

HALLIBURTON

iCem[®] Service

TERRA ENERGY LTD.

For: Terra

Date: Sunday, October 15, 2017

GM 434-5 Production

API#05-045-22665

Sincerely,

Grand Junction Cement Engineering

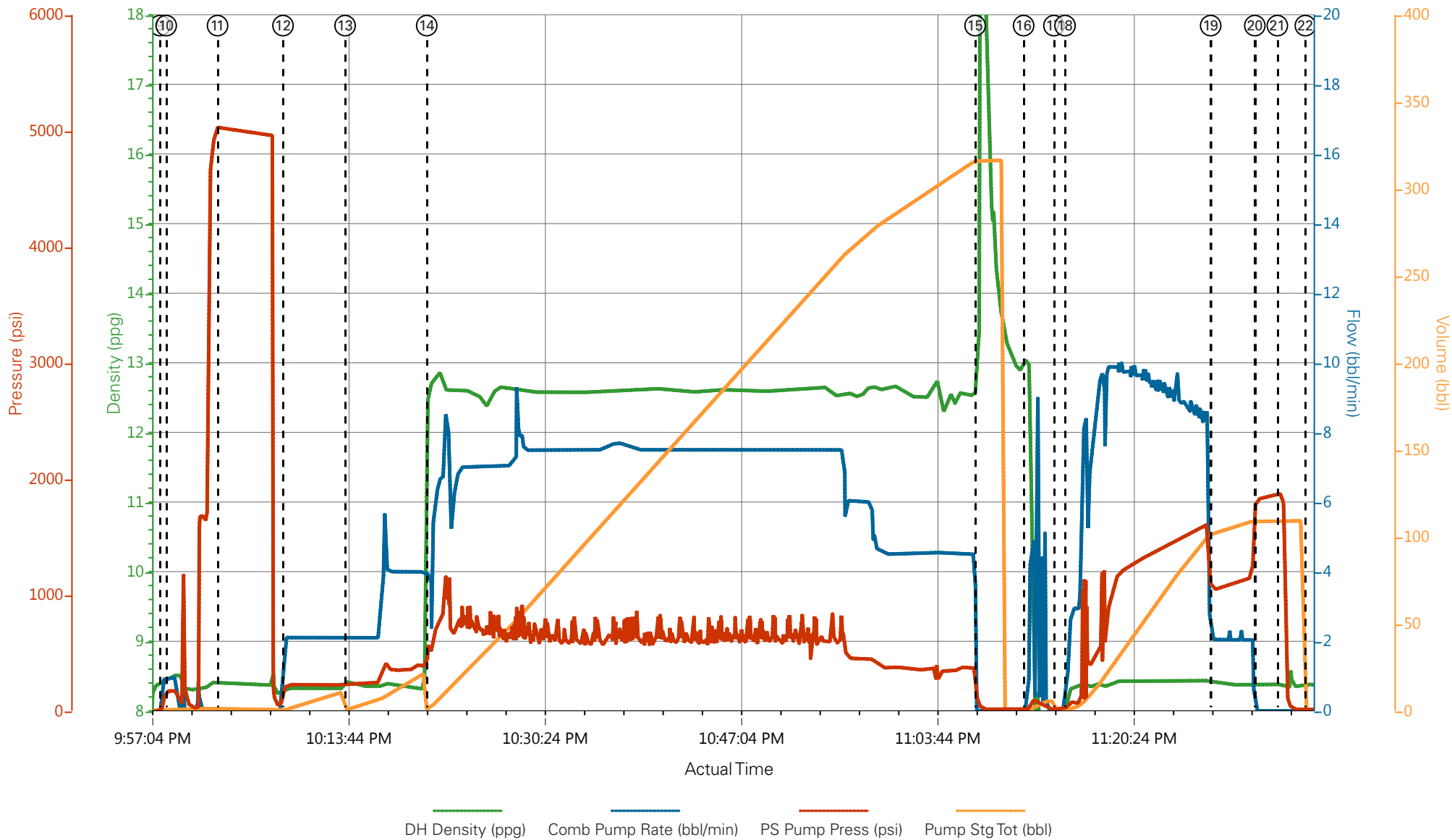
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	10/14/2017	14:00:00	USER					REQUESTED ON LOCATION @ 1930
Event	2	Pre-Convoy Safety Meeting	10/14/2017	16:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	10/14/2017	17:00:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	10/14/2017	18:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	10/14/2017	18:15:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 61F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	10/14/2017	18:20:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	10/14/2017	18:30:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	10/14/2017	21:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	10/14/2017	21:58:00	COM6					TD 6916', TP 6910.66', SJ 30.46', OH 8.75", CSG 4.5" 11.6#, MUD 9.8 PPG. RIG CIRCULATED ONE BOTTOM UP.
Event	10	Prime Pumps	10/14/2017	21:58:31	COM6	170.00	8.38	1.00	2.0	8.33 PPG FRESH WATER
Event	11	Test Lines	10/14/2017	22:02:53	COM6	5022.00	8.31	0.50	0.5	ALL LINES HELD PRESSURE AT 5021 PSI
Event	12	Pump Spacer 1	10/14/2017	22:08:26	COM6	208.00	8.32	2.10	10.8	8.33 PPG FRESH WATER (10 BBL)
Event	13	Pump Spacer 2	10/14/2017	22:13:43	COM6	229.00	8.34	4.10	19.9	8.4 PPG MUDFLUSH III (20 BBL)
Event	14	Pump Lead Cement	10/14/2017	22:20:38	COM6	524.00	12.47	7.50	300.4	NEOCEM CEMENT 860 SKS (300 BBLs), 12.5 PPG, 1.96 FT3/SK, 9.35 GAL/SK
Event	15	Shutdown	10/14/2017	23:07:12	USER					END OF JOB

