

HALLIBURTON

iCem[®] Service

Terra Energy Partners

For: Terra

Date: Sunday, August 13, 2017

SR 41-12 Production PJR

API #05-045-23294-00

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

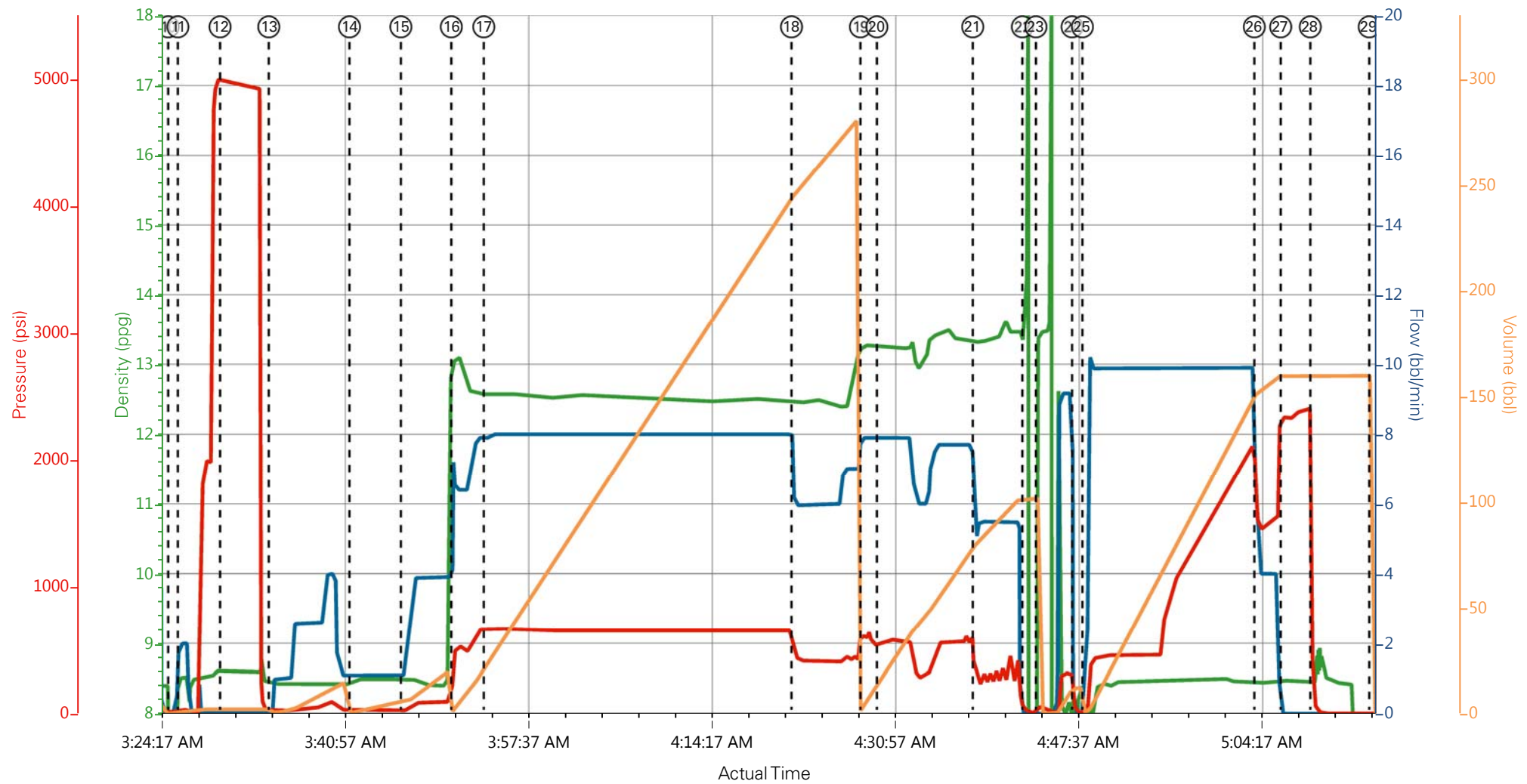
1.1 Job Event Log

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	8/12/2017	14:00:00	USER					REQUESTED ON LOCATION @ 20:00
Event	2	Pre-Convoy Safety Meeting	8/12/2017	16:00:00	USER					ALL HES EMPLOYEES PRESENT
Event	3	Crew Leave Yard	8/12/2017	16:15:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	8/12/2017	18:00:00	USER					2 HOUR EARLY TO LOCATION. RIG RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	8/12/2017	18:20:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7.0, CHLORIDES- 0, TEMP- 60 F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	8/12/2017	18:30:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	8/12/2017	18:40:00	USER					ALL HES PRESENT
Event	8	Rig-up Lines	8/12/2017	18:45:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.

