

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

Date: Tuesday, January 29, 2019

GM 422-8 Production

Terra GM 422-8 Production

Job Date: Tuesday, January 08, 2019

Sincerely,

Grand Junction Cement Engineering

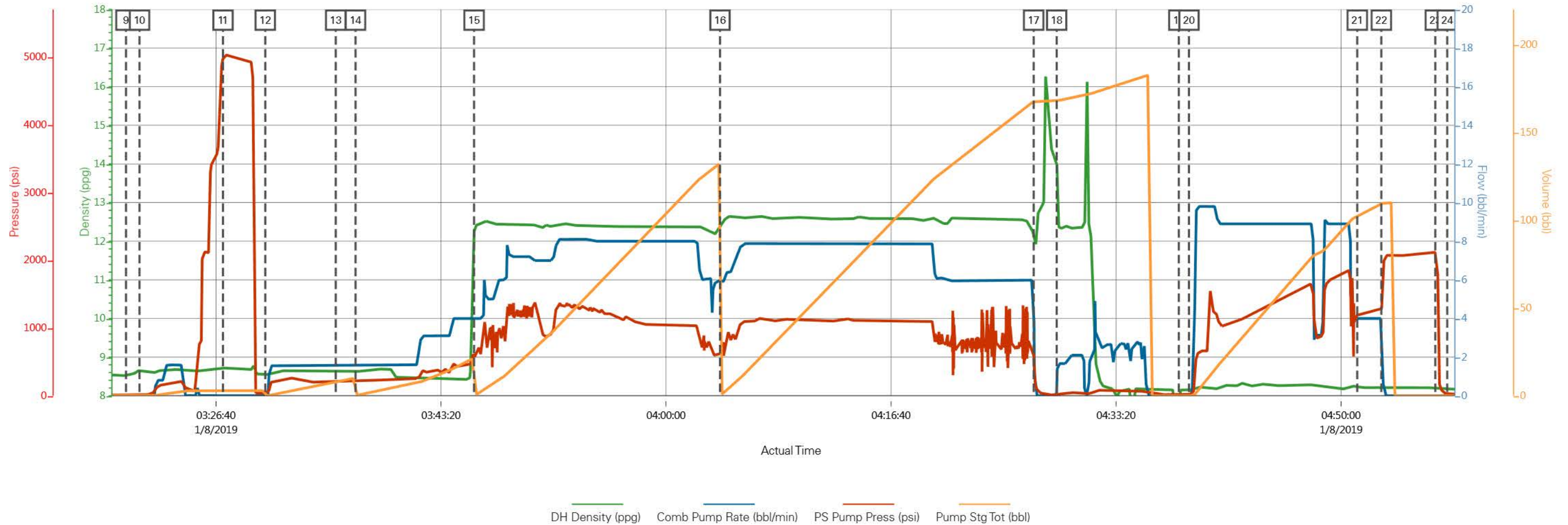
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	1/7/2019	19:00:00	USER					Requested on Location @ 11:30
Event	2	Pre-Convoy Safety Meeting	1/7/2019	22:00:00	USER					
Event	3	Crew Leave Yard	1/7/2019	22:15:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive at Location from Service Center	1/7/2019	23:30:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	1/7/2019	23:35:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 66 degrees
Event	6	Pre-Rig Up Safety Meeting	1/8/2019	00:45:00	USER					1 hardline to standpipe, water hoses to upright, bulk hose to 660 and silos.
Event	7	Pre-Job Safety Meeting	1/8/2019	02:33:23	USER					All HES personnel, rig crew, and company rep
Event	8	Other	1/8/2019	03:00:00	USER					Rig Circulated 60 mins prior to cement job at 500 gpm 1200 psi
Event	9	Start Job	1/8/2019	03:20:00	USER	8.33	0.00	4.00	0.00	TD 7135', TP 7128.58', SJ 32.89', FC 7095.59' OH 8 3/4", Csg 4.5", 11.6 lb/ft, Mud 9.9 ppg. S CSG 13.375 54.5lb/ft shoe 1038 ft
Event	10	Fill Lines	1/8/2019	03:21:00	USER	8.33	2.00	212.00	4.00	Fresh Water
Event	11	Test Lines	1/8/2019	03:27:11	USER	8.42	0.00	5034.00	4.00	Held pressure 2 minutes no leaks
Event	12	Pump Water Spacer	1/8/2019	03:30:19	COM5	8.33	2.00	260.00	10.00	Fresh water

