

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Monday, July 31, 2017

TR 22-23-597 Production PJR

API # 05-045-23464-00

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

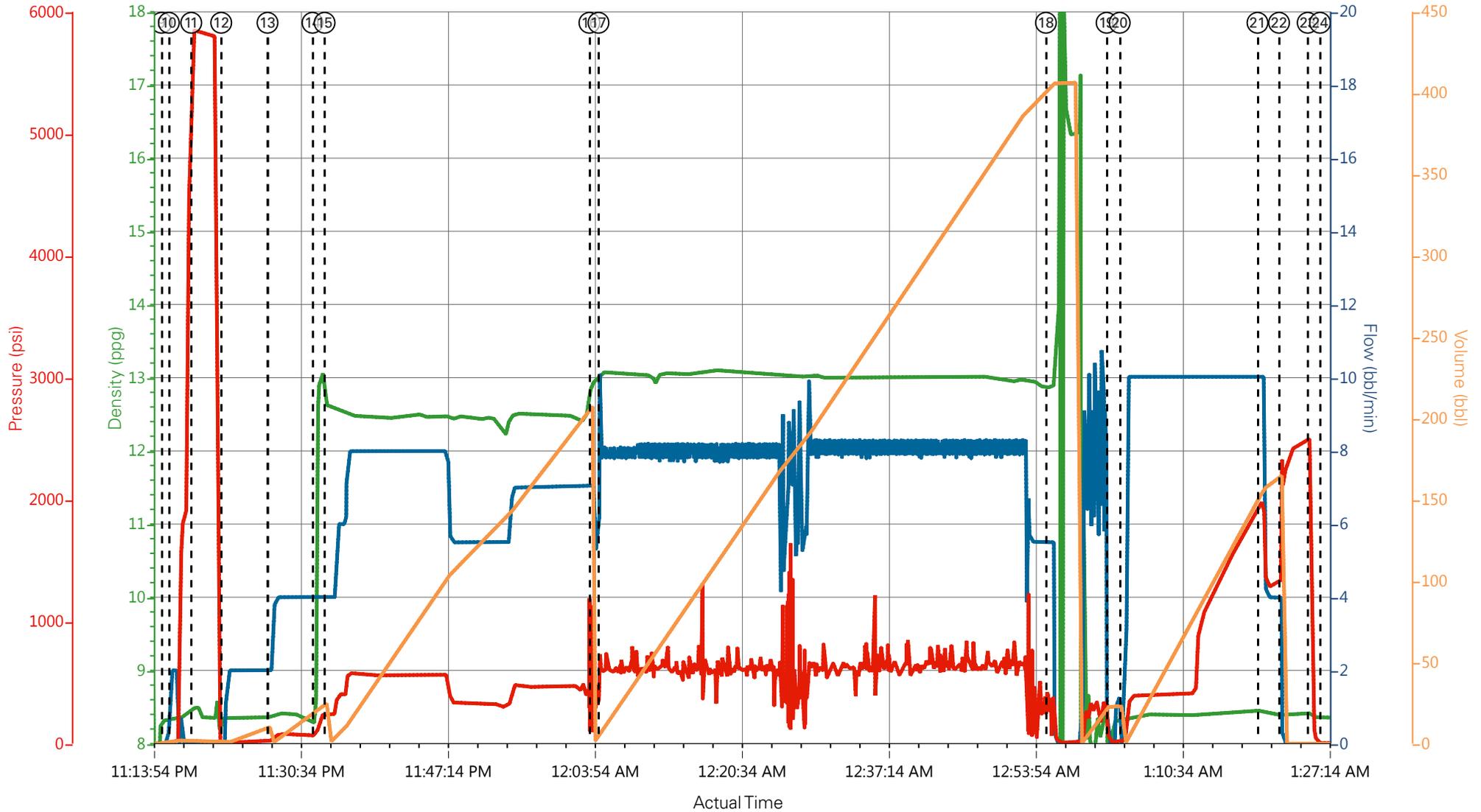
1.1 Job Event Log

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	7/30/2017	12:00:00	USER					REQUESTED ON LOCATION @ 18:00
Event	2	Pre-Convoy Safety Meeting	7/30/2017	14:15:00	USER					ALL HES EMPLOYEES PRESENT
Event	3	Crew Leave Yard	7/30/2017	14:30:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	7/30/2017	18:00:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	7/30/2017	18:30:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7.5, CHLORIDES- 0, TEMP- 60 F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	7/30/2017	20:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	7/30/2017	20:45:00	USER					ALL HES EMPLOYEES PRESENT
Event	8	Pre-Job Safety Meeting	7/30/2017	22:30:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10.5 BPM PRIOR TO JOB PRESSURE @ 380 PSI, WILL HAVE 1500 DOWN THE PARASITE.
Event	9	Start Job	7/30/2017	23:15:07	USER					TD 10,229', TP 10,219', SJ 28.36', SURFACE CSG 9 5/8" 36# J-55 SET @ 3013' PRODUCTION CSG 4 1/2" 11.6# P-110, OH 8 3/4", MUD 8.9 VIS 45 PPG

Event	10	Prime Lines	7/30/2017	23:15:57	USER	8.33	2.0	24	2	FRESH WATER
Event	11	Pressure Test	7/30/2017	23:18:29	USER			5800		PRESSURE HELD
Event	12	Pump H2O Spacer	7/30/2017	23:21:53	COM5	8.33	2.0	23	10	FRESH WATER
Event	13	Pump Mud Flush III	7/30/2017	23:27:08	COM5	8.4	4.0	78	20	80 LBS MUD FLUSH III
