

HALLIBURTON

iCem[®] Service

Terra Energy Partners

For: H&P 318

Date: Friday, April 21, 2017

TR 343-27-597 Production Cementing Program

API# 05-045-23334-00

Sincerely,

Grand Junction Cement Engineering

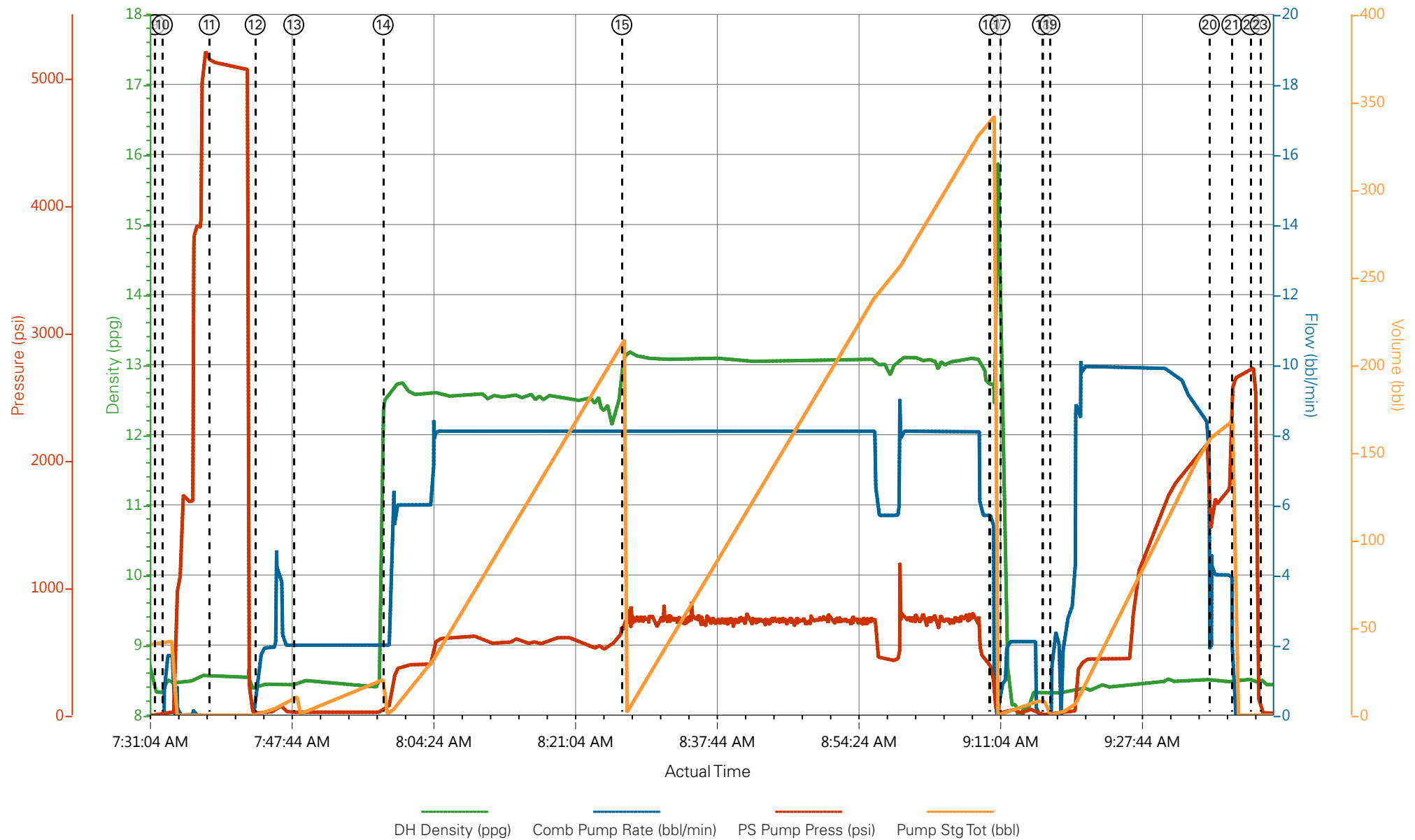
1.0 Real-Time Job Summary

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	4/20/2017	16:30:00	USER					REQUESTED ON LOCATION @ 0001
Event	2	Pre-Convoy Safety Meeting	4/20/2017	18:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	4/20/2017	18:45:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	4/20/2017	22:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	4/20/2017	22:15:00	USER					MET WITH COMP REP, L. GONZOLEZ, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 49F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	4/21/2017	00:45:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	4/21/2017	01:00:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	4/21/2017	07:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	4/21/2017	07:32:00	COM6					TD 10070', TP 10060', SJ 32', OH 8.75", CSG 4.5" 11.6#, MUD 9.1 PPG. RIG CIRCULATED WELL FOR APPROX 3 HRS. AIR ON PARACITE AT 1400 UNITS.
Event	10	Prime Pumps	4/21/2017	07:32:53	COM6	8.55	1.70	26.00	40.9	8.33 PPG FRESH WATER
Event	11	Test Lines	4/21/2017	07:38:24	COM6	8.56	0.00	5128.00	0.0	ALL LINES HELD PRESSURE AT 5128 PSI
Event	12	Pump Spacer 1	4/21/2017	07:43:47	COM6	8.44	0.90	17.00	0.2	FRESH WATER (10 BBL), 8.33 PPG

