

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Lynn Cass & Abe Alexander

Date: Monday, February 27, 2017

TR 323-21-597 Production PJR

API# 05-045-23350-00

Sincerely,

Grand Junction Cement Engineering

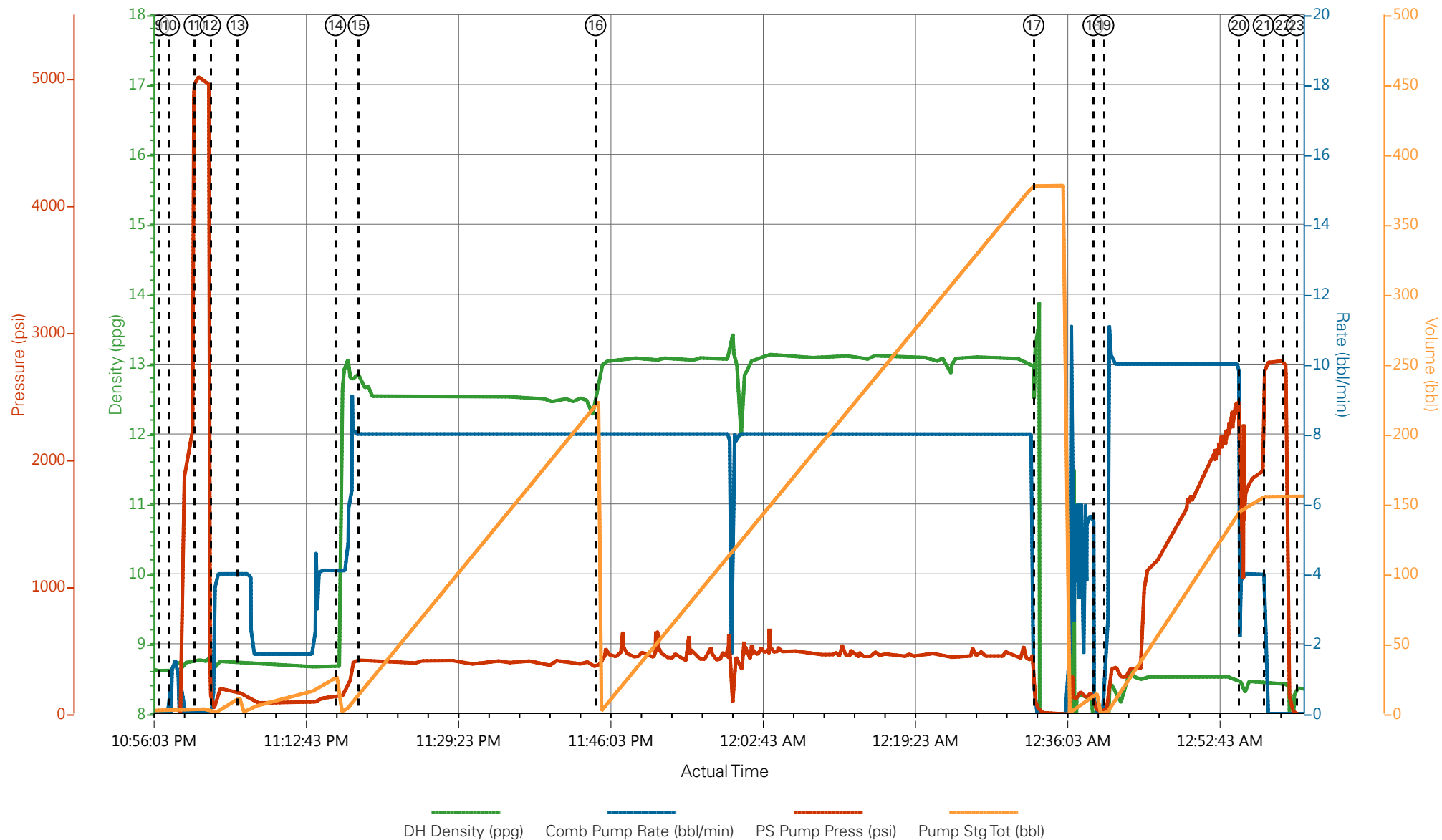
1.0 Real-Time Job Summary

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	2/26/2017	07:00:00	USER					O/L time 1500
Event	2	Pre-Convoy Safety Meeting	2/26/2017	08:45:00	USER					
Event	3	Crew Leave Yard	2/26/2017	09:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	2/26/2017	12:30:00	USER					Rig still running casing
Event	5	Assessment Of Location Safety Meeting	2/26/2017	12:45:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 74 degrees
Event	6	Pre-Rig Up Safety Meeting	2/26/2017	18:00:00	USER					
Event	7	Rig-Up Equipment	2/26/2017	18:15:00	USER					Manifold on ground, hard line to standpipe, hard line to catch tank, bulk hoses to silos and 660, wter hoses to uprights
Event	8	Pre-Job Safety Meeting	2/26/2017	22:30:00	USER					All HES personnel, rig crew, ad company rep
Event	9	Start Job	2/26/2017	22:57:00	USER					TD 9597', TP 9587', SJ 28,87', Mud 8.8 ppg, 8 3/4" OH, 9 5/8" Surf casing @ 2670', 4 1/2" 11.6# P110 casing - Approx 700 psi of air on parasite string during first half of job
Event	10	Prime Lines	2/26/2017	22:58:06	USER	8.33	2.0	23	2.0	Fresh water
Event	11	Test Lines	2/26/2017	23:00:50	COM5			5036		Pressure held well
Event	12	Pump H2O Spacer	2/26/2017	23:02:35	COM5	8.33	4.0	178	10.0	Fresh water ahead
Event	13	Pump Mud Flush	2/26/2017	23:05:33	COM5	8.33	4.0	149	20.0	80 lbs Mud Flush III