Event	14	Pump Lead Cement	7/30/2017	23:32:14	COM5	12.5	8.0	500	199	575 SKS NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.58 GAL/SK. WITH 1 BOXES OF TUF-FIBER THROUGHOUT
Event	15	Check weight	7/30/2017	23:33:37	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Pump Tail Cement	7/31/2017	00:03:38	COM5	13.0	8.0	660	327	885 SKS NEOCEM CMT 13.0 PPG, 2.07 FT3/SK, 9.43 GAL/SK.
Event	17	Check weight	7/31/2017	00:04:40	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Shutdown	7/31/2017	00:55:24	USER					END OF CMT. BLEW AIR THROUGH LINES TO PIT FROM FLOOR THEN WASHED UP PUMP AND LINES, RE-PRIMED LINE.
Event	19	Drop Top Plug	7/31/2017	01:02:17	COM5					VERIFIED BY FLAG INDICATOR AND CO REP THAT 3RD PARTY LATCH DOWN PLUG LAUNCHED.
Event	20	Pump Displacement	7/31/2017	01:03:46	COM5	8.4	10.0	2000	148	1 GAL MMCR IN FIRST 10 BBLS, 3 LBS BE-6 IN FIRST 30 BBLS, 1 50 LB. BAG KCL THROUGHOUT DISPLACEMENT
Event	21	Slow Rate	7/31/2017	01:19:24	USER	8.4	4.0	1280	10	SLOWED TO BUMP LATCH DOWN PLUG
Event	22	Bump Plug	7/31/2017	01:21:50	COM5	8.4	4.0	1340	158	BUMPED LATCH DOWN PLUG
Event	23	Check Floats	7/31/2017	01:25:05	USER			2440		FLOATS HELD 1.5 BBL FLOW BACK TO TANK

Event	24	End Job	7/31/2017	01:26:29	USER	1500 ON PARASITE DURING CEMENT. ON DISPLACEMENT IT WAS CUT BACK AND THEN SHUTOFF.
Event	25	Pre-Convoy Safety Meeting	7/31/2017	02:45:00	USER	ALL HES EMPLOYEES PRESENT
Event	26	Crew Leave Location	7/31/2017	03:00:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW

TERRA, CHEVRON TR 22-23-597, 4 1/2" PRODUCTION



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

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

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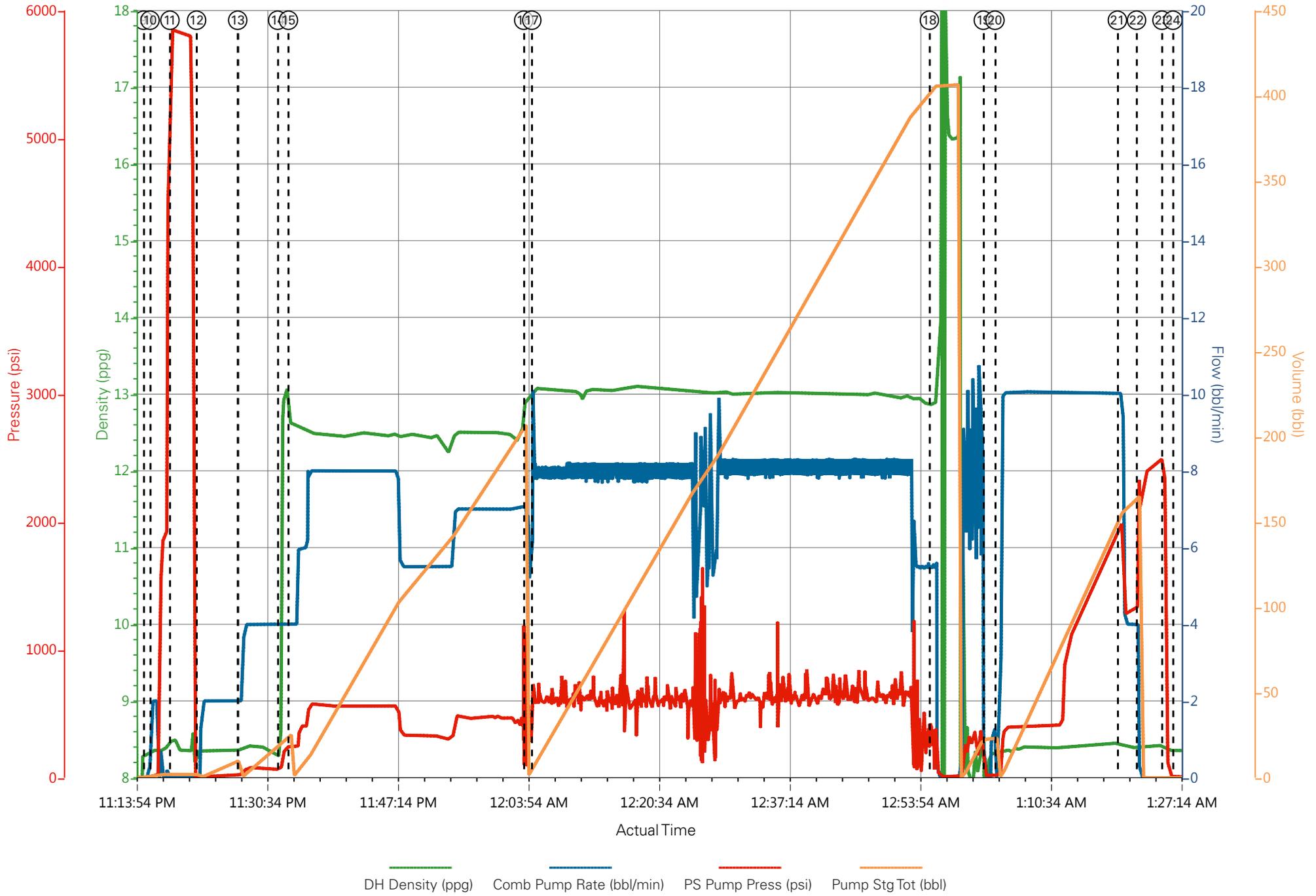
Edit

Customer : TEP ROCKY MOUNTAIN LLC
 Representative : MATT HUTSON

Job Date : 7/30/2017
 Sales Order # : 904192143

Well : CHEVRON TR 22-23-597
 ELITE 4 : HYDE / ANGELO

TERRA, CHEVRON TR 22-23-597, 4 1/2" PRODUCTION



— DH Density (ppg)
 — Comb Pump Rate (bbl/min)
 — PS Pump Press (psi)
 — Pump Stg Tot (bbl)

Job Information

Request/Slurry	2405353/1	Rig Name	H&P 271	Date	25/JUL/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 22-23-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	10425 ft	BHST	123°C / 254°F
Hole Size	8.75 in	Depth TVD	10225 ft	BHCT	89°C / 193°F
Pressure	6460 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	10.4 lbm/gal
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Cement Information - Lead Design

