

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

Date: Friday, January 4, 2019

GM 511-8 Production

Terra GM 511-8 Production

API# 05-045-23925-00

Job Date: Saturday, December 22, 2018

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

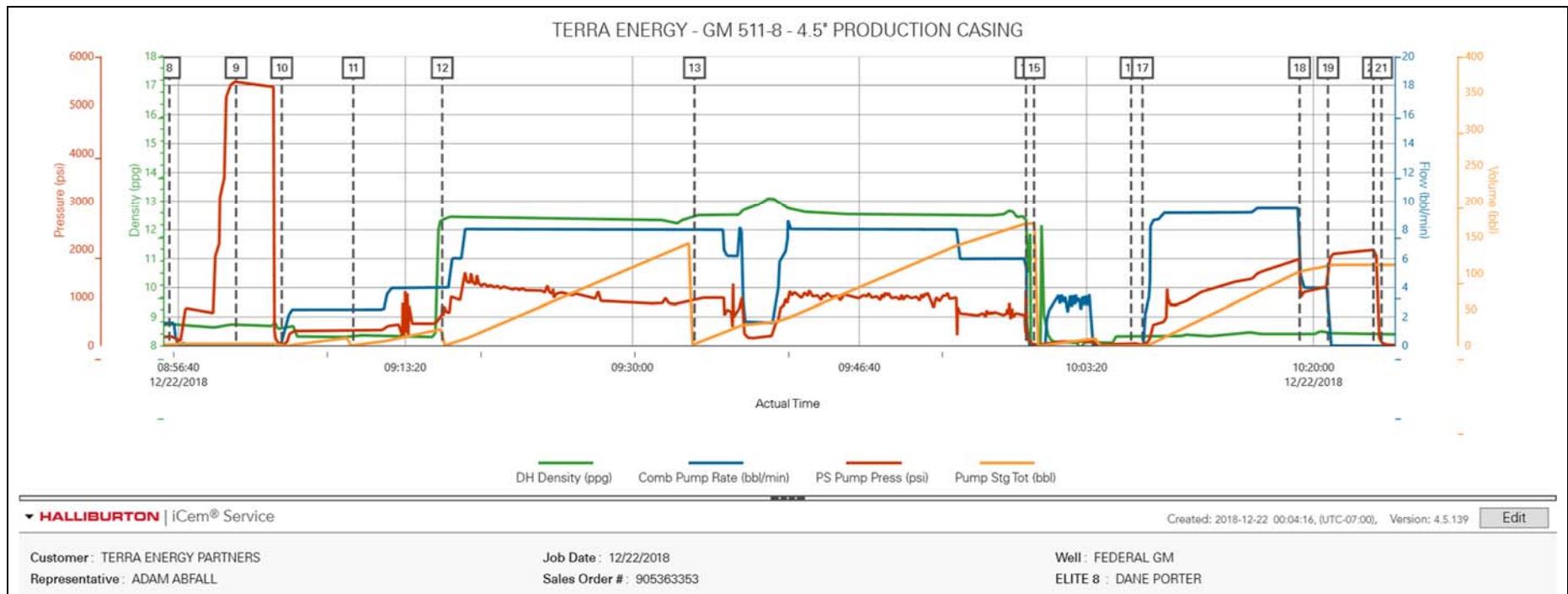
1.1 Job Event Log

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	12/21/2018	22:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	12/22/2018	00:30:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	12/22/2018	01:00:00	USER					
Event	4	Arrive At Loc	12/22/2018	02:00:00	USER					JOURNEY MANAGEMENT CLOSED OUT.
Event	5	Assessment Of Location Safety Meeting	12/22/2018	02:15:00	USER					
Event	6	Pre-Rig Up Safety Meeting	12/22/2018	02:30:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	12/22/2018	03:00:00	USER					
Event	8	Other	12/22/2018	03:53:26	USER					WATER TEST: PH-7, CL-0, TEMP-61 WELL INFO: 4.5 11.6# SET AT 7206.60, TD-7213, S.J.-33.82, HOLE- 8 3/4, MUD#- 10, 13 3/8 54.5# SET @ 1040
Event	9	Other	12/22/2018	03:53:27	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	10	Pre-Job Safety Meeting	12/22/2018	05:30:00	USER					JSA COMPLETE
Event	11	Start Job	12/22/2018	08:56:00	COM5					RIG CIRCULATED 1.5 BOTTOMS UP PRIOR TO JOB
Event	12	Test Lines	12/22/2018	09:00:54	COM5			5479.00		5480 PSI
Event	13	Pump Spacer 1	12/22/2018	09:04:15	COM5	8.33	4.00	280.00	10.00	FRESH WATER
Event	14	Pump Spacer 2	12/22/2018	09:09:30	COM5	8.40	4.00	317.00	20.00	MUD FLUSH
Event	15	Pump Lead Cement	12/22/2018	09:16:02	COM5	12.30	8.00	885.00	135.70	370 SKS NEOCEM, 12.3 PPG, 2.06 FT3/SK, 10.14 GAL/SK