Event	16	Clean Lines	10/14/2017	23:11:19	USER					WASH UP PUMPS AND LINES TO THE PIT
Event	17	Drop Top Plug	10/14/2017	23:13:53	USER					PLUG WENT, VERIFIED BY CO REP.
Event	18	Pump Displacement	10/14/2017	23:14:50	COM6	1610.00	8.32	9.00	96.7	8.34 PPG FRESH WATER (106.7 BBLs) 3 BAGS BE6, 1 GAL MMCR & 10 SKS KCL
Event	19	Slow Rate	10/14/2017	23:27:12	USER	1045.00	8.32	2.00	10.2	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	20	Bump Plug	10/14/2017	23:30:57	USER	1827.00	8.39	2.00	106.7	LAND PLUG AT 1046 PSI, BROUGHT UP TO 1827 PSI
Event	21	Check Floats	10/14/2017	23:32:51	USER	1875.00	8.38	0.00	106.7	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	22	End Job	10/14/2017	23:35:14	USER					GOOD RETURNS THROUGHOUT, PIPE WAS RECIPROCATED
Event	23	Post-Job Safety Meeting (Pre Rig-Down)	10/14/2017	23:37:06	USER					ALL HES PRESENT
Event	24	Rig-Down Equipment	10/14/2017	23:39:56	USER					ALL HES PRESENT, WAIT ON VACUUM TRUCK.
Event	25	Pre-Convoy Safety Meeting	10/15/2017	01:00:08	USER					ALL HES PRESENT
Event	26	Crew Leave Location	10/15/2017	01:09:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

