

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Beaude Oaks

Date: Tuesday, March 21, 2017

Trail Ridge 313-21-597 Production

Sincerely,

Grand Junction Cement Engineering

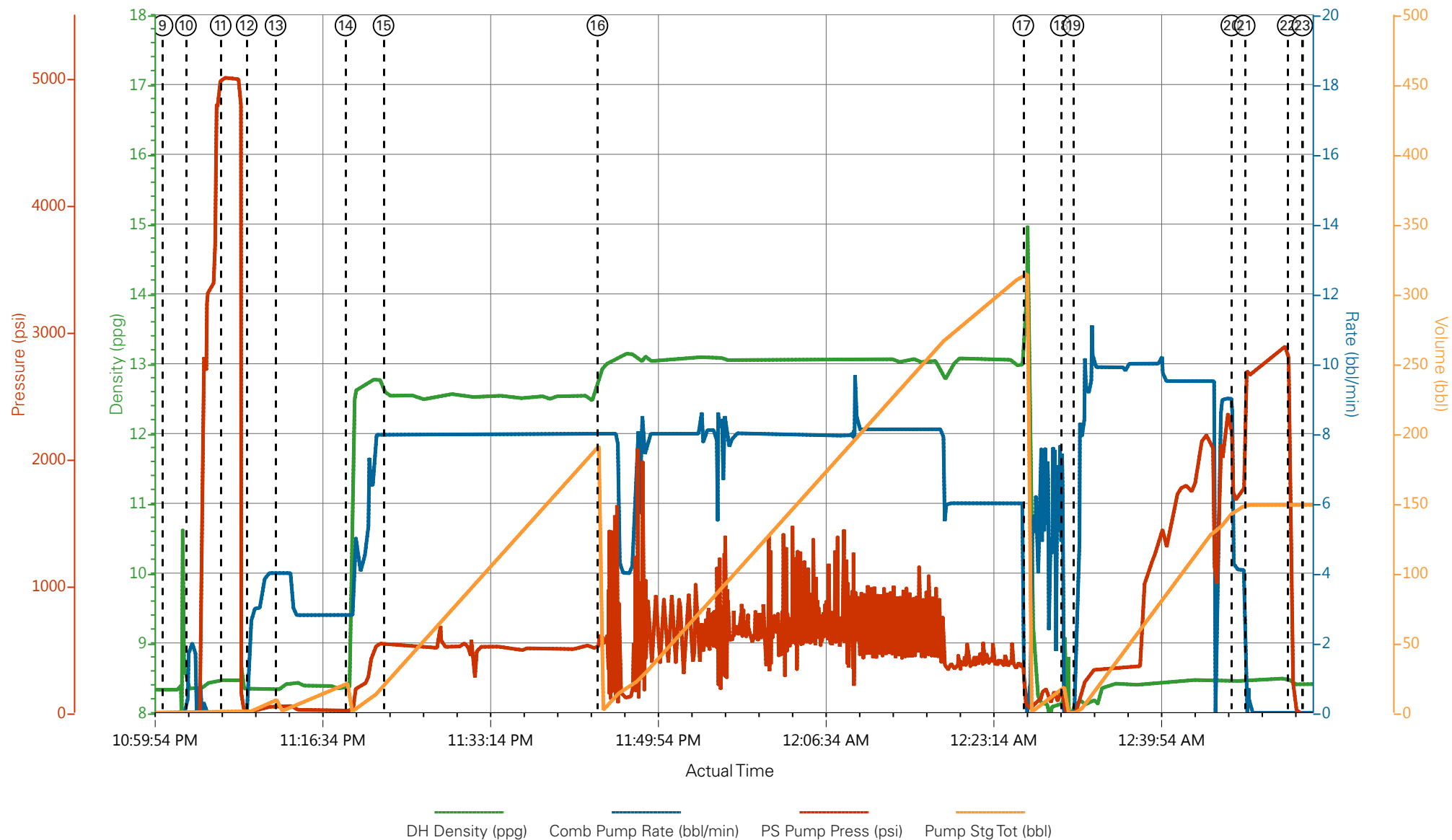
1.0 Real-Time Job Summary

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	3/20/2017	14:00:00	USER					O/L time 2100
Event	2	Pre-Convoy Safety Meeting	3/20/2017	16:15:00	USER					
Event	3	Crew Leave Yard	3/20/2017	16:30:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	3/20/2017	20:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	3/20/2017	20:15:00	USER					JSA completed - customer offered/received SDS – water test pH 7.0, Cl 0, temp 55 degrees
Event	6	Pre-Rig Up Safety Meeting	3/20/2017	20:30:00	USER					
Event	7	Rig-Up Equipment	3/20/2017	20:45:00	USER					Hard line to standpipe, manifold on ground, hard line to pit, water hoses to uprights, bulk hoses to 660 and silos
