

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Monday, June 19, 2017

TR 422-23-597 Production

API#05-045-23458-00

Sincerely,
Grand Junction Cement Engineering

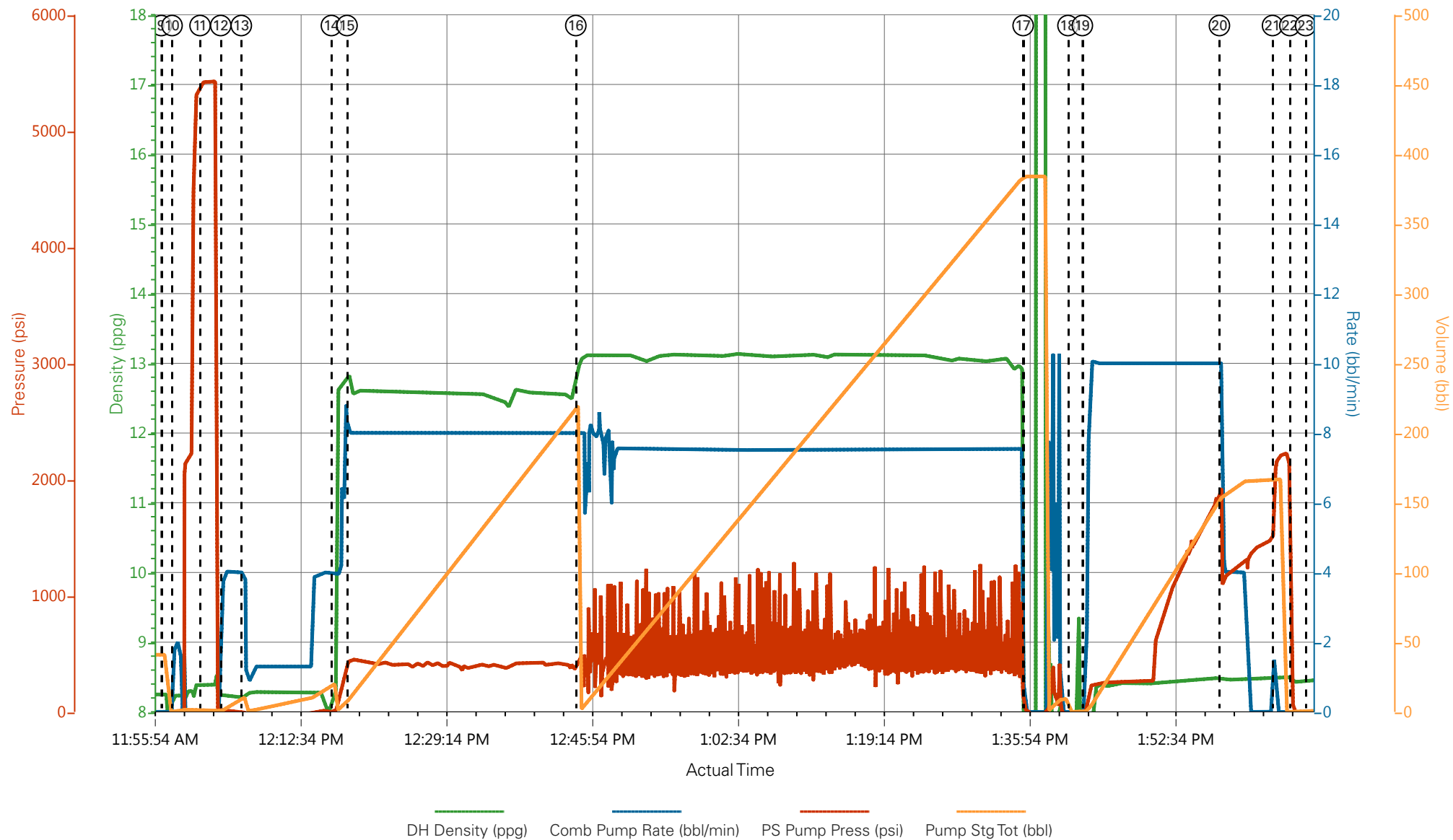
1.0 Real-Time Job Summary

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	6/19/2017	00:00:00	USER					O/L time 0700
Event	2	Pre-Convoy Safety Meeting	6/19/2017	01:45:00	USER					
Event	3	Crew Leave Yard	6/19/2017	02:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive at Location	6/19/2017	06:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	6/19/2017	06:15:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 77 degrees
Event	6	Pre-Rig Up Safety Meeting	6/19/2017	07:15:00	USER					
Event	7	Rig-Up Equipment	6/19/2017	07:30:00	USER					Manifold on ground, manifold off cement head, hard line to standpipe, hard line to pit, water hoses to uprights, bulk hoses to silos and 660