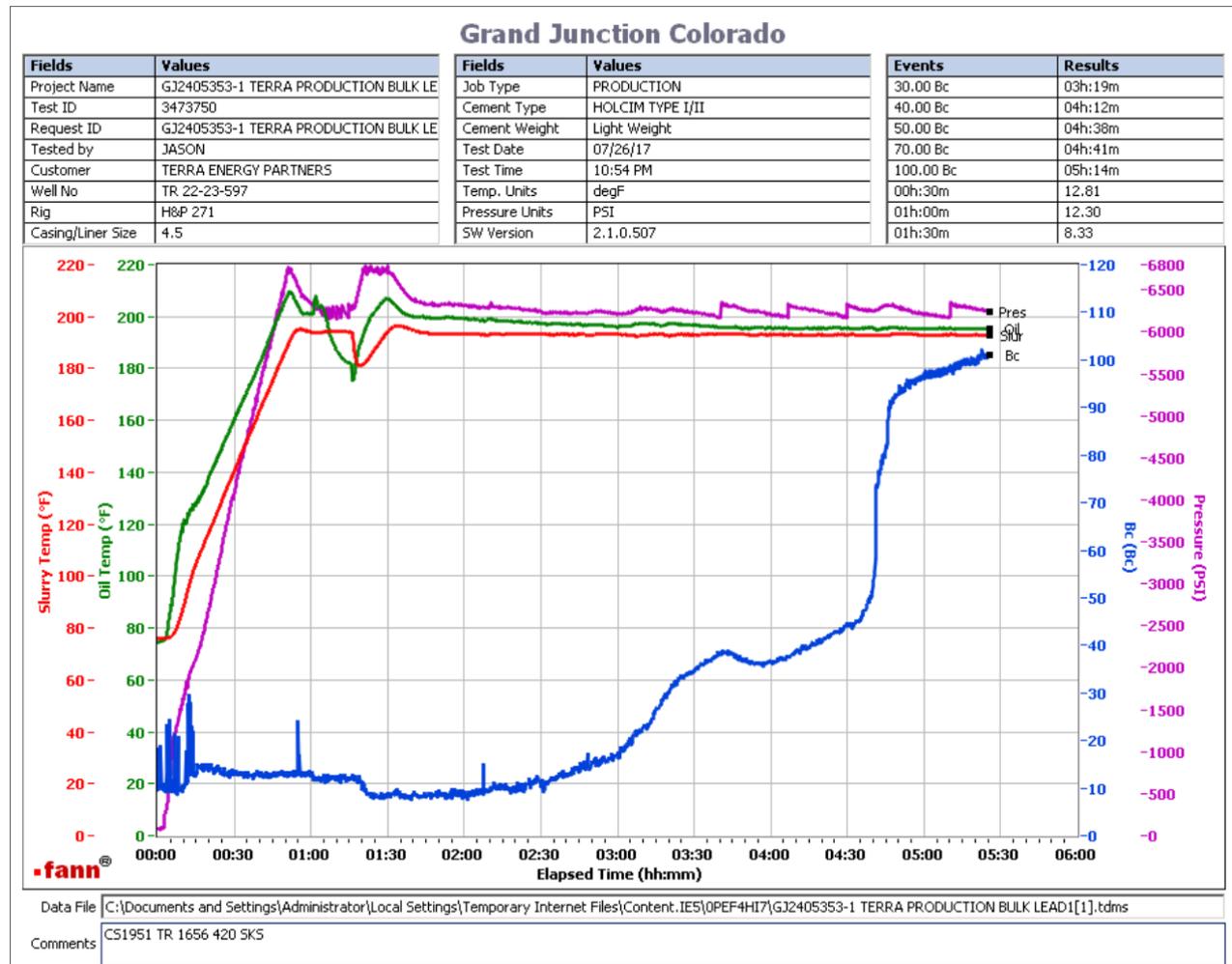
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh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

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Thickening Time - ON-OFF-ON

27/JUL/2017

Test Temp (°F)	Pressure (psi)	Reached in (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)
153	6460	51	4:38	4:41	5:14	18	61	15	13



