

# HALLIBURTON

iCem<sup>®</sup> 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

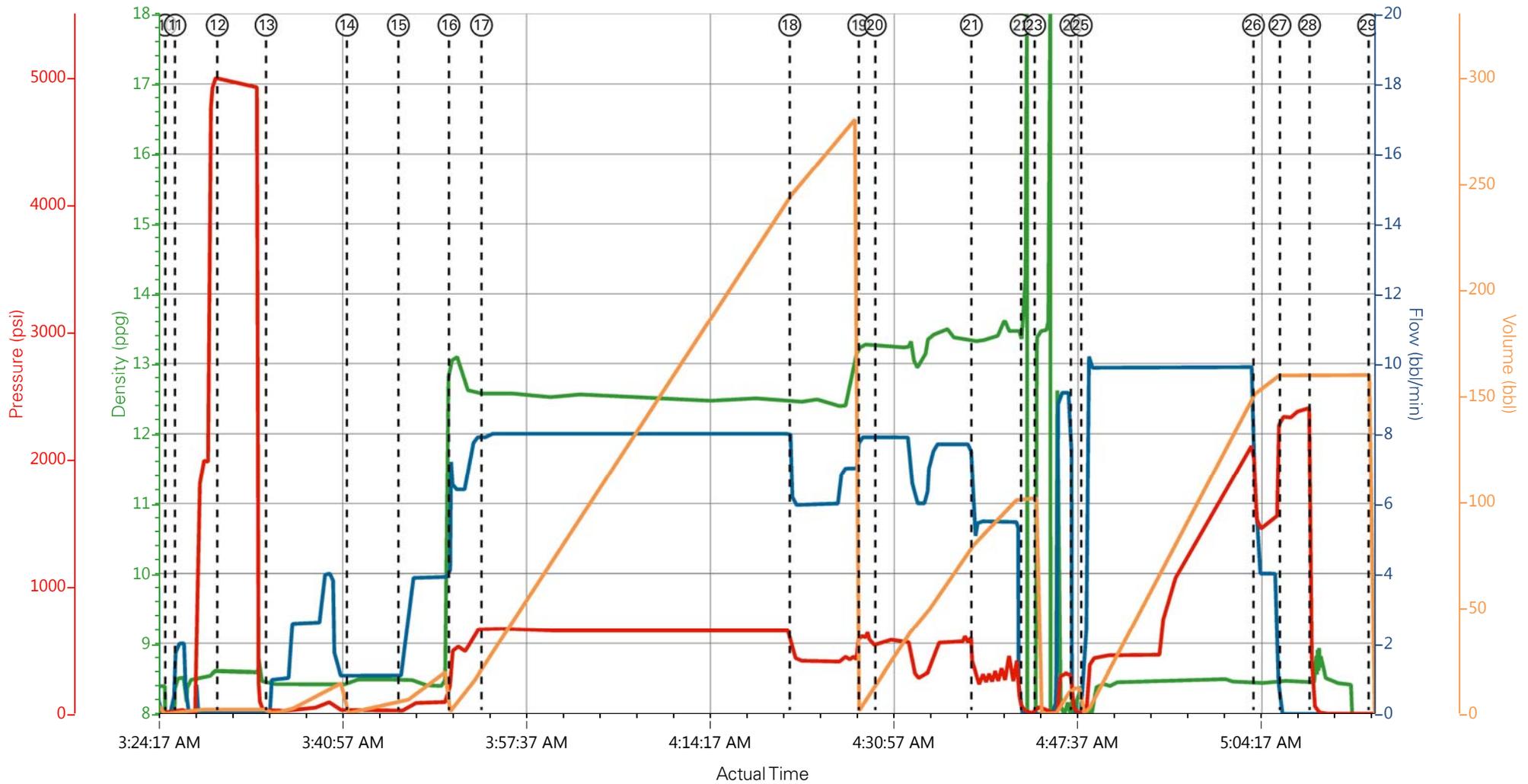
### 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <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	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 Lines	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 YOUBERG 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

