

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS-EBUS

For: Terra Energy Partners

Date: Saturday, November 04, 2017

PA 442-26

API: 05-045-23641-00

Sincerely,

Grand Junction Cement Engineering

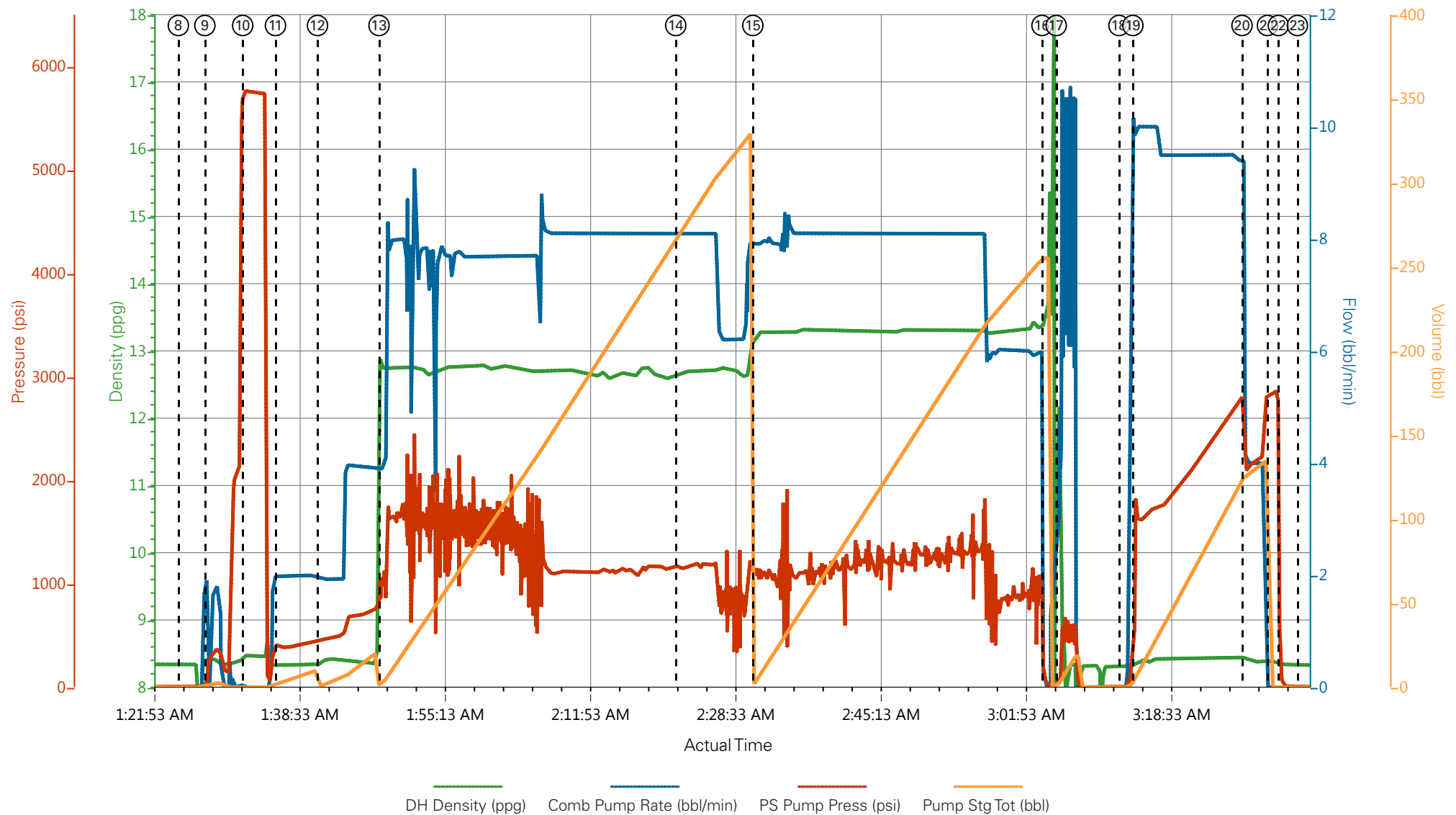
1.0 Real-Time Job Summary

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	11/3/2017	15:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	11/3/2017	18:15:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	11/3/2017	18:30:00	USER					
Event	4	Arrive At Loc	11/3/2017	20:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	11/3/2017	20:30:00	USER					WITH ALL HES PERSONNEL
Event	6	Pre-Rig Up Safety Meeting	11/3/2017	20:45:00	USER					WITH ALL HES PERSONNEL
Event	7	Pre-Job Safety Meeting	11/4/2017	00:30:00	USER					WITH ALL ON LOCATION PERSONNEL, RIG CIRULATED FOR 1.5 HOURS AT 443 GAL/MIN PRIOR TO JOB
