

HALLIBURTON

iCem[®] Service

TEP ROCKY MOUNTAIN LLC

For: Terra Energy Partners

Date: Sunday, March 12, 2017

Trail Ridge 534-27-597 Production

API # 05-045-23331-00

Sincerely,

Grand Junction Cement Engineering

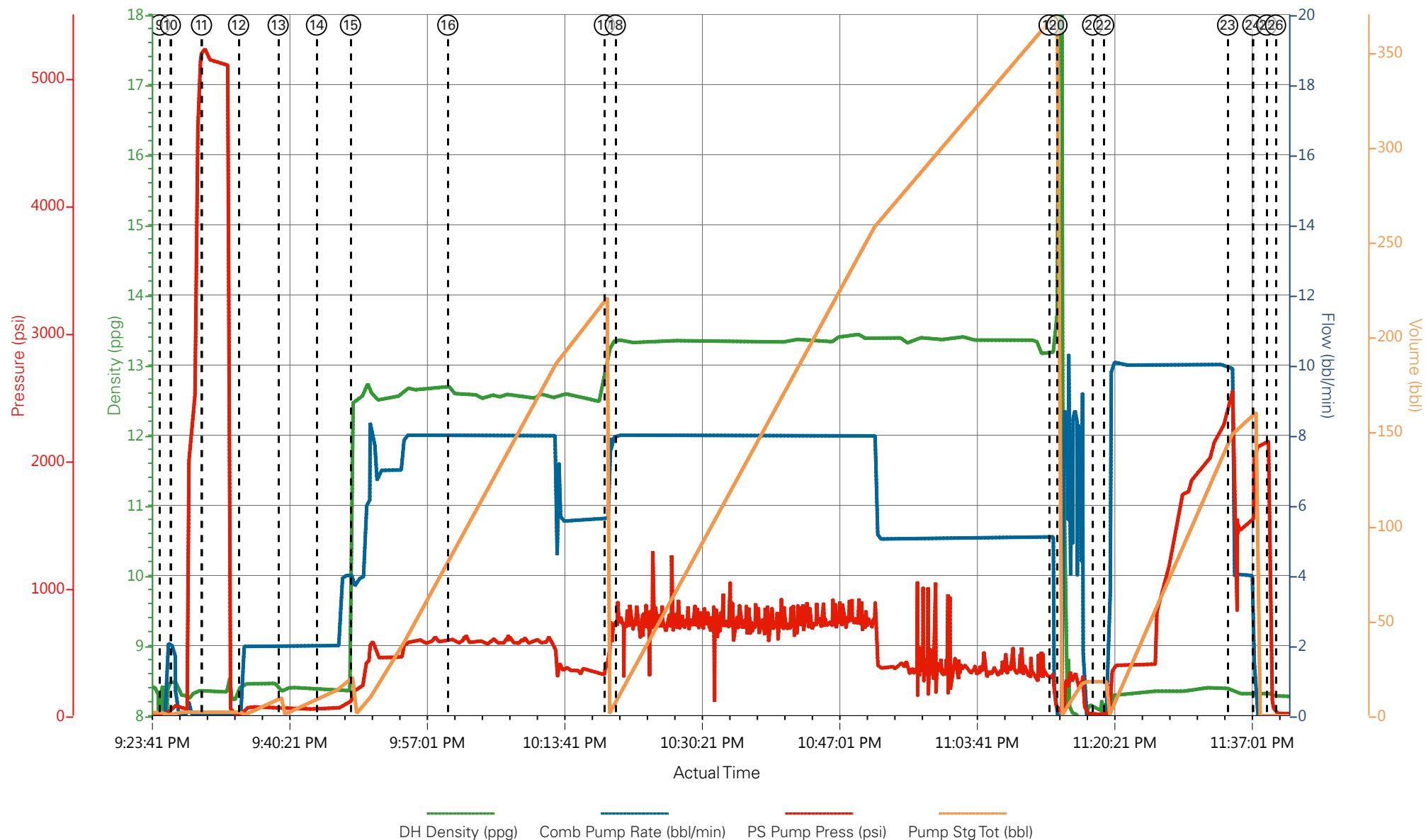
1.0 Real-Time Job Summary

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	3/11/2017	02:00:00	USER					REQUESTED ON LOCATION @ 10:00
Event	2	Pre-Convoy Safety Meeting	3/11/2017	03:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/11/2017	04:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	3/11/2017	09:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED ON LOCATION
Event	5	Assessment Of Location Safety Meeting	3/11/2017	09:15:00	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	3/11/2017	09:30:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	3/11/2017	10:00:00	USER					ALL HES PRESENT
Event	8	Pre-Job Safety Meeting	3/11/2017	21:00:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED FOR 1 HR @ 675 GPM PRIOR TO JOB PRESSURE @ 2300 PSI
Event	9	Start Job	3/11/2017	21:25:00	USER					TD 10025', TP 9987', SJ 47', SURFACE CSG 9 5/8" 36# J-55 SET @ 2750' PRODUCTION CSG 4 1/2" 11.6# P-110, OH 8 3/4", MUD 9.1 PPG. RIG UNABLE TO LAND CSG, HAD TO GO INTO AIR TO WORK VALE FOR PRESSURE TEST
Event	10	Prime Lines	3/11/2017	21:26:18	USER	8.33	2.0	80	2	8.33 PPG FRESH WATER
Event	11	Test Lines	3/11/2017	21:30:04	COM5			5140		ALL LINES HELD PRESSURE AT PSI 5140
Event	12	Pump H2O Spacer	3/11/2017	21:34:34	COM5	8.33	2.0	70	10	FRESH WATER. RIG PUT 1400 CFM ON PARASITE

Event	13	Pump Mud Flush III	3/11/2017	21:39:22	COM5	8.4	4.0	170	20	20 BBL MUDFLUSH III