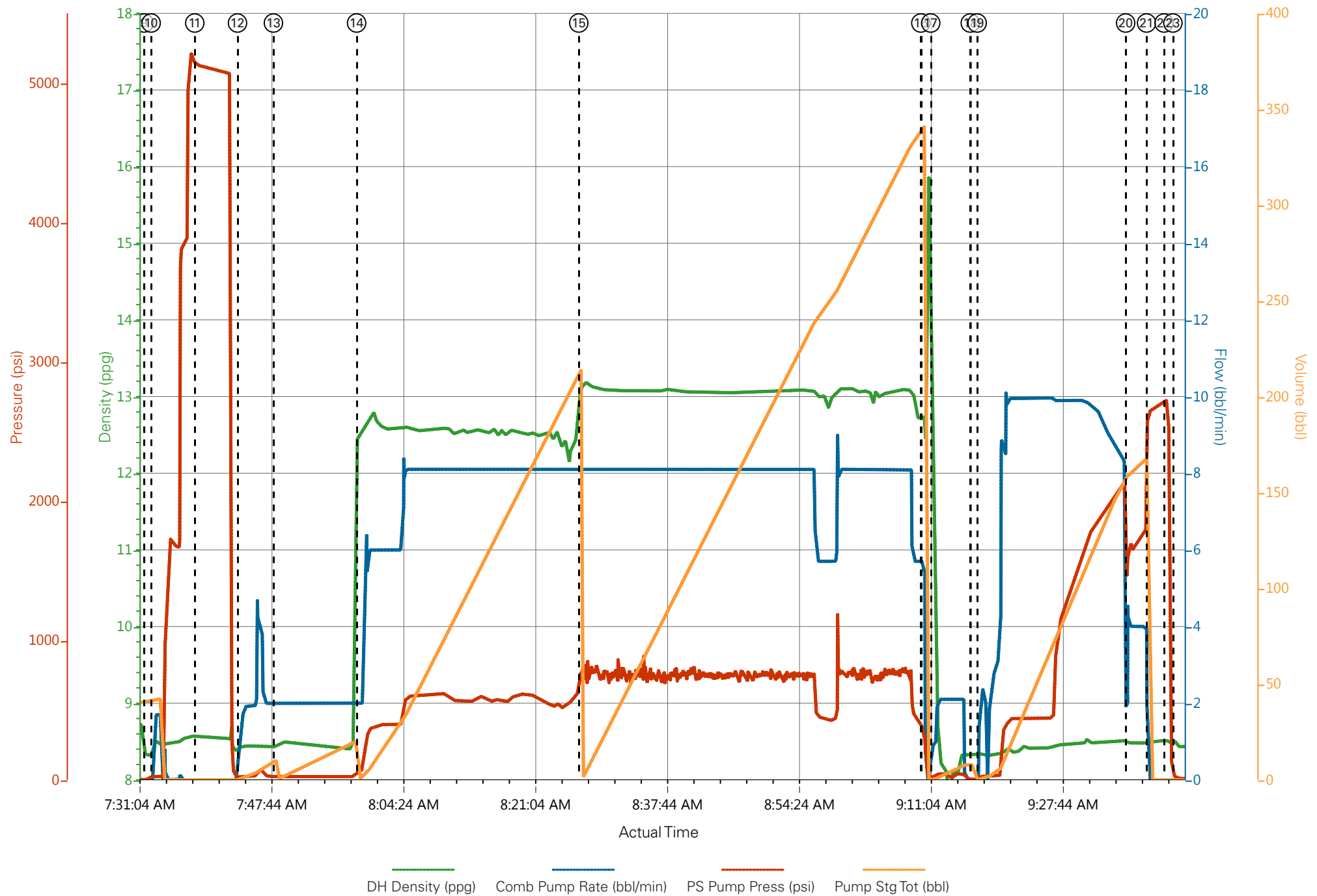
Event	13	Pump Spacer 2	4/21/2017	07:48:20	COM6	8.43	2.00	24.00	0.0	MUD FLUSH III (20 BBL), 8.4 PPG
Event	14	Pump Lead Cement	4/21/2017	07:58:50	COM6	12.53	2.00	62.00	0.6	NEOCEM CEMENT 585 SKS (202 BBLS), 12.5 PPG, 1.94 FT3/SK, 9.58 GAL/SK
Event	15	Pump Tail Cement	4/21/2017	08:26:55	COM6	13.13	8.00	713.00	2.00	NEOCEM CEMENT 830 SKS (305 BBLS), 13 PPG, 2.07 FT3/SK, 9.43 GAL/SK.
Event	16	Shutdown	4/21/2017	09:10:08	USER					END OF CMT, KILL AIR TP PARACITE WITH 20 BBL LEFT ON TAIL CEMENT.
Event	17	Clean Lines	4/21/2017	09:11:23	USER					WASH UP PUMPS AND LINES TO PIT
Event	18	Drop Top Plug	4/21/2017	09:16:23	USER					PLUG WENT, VERIFIED BY CO REP.
Event	19	Pump Displacement	4/21/2017	09:17:16	COM6	8.34	1.80	24.00	0.3	8.34 PPG KCL WATER (155.4 BBLS) 1 GAL MMCR & 3 BAGS BE6
Event	20	Slow Rate	4/21/2017	09:36:01	USER	8.48	4.00	1642.00	159.0	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	21	Bump Plug	4/21/2017	09:38:40	USER	8.50	0.00	2659.00	0.0	LAND PLUG AT 1750 PSI, BROUGHT UP TO 2659 PSI