Event	8	Pre-Job Safety Meeting	3/20/2017	22:40:00	USER					All HES personnel, rig crew, and company rep – rig circulating @ 10 bpm for 1 ½ hrs w/ approx. 250 psi
Event	9	Start Job	3/20/2017	23:01:00	COM5					TD 9734', TP 9727.74', SJ 28.02', Mud 8.6 ppg, 9 5/8" 32# J55 surf casing @ 2796', 4 ½" 11.6# P110 casing
Event	10	Prime Lines	3/20/2017	23:03:19	USER	8.34	2.0	27	2.0	Fresh water
Event	11	Test Lines	3/20/2017	23:06:46	COM5			5019		Pressure held well
Event	12	Pump Water Spacer 1	3/20/2017	23:09:21	COM5	8.34	4.0	110	10.0	Water ahead – returns established
Event	13	Pump Mud Flush	3/20/2017	23:12:13	COM5	8.34	4.0	144	20.0	80 lbs Mud Flush III
Event	14	Pump Lead Cement	3/20/2017	23:19:10	COM5	12.5	8.0	540	191.8	555 sks NeoCem, 12.5 ppg, 1.94 yield, 9.58 gal/sk – Tuf fiber added on fly
Event	15	Check weight	3/20/2017	23:22:57	COM5	12.5				Recirc matched mud scales
Event	16	Pump Tail Cement	3/20/2017	23:44:12	COM5	13.0	8.0	880	280.2	760 sks, NeoCem HT 13.0 ppg, 2.07 yield, 9.43 gal/sk