Event	9	Pre-Job Safety Meeting	8/13/2017	03:00:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 11 BPM PRIOR TO JOB PRESSURE @ 880 PSI.
Event	10	Start Job	8/13/2017	03:25:12	USER					TP 9873', SJ 45.20', SURFACE CSG 9 5/8" 32.3# J-55 SET @ 1225' PRODUCTION CSG 4 1/2" 11.6# P-110, OH 8 3/4", MUD 9.6 VIS 45 PPG
Event	11	Prime Lines	8/13/2017	03:26:05	USER	8.33	2.0	36	3	FRESH WATER
Event	12	Test Lines	8/13/2017	03:29:55	COM5	8.33		4960		ALL LINES HELD PRESSURE AT PSI 4960
Event	13	H2O Spacer	8/13/2017	03:34:20	COM5	8.33	4.0	40	10	FRESH WATER
Event	14	Mud Flush	8/13/2017	03:41:40	COM5	8.4	4.0	90	20	20 BBL MUDFLUSH III
Event	15	Check weight	8/13/2017	03:46:20	COM5	12.5				WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Pump Lead Cement	8/13/2017	03:50:56	COM5	12.5	8.0	650	276.4	800 SKS NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK.
Event	17	Check weight	8/13/2017	03:53:52	COM5	12.5				WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Slow Rate	8/13/2017	04:21:50	USER					SLOWED TO END LEAD SILO
Event	19	Pump Tail Cement	8/13/2017	04:28:05	COM5	13.3	8.0	630	81.7	265 SKS THERMACEM CMT 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	20	Check weight	8/13/2017	04:29:35	COM5	13.3				WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	21	Slow Rate	8/13/2017	04:38:18	USER					SLOWED TO END TAIL CEMENT

Event	22	Shutdown	8/13/2017	04:42:48	USER					END OF CEMENT
Event	23	Clean Pumps And Llnes	8/13/2017	04:44:02	USER					CLEAN PUMPS AND LINES TO PIT
Event	24	Drop Top Plug	8/13/2017	04:47:19	USER					VERIFIED BY CO REP
Event	25	Pump Displacement	8/13/2017	04:48:15	COM5	8.4	10.0	2121	142.3	1 GAL MMCR IN FIRST 10 BBLS, 3 LBS BE-6 IN FIRST 30 BBLS, 1 50 LB. BAG KCL THROUGHOUT DISPLACEMENT
Event	26	Slow Rate	8/13/2017	05:03:52	USER	8.4	4.0	1440	10	SLOW RATE TO 4 BPM TO BUMP PLUG
Event	27	Bump Plug	8/13/2017	05:06:16	COM5	8.4	0.00	1554	152.3	LANDED PLUG AT 1554 PSI, BROUGHT UP TO 2300 PSI
Event	28	Check Floats	8/13/2017	05:08:57	USER					FLOATS HELD, 1 BBL BACK TO TRUCK
Event	29	End Job	8/13/2017	05:14:19	COM5					RETURNS THROUGHOUT JOB, PIPE WAS RECIPRICATED WHILE PUMPING.
Event	30	Post-Job Safety Meeting (Pre Rig-Down)	8/13/2017	05:19:33	USER					ALL HES PRESENT
Event	31	Rig-Down Equipment	8/13/2017	05:30:00	USER					ALL HES PRESENT
Event	32	Pre-Convoy Safety Meeting	8/13/2017	06:45:00	USER					ALL HES PRESENT
Event	33	Crew Leave Location	8/13/2017	07:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

TEP YOUNBERG SR 41-12, 4 1/2" PRODUCTION



DH Density (ppg) -0.05 Comb Pump Rate (bbl/min) 0 PS Pump Press (psi) 1 Pump Stg Tot (bbl) 0

- | | | | | |
|---|--------------------------|--------------------|--------------------------|---|
| ① Call Out | ⑧ Rig-up Lines | ⑮ Check weight | 22 Shutdown | 29 End Job |
| ② Pre-Convoy Safety Meeting | ⑨ Pre-Job Safety Meeting | ⑯ Pump Lead Cement | 23 Clean Pumps And Lines | 30 Post-Job Safety Meeting (Pre Rig-Down) |
| ③ Crew Leave Yard | ⑩ Start Job | ⑰ Check weight | 24 Drop Top Plug | 31 Rig-Down Equipment |
| ④ Arrive At Loc | ⑪ Prime Lines | ⑱ Slow Rate | 25 Pump Displacement | 32 Pre-Convoy Safety Meeting |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Test Lines | ⑲ Pump Tail Cement | 26 Slow Rate | 33 Crew Leave Location |
| ⑥ Spot Equipment | ⑬ H2O Spacer | 20 Check weight | 27 Bump Plug | |
| ⑦ Pre-Rig Up Safety Meeting | ⑭ Mud Flush | 21 Slow Rate | 28 Check Floats | |

