

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

Date: Monday, March 11, 2019

SG 11-22 Production

Terra SG 11-22 Production

API# 05-045-24128

Job Date: February 21, 2019

Sincerely,

Grand Junction Cement Engineering

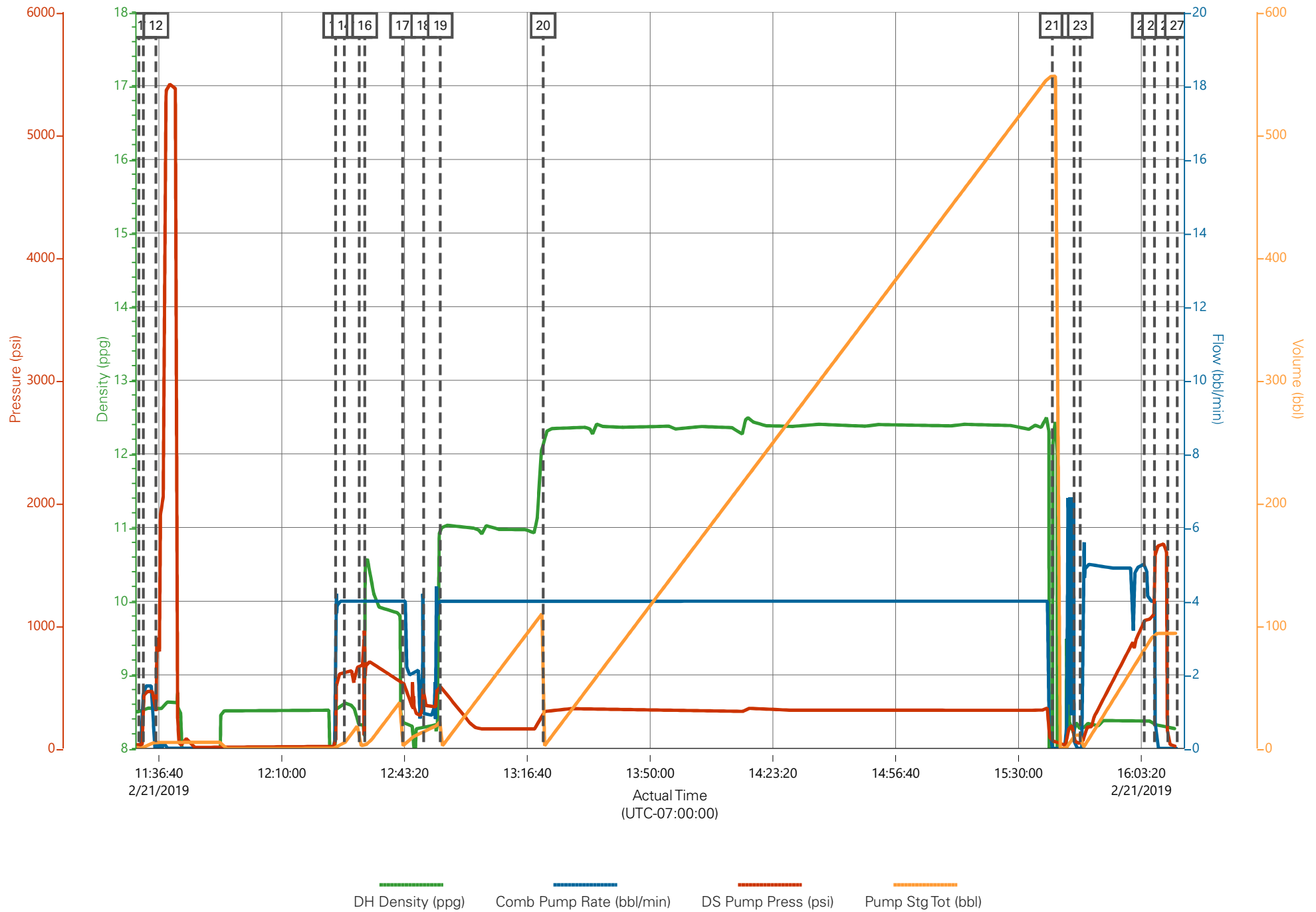
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	2/21/2019	04:30:00						Requested on Location @ 10:30
Event	2	Pre-Convoy Safety Meeting	2/21/2019	06:50:00						
Event	3	Crew Leave Yard	2/21/2019	07:00:00						1 Elite, 2 660, 1 Transport, 1 pickup, 1 bodyload
Event	4	Arrive At Loc	2/21/2019	10:30:00						Rig on bottom with casing
Event	5	Assessment Of Location Safety Meeting	2/21/2019	10:32:00						JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 68 degrees
Event	6	Pre-Rig Up Safety Meeting	2/21/2019	10:35:00						
Event	7	Rig-Up Equipment	2/21/2019	10:50:00						DME iron to ground manifold, standpipe, hardline to pit. Water hoses to both uprights, bulk hoses to Silo's and 660 and bodyload.
Event	8	Other	2/21/2019	10:55:00						Rig Circulated 1 hr prior to cement job at 360 gpm 600 psi. Mud scales calibrated to drinking water prior to job.
Event	9	Pre-Job Safety Meeting	2/21/2019	11:10:00						All HES personnel, rig crew, and company rep.
Event	10	Start Job	2/21/2019	11:31:12						TD 6169', TP 6167.18', SJ 32.58', OH 8 3/4", Csg 4.5" 11.6 lb/ft HCP-110 Prev. Csg. 9.625" 32.3# @ 1024', Mud 9.8 ppg.
Event	11	Fill Lines	2/21/2019	11:32:27		8.33	2	475	5	Fresh Water
Event	12	Test Lines	2/21/2019	11:35:49				5420		Held pressure 2 minutes, no leaks
Event	13	Pump Spacer	2/21/2019	12:24:38		8.33	4	615	5	Fresh Water
Event	14	Pump Spacer 1	2/21/2019	12:27:01		8.4	4	640	20	20 bbl of mud flush
Event	15	Pump Spacer	2/21/2019	12:31:00		8.33	4	670	5	Fresh Water
Event	16	Pump Spacer	2/21/2019	12:32:30		10.1	4	710	40	40 bbl of Super flush 101