Event	14	Check weight	3/11/2017	21:44:01	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	15	Pump Lead Cement	3/11/2017	21:48:08	COM5	12.5	8.0	600	207.3	600 SKS NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.58 GAL/SK.
Event	16	Check weight	3/11/2017	21:59:56	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	17	Pump Tail Cement	3/11/2017	22:18:55	COM5	13.0	8.0	800	319	865 SKS NEOCEM CMT 13.0 PPG, 2.07 FT3/SK, 9.43 GAL/SK. RIG KILLED PARASITE AIR AT 300 BBLS AWAY OF TAIL, LOST RETURNS SHORTLY AFTER THAT.
Event	18	Check weight	3/11/2017	22:20:14	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Shutdown	3/11/2017	23:12:49	USER					END OF CMT
Event	20	Clean Pump And Lines	3/11/2017	23:13:46	COM5					CLEANED PUMP AND LINES INTO PIT
										VERIFIED BY FLAG INDICATOR
Event	21	Drop Top Plug	3/11/2017	23:18:05	USER					
Event	22	Pump Displacement	3/11/2017	23:19:26	COM5	8.4	10.0	2550	144	1 GAL MMCR IN FIRST 10 BBLS, 3 LBS BE-6 IN FIRST 30 BBLS, ONE 50 LB. BAG KCL THROUGHOUT DISPLACEMENT
Event	23	Slow Rate	3/11/2017	23:34:27	USER	8.4	4.0	1430	10	SLOWED TO BUMP PLUG
Event	24	Bump Plug	3/11/2017	23:37:30	COM5	8.4	4.0	1490	154	PLUG BUMPED
Event	25	Check Floats	3/11/2017	23:39:11	USER			2114		FLOATS HELD, 1.5 BBL FLOWBACK
Event	26	End Job	3/11/2017	23:40:16	USER					PIPE RECIPICATED THROUGHOUT JOB UNTIL 120 BBLS OUT ON TAIL WHEN RIG WAS ABLE TO LAND CSG. LOST RETURNS 300 BBLS INTO TAIL. 100 LBS SUGAR
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	3/11/2017	23:45:00	USER					ALL HES PRESENT
Event	28	Pre-Convoy Safety Meeting	3/12/2017	01:45:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	3/12/2017	02:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW

TERRA, CHEVRON TR 534-24-597, 4 1/2" PRODUCTION



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

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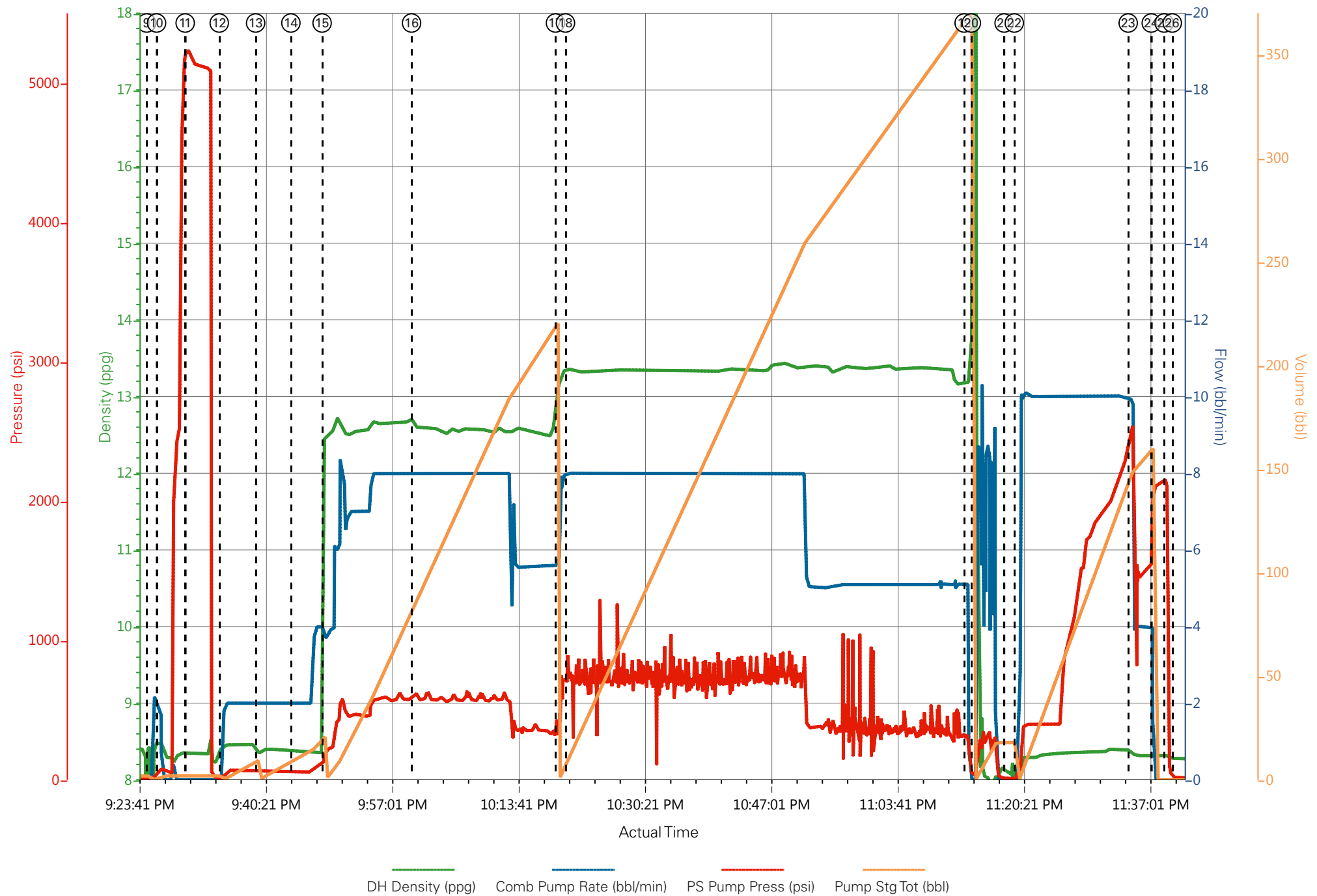
Edit

Customer : TEP ROCKY MOUNTAIN LLC
Representative : BRANDON HAIRE

Job Date : 3/11/2017
Sales Order # : 903895342

Well : CHEVRON TR 534-27-597
ELITE 4 : HYDE/ANGELO

TERRA, CHEVRON TR 534-24-597, 4 1/2" PRODUCTION



Job Information

Request/Slurry	2373217/1	Rig Name	H&P 318	Date	07/MAR/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 534-27-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9991 ft	BHST	117°C / 243°F
Hole Size	8.75 in	Depth TVD	9583 ft	BHCT	78°C / 173°F
Pressure	6010 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		