Event	22	Check Floats	4/21/2017	09:40:52	USER	8.51	0.00	2734.00	0.0	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	23	End Job	4/21/2017	09:42:00	USER					PIPE WAS NOT RECIPROCATED DURING THE JOB, 0 BBL SPACER OR CEMENT BACK TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	4/21/2017	09:50:00	USER					ALL HES PRESENT
Event	25	Rig-Down Equipment	4/21/2017	10:00:00	USER					ALL HES PRESENT
Event	26	Pre-Convoy Safety Meeting	4/21/2017	11:00:00	USER					ALL HES PRESENT
Event	27	Crew Leave Location	4/21/2017	11:15:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

TEP - TR 343-27-597 - 4.5" PRODUCTION



- | | | | | |
|---|---|-------------------------------------|---------------------------------|--------------------------|
| ① Call Out n/a;n/a;n/a;n/a | ④ Arrive At Loc n/a;n/a;n/a;n/a | ⑦ Rig-Up Equipment n/a;n/a;n/a;n/a | ⑩ Prime Pumps 8.55;1.7;26;40.9 | ⑬ Pump Spacer 2 8.43;2;2 |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a | ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑧ Pre-Job Safety Meeting 0.28;0;1;0 | ⑪ Test Lines 8.56;0;5128;0 | ⑭ Pump Lead Cement 12.1 |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a | ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a | ⑨ Start Job 8.33;0;1;40.6 | ⑫ Pump Spacer 1 8.44;0.9;17;0.2 | ⑮ Pump Tail Cement 13.14 |