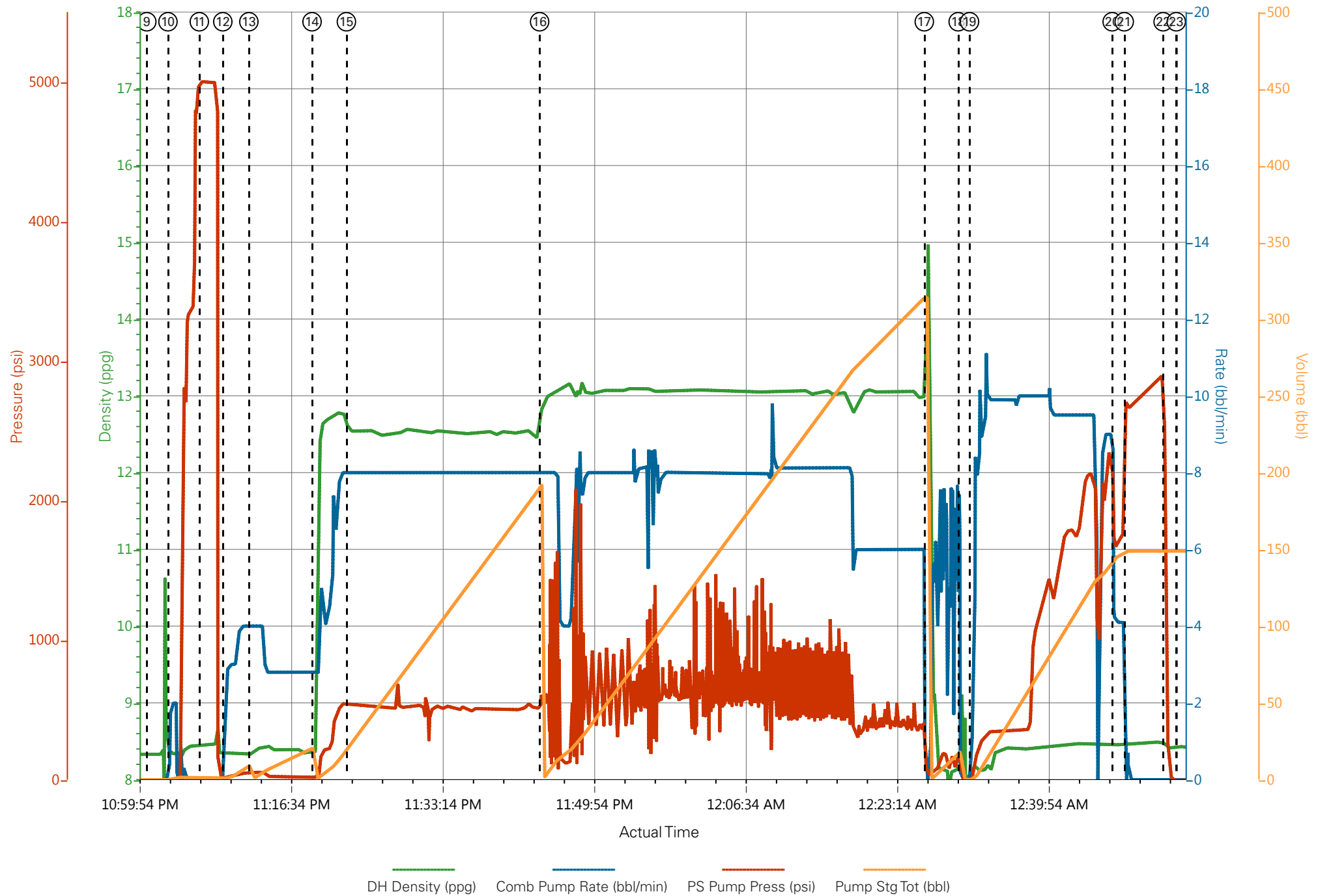
Event	17	Shutdown	3/21/2017	00:26:31	USER						Wash lines to pit
Event	18	Drop Top Plug	3/21/2017	00:30:15	USER						Rig supplied latch-down plug
Event	19	Pump Displacement	3/21/2017	00:31:30	COM5	8.34	10.0	2314	150.3		1 gal MMCR, 3 lbs BE-6, 2% KCl
Event	20	Slow Rate	3/21/2017	00:47:11	COM5	8.34	4.0	1690	@ 140		Returns re-established
Event	21	Bump Plug	3/21/2017	00:48:31	COM5			1720			Pipe reciprocated occasionally during cement
Event	22	Check Floats	3/21/2017	00:52:48	COM5			2705			Floats held – 1 ½ bbl flowback
Event	23	End Job	3/21/2017	00:54:14	COM5						No add hours, no sugar
Event	24	Pre-Rig Down Safety Meeting	3/21/2017	01:00:00	USER						
Event	25	Rig-Down Equipment	3/21/2017	01:15:00	USER						
Event	26	Pre-Convoy Safety Meeting	3/21/2017	02:15:00	USER						
Event	27	Crew Leave Location	3/21/2017	02:30:00	USER						Thank you for using Halliburton – Ed Deussen and crew

TERRA ENERGY - TR 313-21-597 - 4 1/2" Production



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|---|-----------------------------|-----------------------|---------------------|--------------------------------|------------------------------|
| 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 Water Spacer 1 | 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 | |

TERRA ENERGY - TR 313-21-597 - 4 1/2" Production



Job Information

Request/Slurry	2374865/1	Rig Name	H&P 271	Date	16/MAR/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	Trail Ridge 313-21-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9742 ft	BHST	115°C / 239°F
Hole Size	8.75 in	Depth TVD	9332 ft	BHCT	76°C / 169°F
Pressure	5832 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



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	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 2374865/1

Thickening Time - ON-OFF-ON

18/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)
169	5832	47	3:59	4:29	4:53	5:12	9	57	15	12