TEP - GM 434-5 - 4.5" PRODUCTION



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

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

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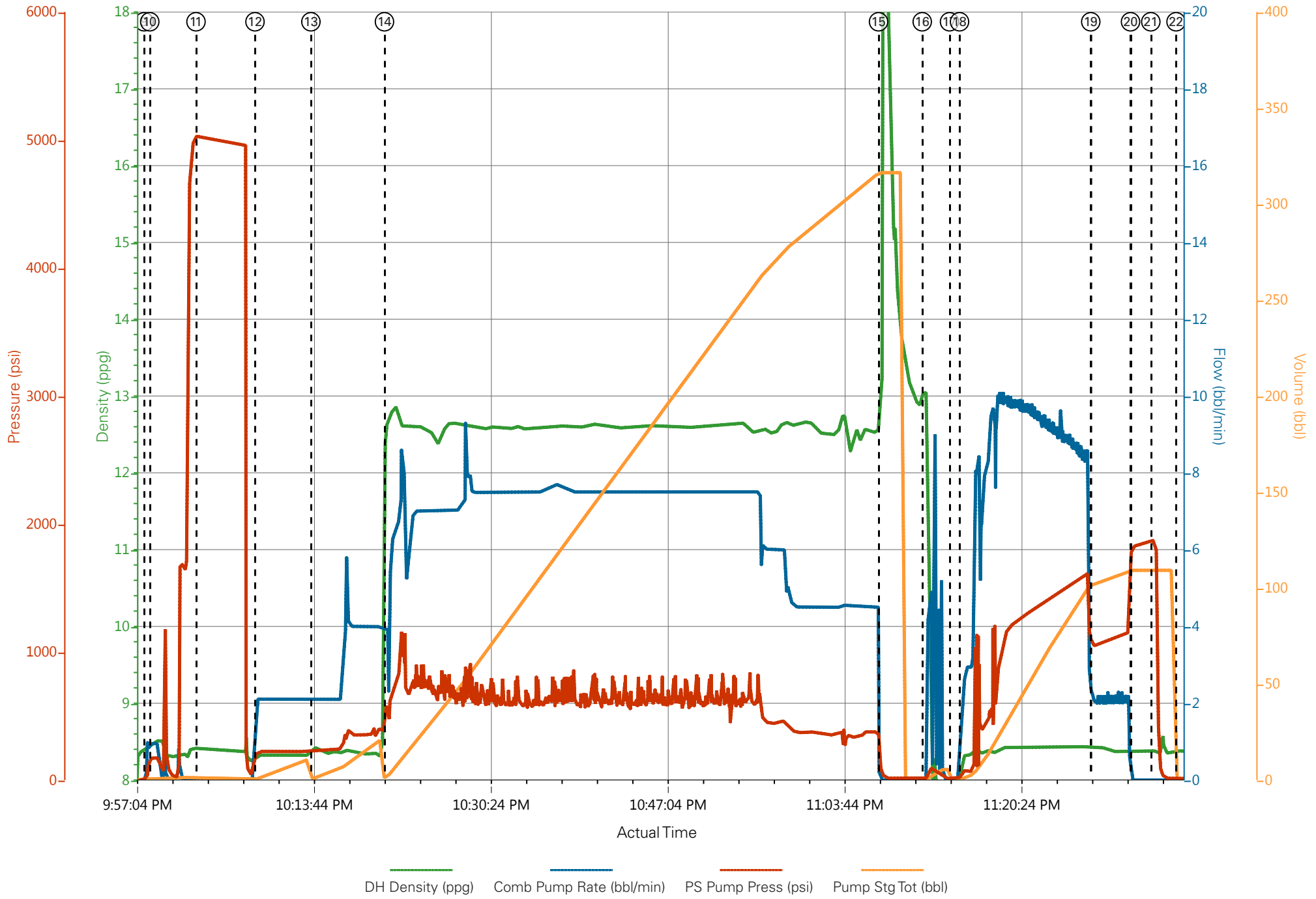
Edit

Customer : TERRA ENERGY LTD.
 Representative : G.GOIN

Job Date : 10/14/2017
 Sales Order # : 904366901

Well : GM 434-5
 ELITE 4 : C.SMITH/ D.PORTER

TEP - GM 434-5 - 4.5" PRODUCTION



Job Information

Request/Slurry	2422771/1	Rig Name	H&P 271	Date	12/OCT/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 434-5

Well Information

Casing/Liner Size	4.5 in	Depth MD	6921 ft	BHST	89°C / 192°F
Hole Size	8.75 in	Depth TVD	6925 ft	BHCT	53°C / 127°F
Pressure	3903 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.2 lbm/gal
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Cement Information - Primary Design