TEP - TR 343-27-597 - 4.5" PRODUCTION



Job Information

Request/Slurry	2380653/1	Rig Name	H&P 318	Date	17/APR/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 343-27-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	10106 ft	BHST	118°C / 245°F
Hole Size	8.75 in	Depth TVD	9728 ft	BHCT	79°C / 175°F
Pressure	6110 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



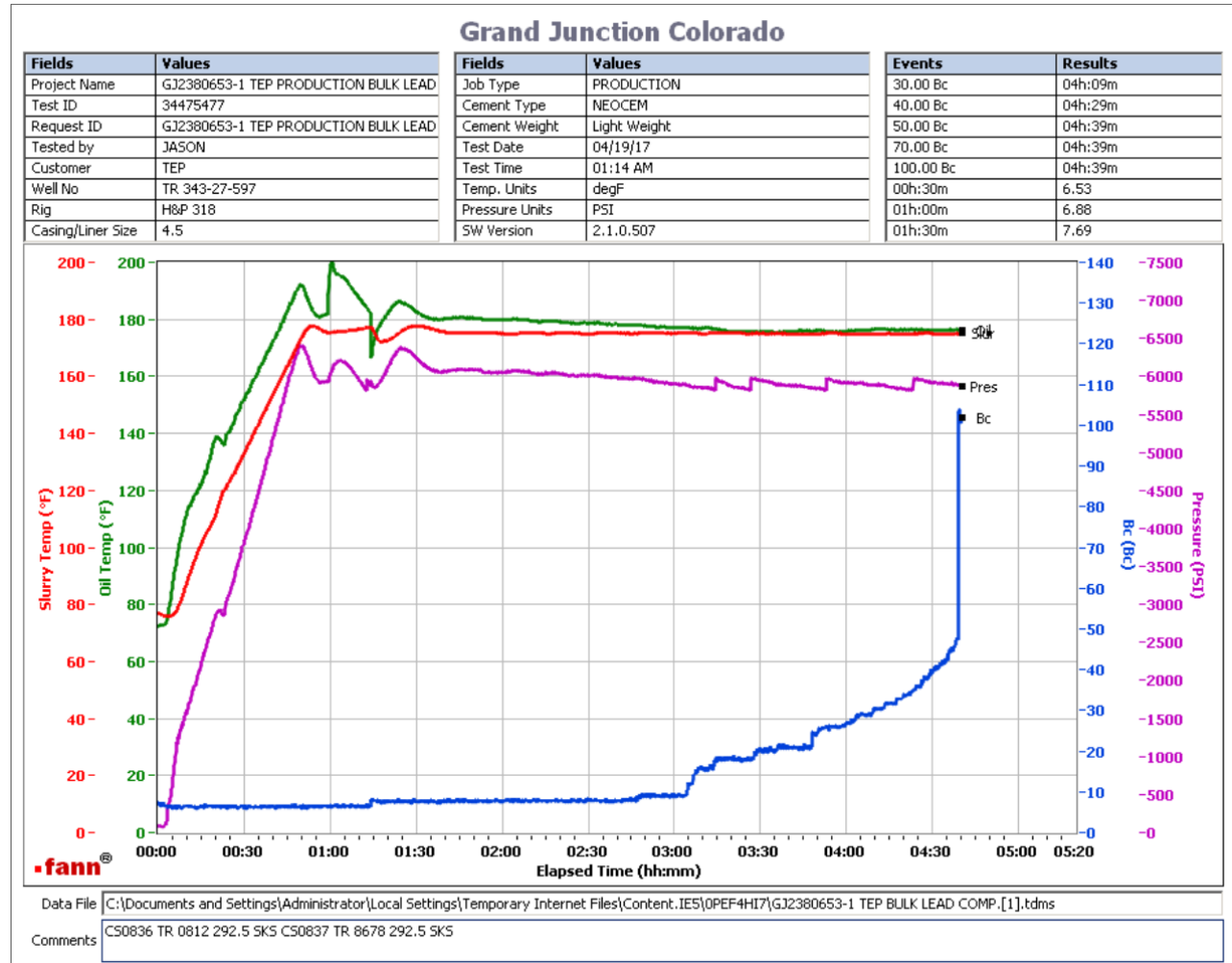
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water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

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Thickening Time - ON-OFF-ON

18/APR/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)
175	6110	49	4:09	4:39	4:39	4:39	8	59	15	8