Event	8	Start Job	11/4/2017	01:25:00	COM5					TP- 8277, TD-8287, S.J.-31.4, MUD#-12.3, HOLE-8 3/4, 9 5/8 SET@ 1132
Event	9	Prime Pumps	11/4/2017	01:28:02	COM5					FILLED LINES WITH WATER
Event	10	Pressure Test	11/4/2017	01:32:22	USER	8.47	0.00	5771.00	0.0	5771 PSI TESTED GOOD
Event	11	Pump Spacer 1	11/4/2017	01:36:08	COM5	8.33	2.00	384.00	10	FRESH WATER
Event	12	Pump Spacer 2	11/4/2017	01:40:57	COM5	8.34	4.00	447.00	20	MUD FLUSH
Event	13	Pump Lead Cement	11/4/2017	01:48:00	COM5	12.70	8.0	1130	305	925 SKS, 12.7 PPG, 1.85 FT3/SK, 8.94 GAL/SK
Event	14	Check weight	11/4/2017	02:22:03	COM5	12.70	8.0	1141.00	269.1	GOOD
Event	15	Pump Tail Cement	11/4/2017	02:30:54	COM5	13.3	8.0	1175.00	212.6	690 SKS, 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK
Event	16	Shutdown	11/4/2017	03:04:04	COM5					TO WASH PUMPS AND LINES
Event	17	Clean Lines	11/4/2017	03:05:42	COM5					PUMP TO THE PIT, BLEW AIR FROM FLOOR TO PIT