Event	14	Pump Lead Cement	2/26/2017	23:16:17	COM5	12.3	8.0	486	196.3	568 sks, 12.5 ppg, 1.94 yield, 9.58 gal/sk - Tuf Fiber added on fly
Event	15	Check weight	2/26/2017	23:18:48	COM5	12.3				Recirc matched mud scales
Event	16	Pump Tail Cement	2/26/2017	23:44:45	COM5	13.0	8.0	510	324.7	885 sks, 13.0 ppg, 2.06 yield, 9.44 gal/sk - pipe reciprocated occasionally throughout job - returns were lost when air to parasite was shut off by rig
Event	17	Shutdown	2/27/2017	00:32:42	USER					Wash lines to catch tank
Event	18	Drop Top Plug	2/27/2017	00:39:13	COM5					Rig-supplied latch down plug
Event	19	Pump Displacement	2/27/2017	00:40:21	COM5	8.4	10.0	2460	148.1	3 lbs BE-6, 1 gal MMCR, 2% KCl
Event	20	Slow Rate	2/27/2017	00:55:08	USER	8.4	4.0	1711	@ 138	Returns re-established at 40 bbls pumped
Event	21	Bump Plug	2/27/2017	00:57:51	COM5			1930		
Event	22	Check Floats	2/27/2017	01:00:00	COM5			2810		Floats held – 1 ½ bbl flowback
Event	23	End Job	2/27/2017	01:01:28	COM5					2 add hours, no HES plugs, no derrick charge
Event	24	Pre-Rig Down Safety Meeting	2/27/2017	01:15:00	USER					
Event	25	Rig-Down Equipment	2/27/2017	01:30:00	USER					
Event	26	Pre-Convoy Safety Meeting	2/27/2017	02:15:00	USER					
Event	27	Crew Leave Location	2/27/2017	02:30:00	USER					Thank you for using Halliburton - Ed Deussen and crew

TERRA ENERGY - TR 323-21-597 - 4 1/2" Production



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

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Created: 2017-02-26 15:27:14, Version: 4.2.393

