

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

Date: Saturday, November 3, 2018

NR 313-3 Production

Terra NR 313-3 Production

API# 05-045-23920

Job Date: Monday, October 22, 2018

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

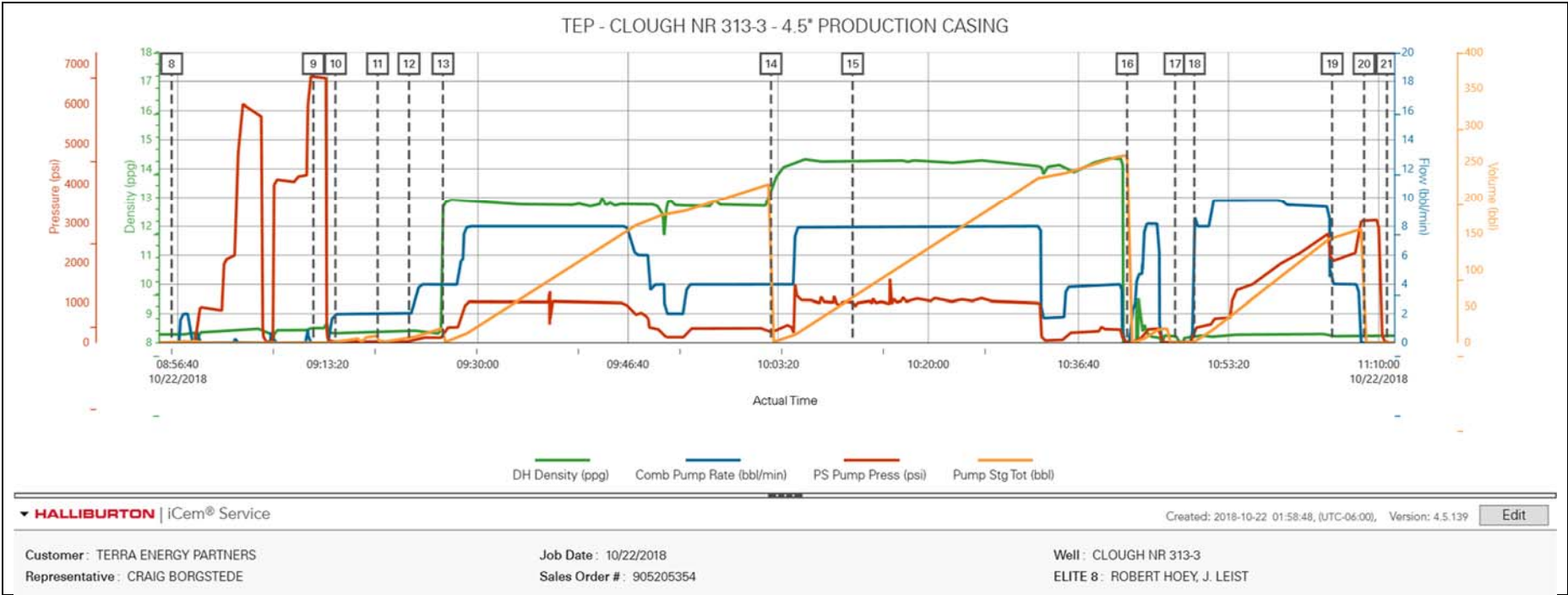
1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	10/22/2018	00:30:00	USER					
Event	2	Pre-Convoy Safety Meeting	10/22/2018	02:45:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	10/22/2018	03:00:00	USER					
Event	4	Arrive At Loc	10/22/2018	04:30:00	USER					JOURNEY MANAGEMENT CLOSED OUT. RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	10/22/2018	04:45:00	USER					
Event	6	Pre-Rig Up Safety Meeting	10/22/2018	05:00:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	10/22/2018	05:10:00	USER					
Event	8	Other	10/22/2018	05:30:00	USER					WATER TEST: PH-7, CL-0, TEMP-56 WELL INFO: 4.5 11.6# SET AT 10047, TD-10057, S.J.-31.14, HOLE- 8 3/4, MUD#- 11.5, 9 5/8 36# SET @ 1128
Event	9	Other	10/22/2018	05:45:00	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	10	Pre-Job Safety Meeting	10/22/2018	07:00:00	USER					JSA COMPLETE
Event	11	Start Job	10/22/2018	08:56:00	COM5					
Event	12	Test Lines	10/22/2018	09:11:44	COM5	8.33	0.00	6794.00	0.20	FOUND A LEAK ON THE FIRST PSI TEST. BLEED OFF AND RETESTED TO 6794 PSI.
Event	13	Pump Spacer 1	10/22/2018	09:14:11	COM5	8.33	2.00	114.00	10.00	FRESH WATER
Event	14	Pump Spacer 2	10/22/2018	09:18:52	COM5	8.33	4.00	120.00	20.00	MUD FLUSH