Event	13	Check Weight	1/8/2019	03:35:32	USER					Density Verified via Mud Scales
Event	14	Pump Mud Flush III	1/8/2019	03:37:00	USER	8.40	4.0	425.00	20.00	Mud Flush
Event	15	Pump Lead Cement	1/8/2019	03:45:47	COM5	12.30	8.00	1326.00	132.08	360sks, 12.3ppg, 2.06 yield, 10.14 gal/sk
Event	16	Pump Tail Cement	1/8/2019	04:04:00	COM5	12.50	8.00	1115.00	160.57	460sks, 12.5ppg, 1.96 yeild, 9.4gal/sk
Event	17	Shutdown	1/8/2019	04:27:14	USER					
Event	18	Clean Lines	1/8/2019	04:28:56	COM5					Clean lines to suct truck.
Event	19	Drop Top Plug	1/8/2019	04:37:59	USER					Co-Rep Verify Plug Launched
Event	20	Pump Displacement	1/8/2019	04:38:44	USER	8.40	9.00	1861.00	109.98	3 lbs BE-6, 1 gal MMCR, 2% KCl
Event	21	Slow Rate	1/8/2019	04:51:12	USER	8.40	4.00	1187.00	99.98	Slow Rate 10 bbls to calculated displacement
Event	22	Bump Plug	1/8/2019	04:52:59	USER	8.40	4.00	1286.00	109.98	Plug Bumped at 1286 psi, Brought up to 2119 psi
Event	23	Check Floats	1/8/2019	04:56:59	USER	8.30	0.00	2119.00	0.00	Floats held – 1 bbl back to the truck
Event	24	End Job	1/8/2019	04:57:52	USER	8.30	0.00	24.00	0.00	Good returns throughout job. Pipe was reciprocated during job.
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	1/8/2019	05:03:08	USER					
Event	26	Pre-Convoy Safety Meeting	1/8/2019	06:30:00	USER					
Event	27	Crew Leave Location	1/8/2019	06:45:00	USER					Thanks For Using Halliburton Cement. Andrew Brennecke And Crew.

TERRA - GM 422-8 - 4.5" PRODUCTION



Job Information

Request/Slurry	2525897/1	Rig Name	H&P 271	Date	04/JAN/2019
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 422-8

Well Information

Casing/Liner Size	4.5 in	Depth MD	7166 ft	BHST	89°C / 193°F
Hole Size	8.75 in	Depth TVD	6666 ft	BHCT	54°C / 129°F
Pressure	3966 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	2.06	ft3/sack
							Water Requirement	10.17	gal/sack
							Total Mix Fluid	10.17	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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Operation Test Results Request ID 2525897/1

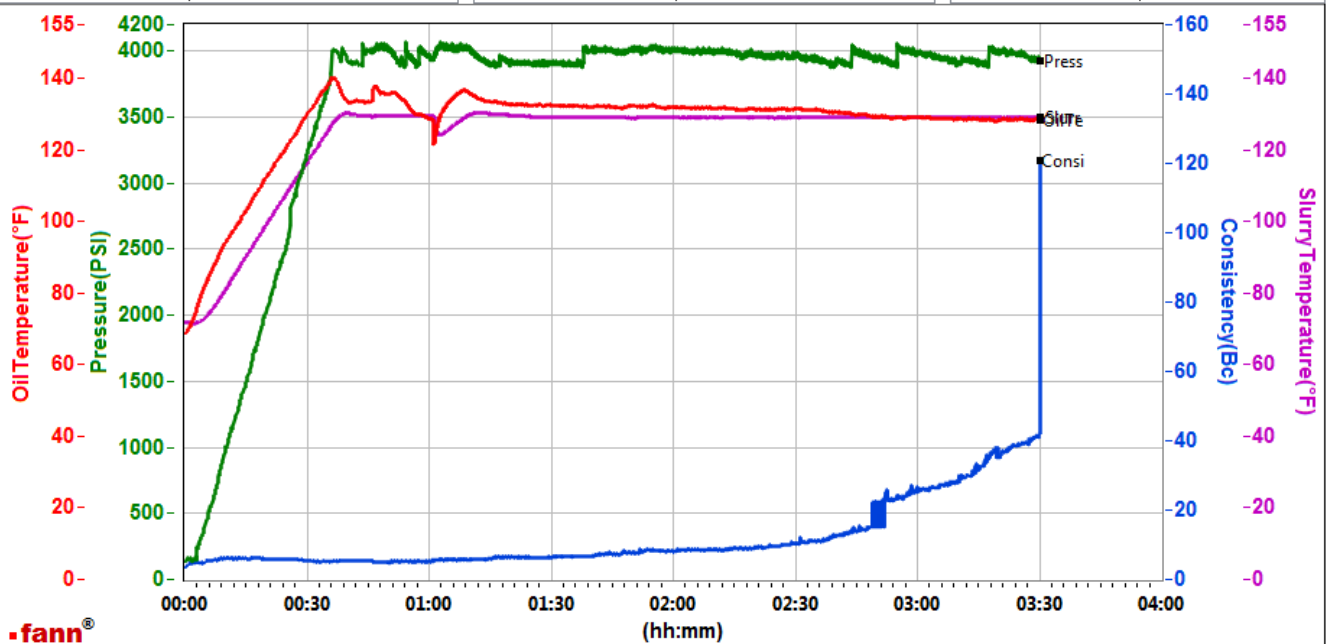
Thickening Time - ON-OFF-ON, Request Test ID:36115463