Event	8	Pre-Job Safety Meeting	6/19/2017	11:30:00	USER					All HES personnel, rig crew, and company rep - rig circulating 10 bpm w/ 1770 psi for 1 hr
Event	9	Start Job	6/19/2017	11:57:00	USER					TD 10362', TP 10356.21', SJ 32.15', Mud 8.8 ppg, 8 3/4" OH, Surf casing @ 3007', 4 1/2" 11.6# P110 casing
Event	10	Prime Lines	6/19/2017	11:58:13	USER	8.33	2.0	21	2.0	Fresh water
Event	11	Test Lines	6/19/2017	12:01:25	COM5			5440		Pressure held very well
Event	12	Pump H2O Spacer	6/19/2017	12:03:47	COM5	8.33	4.0	16	10.0	Fresh water - returns established - rig holding 1500cfm air on parasite during cementing – 1500 cfm air through parasite
Event	13	Pump Mud Flush	6/19/2017	12:06:08	COM5	8.4	4.0	30	20.0	80 lbs Mud Flush III
Event	14	Pump Lead Cement	6/19/2017	12:16:26	COM5	12.5	8.0	430	198.7	575 sks, 12.5 ppg, 1.94 yield, 9.58 gal/sk - 45 lbs Tuf Fiber added to Lead on fly
Event	15	Check weight	6/19/2017	12:18:13	COM5	12.5				Recirc matched mud scales