Edit

Customer : TERRA ENERGY PARTNERS

Job Date : 2/26/2017 8:15:12 PM

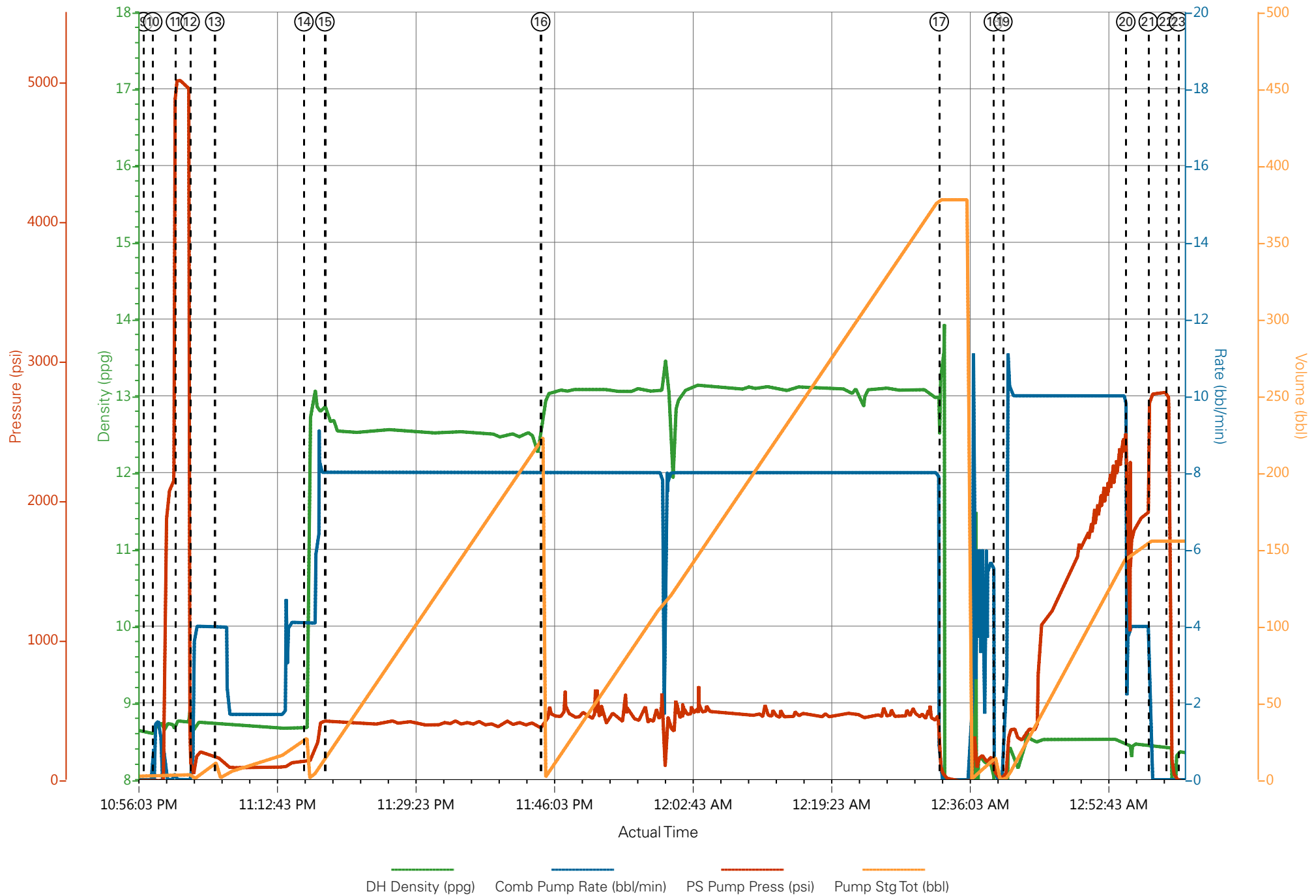
Well : TR 323-21-597

Representative : Beaude Oaks

Sales Order # : 903868521

Elite #8 : Ed Deussen / Carl Kukus

TERRA ENERGY -TR 323-21-597 - 4 1/2" Production



Job Information

Request/Slurry	2370046/1	Rig Name	H&P 271	Date	23/FEB/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 323-21-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9606 ft	BHST	116°C / 240°F
Hole Size	8.75 in	Depth TVD	9401 ft	BHCT	77°C / 170°F
Pressure	5880 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				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		