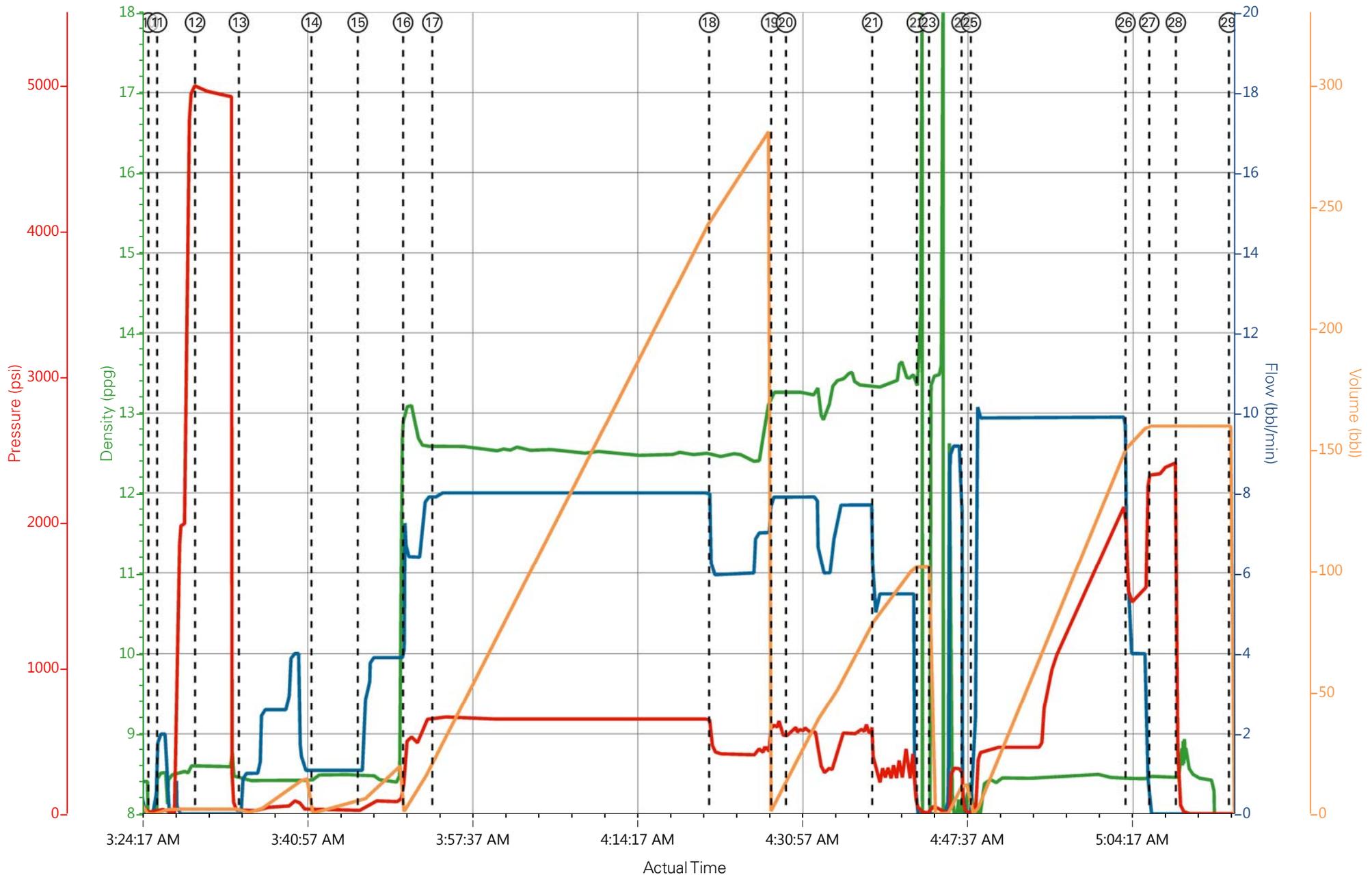
Edit

Customer : TEP ROCKY MOUNTAIN LLC  
 Representative : NATHAN BURR

Job Date : 8/13/2017  
 Sales Order # : 904227390

Well : SR 41-12  
 ELITE 4 : D.BRENNECKE/S.BLOSSOM

# TEP YOUBERG 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

### Job Information

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

### Well Information

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

### Drilling Fluid Information

<b>Mud Supplier Name</b>	<b>Mud Trade Name</b>	<b>Density</b>
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### Cement Information - Lead Design