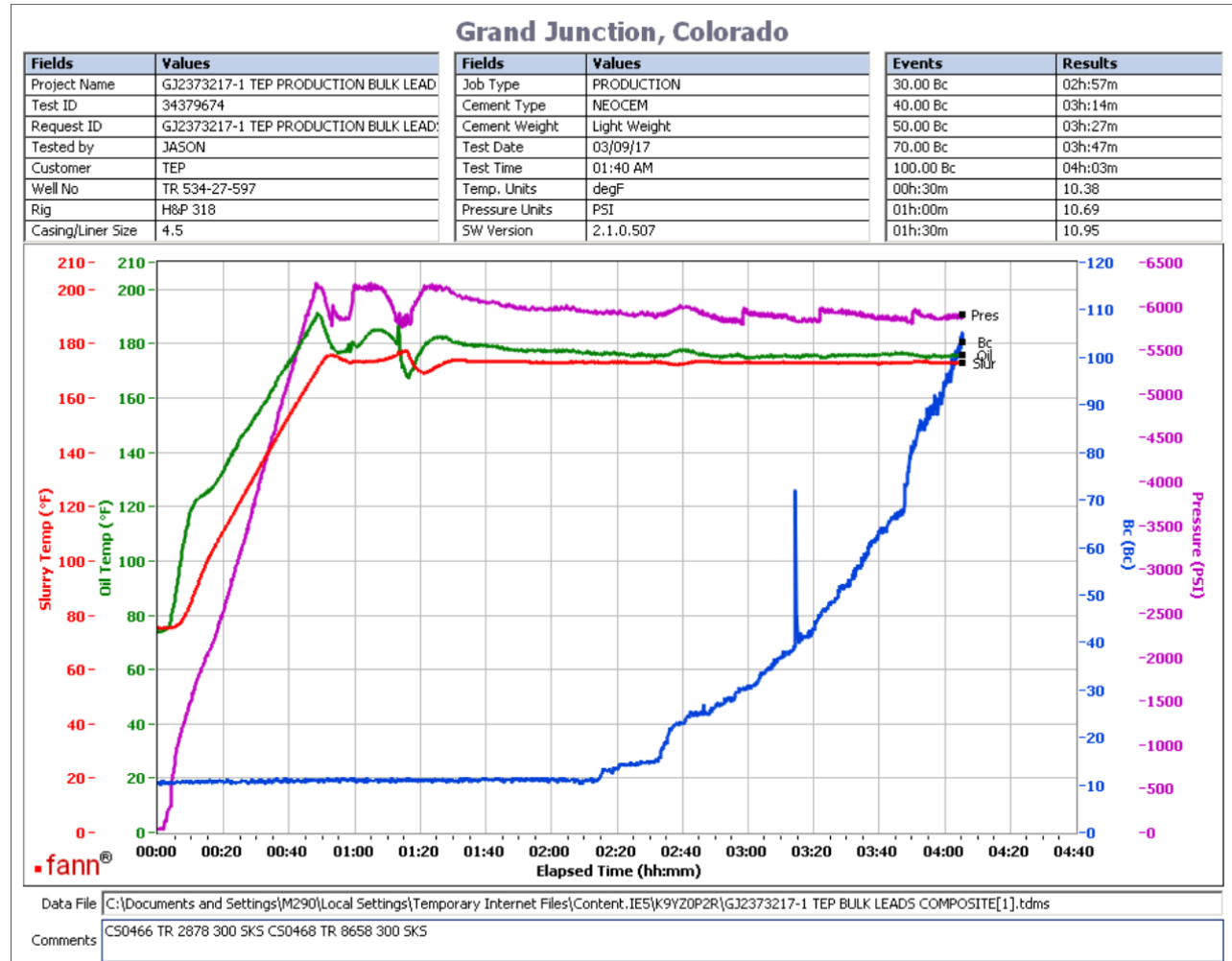
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Operation Test Results Request ID 2373217/1

Thickening Time - ON-OFF-ON

09/MAR/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)
173	6010	48	2:57	3:27	3:47	4:03	10	58	15



Total Sacks= 600
 CS0466 TR 2878 300 SKS
 CS0468 TR 8658 300 SKS
 Composite
 no deflection was observed.