Event	17	Pump Spacer	2/21/2019	12:42:47	8.33	4	520	20	Fresh Water
Event	18	Check Weight	2/21/2019	12:48:32					Density verified via mud cup
Event	19	Pump Lead Cement	2/21/2019	12:53:02	11.0	4	300	102.5	246 sks, 11.0 ppg, 2.32 yield, 12.67 gal/sk
Event	20	Pump Tail Cement	2/21/2019	13:20:59	12.3	4	380	530.2	1445 sks, 12.3 ppg, 2.06 Yield, 10.12 gal/sk
Event	21	Shutdown	2/21/2019	15:39:11					Wash lines to pit, returns off and on during cement.
Event	22	Drop Top Plug	2/21/2019	15:45:04					Co-Rep Verify Plug Launched.
Event	23	Pump Displacement	2/21/2019	15:46:45	8.4	5	1050	95.1	3 lbs BE-6, 1 gal MMCR, 2% KCl
Event	24	Slow Rate	2/21/2019	16:04:07	8.4	4	1120	85	Slow Rate 10 bbls to Calculated Displacement
Event	25	Bump Plug	2/21/2019	16:06:55			1660		Plug Bumped at 1120 psi, Brought up to 1660 psi, no returns during displacement
Event	26	Check Floats	2/21/2019	16:10:34					Floats held – .5 bbl back to the truck
Event	27	End Job	2/21/2019	16:13:05					Pipe was reciprocated during job. 40 bbl of spacer to surface
Event	28	Pre-Rig Down Safety Meeting	2/21/2019	16:26:33					40 lbs sugar, 1 HES top used, 0 add hours, 6 Transport hours
Event	29	Rig-Down Equipment	2/21/2019	16:34:24					
Event	30	Pre-Convoy Safety Meeting	2/21/2019	16:52:54					
Event	31	Crew Leave Location	2/21/2019	17:00:00					Thanks for using Halliburton Cement, Chris Martinez and crew.