04/JAN/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)
129	3966	36	3:11	3:30	3:30	3:30	3	45	15	5

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	2525897-1 H&P 271 Terra	Rig	H&P 271	30 BC	3:11
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 BC	3:30
Test ID	36115463 - TT	Job Type	PRODUCTION CASING	70 BC	3:30
Request ID	2525897-1	Cement Weight	GCC TYPE I-II	100 BC	3:30
Tested by	CT	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	1/4/2019 09:53:20.042		
Well No	GM 422-8	Temp. Units	degF		



Data File C:\Users\H185329\Desktop\000 Graphs\GJ2525897-1 TERRA BULK PRODUCTION LEAD.tdms

Comments Standard

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2525898/1	Rig Name	H&P 271	Date	04/JAN/2019
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 422-8

Well Information

Casing/Liner Size	4.5 in	Depth MD	7166 ft	BHST	89°C / 193°F
Hole Size	8.75 in	Depth TVD	6666 ft	BHCT	54°C / 129°F
Pressure	3966 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Tail 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	12.5	lbm/gal
							Slurry Yield	1.96	ft3/sack
							Water Requirement	9.43	gal/sack
							Total Mix Fluid	9.43	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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Operation Test Results Request ID 2525898/1

Thickening Time - ON-OFF-ON, Request Test ID:36115465

05/JAN/2019

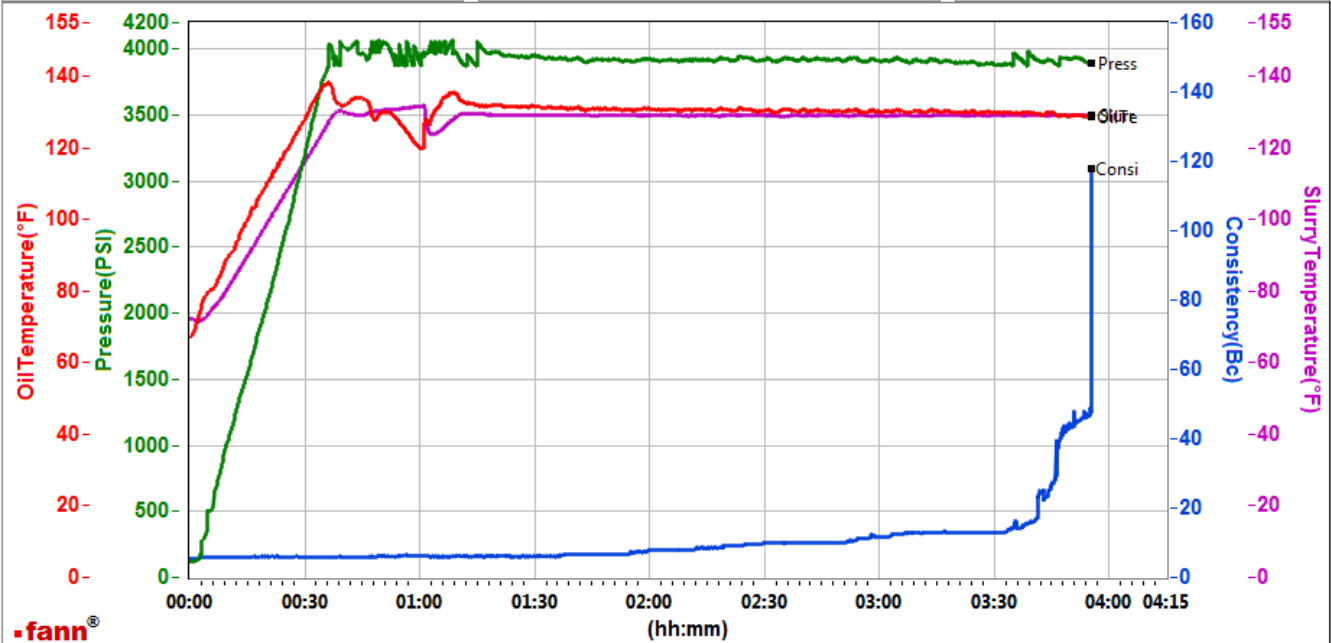
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
129	3966	36	3:45	3:55	3:55	3:55	5	46	15	6

GRAND JUNCTION

Fields	Values
Project Name	2525898-1 H&P 271 Terr
SW Version	1.0
Test ID	36115465 - TT
Request ID	2525898-1
Tested by	CT
Customer	TERRA ENERGY PARTN
Well No	GM 422-8

Fields	Values
Rig	H&P 271
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION CASING
Cement Weight	GCC TYPE I-II
Comments	Standard
Date Time	1/4/2019 10:50:49.959
Temp. Units	degF

Events	Results
30 BC	3:45
50 BC	3:55
70 BC	3:55
100 BC	3:55



Data File C:\Users\H185329\Desktop\000 Graphs\GJ2525898-1 TERRA BULK PRODUCTION TAIL.tdms

Comments Standard

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