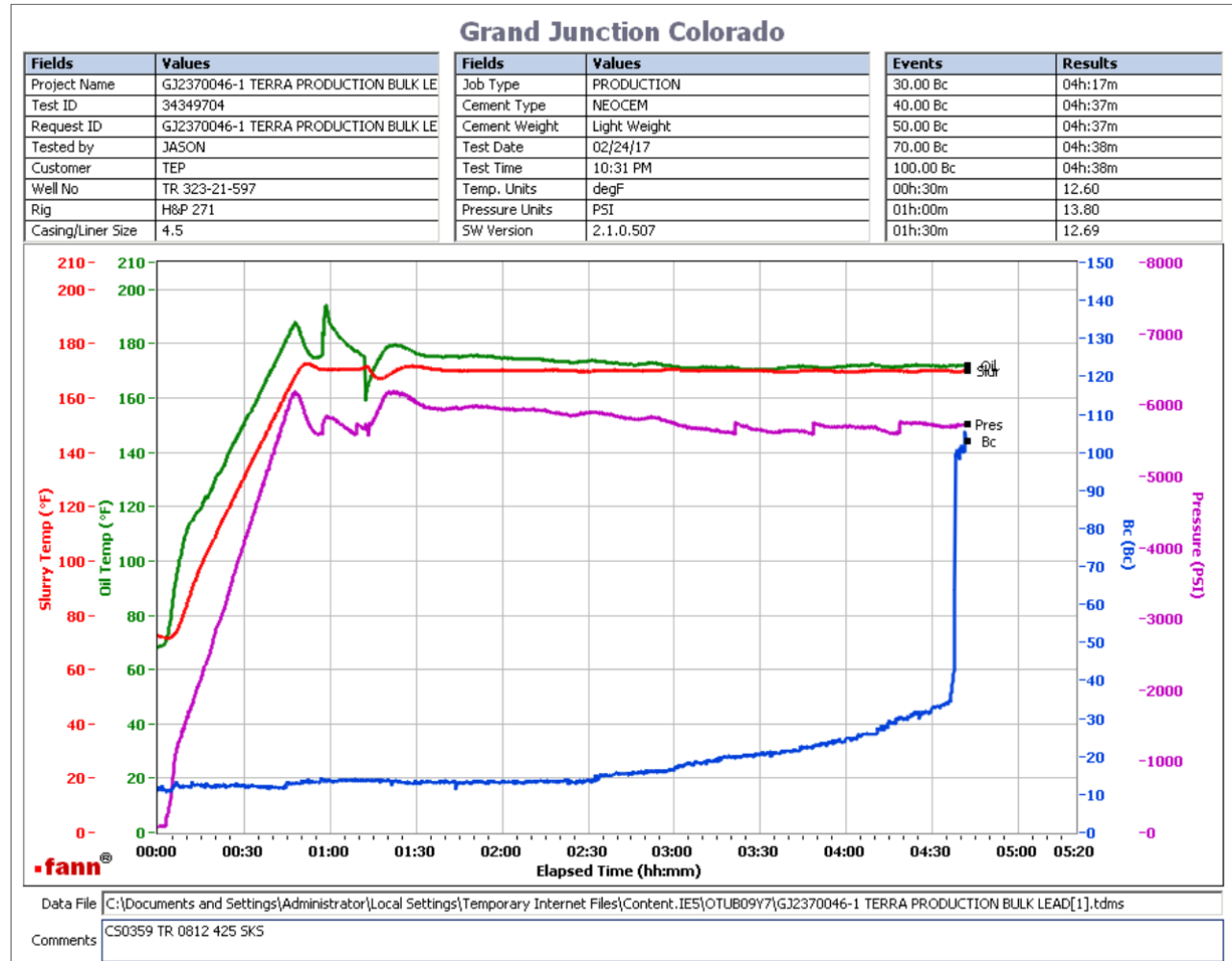
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Operation Test Results Request ID 2370046/1

Thickening Time - ON-OFF-ON

24/FEB/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)
170	5880	47	4:17	4:37	4:38	4:38	11	57	15	13