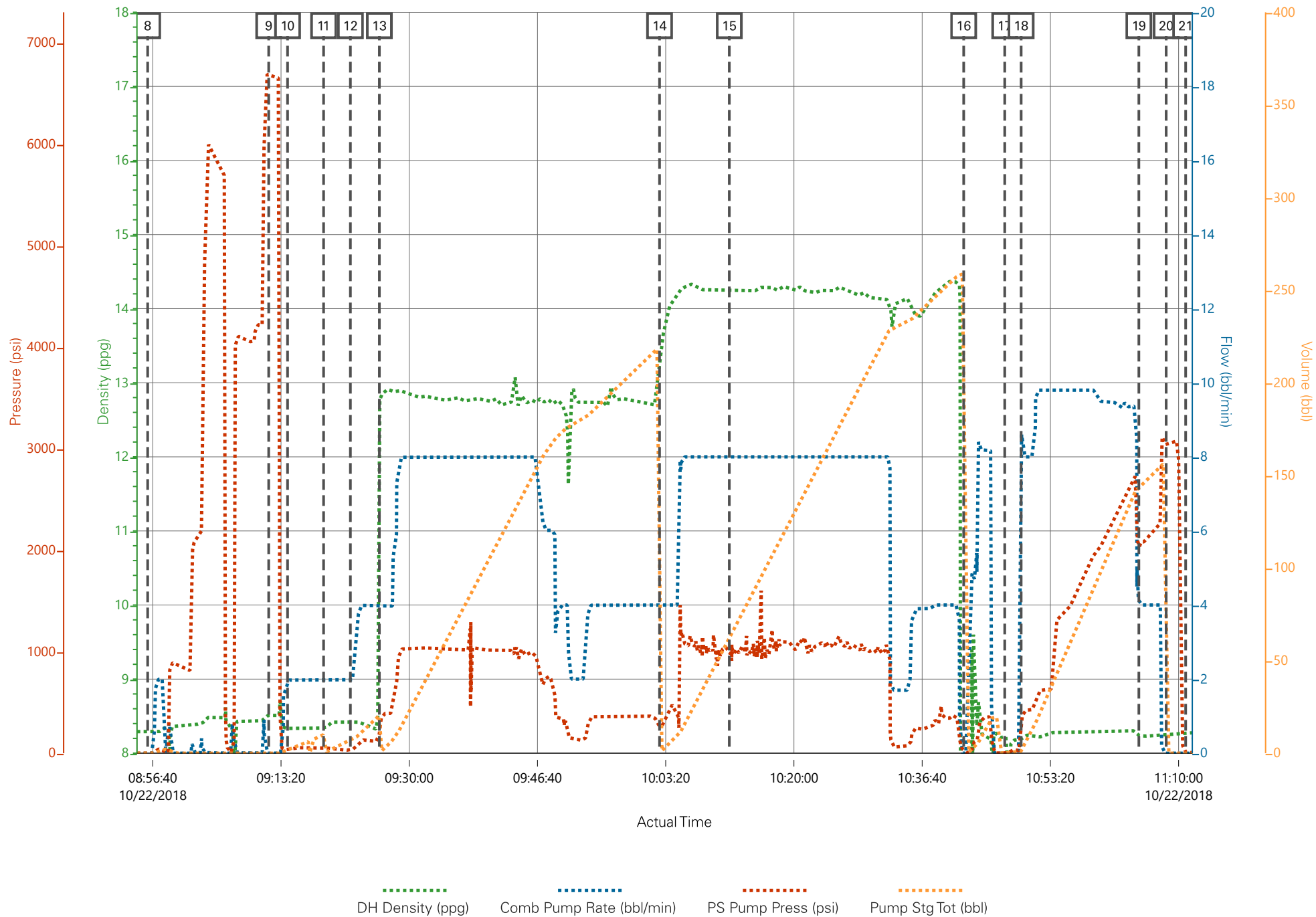
Event	15	Check Weight	10/22/2018	09:22:21	COM5					WEIGHT UP GOOD 12.7
Event	16	Pump Lead Cement	10/22/2018	09:26:07	COM5	12.70	8.00	1031.00	214.20	650 SKS NEOCEM, 12.7 PPG, 1.85 FT3/SK, 8.94 GAL/SK
Event	17	Pump Tail Cement	10/22/2018	10:02:32	COM5	14.2	8.00	1000.00	224.00	740 SKS THERMACEM, 14.2 PPG, 1.7 FT3/SK, 7.53 GAL/SK
Event	18	Check Weight	10/22/2018	10:11:36	COM5					WEIGHT UP GOOD 14.2
Event	19	Shutdown	10/22/2018	10:42:04	USER					TO CLEAN UP PUMPS AND LINES TO PIT, BLEW AIR FROM FLOOR TO PIT.
Event	20	Drop Top Plug	10/22/2018	10:47:24	COM5					AWAY USING POSITIVE DISPLACEMENT
Event	21	Pump Displacement	10/22/2018	10:49:32	COM5	8.33	10.00	2700.00	155.30	KCL WATER WITH 1 GAL MMCR, 3 LBS BE-6
Event	22	Slow Rate	10/22/2018	11:04:50	USER	8.33	4.00	2030.00	144.30	TO BUMP PLUG
Event	23	Bump Plug	10/22/2018	11:08:23	COM5	8.33	4.00	2270.00	155.3	PLUG BUMPED, FLOATS HELD, 2.5 BBLS BACK TO TRUCK, TOOK PSI UP TO 3060 PSI
Event	24	End Job	10/22/2018	11:10:55	COM5					GOOD CIRCULATION THROUGHOUT JOB, PIPE WORKED 5-8 FT. THROUGHOUT JOB.
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	10/22/2018	11:20:00	USER					
Event	26	Crew Leave Location	10/22/2018	12:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