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Created: 2017-08-12 19:08:53, Version: 4.2.393

Edit

Customer: TEP ROCKY MOUNTAIN LLC

Job Date: 8/13/2017

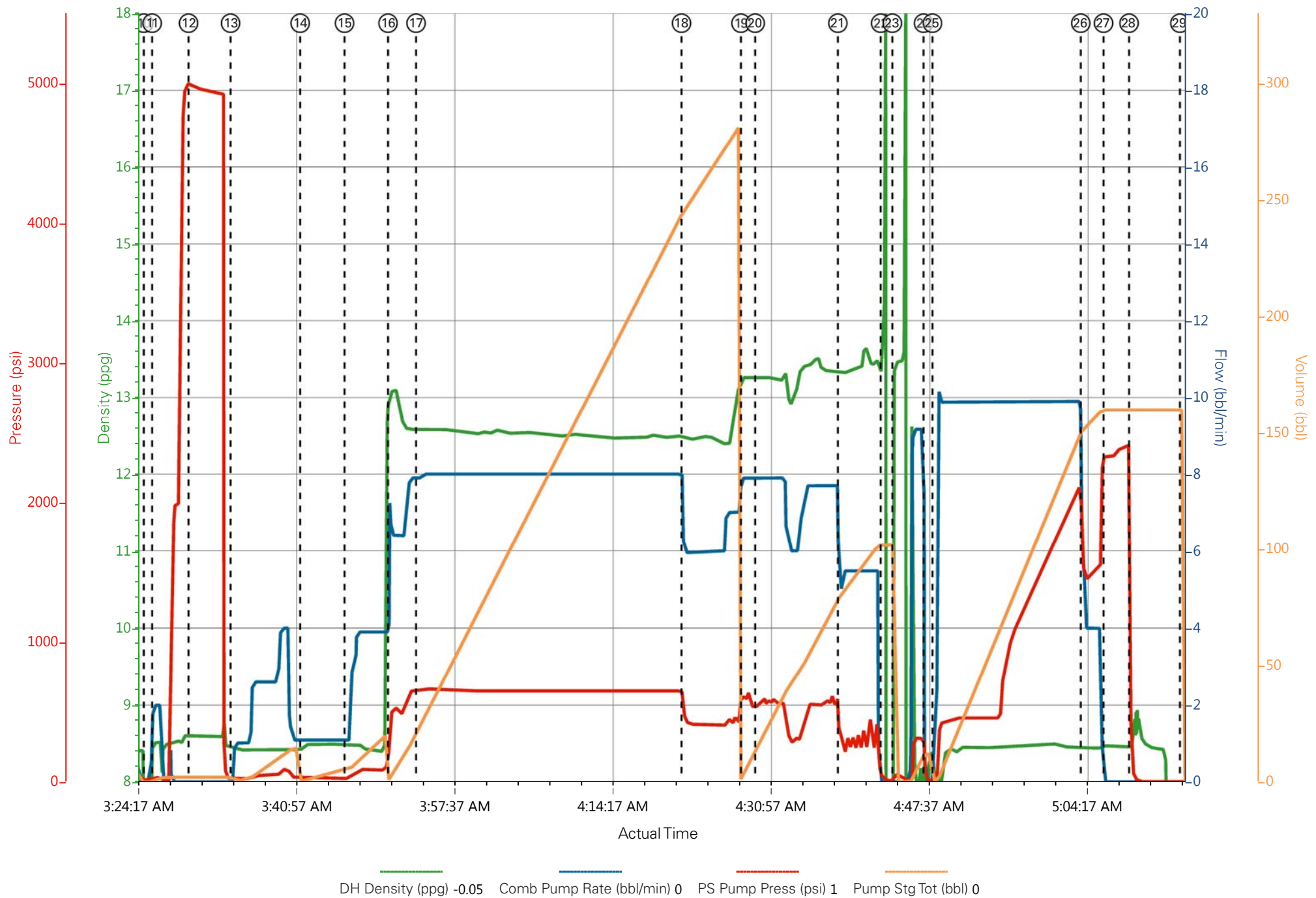
Well: SR 41-12

Representative: NATHAN BURR

Sales Order #: 904227390

ELITE 4: D.BRENNECKE/S.BLOSSOM

TEP YOUNBERG SR 41-12, 4 1/2" PRODUCTION



Job Information

Request/Slurry	2408525/1	Rig Name	H&P 318	Date	09/AUG/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 41-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9927 ft	BHST	115°C / 239°F
Hole Size	8.75 in	Depth TVD	9377 ft	BHCT	76°C / 169°F
Pressure	5830 psi				