Total sks = 585
 CS0836 TR 0812 292.5 SKS
 CS0837 TR 8678 292.5 SKS
 Composite
 Deflected 7-- > 8

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

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Cement Information - Tail Design



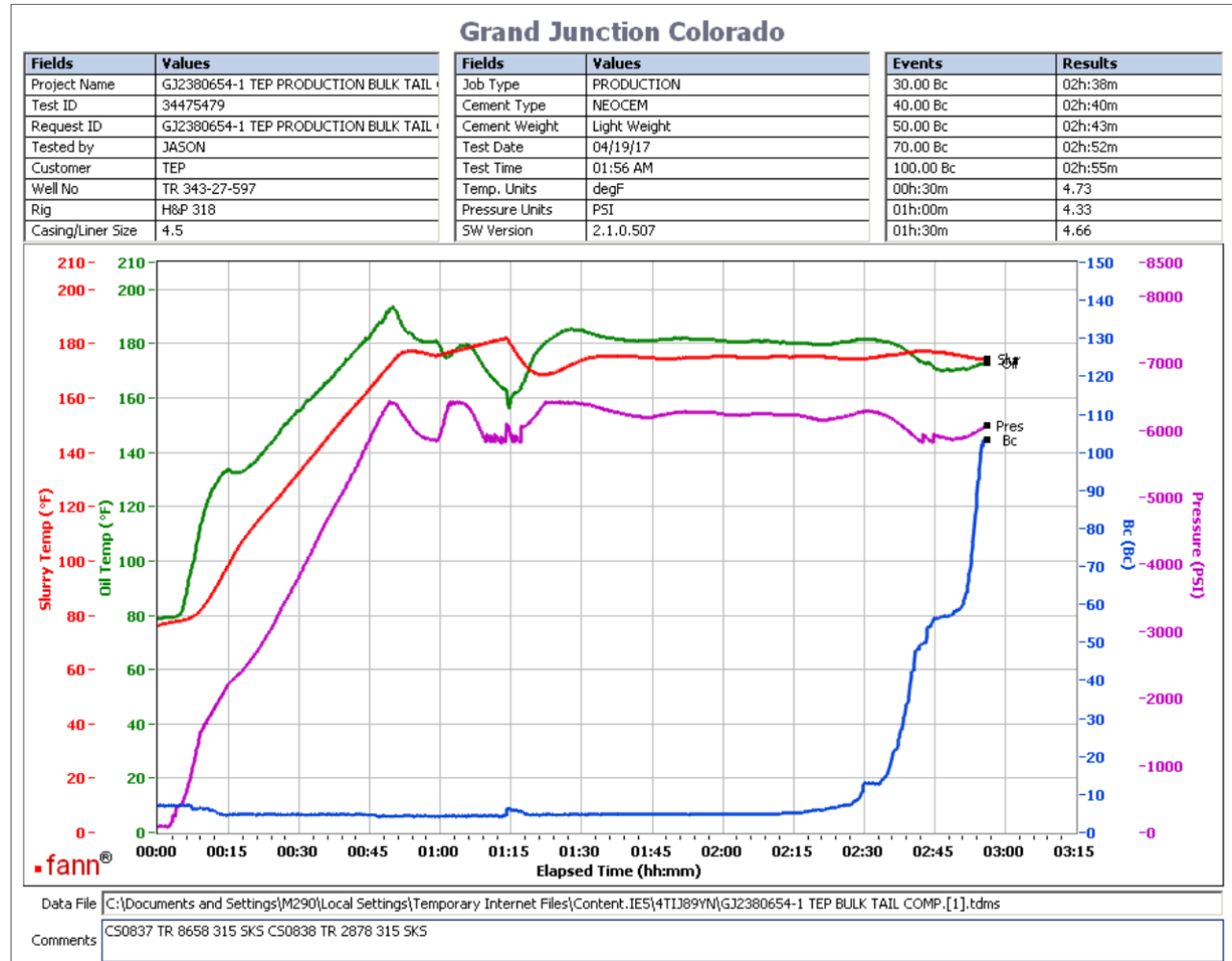
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties	
		NeoCem Tail				Slurry Density	13 lbm/gal
						Slurry Yield	2.065 ft3/sack
						Water Requirement	9.429 gal/sack
						Total Mix Fluid	9.429 gal/sack
						Water Source	Fresh Water
						Water Chloride	