2.0 Attachments

2.1 CHART.png



TEP - CLOUGH NR 313-3 - 4.5" PRODUCTION CASING



Job Information

Request/Slurry	2507805/2	Rig Name	H&P 318	Date	10/OCT/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	NR 313-3

Well Information

Casing/Liner Size	4.5 in	Depth MD	10101 ft	BHST	121°C / 249°F
Hole Size	8.75 in	Depth TVD	9933 ft	BHCT	82°C / 179°F
Pressure	6253 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem				Slurry Density	12.7	lbm/gal
						Slurry Yield	1.851	ft3/sack
						Water Requirement	8.949	gal/sack
						Total Mix Fluid	8.949	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2507805/2

Thickening Time - ON-OFF-ON

17/OCT/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)
179	6253	58	4:28	4:51	5:00	5:00	7	68	15	8

Total sks = 650

CS2307 TR 8321 250 SKS

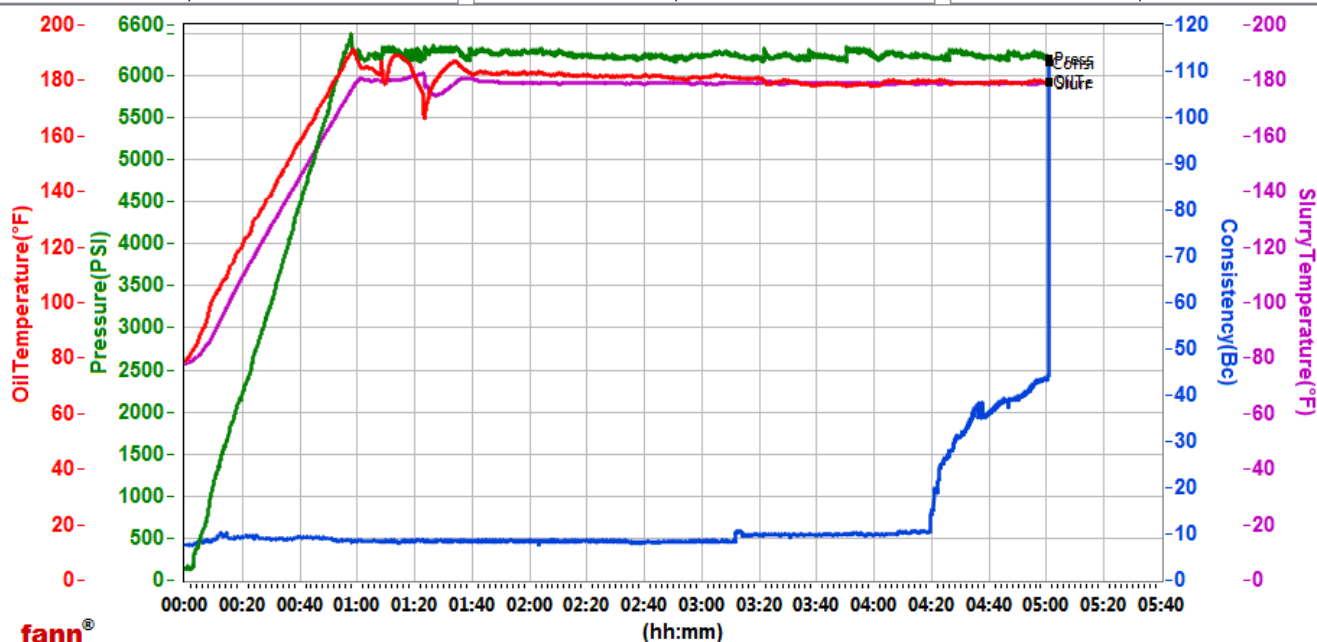
No deflection, 8Bc--- > 8Bc

GRAND JUNCTION

Fields	Values
Project Name	TempTest
SW Version	1.0
Test ID	35909001-TT
Request ID	2507805-2
Tested by	JASON
Customer	TERRA ENERGY PARTN
Well No	NR 313-3

Fields	Values
Rig	H&P 318
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION CASING
Cement Weight	GCC TYPE I/II
Comments	Light Weight
Date Time	10/17/2018 06:27:57.34
Temp. Units	degF

Events	Results



Data File C:\Users\hx25273\Desktop\new Graph M290\GJ2507805-2 TERRA BULK PRODUCTION LEAD.tdms

Comments Light Weight

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Operation Test Results Request ID 2507805/1

Thickening Time - ON-OFF-ON

17/OCT/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)
179	6253	58	4:36	10:16	10:16	10:16	11	68	15	12