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Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2373218/1	Rig Name	H&P 318	Date	07/MAR/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 534-27-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9991 ft	BHST	117°C / 243°F
Hole Size	8.75 in	Depth TVD	9583 ft	BHCT	78°C / 173°F
Pressure	6010 psi				

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	9.429	gal/sack
						Total Mix Fluid	9.429	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

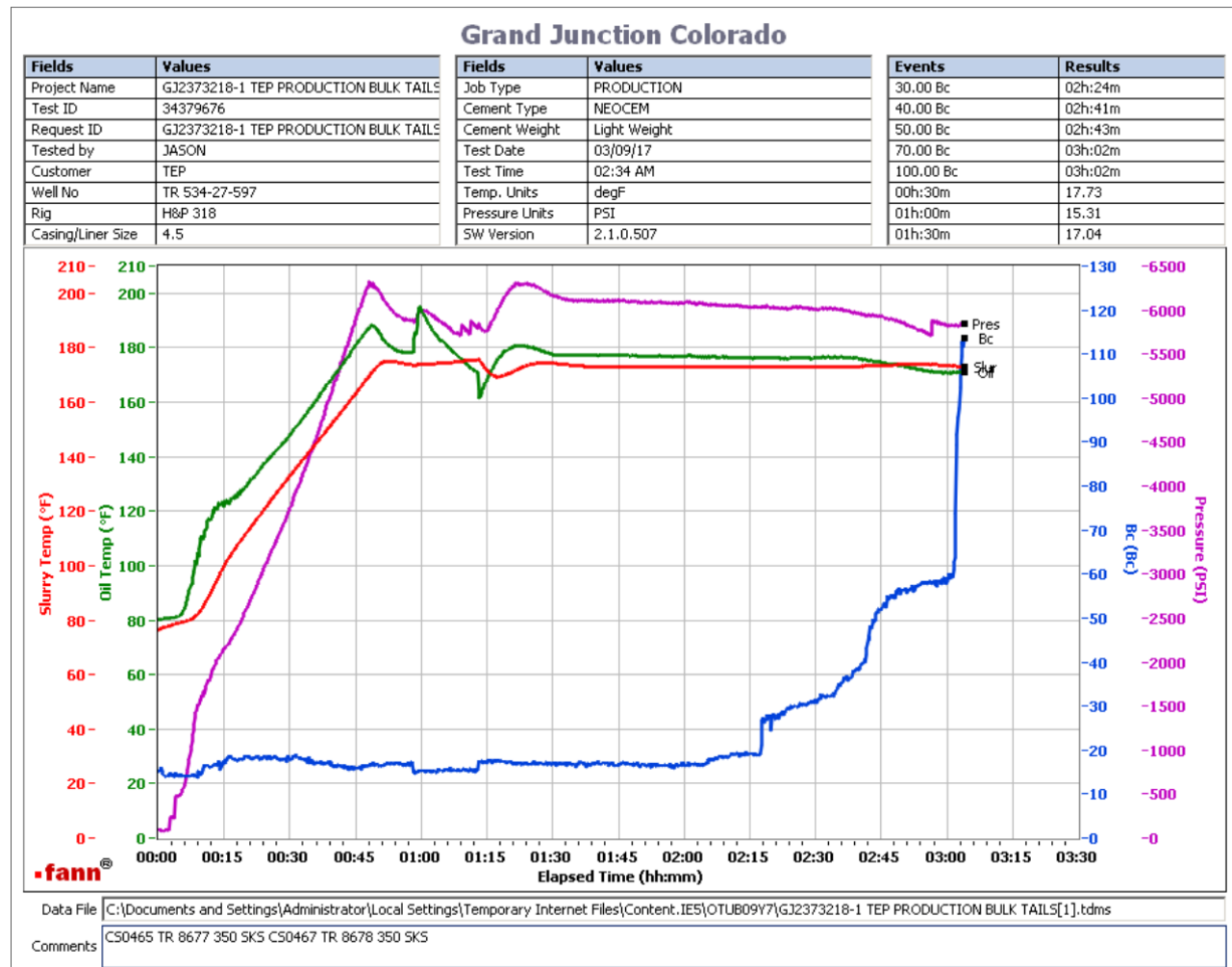
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Operation Test Results Request ID 2373218/1

Thickening Time - ON-OFF-ON

09/MAR/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)
173	6010	48	2:24	2:43	3:02	3:02	15	58	15	15