Total Sacks= 568
CS0359 TR 0812 425 SKS
No deflection

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Operation Test Results Request ID 2370046/2

Thickening Time - ON-OFF-ON

25/FEB/2017

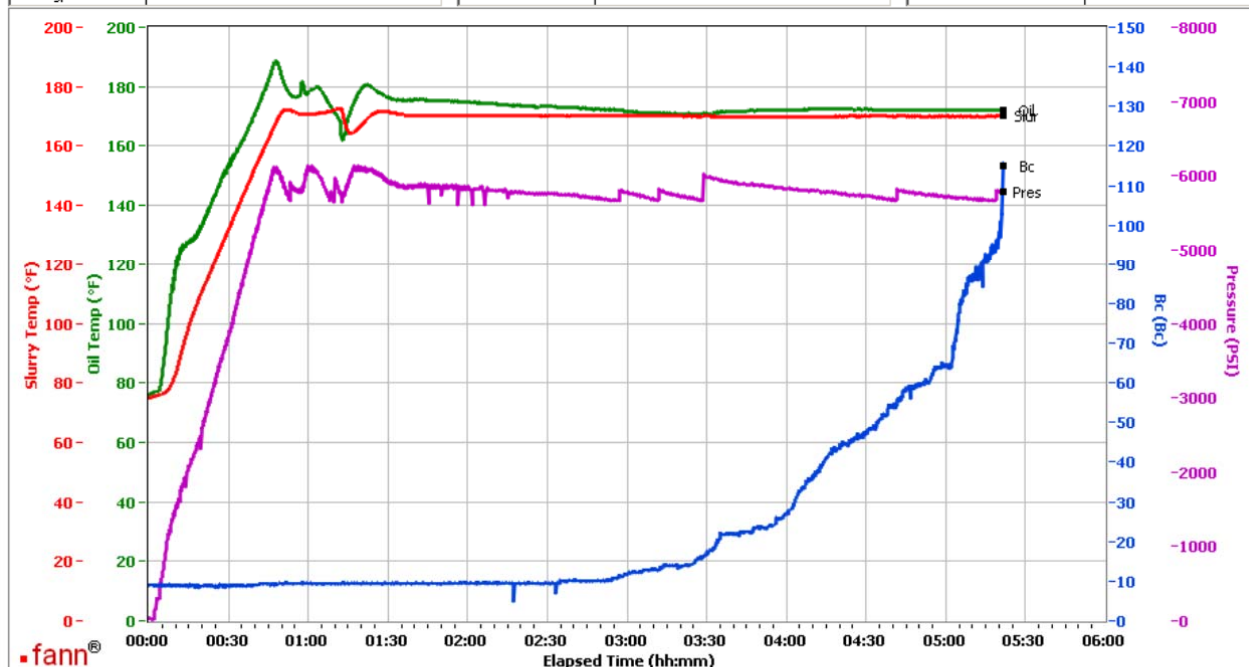
Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
170	5880	47	4:03	4:34	5:03	5:20	9	57	15	9

Grand Junction Colorado

Fields	Values
Project Name	GJ2370046-2 TEP PRODUCTION BULK LEAD
Test ID	34353026
Request ID	GJ2370046-2 TEP PRODUCTION BULK LEAD
Tested by	JASON
Customer	TEP
Well No	TR 323-21-597
Rig	H&P 271
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	02/24/17
Test Time	08:28 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:03m
40.00 Bc	04h:13m
50.00 Bc	04h:34m
70.00 Bc	05h:03m
100.00 Bc	05h:20m
00h:30m	9.07
01h:00m	9.53
01h:30m	9.74



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\4TJ389YN\GJ2370046-2 TEP PRODUCTION BULK LEAD[1].tdms

Comments CS0362 TR 5839 143 SKS

Total Sacks= 568
CS0362 TR 5839 143 SKS
No deflection

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2370047/1	Rig Name	H&P 271	Date	23/FEB/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	TR 323-21-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9606 ft	BHST	116°C / 240°F
Hole Size	8.75 in	Depth TVD	9401 ft	BHCT	77°C / 170°F
Pressure	5880 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