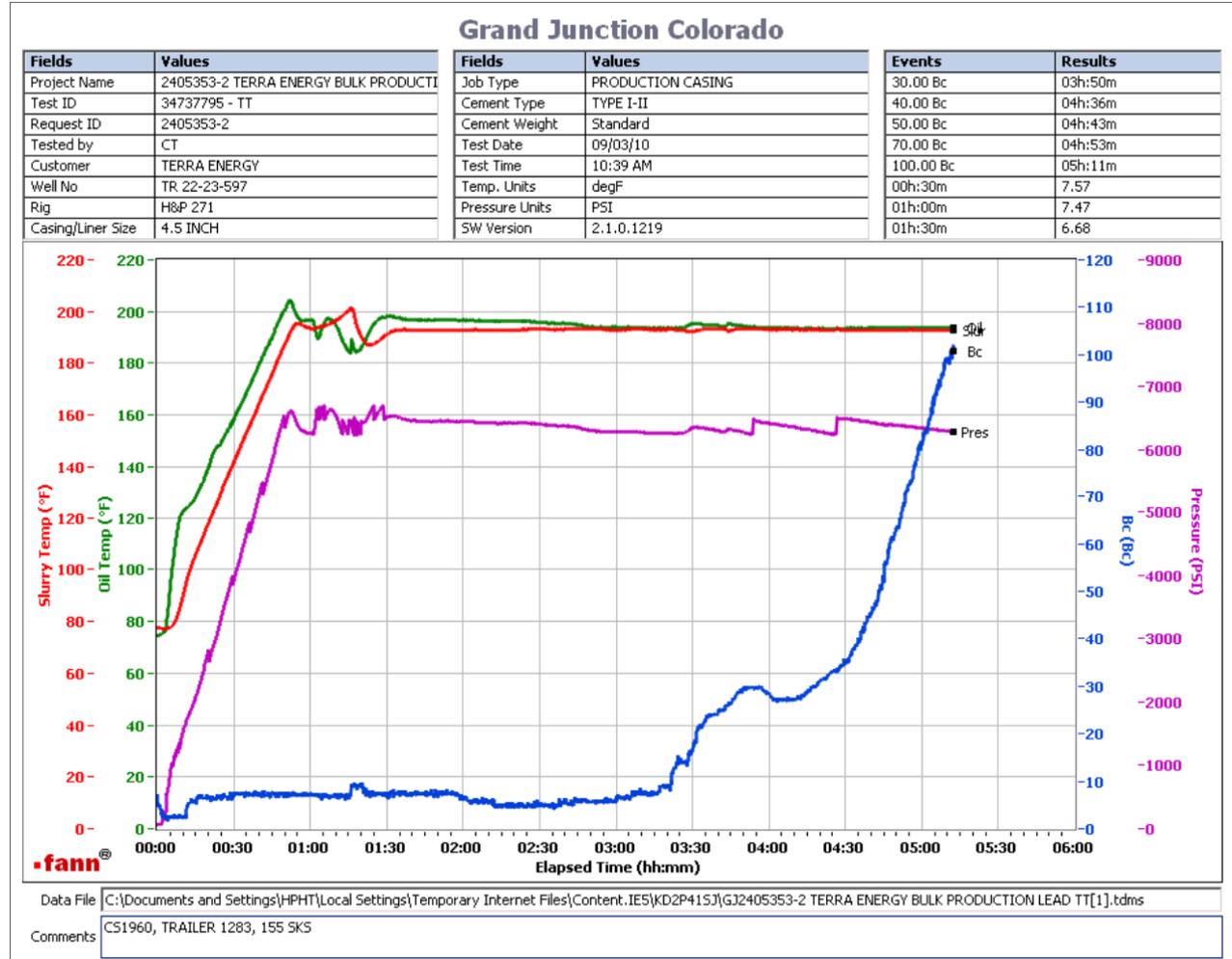
Total sks = 575
 CS1951 TR 1656 420 SK
 Deflected from 12Bc----> 13Bc

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Operation Test Results Request ID 2405353/2

Thickening Time - ON-OFF-ON 27/JUL/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)
193	6460	51	3:50	4:43	4:53	5:11	7	61	15	8



Total sks = 575
 CS1960, Trailer 1283, 155 sks
 Deflected 6--> 8

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Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	10.4 lbm/gal
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Cement Information - Tail Design 