Terra, SG 11-22 4 1/2" Production



Job Information

Request/Slurry	2536294/2	Rig Name	H&P 318	Date	18/FEB/2019
Submitted By	Justin Kiddoo	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SG 11-22

Well Information

Casing/Liner Size	4.5 in	Depth MD	6281 ft	BHST	83°C / 181°F
Hole Size	7.875 in	Depth TVD	5952 ft	BHCT	49°C / 120°F
Pressure	3471 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Lead Design



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
							Slurry Density	12.3	lbm/gal
							Slurry Yield	2.07	ft3/sack
							Water Requirement	10.16	gal/sack
							Total Mix Fluid	10.16	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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Operation Test Results Request ID 2536294/2

Thickening Time - ON-OFF-ON, Request Test ID:36250527

20/FEB/2019

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)
120	3471	41	6:05	6:26	6:53	7:17	12	44	15	11

Total sks = 1445

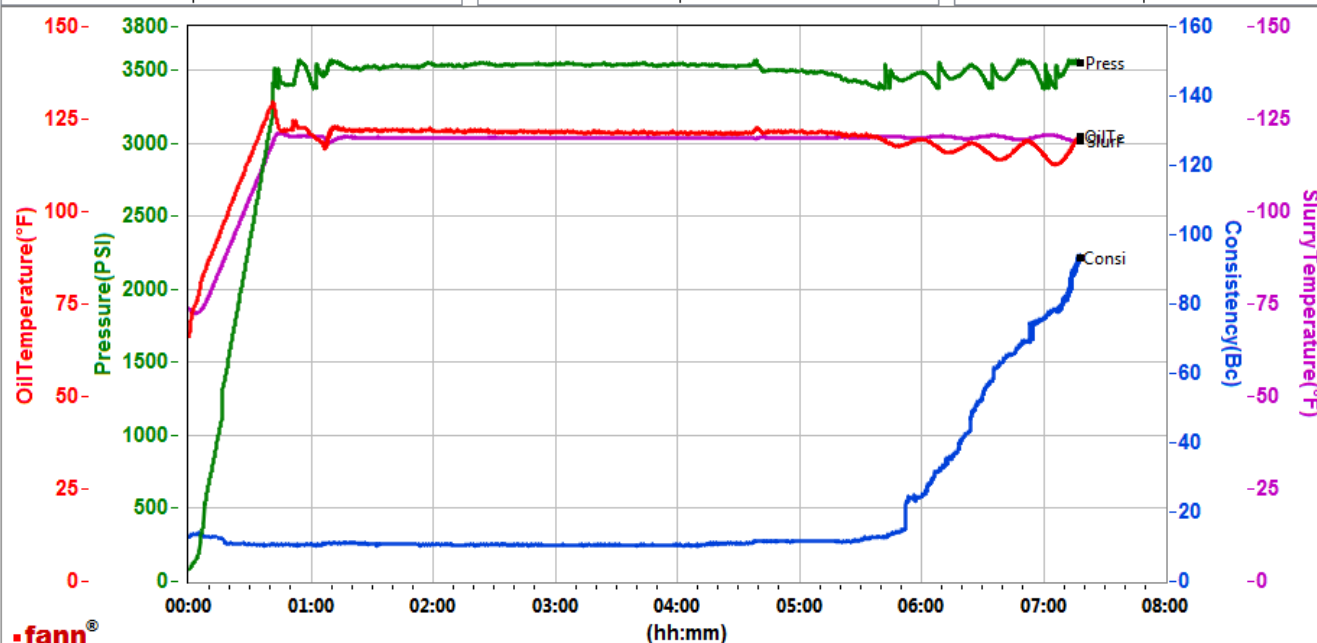
CS0231, Trailer 1513, 427 sks

CS0232, Trailer 4080, 164 sks

Deflection: 11 – 11

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	2536294-2 H&P 318 Terr	Rig	H&P 318	30 BC	6:05
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 BC	6:26
Test ID	36247783 - TT	Job Type	PRODUCTION CASING	70 BC	6:53
Request ID	2536294-2	Cement Weight	GCC TYPE I-II	100 BC	7:17
Tested by	CT	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	2/19/2019 07:14:40.249		
Well No	SG 11-22	Temp. Units	degF		