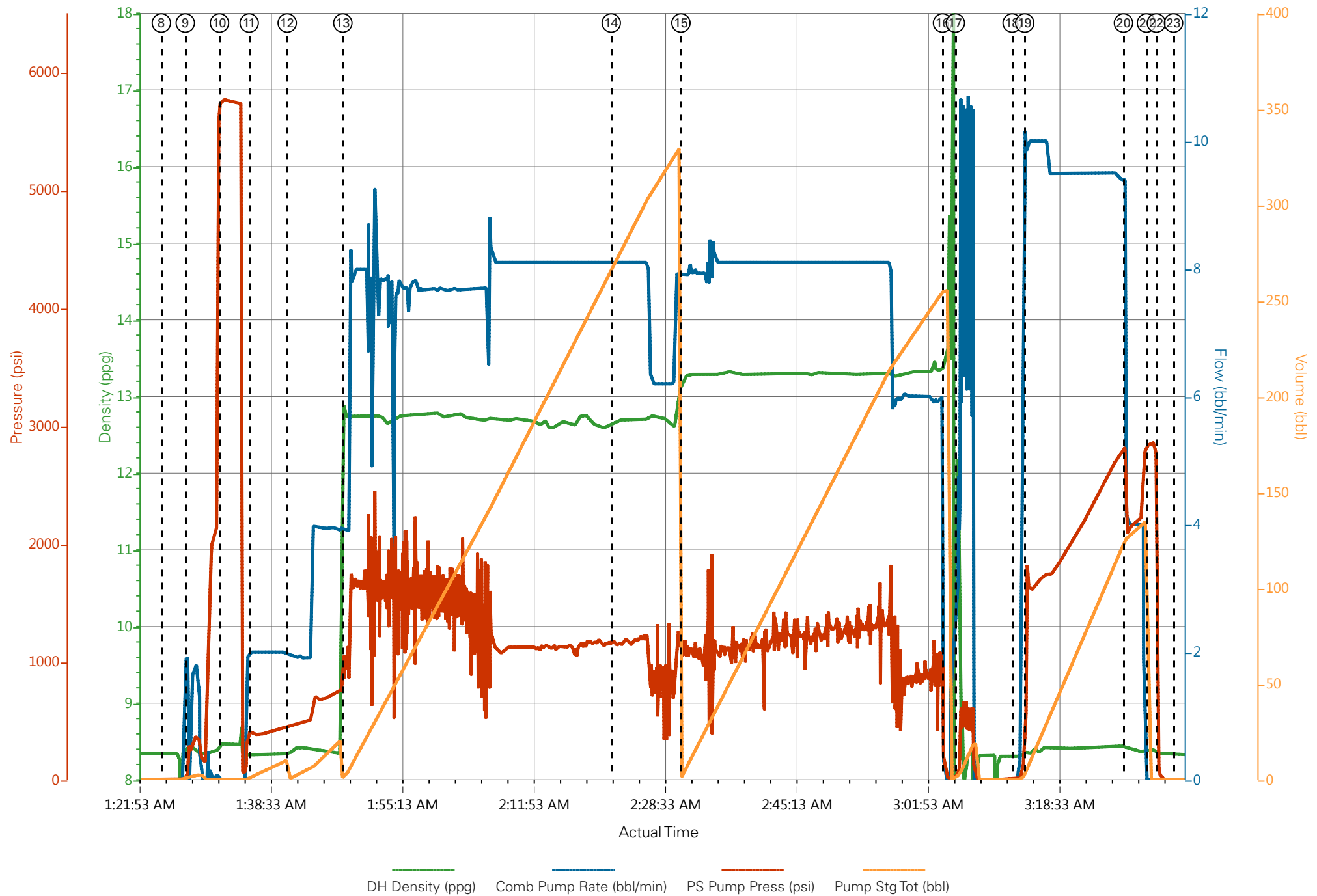
Event	18	Drop Top Plug	11/4/2017	03:12:54	COM5					AWAY
Event	19	Pump Displacement	11/4/2017	03:14:30	COM5	8.4	10.00	2480	127.8	KCL WATER WITH 1 GAL MMCR, 3 BAGS BE-6, GOOD RETURNS THROUGHOUT JOB, PIPE WAS RECIPIROCATED, 50 BBLS CEMENT BACK TO SURFACE
Event	20	SLOW RATE	11/4/2017	03:27:01	COM5	8.4	2.0	2250	117	SLOW RATE TO BUMP PLUG
Event	21	Bump Plug	11/4/2017	03:29:56	COM5	8.4	0.00	2870	0.0	PLUG BUMPED
Event	22	Check Floats	11/4/2017	03:31:11	USER					FLOATS HELD 1.5 BBLS BACK TO TRUCK
Event	23	End Job	11/4/2017	03:33:22	COM5					
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	11/4/2017	04:01:05	USER					WITH ALL HES PERSONNEL
Event	25	Pre-Convoy Safety Meeting	11/4/2017	04:01:20	USER					WITH ALL HES PERSONNEL
Event	26	Crew Leave Location	11/4/2017	04:01:42	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

TEP TRI STATE TRUCKING PA 442-26 4.5 PRODUCTION CASING



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

TEP TRI STATE TRUCKING PA 442-26 4.5 PRODUCTION CASING



Job Information

Request/Slurry	2427192/1	Rig Name	H&P 271	Date	29/OCT/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 442-26

Well Information

Casing/Liner Size	4.5 in	Depth MD	8345 ft	BHST	102°C / 215°F
Hole Size	8.75 in	Depth TVD	7958 ft	BHCT	63°C / 145°F
Pressure	4870 psi				