Drilling Fluid Information

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



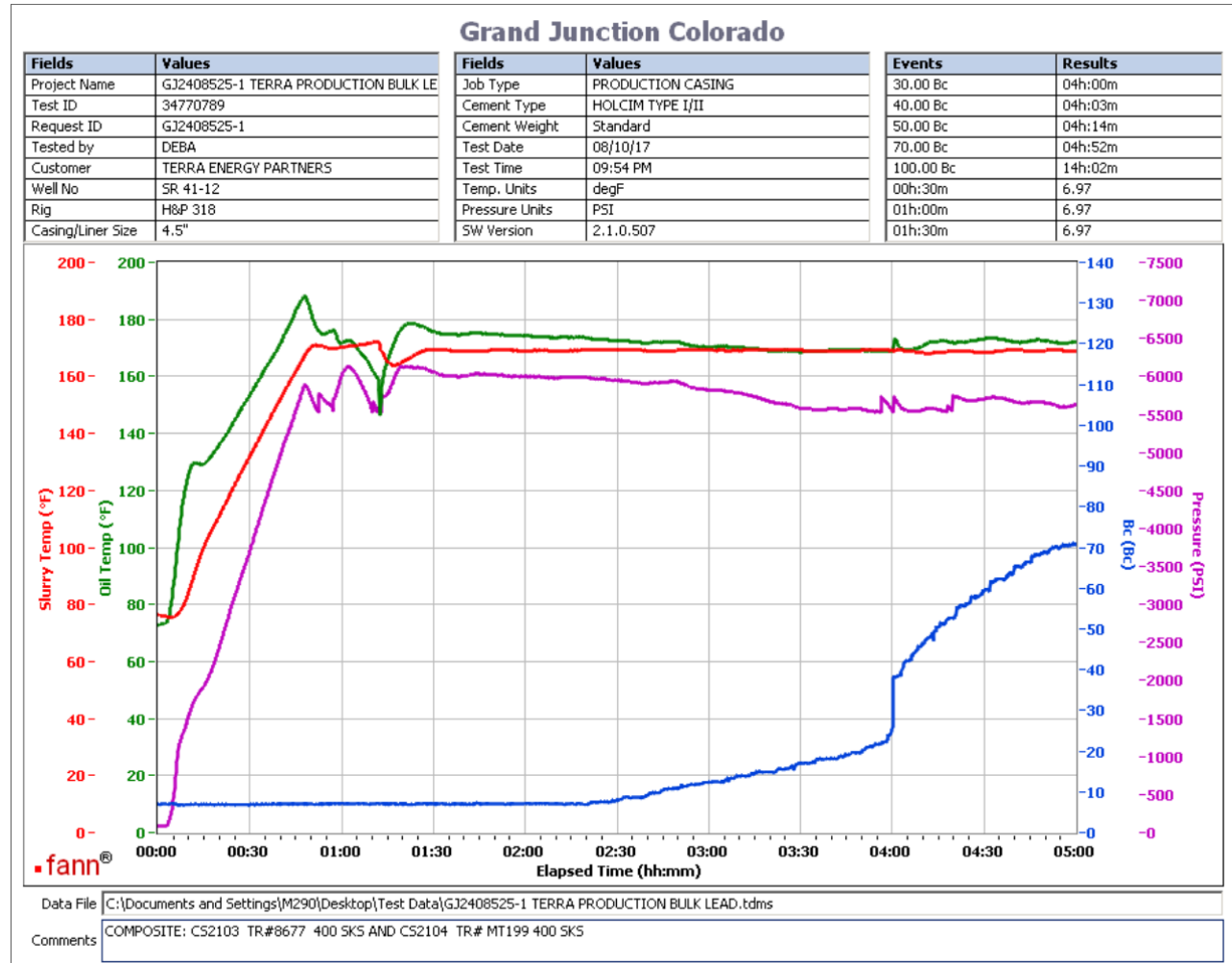
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water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

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Thickening Time - ON-OFF-ON

11/AUG/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)
169	5830	47	4:00	4:14	4:52	14:02	7	57	15	7