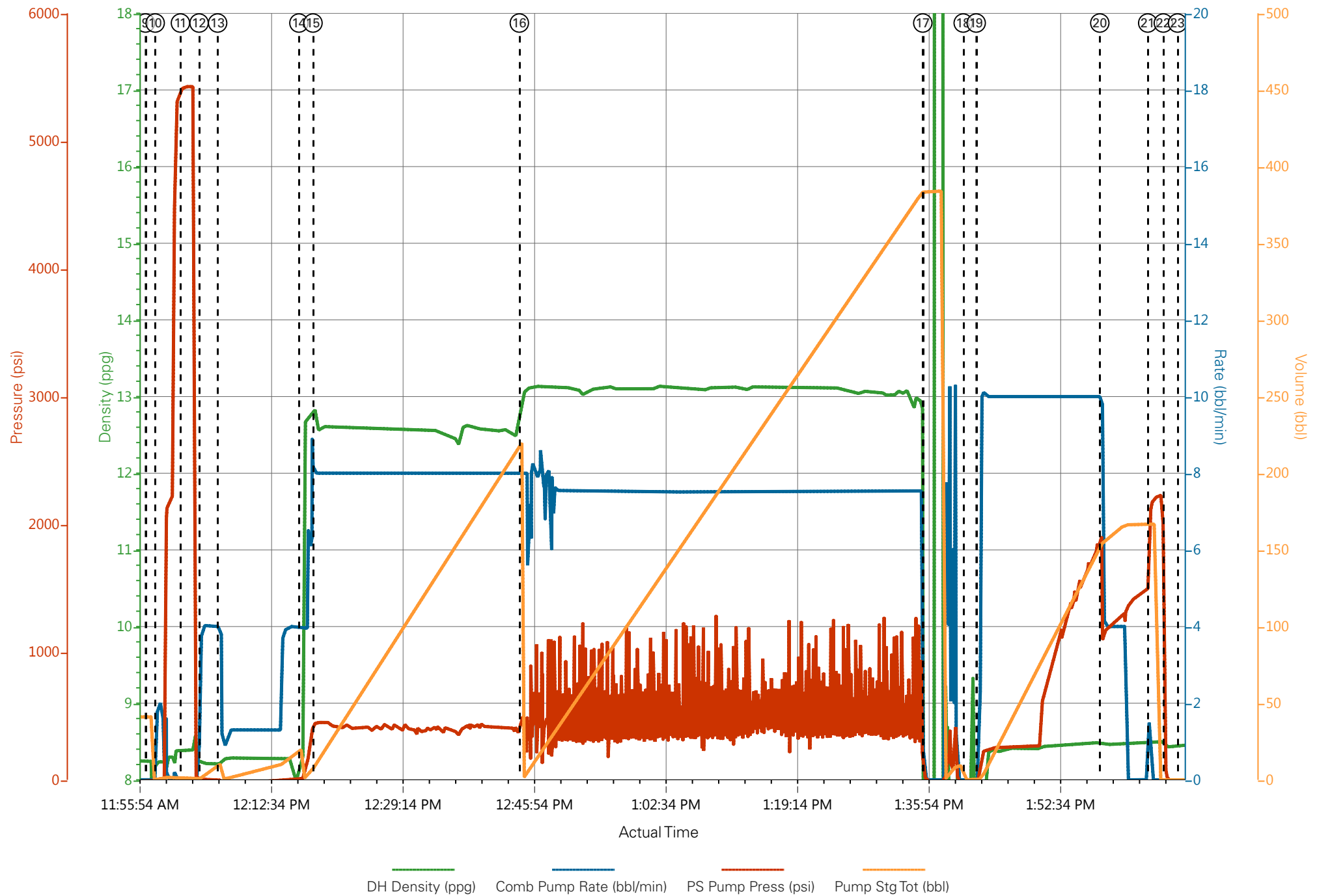
Event	16	Pump Tail Cement	6/19/2017	12:44:22	COM5	13.0	7.5	640	326.3	885 sks, 13.0 ppg, 2.07 yield, 9.43 gal/sk
Event	17	Shutdown	6/19/2017	13:35:30	USER					Blow down and wash lines to pit
Event	18	Drop Top Plug	6/19/2017	13:40:37	COM5					Rig supplied latch-down plug – launch verified by company rep
Event	19	Pump Displacement	6/19/2017	13:42:16	COM5	8.4	10.0	1890	160.0	1 gal MMCR, 3 lbs BE-6, 2% KCl
Event	20	Slow Rate	6/19/2017	13:57:56	USER	8.4	4.0	1170	@ 150	Air through parasite was shut off halfway through displacement per program, returns were lost
Event	21	Bump Plug	6/19/2017	14:04:00	COM5			1408		Shutdown to verify volume pumped
Event	22	Check Floats	6/19/2017	14:05:59	COM5			2210		Floats held – 1 ¼ bbl flowback
Event	23	End Job	6/19/2017	14:07:47	COM5					No sugar used, no HES plug
Event	24	Pre-Rig Down Safety Meeting	6/19/2017	14:15:00	USER					
Event	25	Rig-Down Equipment	6/19/2017	14:30:00	USER					
Event	26	Pre-Convoy Safety Meeting	6/19/2017	14:45:00	USER					
Event	27	Crew Leave Location	6/19/2017	15:00:00	USER					Thank you for using Halliburton - Ed Deussen and crew

TERRA ENERGY - TR 422-23-597 - 4 1/2" Production



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

TERRA ENERGY - TR 422-23-597 - 4 1/2" Production



HALLIBURTON

Rockies, Grand Junction

Lab Results- Lead

Job Information

Request/Slurry	2394634/1	Rig Name	H&P 271	Date	16/JUN/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 422-23-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	10385 ft	BHST	123°C / 254°F
Hole Size	8.75 in	Depth TVD	10220 ft	BHCT	89°C / 193°F
Pressure	6450 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	10.4 lbm/gal
--------------------------	--------	-----------------------	------------	----------------	--------------