Event	16	Pump Tail Cement	12/22/2018	09:34:33	COM5	12.50	8.00	975.00	162.3	465 SKS NEOCEM, 12.5 PPG, 1.96 FT3/SK, 9.4 GAL/SK
Event	17	Shutdown	12/22/2018	09:58:54	USER					TO DROP TOP PLUG AND CLEAN UP PUMPS AND LINES
Event	18	Clean Lines	12/22/2018	09:59:29	USER					WASH UP PUMPS AND LINES TO WATER TRUCK, BLEW AIR FROM RIG FLOOR TO WATER TRUCK.
Event	19	Drop Top Plug	12/22/2018	10:06:37	USER					PLUG AWAY USING POSITIVE DISPLACEMENT MANIFOLD
Event	20	Pump Displacement	12/22/2018	10:07:27	COM5	8.33	9.50	1780.00	111.90	KCL WATER WITH 3 BAGS BE-6, 1 GAL MMCR
Event	21	Slow Rate	12/22/2018	10:18:59	USER	8.33	4.0	1130.00	101.50	TO BUMP PLUG
Event	22	Bump Plug	12/22/2018	10:21:04	USER	8.33	4.00	1225.00	111.90	PLUG BUMPED ON CALCULATED
Event	23	Check Floats	12/22/2018	10:24:24	USER			1982.00		FLOATS HELD 0.5 BBLS BACK TO TRUCK
Event	24	End Job	12/22/2018	10:25:00	COM5					GOOD CIRCULATION THROUGHOUT JOB, PIPE WORKED +/- 5' THROUGHOUT CEMENT
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	12/22/2018	11:00:00	USER					
Event	26	Crew Leave Location	12/22/2018	12:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

2.0 Attachments

2.1 CHART.png



Job Information

Request/Slurry	2522736/1	Rig Name	H&P 271	Date	19/DEC/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 511-8

Well Information

Casing/Liner Size	4.5 in	Depth MD	7269 ft	BHST	87°C / 189°F
Hole Size	8.75 in	Depth TVD	6402 ft	BHCT	52°C / 125°F
Pressure	3781 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		
		NeoCem					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 2522736/1

Thickening Time - ON-OFF-ON, Request Test ID:36075896

20/DEC/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)
125	3781	35	4:09	4:29	4:39	5:03	5	45	15	6

Total SKS = 370

CS2632, Trailer 8677, 370 sks

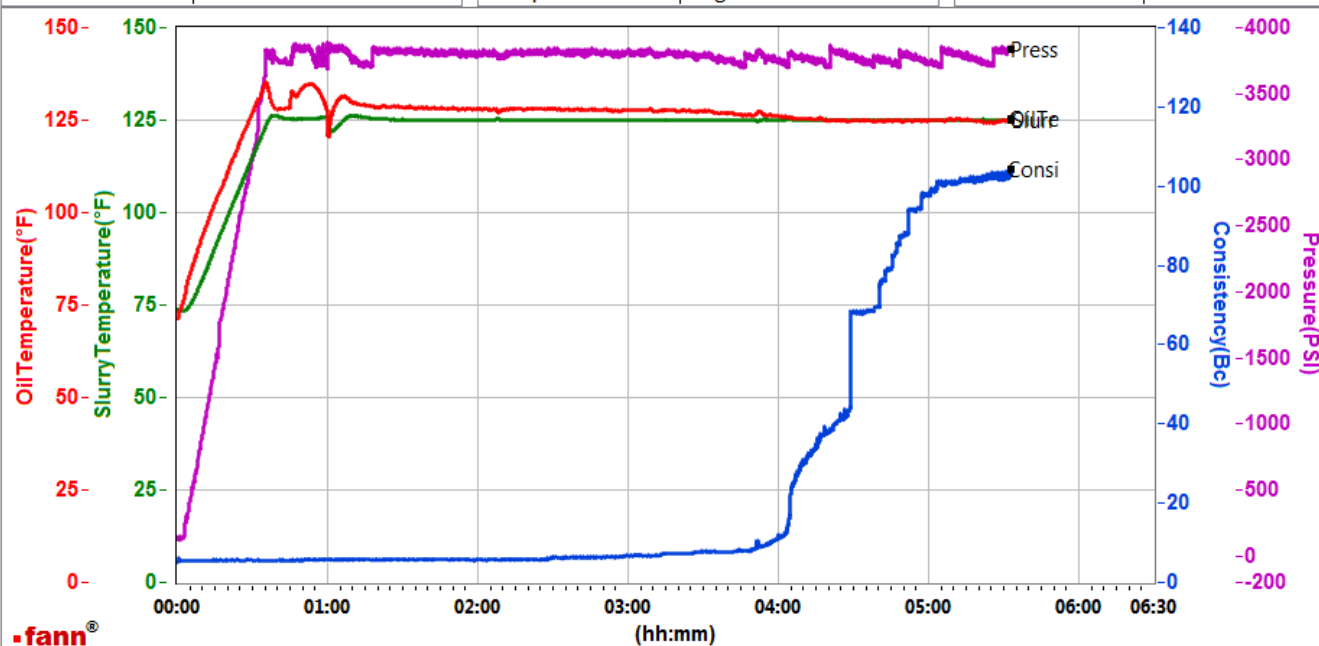
No deflection

GRAND JUNCTION

Fields	Values
Project Name	GJ2522736-1 Terra Bulk I
SW Version	1.0
Test ID	36075896 - TT
Request ID	2522736-1
Tested by	CT
Customer	TERRA ENERGY PARTN
Well No	GM 511-8

