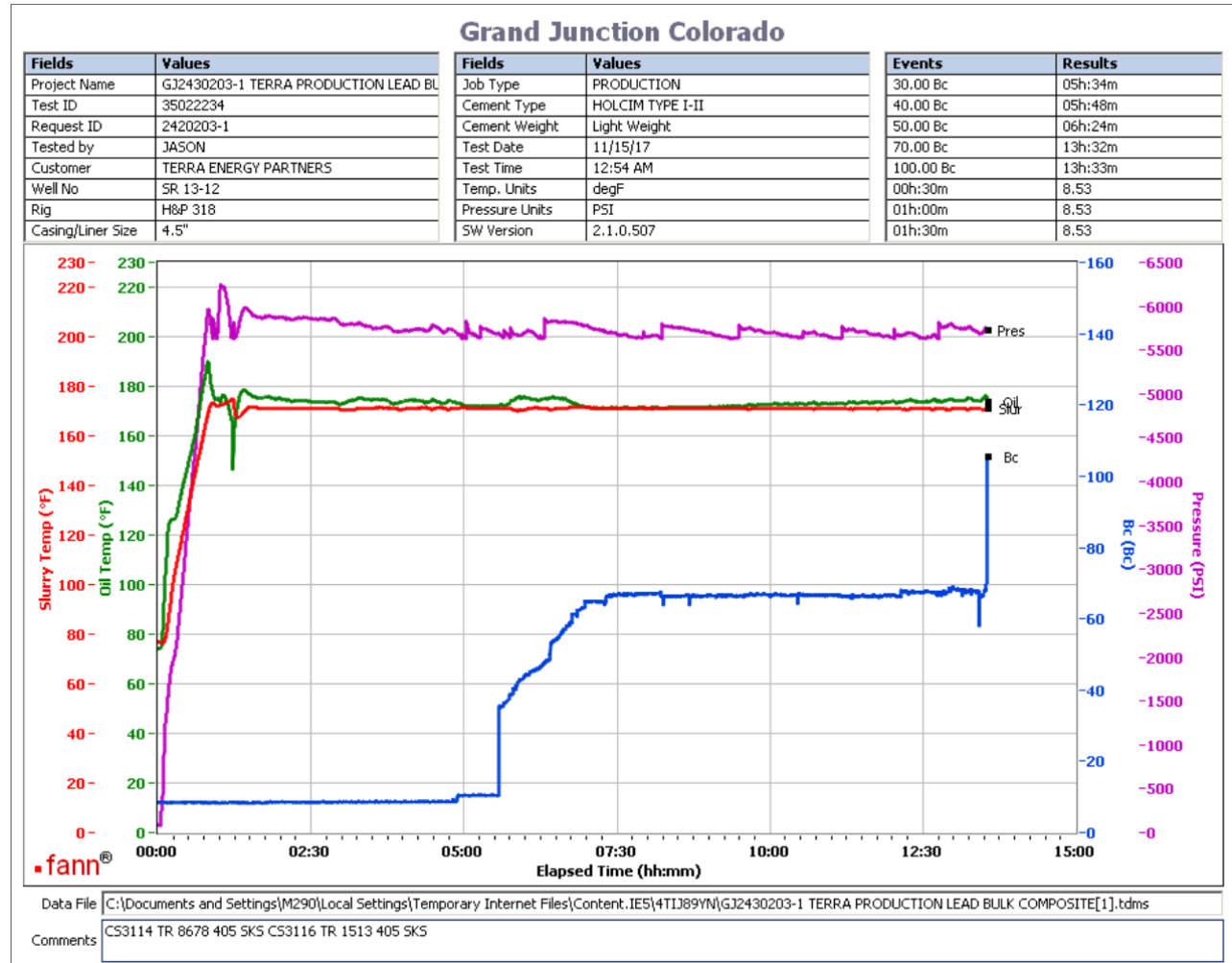
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

15/NOV/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)
171	5927	48	5:34	6:24	13:32	13:33	9	58	15	8



Total sks= 810
 Composite:
 CS3114 TR 8678 405 SKS
 CS3116 TR 1513 405 SKS
 Deflection: 8 - 8

