

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

For: Terra

Date: Wednesday, June 06, 2018

PA 521-26 Production PJR

Job Date: Wednesday, June 06, 2018

Sincerely,

Grand Junction Cement Engineering

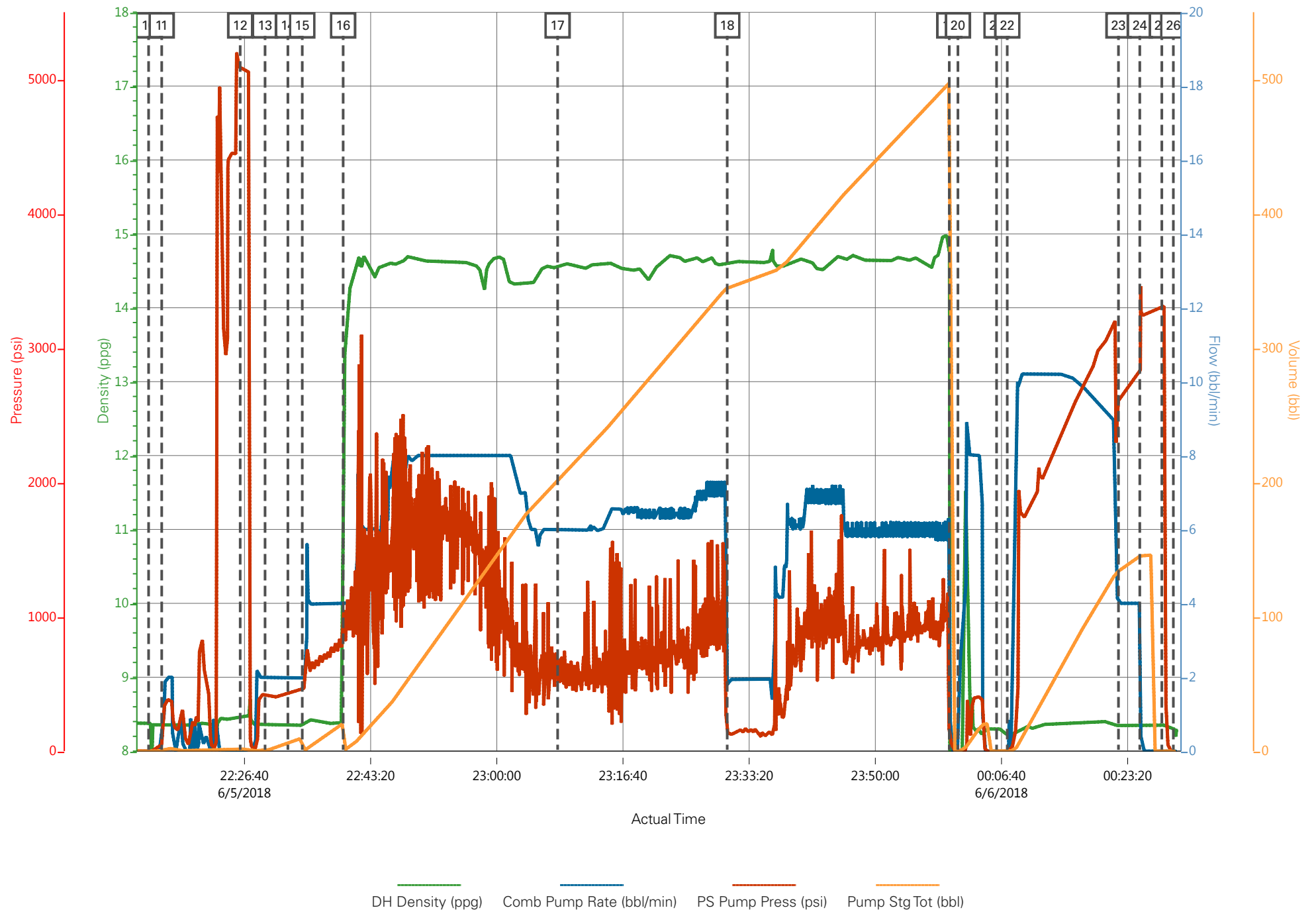
2.0 Real-Time Job Summary

2.1 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	6/5/2018	14:00:00	USER					Requested on Location @ 18:30
Event	2	Pre-Convoy Safety Meeting	6/5/2018	16:15:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	6/5/2018	16:30:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive at Location from Service Center	6/5/2018	17:15:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	6/5/2018	17:20:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 67 degrees
Event	6	Pre-Rig Up Safety Meeting	6/5/2018	17:30:00	USER					1 hardline to standpipe, water hoses to upright, bulk hose to 660, and 2 silos
Event	7	Other	6/5/2018	20:45:00	USER					Rig Circulated Bottoms up prior to cement job at 450 gpm 1650 psi
Event	8	Pre-Job Safety Meeting	6/5/2018	20:59:19	USER					All HES personnel, rig crew, and company rep
Event	9	Start Job	6/5/2018	22:14:00	USER	8.38	0.00	1.00	0.00	TP 8865.16', SJ 33.04', Csg 4.5" 11.6lb/ft P110, OH 8.75", Scsg 9.625" 32.3 lb/ft H-40 Shoe @ 1125', Mud 12.85 ppg. PV 22 YP 14. Pipe to be reciprocated through out job.
Event	10	Prime Pumps	6/5/2018	22:15:44	COM5	8.36	2.00	381.00	3.00	Fresh Water

Event	11	Test Lines	6/5/2018	22:26:06	COM5	8.48	0.00	5079.00	3.10	Pressure Held
Event	12	Pump Water Spacer	6/5/2018	22:29:23	COM5	8.35	2.00	450.00	10.00	Fresh Water
Event	13	Check Weight	6/5/2018	22:32:24	COM5					Weight Verified By Pressurized Mud Scales
Event	14	Pump Mud Flush III	6/5/2018	22:34:18	COM5	8.45	4.00	723.00	20.00	Mud Flush III
Event	15	Pump Cement	6/5/2018	22:39:42	COM5	14.50	8.00	1700.00	421.9	Expandacem 1795sks, 14.5PPG, 1.32CF/SK, 5.85GL/SK