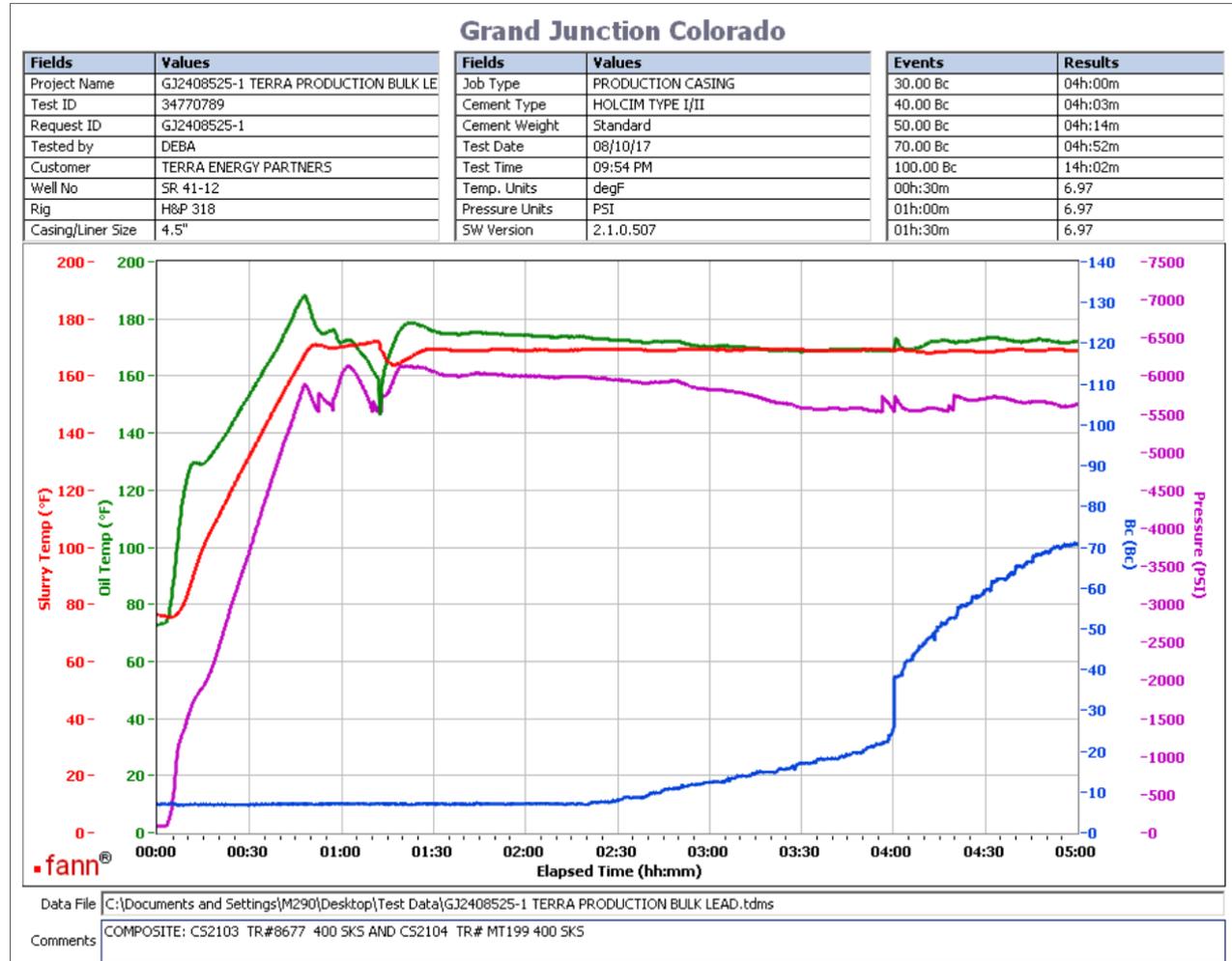
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh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