Data File C:\Users\H185329\Desktop\000 Graphs\GJ2536294-2 TERRA BULK PRODUCTION PRIMARY.tdms

Comments Standard

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Operation Test Results Request ID 2536294/1

Thickening Time - ON-OFF-ON, Request Test ID:36247783

20/FEB/2019

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)
120	3471	41	6:16	6:35	7:01	7:34	6	44	15	4

Total sks = 1445

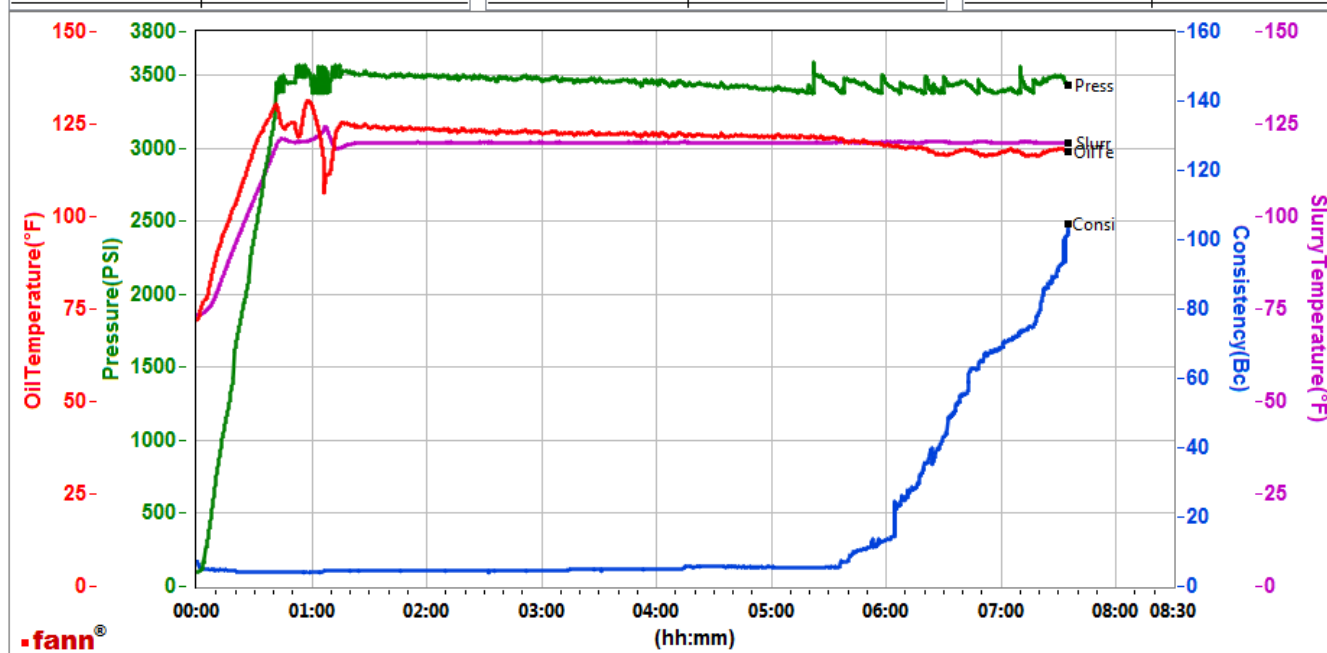
CS0229, Trailer 8658, 427 sks

CS0230, Trailer 8678, 427 sks

Deflection: 4 – 4

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	2536294-1 H&P 318 Terr	Rig	H&p 318	30 BC	6:16
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 BC	6:35
Test ID	36247783 - TT	Job Type	PRODUCTION CASING	70 BC	7:01
Request ID	2536294-1	Cement Weight	GCC TYPE I-II	100 BC	7:34
Tested by	CT	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	2/19/2019 05:14:50.361		
Well No	SG 11-22	Temp. Units	degF		



Data File C:\Users\H185329\Desktop\000 Graphs\GJ2536294-1 TERRA BULK PRODUCTION PRIMARY.tdms

Comments Standard

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