Total Sacks= 555

CS0562 TR 8677 400 SKS

CS0564 TR 6813 155 SKS

Composite

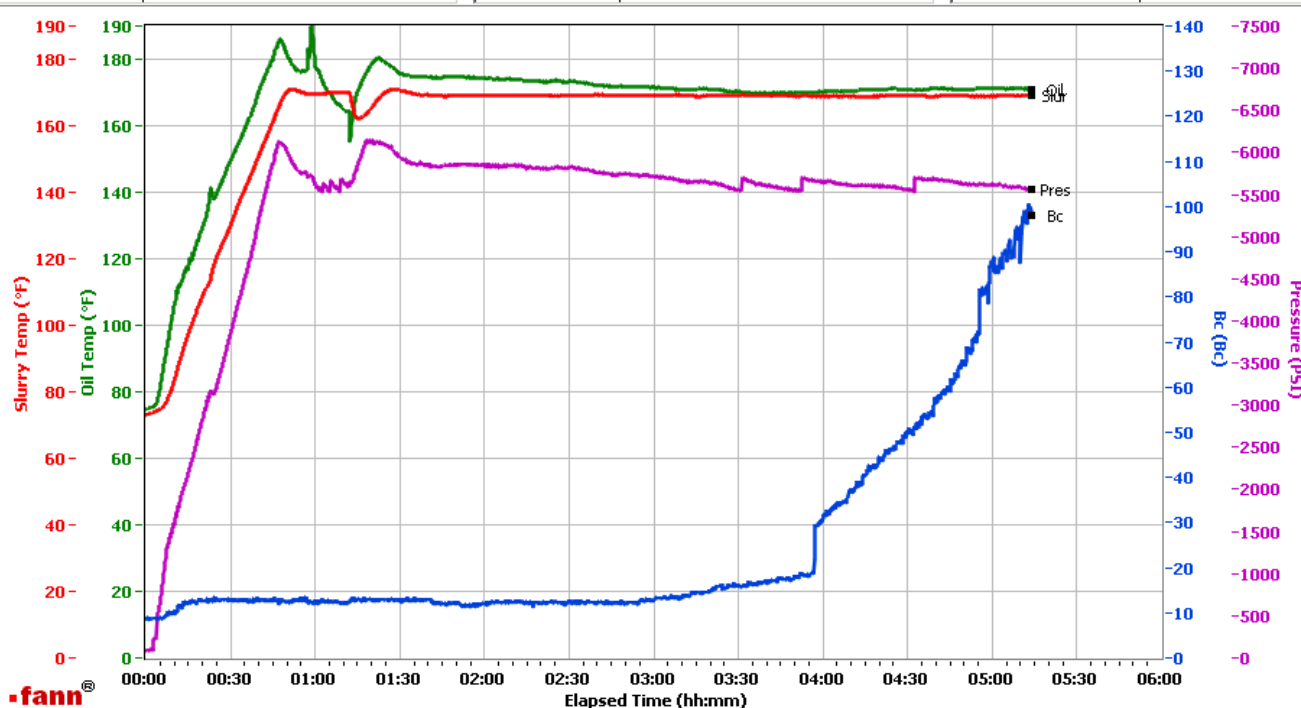
No deflection

Grand Junction Colorado

Fields	Values
Project Name	GJ2374865-1 TEP PRODUCTION BULK LEAD
Test ID	34401547
Request ID	GJ2374865-1 TEP PRODUCTION BULK LEAD
Tested by	JASON
Customer	TEP
Well No	TR 313-21-597
Rig	H&P 271
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	03/18/17
Test Time	05:46 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:59m
40.00 Bc	04h:14m
50.00 Bc	04h:29m
70.00 Bc	04h:53m
100.00 Bc	05h:12m
00h:30m	12.98
01h:00m	12.45
01h:30m	12.63



Data File C:\Documents and Settings\Administrator\Desktop\Test Data\GJ2374865-1 TEP PRODUCTION BULK LEAD.tdms

Comments CS0562 TR 8677 400 SKS CS0564 TR 6813 155 SKS

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Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2374866/1	Rig Name	H&P 271	Date	16/MAR/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	Trail Ridge 313-21-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9742 ft	BHST	115°C / 239°F
Hole Size	8.75 in	Depth TVD	9332 ft	BHCT	76°C / 169°F
Pressure	5832 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



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties	
		NeoCem				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 2374866/1