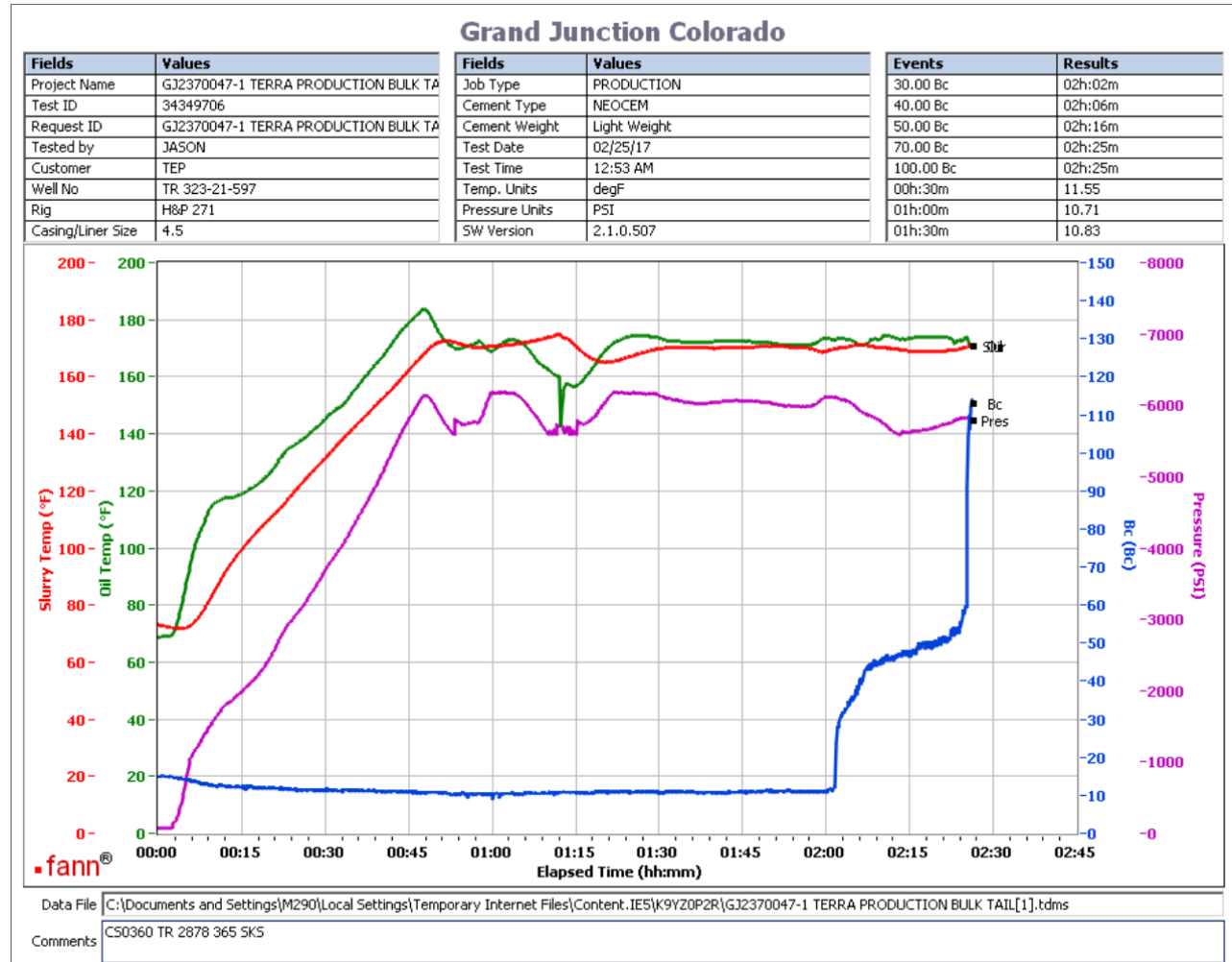
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem				Slurry Density	13	lbm/gal
						Slurry Yield	2.065	ft3/sack
						Water Requirement	9.433	gal/sack
						Total Mix Fluid	9.433	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

24/FEB/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)
170	5880	47	2:02	2:16	2:25	2:25	15	57	15	11