Event	16	Check Weight	6/5/2018	23:08:02	COM5					Weight Verified By Pressurized Mud Scales
Event	17	Slow Rate	6/5/2018	23:30:26	USER	14.62	1.80	134.00	344.80	Head Leaking on Casing slow rate to fix issue
Event	18	Shutdown	6/5/2018	23:59:46	USER					End of cement
Event	19	Clean Lines	6/6/2018	00:00:55	USER					Cleaned pumps and lines to pit, lines also blown back
Event	20	Drop Top Plug	6/6/2018	00:06:01	USER					Plug away
Event	21	Pump Displacement	6/6/2018	00:07:25	USER	8.33	10.00	3130.00	136.90	Kcl Water, 3# BE6, 1GAL MMCR
Event	22	Slow Rate	6/6/2018	00:22:07	USER	8.34	4.00	2600.00	127.00	Slow Rate 10 bbls to calculated displacement
Event	23	Bump Plug	6/6/2018	00:24:56	COM5	8.34	4.00	2750.00	136.90	Plug Bumped 2750 PSI
Event	24	Check Floats	6/6/2018	00:27:51	USER	8.35	0.00	3306.00	0.00	Floats held – 1½ bbl back to the truck
Event	25	End Job	6/6/2018	00:29:22	COM5					
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	6/6/2018	00:32:00	USER					
Event	27	Pre-Convoy Safety Meeting	6/6/2018	01:15:00	USER					
Event	28	Crew Leave Location	6/6/2018	01:30:00	USER					Thanks For Using Halliburton Cement. Andrew Brennecke And

TEP - FED PA 521-26 - 4.5" PRODUCTION



Job Information

Request/Slurry	2477293/2	Rig Name	H&P 271	Date	26/MAY/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 521-26

Well Information

Casing/Liner Size	4.5 in	Depth MD	8892 ft	BHST	106°C / 223°F
Hole Size	8.75 in	Depth TVD	8426 ft	BHCT	67°C / 153°F
Pressure	5198 psi				

Drilling Fluid Information

Mud Supplier Name	AMC	Mud Trade Name	Density
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Cement Information - Primary Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ExpandaCem				Slurry Density	14.5	lbm/gal
						Slurry Yield	1.32	ft3/sack
						Water Requirement	5.849	gal/sack
						Total Mix Fluid	5.849	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2477293/2