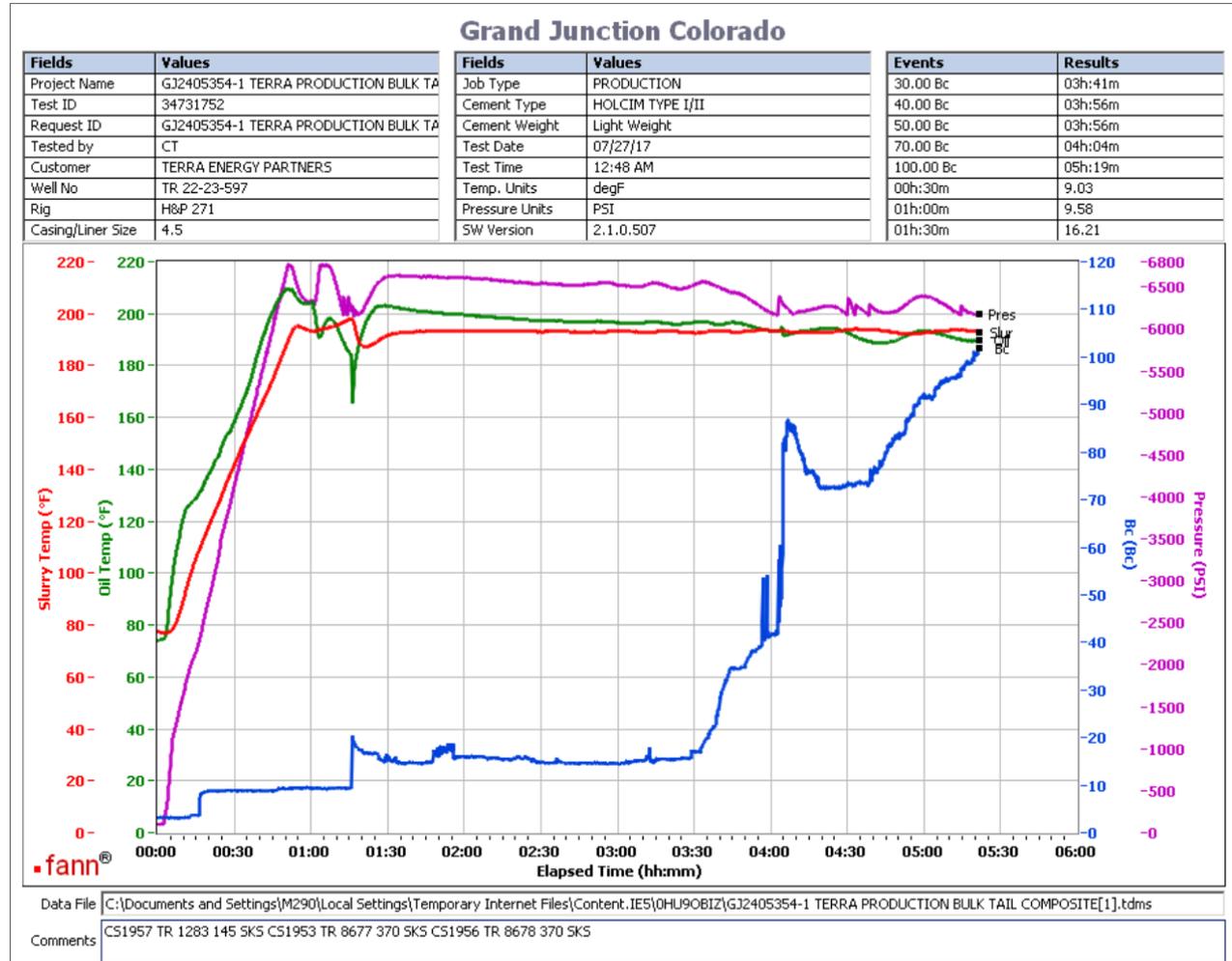
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Tail				Slurry Density	13	lbm/gal
						Slurry Yield	2.065	ft3/sack
						Water Requirement	9.424	gal/sack
						Total Mix Fluid	9.424	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

27/JUL/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)
193	6460	51	3:41	3:56	4:04	6:19	3	61	15	21



Total sks 885 Deflected from 9Bc---- > 21Bc---- > 19Bc within one minute
 Composite:
 CS1957, Trailer 1283, 145 sks
 CS1953, Trailer 8677, 370 sks
 CS1956, Trailer 8678, 370 sks

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