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	12/19/2018 13:21:28.83%
Temp. Units	degF

Events	Results
30 Bc	4:09
50 Bc	4:29
70 Bc	4:39
100 Bc	5:03



Data File N:\01 Test Graphs\GJ2522736-1 TERRA BULK PRODUCTION LEAD.tdms

Comments Standard

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Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2522737/1	Rig Name	H&P 271	Date	19/DEC/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 511-8

Well Information

Casing/Liner Size	4.5 in	Depth MD	7269 ft	BHST	87°C / 189°F
Hole Size	8.75 in	Depth TVD	6402 ft	BHCT	52°C / 125°F
Pressure	3781 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		
		NeoCem					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 2522737/1

Thickening Time - ON-OFF-ON, Request Test ID:36075898

20/DEC/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)
125	3781	35	2:24	2:51	3:10	3:24	11	45	15	11

Total SKS = 465

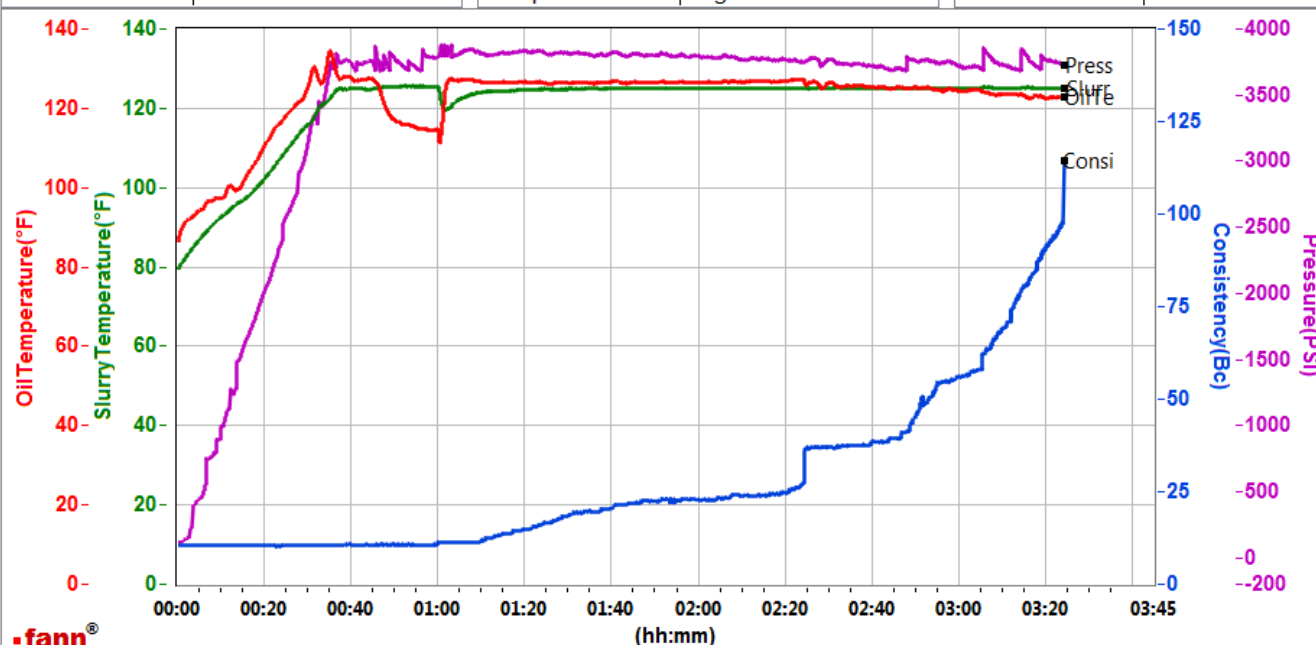
CS2633, Trailer 2878, 365 sks

CS2635, Trailer 7428, 100 sks

No deflection

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2522737-1 Terra Bulk I	Rig	H&P 271	30 Bc	2:24
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 Bc	2:51
Test ID	36075898 - TT	Job Type	PRODUCTION CASING	70 Bc	3:10
Request ID	2522737-1	Cement Weight	GCC TYPE I-II	100 Bc	3:24
Tested by	CT	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	12/19/2018 14:56:22.99		
Well No	GM 511-8	Temp. Units	degF		



Data File N:\01 Test Graphs\GJ2522737-1 TERRA BULK PRODUCTION TAIL.tdms

Comments Standard

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