Total sks = 865
 CS0465 TR 8677 350 SKS
 CS0467 TR 8678 350 SKS
 Composite
 no deflection was observed

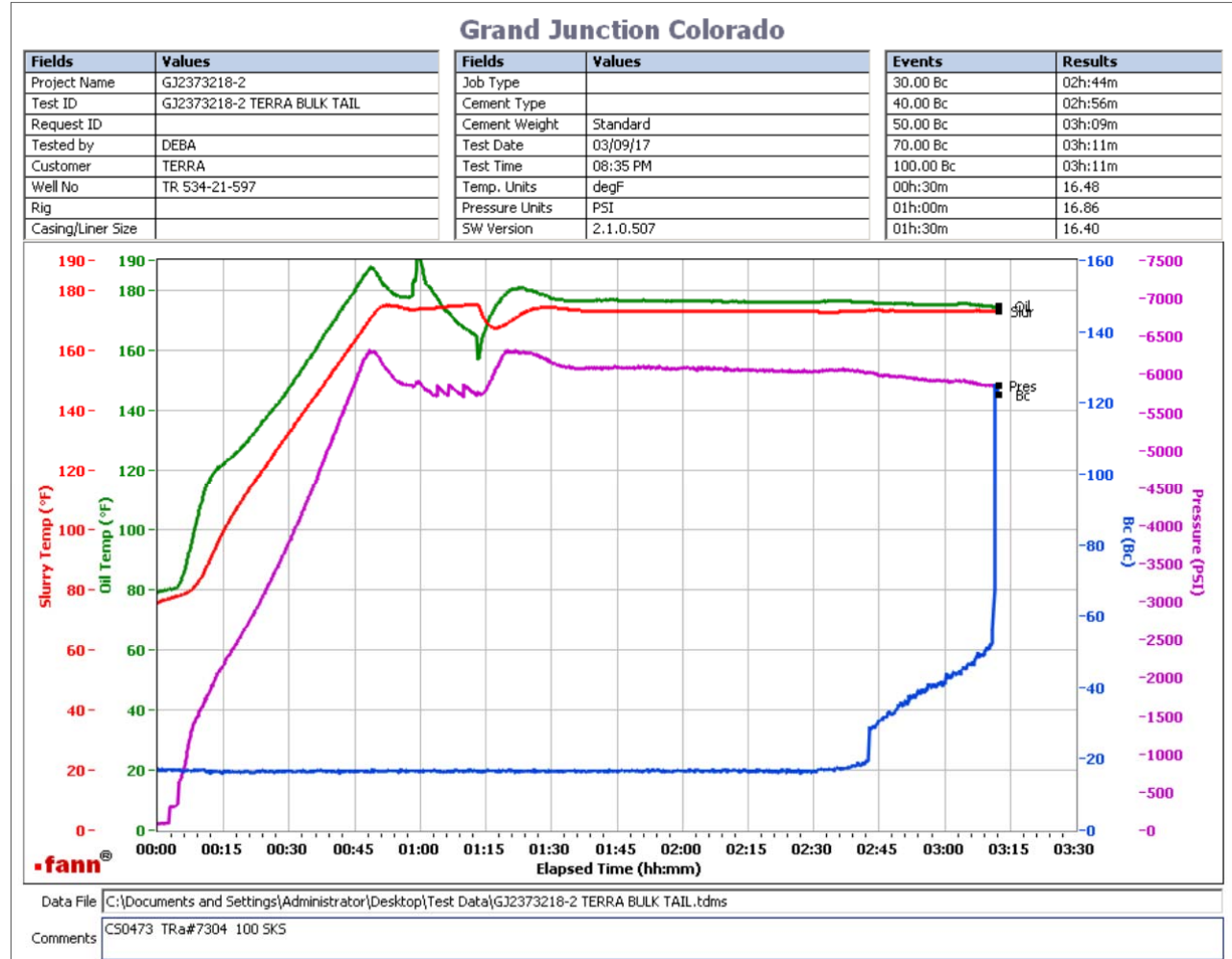
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Operation Test Results Request ID 2373218/2

Thickening Time - ON-OFF-ON

09/MAR/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)
173	6010	48	2:44	3:09	3:11	3:11	17	58	15	16



Total sks = 865
 CS0473 TRA#7304 165 SKS
 No deflection

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