Thickening Time - ON-OFF-ON

04/JUN/2018

Test Temp (degF)	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)
153	5198	43	3:47	3:47	3:50	3:56	17	53	15	17

total sks=1795

CS1158 TR#2878 425 SKS

CS1159 TR#1513 425 SKS

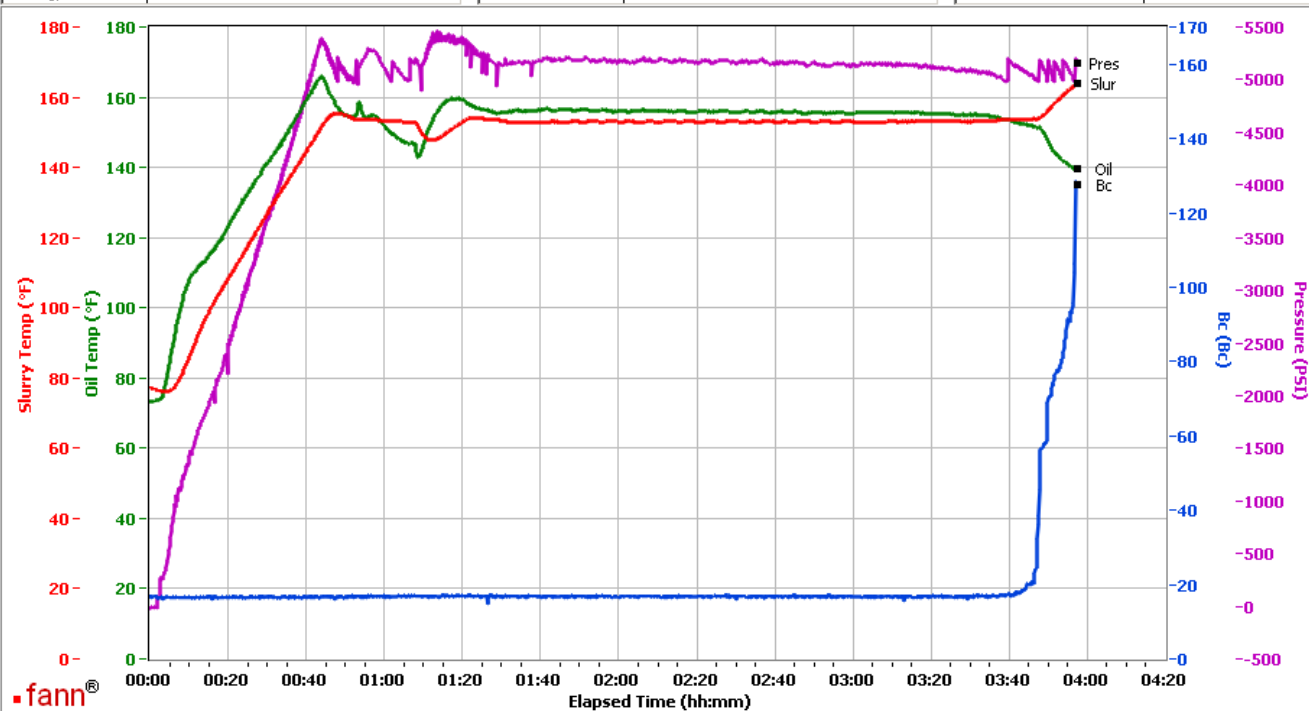
No deflection

Grand Junction Colorado

Fields	Values
Project Name	GJ2477293-2 TERRA BULK PRODUCTION PR
Test ID	35549950
Request ID	GJ2477293-2
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	PA 521-26
Rig	H8P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	06/03/18
Test Time	01:43 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:47m
40.00 Bc	03h:47m
50.00 Bc	03h:47m
70.00 Bc	03h:50m
100.00 Bc	03h:56m
00h:30m	16.46
01h:00m	16.94
01h:30m	16.43



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2477293-2 TERRA BULK PRODUCTION PRIMARY.tdms

Comments CS1158 TR#2878 425 SKS AND CS1159 TR#1513 425 SKS

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Operation Test Results Request ID 2477293/1