Total sks= 800
 composite:
 CS2103 TR#8677 400 SKs
 CS2104 TR# MT199 400 sks
 No deflection

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Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2408526/1	Rig Name	H&P 318	Date	09/AUG/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 41-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9927 ft	BHST	115°C / 239°F
Hole Size	8.75 in	Depth TVD	9377 ft	BHCT	76°C / 169°F
Pressure	5830 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		

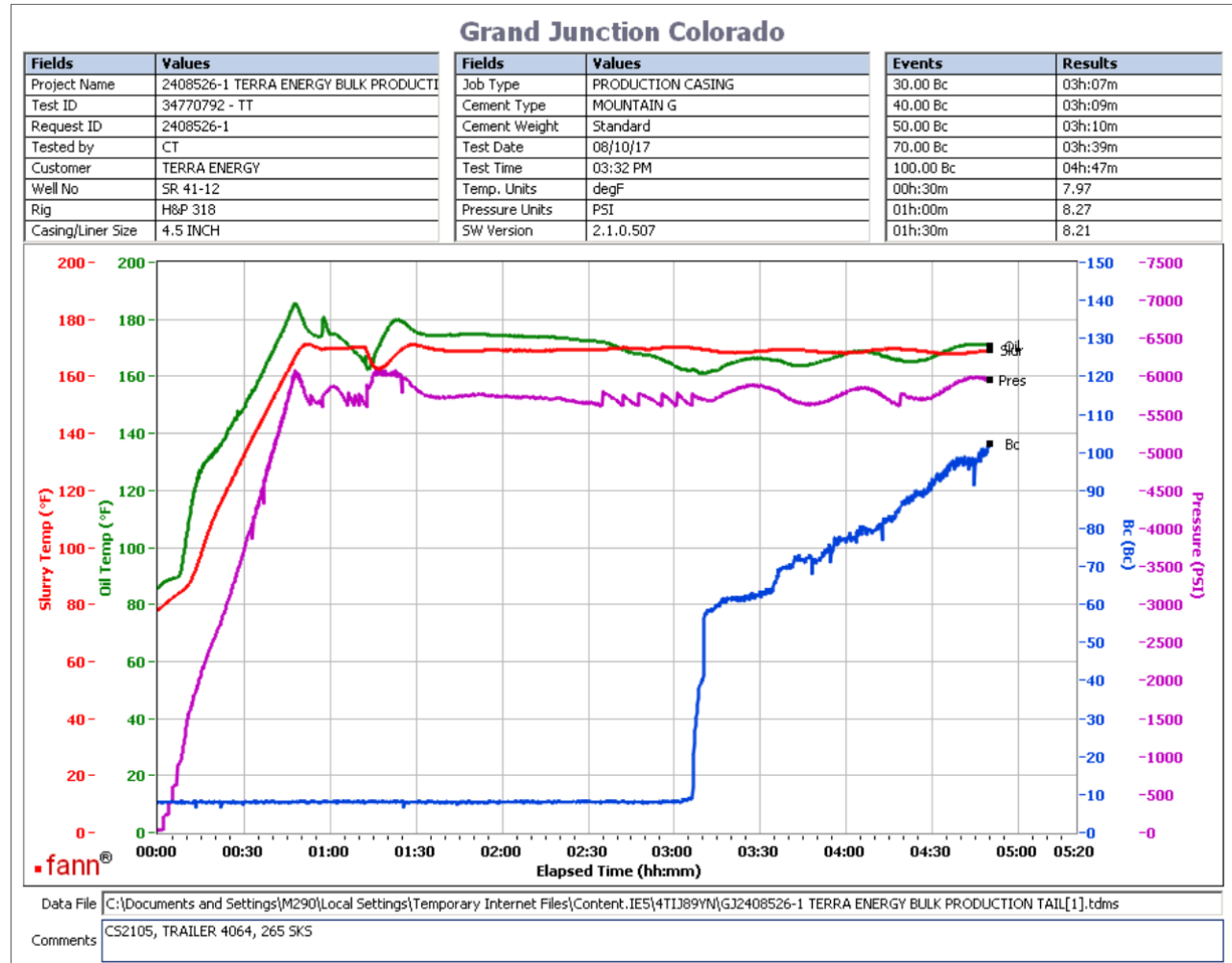
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Operation Test Results Request ID 2408526/1

Thickening Time - ON-OFF-ON

11/AUG/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)
169	5830	47	3:07	3:10	3:39	4:47	8	57	15	8



265 sks tail
CS2105, Trailer 4064, 265 sks
No deflection

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