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2430204/1	Rig Name	H&P 318	Date	13/NOV/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 13-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9860 ft	BHST	116°C / 241°F
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Pressure	5927 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Tail Design



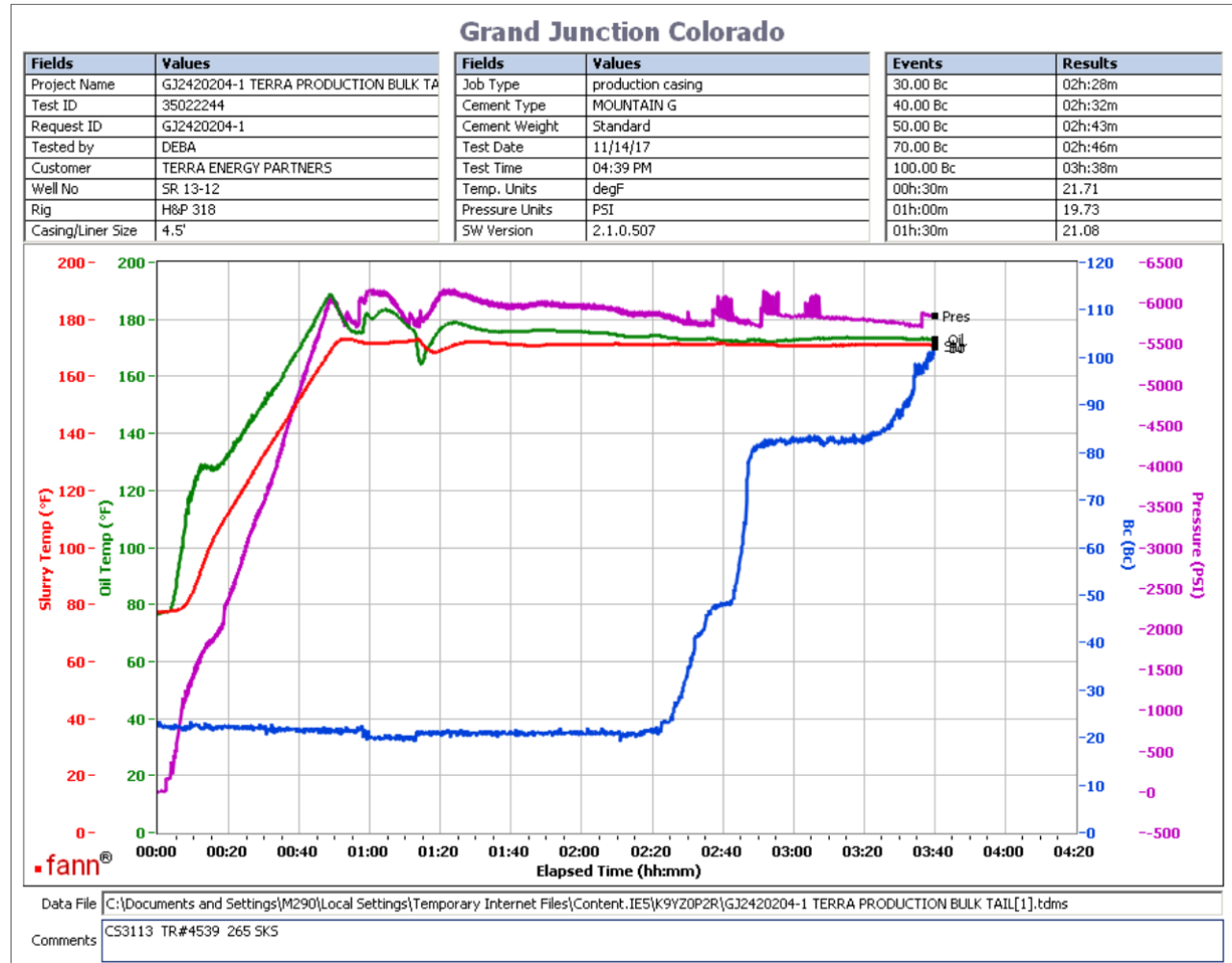
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

14/NOV/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)
171	5927	48	2:28	2:43	2:46	3:38	22	58	15	21



265 sks tail
CS313 TR#4549 265 SKS
deflected from 20Bc--- > 21Bc

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