Thickening Time - ON-OFF-ON

03/JUN/2018

Test Temp (degF)	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)
153	5198	43	4:34	4:34	4:34	4:37	12	53	15	11

total sks= 1795

CS1152, Trailer 4053, 95 sks

CS1153, Trailer 8658, 425 sks

CS1154, Trailer 8677, 425 sks

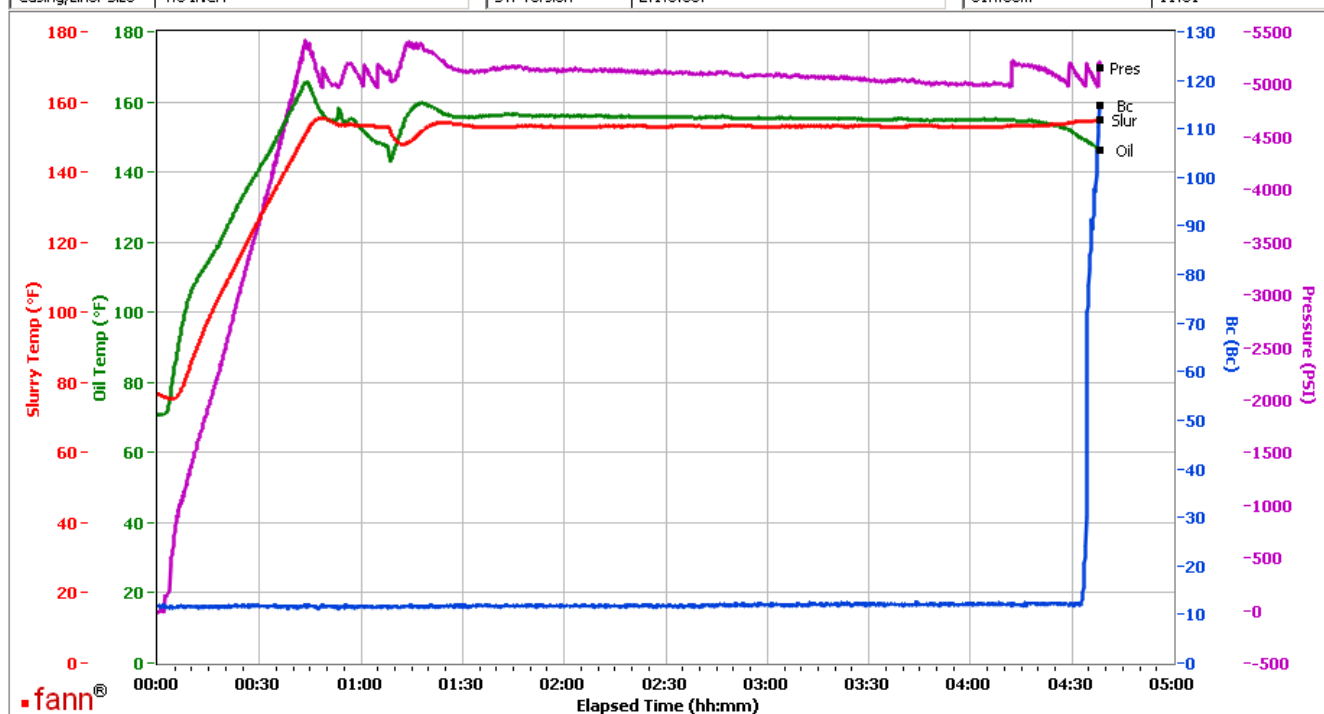
no deflection , 11Bc--11Bc

Grand Junction Colorado

Fields	Values
Project Name	GJ2477293-1 TERRA BULK PRODUCTION PR
Test ID	35530435 - TT
Request ID	2477293-1
Tested by	CT
Customer	TERRA ENERGY PARTNERS
Well No	PA 521-26
Rig	H&P 271
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	06/02/18
Test Time	5:51 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:34m
40.00 Bc	04h:34m
50.00 Bc	04h:34m
70.00 Bc	04h:34m
100.00 Bc	04h:37m
00h:30m	11.67
01h:00m	11.46
01h:30m	11.61



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\0HU90BIZ\GJ2477293-1 TERRA BULK PRODUCTION PRIMARY[1].tdms

Comments CS1152, TRAILER 4053, 95 SKS - CS1153, TRAILER 8658, 425 SKS - CS1154, TRAILER 8677, 425 SKS

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