Drilling Fluid Information

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

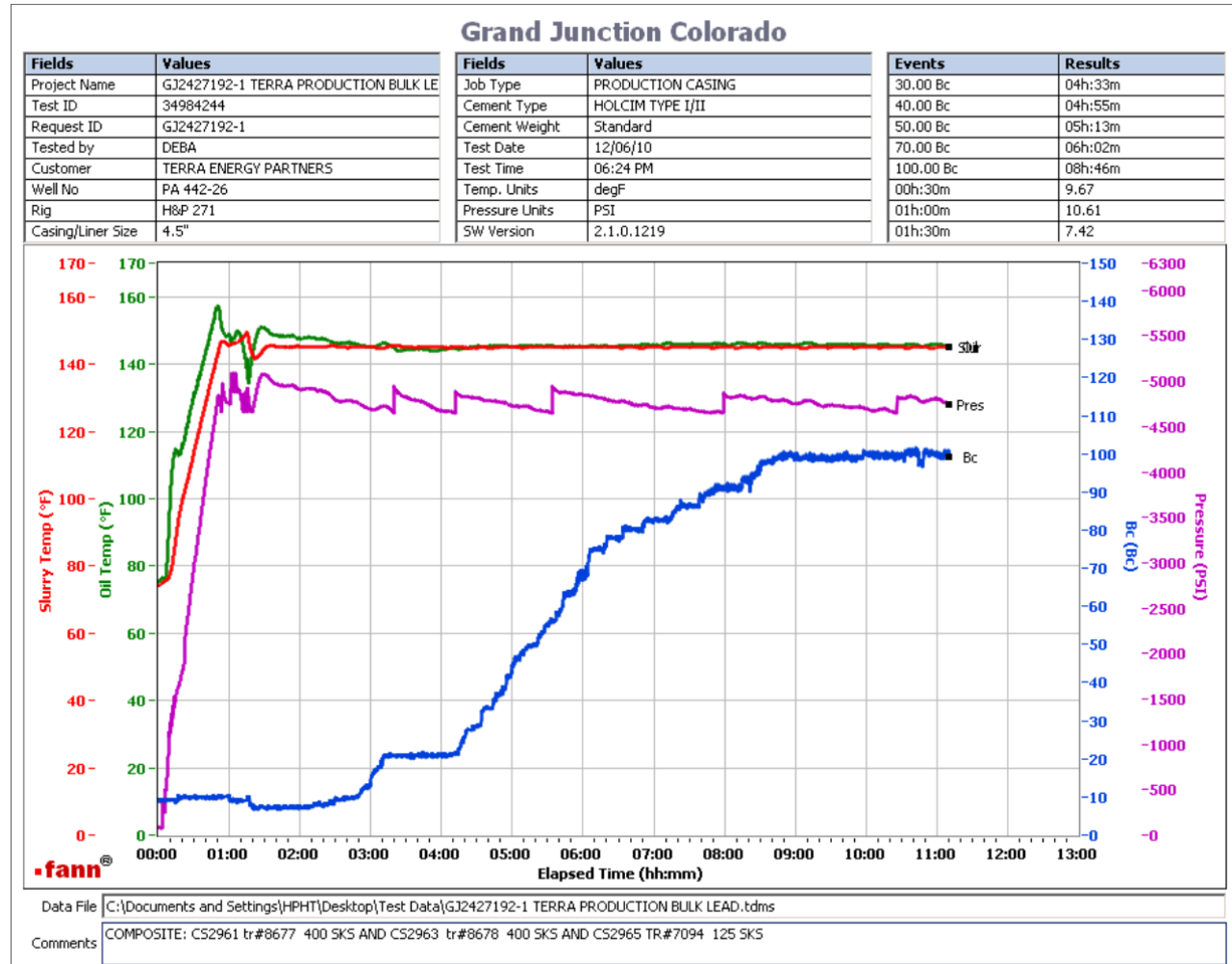
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water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

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Thickening Time - ON-OFF-ON

30/OCT/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)
145	4870	50	4:33	5:13	6:02	8:46	9	60	15	10



Total sks= 925

Composite:

CS2961 TR#8677 400 SKS

CS2963 TR#8678 400 SKS

CS2965 TR#7094 Front pod 125 SKS

No deflection

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Rockies, Grand Junction

Lab Results- Tail

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



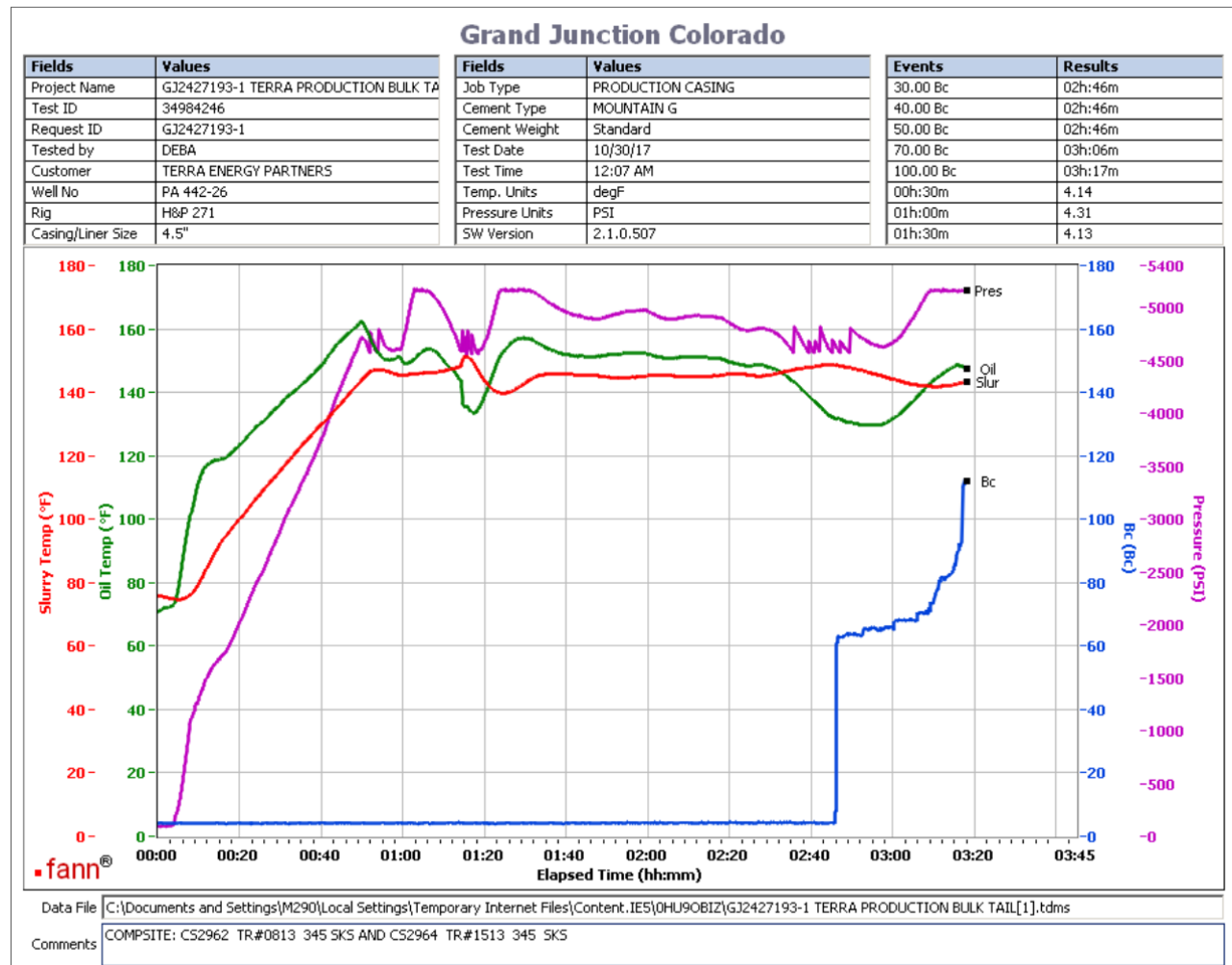
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Fresh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

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30/OCT/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)
145	4870	49	2:46	2:46	3:06	3:17	4	59	15	4



690 sks tail
Composite:
CS2962 TR#0813 345 SKS
CS2664 TR#1513 345 SKS
No deflection.

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