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		

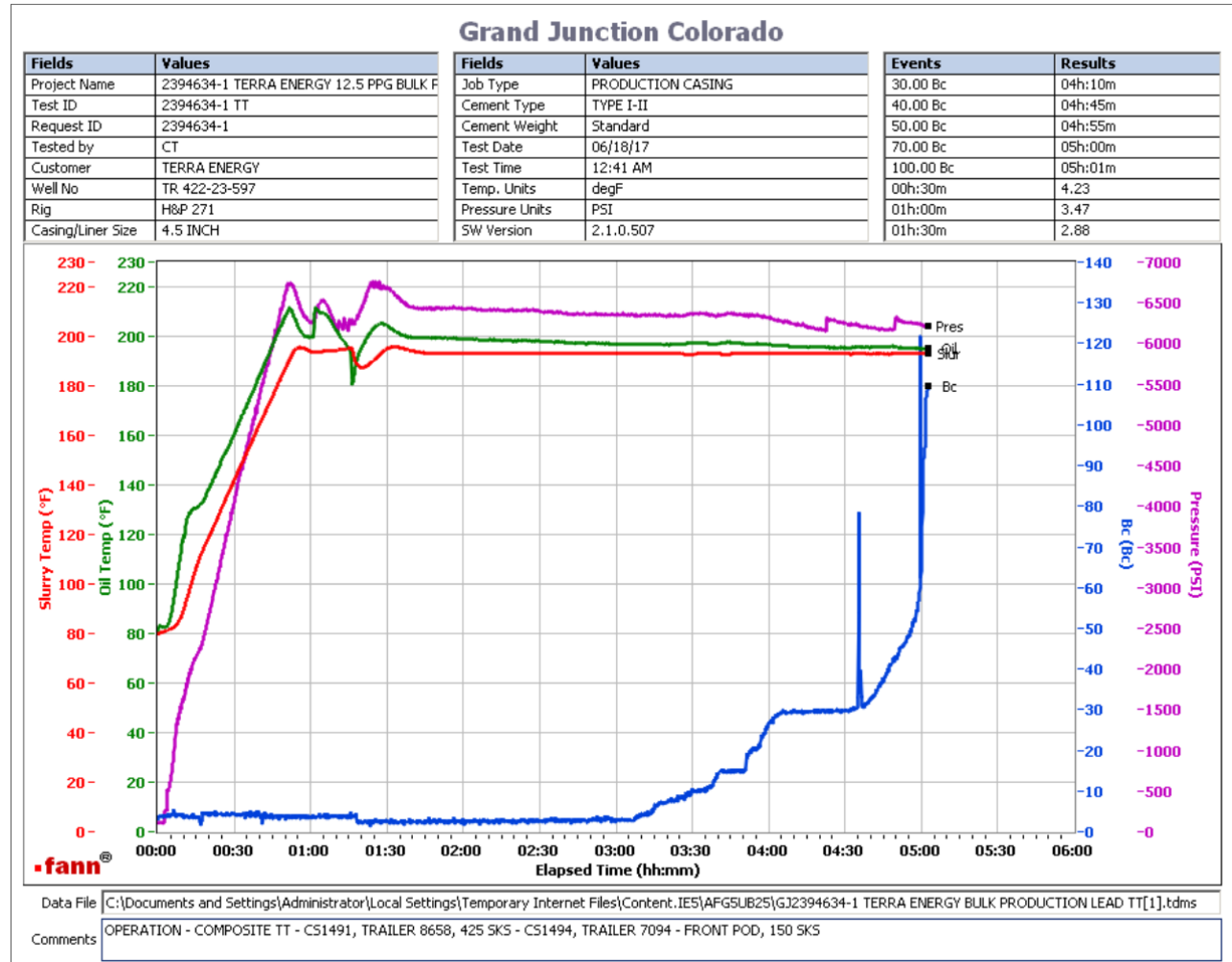
This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

Operation Test Results Request ID 2394634/1

Thickening Time - ON-OFF-ON

18/JUN/2017

Test Temp (°F)	Pressure (psi)	Reached in (min)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
193	6450	51	4:55	5:00	5:01	3	61	15	4



Total sks = 575

Composite:

CS1491, Trailer 8658, 425 sks

CS1494, Trailer 7094 - Front Pod, 150 sks

no deflection was observed

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2394635/1	Rig Name	H&P 271	Date	16/JUN/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 422-23-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	10385 ft	BHST	123°C / 254°F
Hole Size	8.75 in	Depth TVD	10220 ft	BHCT	89°C / 193°F
Pressure	6450 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	10.4 lbm/gal
--------------------------	--------	-----------------------	------------	----------------	--------------

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		
		NeoCem Tail				Slurry Density	13	lbm/gal
						Slurry Yield	2.065	ft3/sack
						Water Requirement	9.424	gal/sack
						Total Mix Fluid	9.424	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