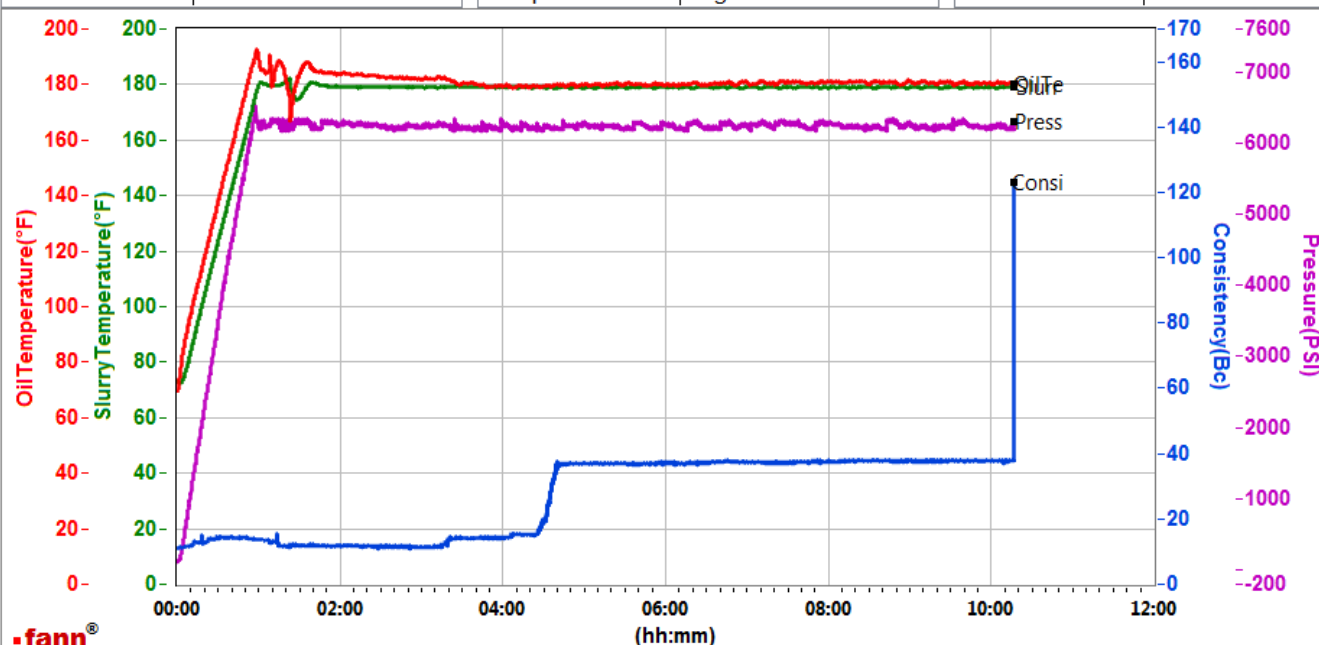
Total sks = 650

CS2303 TR#8678 400 SKS

Deflected 11-- > 12

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2507805-1 Terra Prodi	Rig	H&P 318	30 Bc	04:36
SW Version	1.0	Casing/Liner Size	4.5 INCH	50 Bc	10:16
Test ID	3590993-TT	Job Type	PRODUCTION CASING	70 Bc	10:16
Request ID	2507805-1	Cement Weight	GCC TYPE I/II	100 Bc	10:16
Tested by	DEBA	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	10/16/2018 10:00:14.54		
Well No	NR 313-3	Temp. Units	degF		



Data File N:\01 Test Graphs\GJ2507805-1 TERRA BULK PRODUCTION LEAD.tdms

Comments Standard

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2507806/1	Rig Name	H&P 318	Date	10/OCT/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	NR 313-3

Well Information

Casing/Liner Size	4.5 in	Depth MD	10101 ft	BHST	121°C / 249°F
Hole Size	8.75 in	Depth TVD	9933 ft	BHCT	82°C / 179°F
Pressure	6253 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Tail Design



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>		
		ThermaCem				Slurry Density	14.2	lbm/gal
						Slurry Yield	1.704	ft3/sack
						Water Requirement	7.53	gal/sack
						Total Mix Fluid	7.53	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2507806/1

Thickening Time - ON-OFF-ON

17/OCT/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)
179	6253	58	2:42	2:52	2:53	2:58	18	68	15	18