Thickening Time - ON-OFF-ON

18/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)
169	5832	47	2:35	2:41	2:54	2:55	17	57	15	17

Total sks = 760

CS0561 TR 1513 330 SKS

CS0563 TR 1656 330 SKS

CS0565 TR 6813 100 SKS

Composite

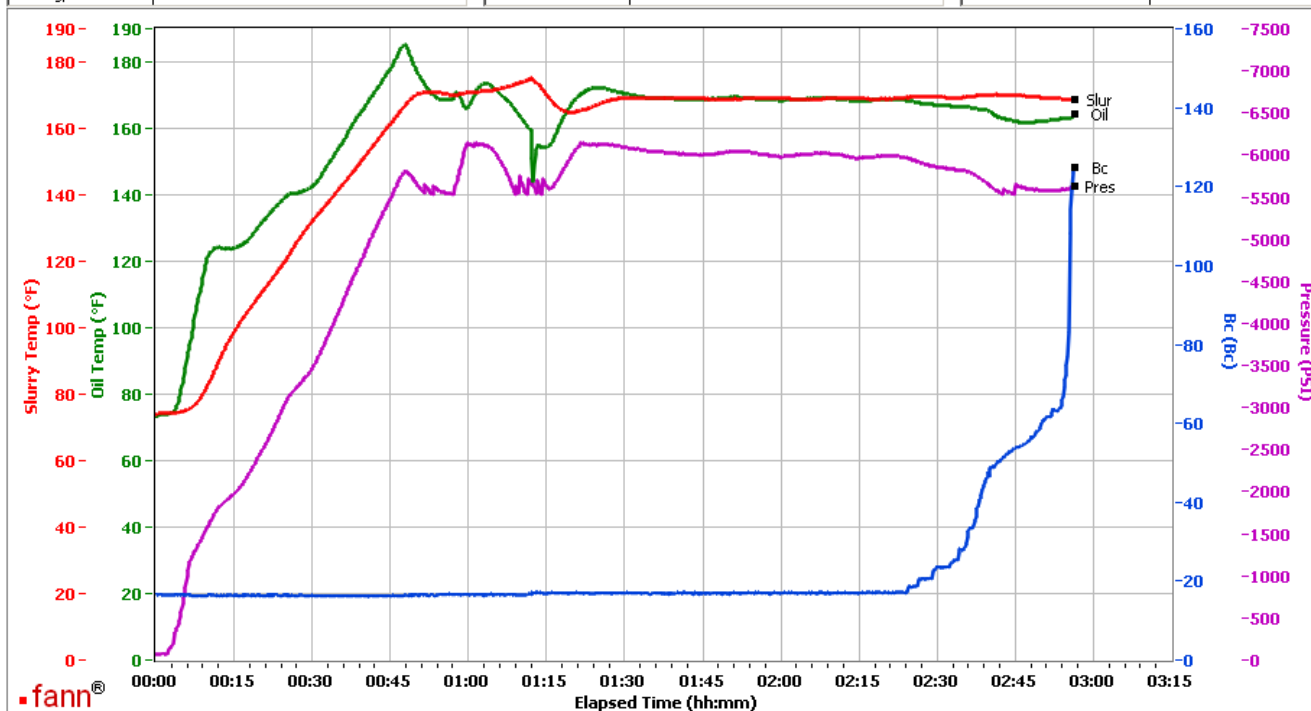
No deflection

Grand Junction Colorado

Fields	Values
Project Name	GJ2374866-1 TEP PRODUCTION BULK TAIL
Test ID	34401549
Request ID	GJ2374866-1 TEP PRODUCTION BULK TAIL
Tested by	JASON
Customer	TEP
Well No	TR 313-21-597
Rig	H&P 271
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	03/18/17
Test Time	05:27 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	02h:35m
40.00 Bc	02h:38m
50.00 Bc	02h:41m
70.00 Bc	02h:54m
100.00 Bc	02h:55m
00h:30m	16.48
01h:00m	16.78
01h:30m	17.21



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2374866-1 TEP PRODUCTION BULK TAILS.tdms

Comments CS0561 TR 1513 330 SKS CS0563 TR 1656 330 SKS CS0565 TR 6813 100 SKS

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