Total sks = 885
CS0360 TR 2878 365 SKS
No deflection

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Operation Test Results Request ID 2370047/2

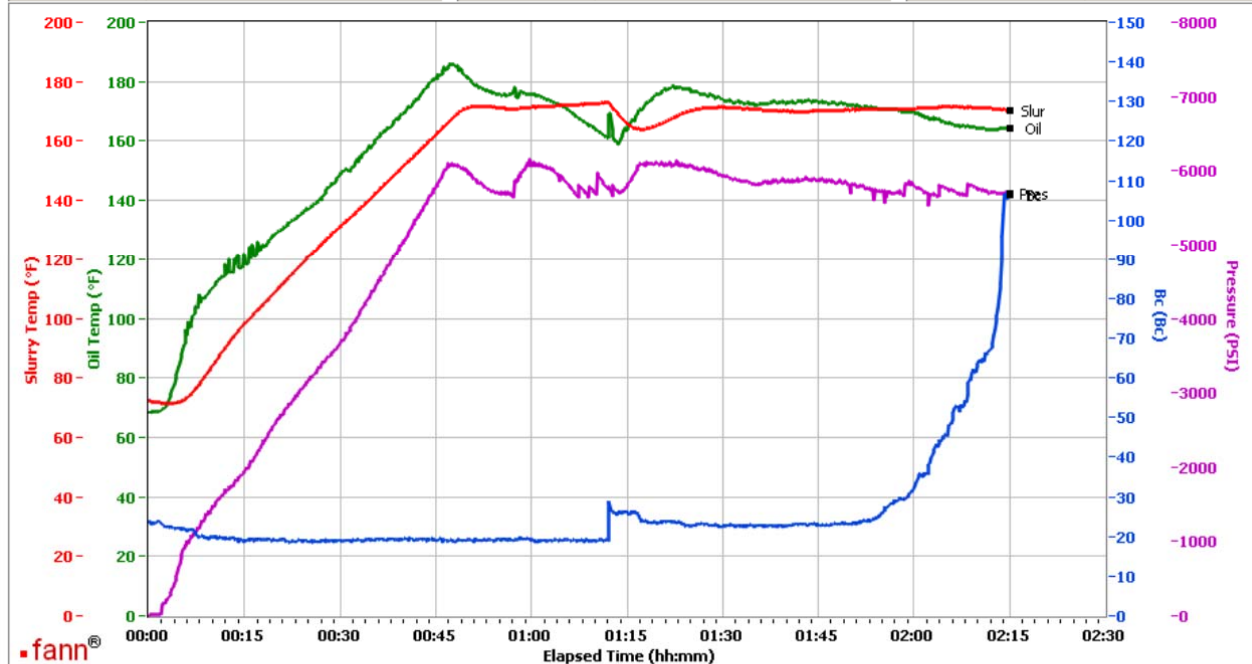
Thickening Time - ON-OFF-ON

25/FEB/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)
170	5880	47	1:59	2:06	2:12	2:14	24	57	15	32

Grand Junction, Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2370047-2 TEP PRODUCTION BULK TAIL	Job Type	PRODUCTION	30.00 Bc	01h:59m
Test ID	34352953	Cement Type	NEOCER	40.00 Bc	02h:02m
Request ID	GJ2370047-2 TEP PRODUCTION BULK TAIL	Cement Weight	Light Weight	50.00 Bc	02h:06m
Tested by	JASON	Test Date	02/25/17	70.00 Bc	02h:12m
Customer	TEP	Test Time	02:33 AM	100.00 Bc	02h:14m
Well No	TR 323-21-597	Temp. Units	degF	00h:30m	19.04
Rig	H&P 271	Pressure Units	PSI	01h:00m	19.05
Casing/Liner Size	4.5	SW Version	2.1.0.507	01h:30m	22.63



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9Y20P2R\GJ2370047-2 TEP PRODUCTION BULK TAIL[1].tdms