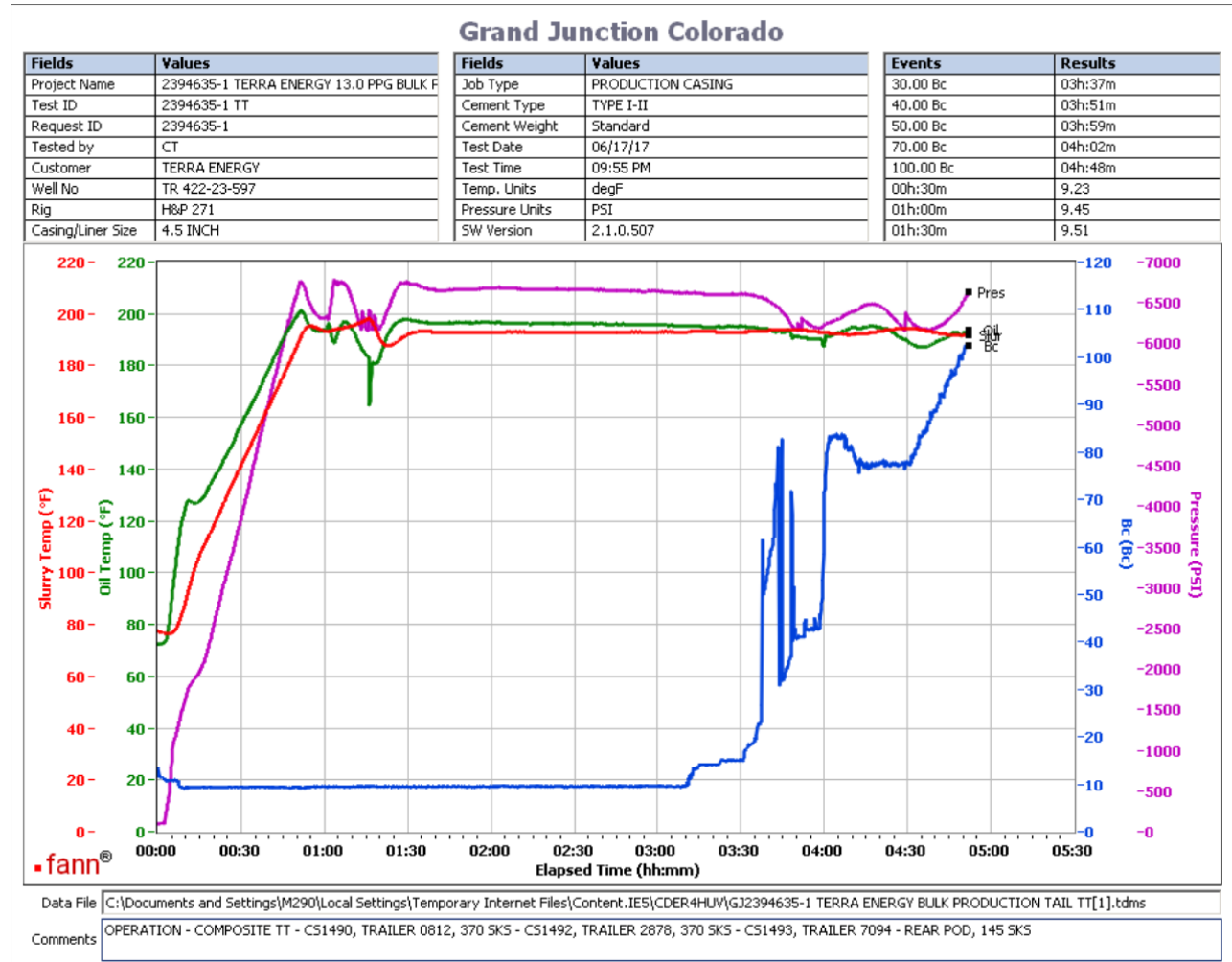
This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

Operation Test Results Request ID 2394635/1

Thickening Time - ON-OFF-ON

18/JUN/2017

Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
193	6450	51	3:37	4:02	4:48	13	61	15	9



Total sks = 885

Composite:

CS1490, Trailer 0812, 370 sks

CS1492, Trailer 2878, 370 sks

CS1493, Trailer 7094 - Rear Pod, 145 sks

no deflection was observed

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.