Total sks = 740

CS2304 TR#8677 370 SKS

CS2305 TR#8658 370 SKS

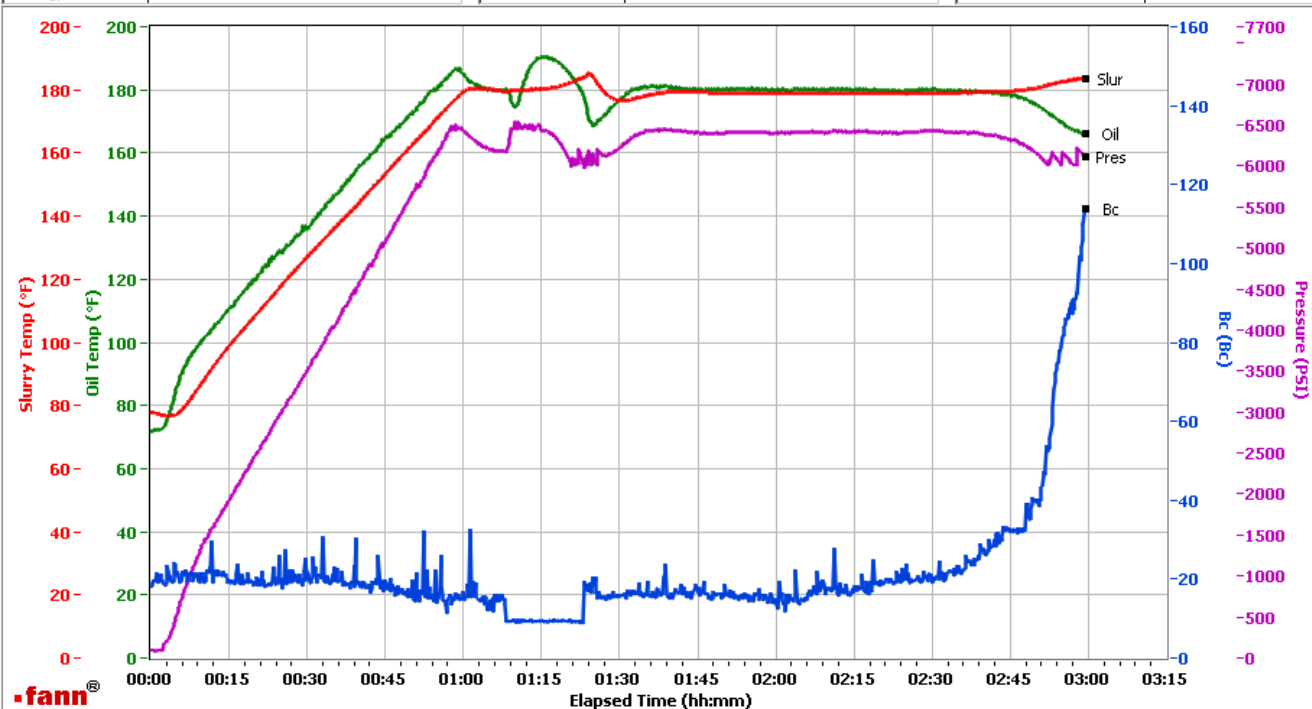
Deflected 9-- > 18. Please note that heat of hydration started around 2:45.

Grand Junction, Colorado

Fields	Values
Project Name	GJ2507806-1 TERRA PRODUCTION BULK TA
Test ID	35890995-TT
Request ID	GJ2507806-1
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	NR 313-3
Rig	H&P 318
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	10/16/18
Test Time	10:08 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	02h:42m
40.00 Bc	02h:49m
50.00 Bc	02h:52m
70.00 Bc	02h:53m
100.00 Bc	02h:58m
00h:30m	21.13
01h:00m	14.59
01h:30m	15.59



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2507806-1 TERRA PRODUCTION BULK TAIL.tdms

Comments CS2304 TR#8677 370 SKS AND CS2305 TR#8658 370 SKS

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