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

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<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	9927 ft	<b>BHST</b>	115°C / 239°F
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<b>Pressure</b>	5830 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>		<b>Mud Trade Name</b>		<b>Density</b>	
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### Cement Information - Tail Design

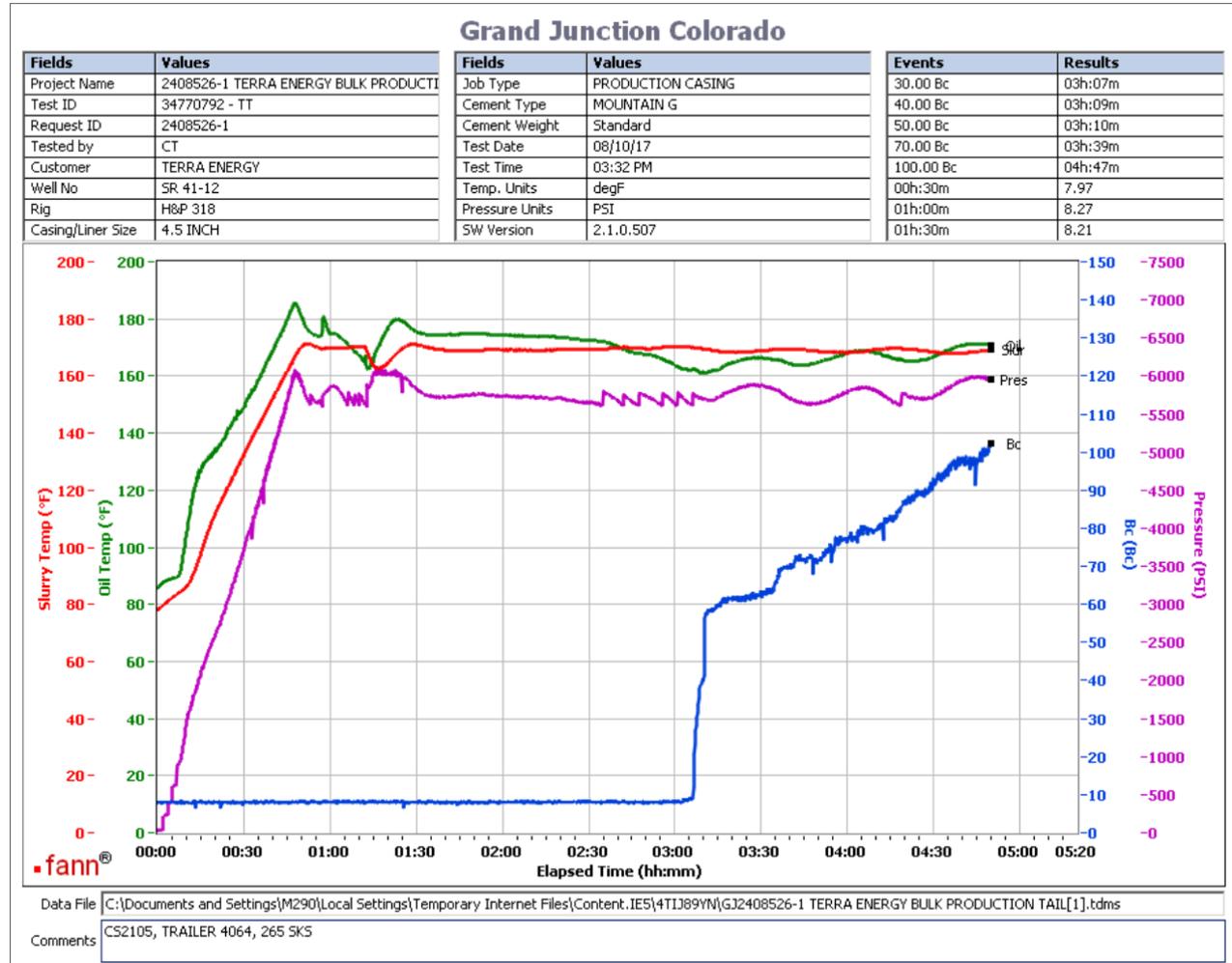
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source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

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Thickening Time - ON-OFF-ON

11/AUG/2017

Test Temp (°F)	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)
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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