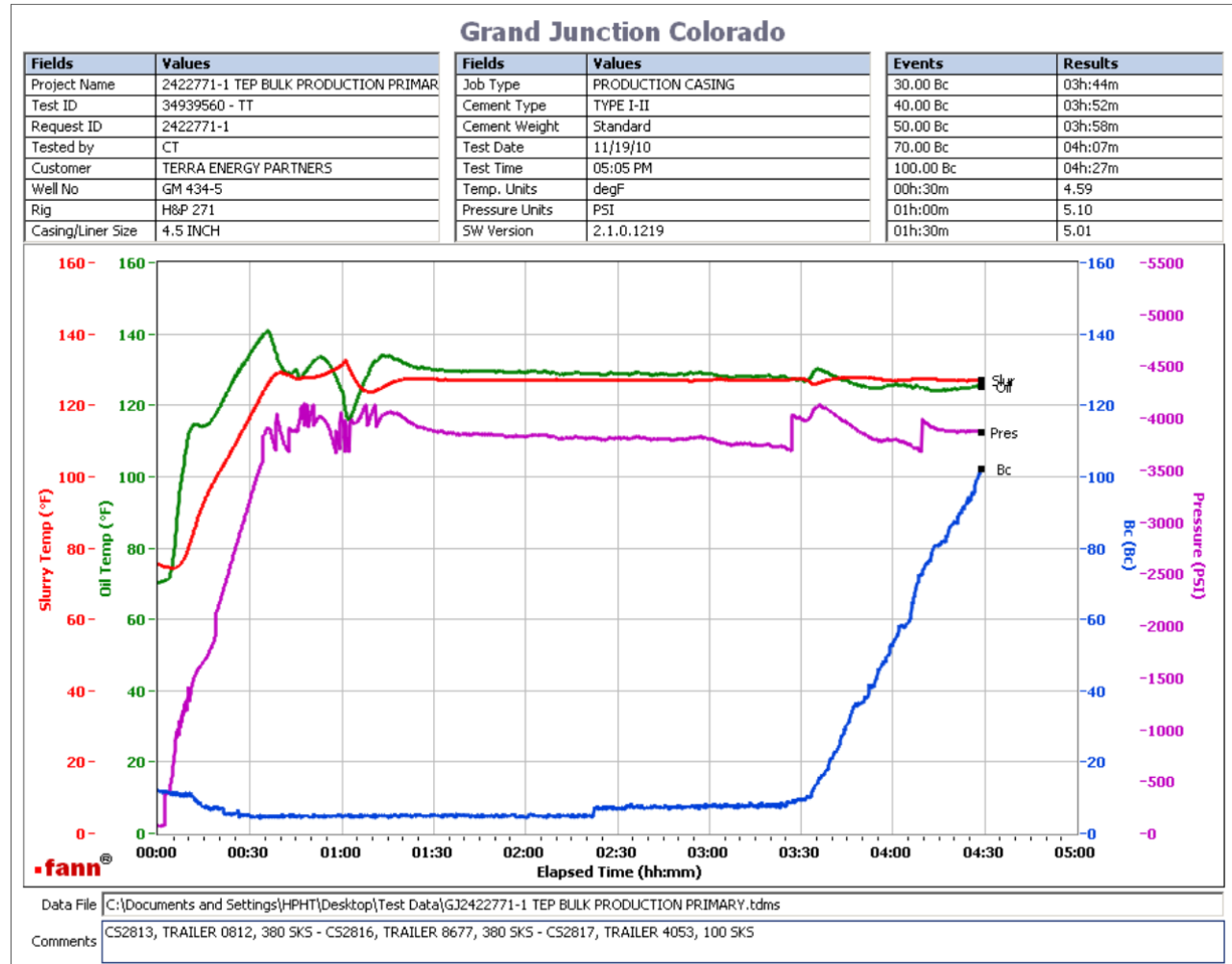
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Primary				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.962	ft ³ /sack
						Water Requirement	9.434	gal/sack
						Total Mix Fluid	9.434	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

13/OCT/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)
127	3903	35	3:44	3:58	4:07	4:27	12	45	15	5



Total sks = 860
 Composite:
 CS2813, Trailer 0812, 380 sks
 CS2816, Trailer 8677, 380 sks
 CS2817, Trailer 4053, 100 sks
 No deflection

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