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Thickening Time - ON-OFF-ON

18/APR/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)
175	6110	49	2:38	2:43	2:52	2:55	7	59	15	6



Total sks = 830
 CS0838 TR 8658 315 SKS
 CS0839 TR 2878 315 SKS
 Composite
 Deflected 4-- > 6

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Operation Test Results Request ID 2380654/2

Thickening Time - ON-OFF-ON

20/APR/2017

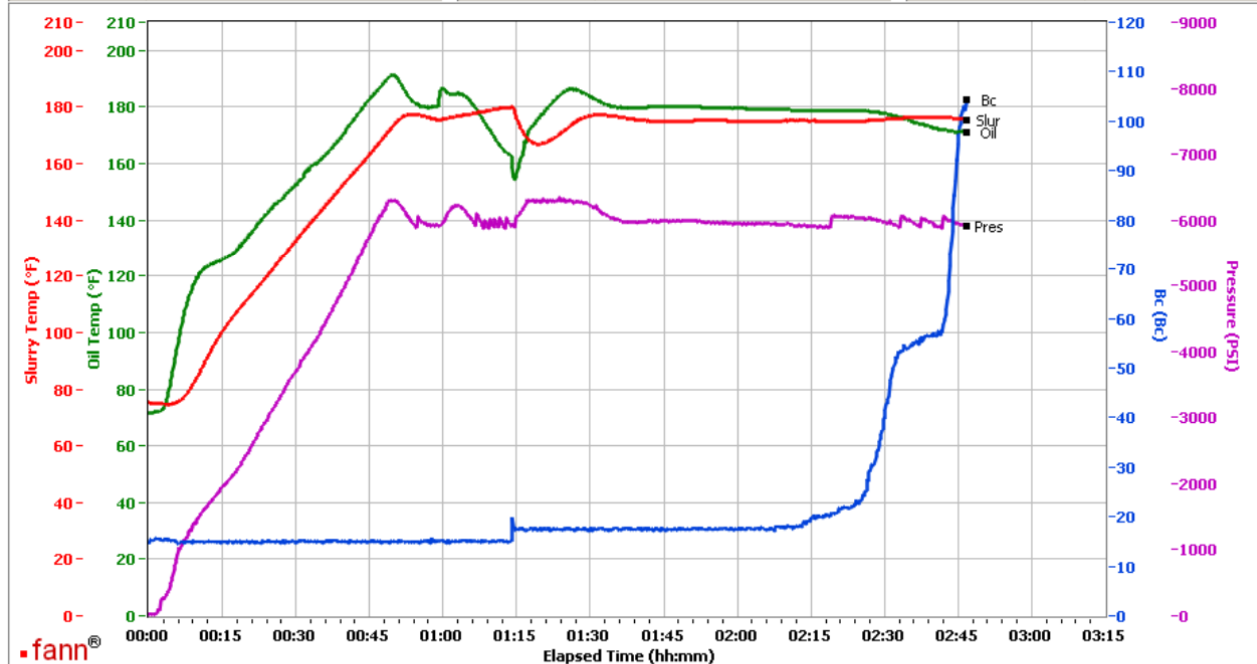
Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
175	6110	49	2:27	2:32	2:43	2:45	15	59	15	20

Grand Junction Colorado

Fields	Values
Project Name	GJ2380654-2 TEP PRODUCTION BULK TAIL
Test ID	34481992
Request ID	GJ2380654-2 TEP PRODUCTION BULK TAIL
Tested by	JASON
Customer	TEP
Well No	TR 343-27-597
Rig	H&P 318
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCER
Cement Weight	Light Weight
Test Date	04/19/17
Test Time	06:54 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	02h:27m
40.00 Bc	02h:30m
50.00 Bc	02h:32m
70.00 Bc	02h:43m
100.00 Bc	02h:45m
00h:30m	14.89
01h:00m	14.82
01h:30m	17.73



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2380654-2 TEP PRODUCTION BULK TAIL.tdms

Comments CS0854 TR 4064 200 SKS

Total sks = 830
CS0854 TR 4064 200 SKS
Deflection 15 - 20

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