Comments CS0361 TR 1656 365 SK5

Total sks = 885

CS0361 TR 1656 365 SK5

Deflected 19-- > 32-- > 26

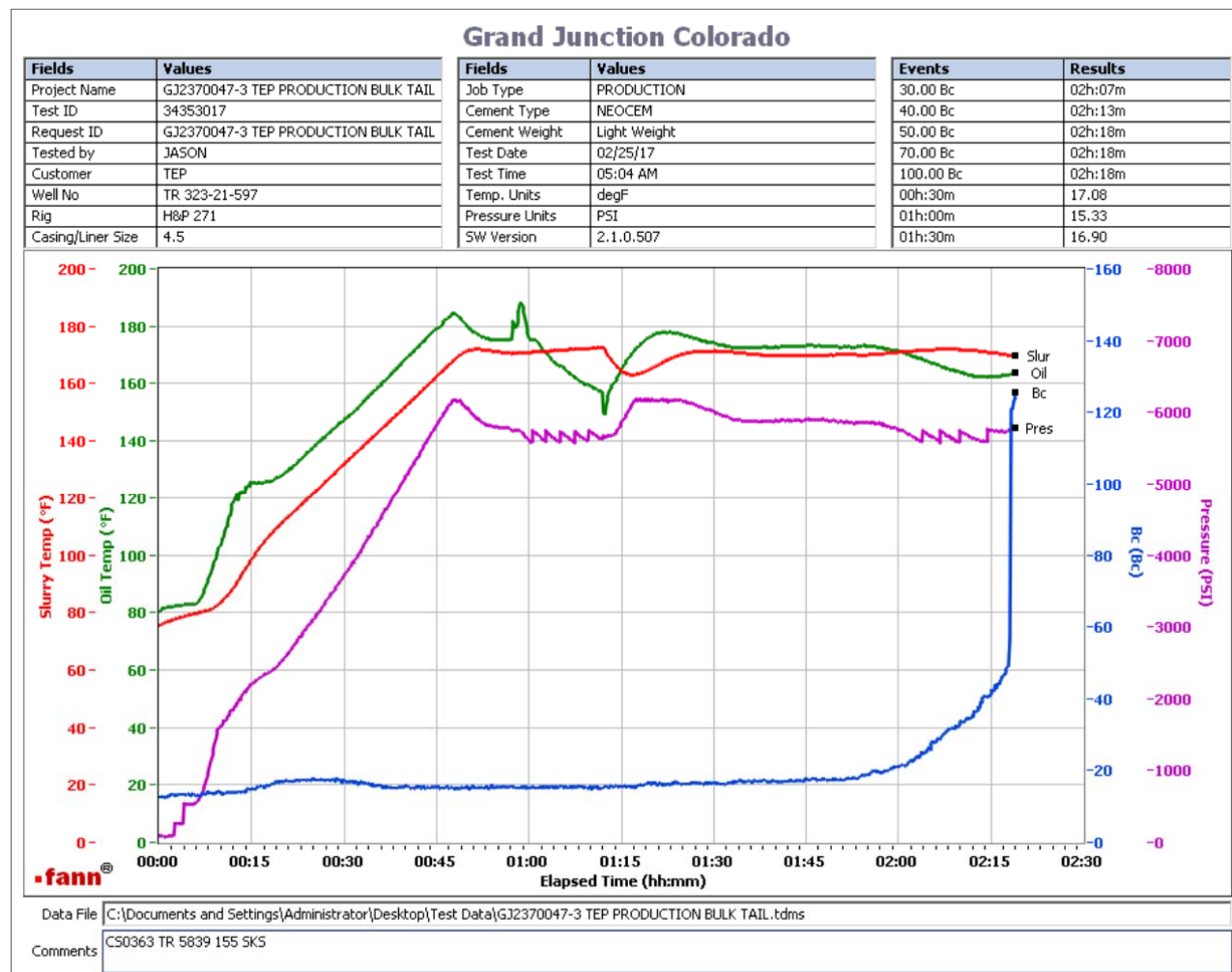
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Operation Test Results Request ID 2370047/3

Thickening Time - ON-OFF-ON

25/FEB/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)
170	5880	47	2:07	2:18	2:18	2:18	12	57	15	15



Total sks = 885
 CS0363 TR 5839 155 SKS
 No deflection

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