

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

**For: Terra**

Date: Monday, August 28, 2017

**GM 41-10**

API #: 05-045-22698-00

Sincerely,

**Grand Junction Cement Engineering**

## 2.0 Real-Time Job Summary

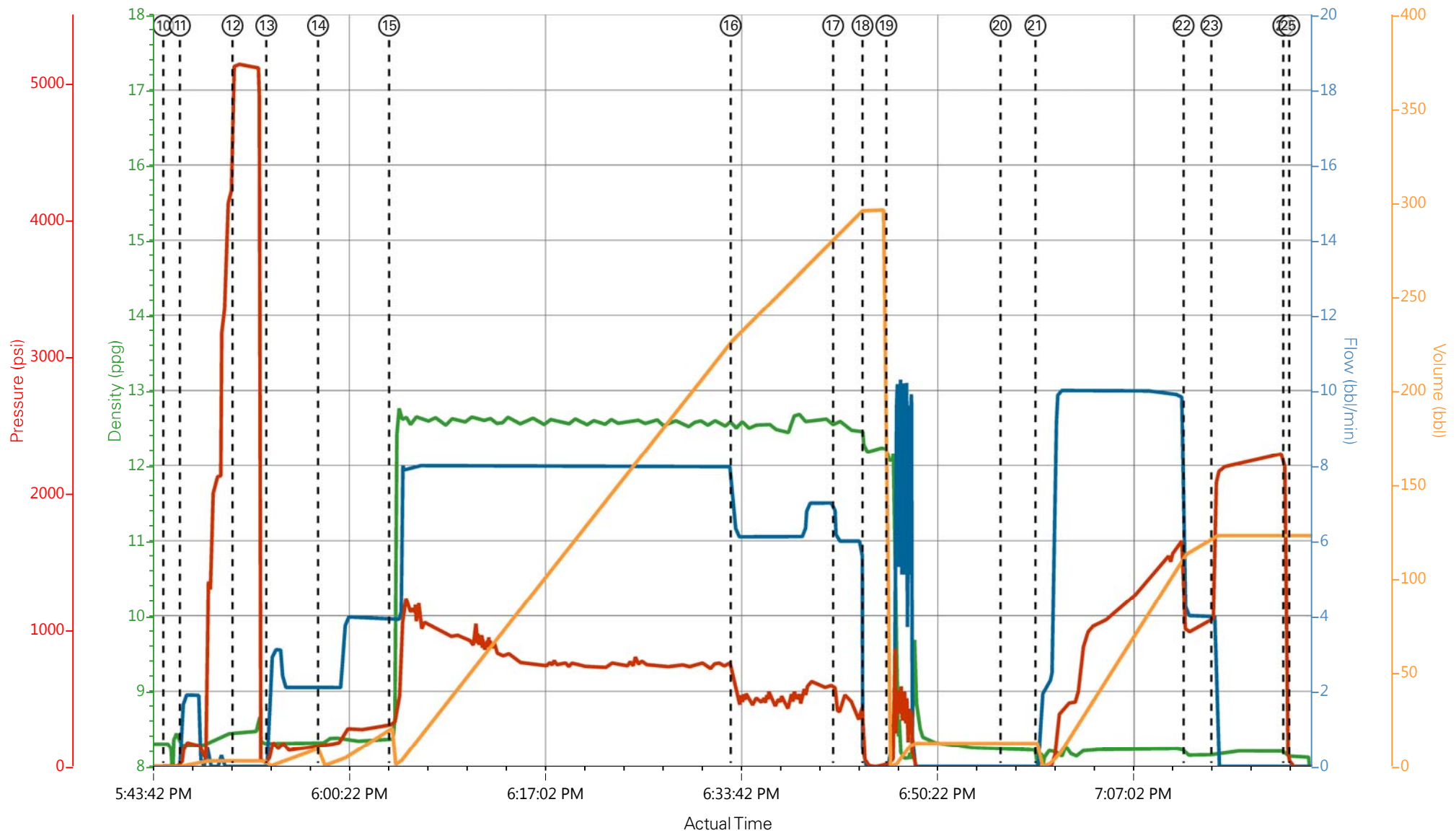
## 2.1 Job Event Log

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	8/28/2017	03:00:00	USER					ON LOCATION TIME REQUESTED 8:30
Event	2	Pre-Convoy Safety Meeting	8/28/2017	05:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Location	8/28/2017	05:15:00	USER					
Event	4	Arrive at Location from Other Job or Site	8/28/2017	07:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	8/28/2017	07:45:00	USER					MET WITH COMPANY REP DISCUSSED NUMBERS, SDS OFFERED
Event	6	Pre-Rig Up Safety Meeting	8/28/2017	08:00:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	8/28/2017	09:30:00	USER					1-ELITE, 1-660 BULK TRAILER, 1-550 PICK UP, 4.5" QUICK LATCH, 2" PUMP IRON, 4" SUCTION HOSE
Event	8	Pre-Job Safety Meeting	8/28/2017	17:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Other	8/28/2017	17:40:00	USER					WATER: TEMP-70, CL-0, PH-7, RIG CIRCULATED 440 STROKES @ 443 GPM 750 PSI PRIOR TO CEMENTINTING

Event	10	Start Job	8/28/2017	17:44:53	COM5	8.30	0.00	0.00	0.0	TD-7902, TP-7901.25', SJ-32.1', CSG-4.5" 11.6# P110, SCSG-9.625" 32.3# 1087', OH-8.75", MUD-9.6PPG CASING RECIPRICATED THROUGH OUT JOB
Event	11	Prime Pumps	8/28/2017	17:46:17	USER	8.29	2.00	182.00	3.0	FRESH WATER
Event	12	Test Lines	8/28/2017	17:50:45	COM5	8.46	0.00	5141.00	3.0	ALL PRESSURE HELD ON LINES
Event	13	Pump Spacer 1	8/28/2017	17:53:37	COM5	8.31	2.00	156.00	10.0	FRESH WATER
Event	14	Pump Spacer 2	8/28/2017	17:58:01	COM5	8.31	4.00	304.00	20.0	MUD FLUSH III
Event	15	Pump Lead Cement	8/28/2017	18:04:03	COM5	12.50	8.00	1257.00	296.1	NEOCER CEMENT 850SKS, 12.5PPG, 1.96CF/SK, 9.38GAL/SK
Event	16	Slow Rate End of Silo	8/28/2017	18:33:04	COM5					
Event	17	Slow Rate	8/28/2017	18:41:46	COM5					
Event	18	Shutdown	8/28/2017	18:44:16	COM5					END OF CEMENT
Event	19	Clean Lines	8/28/2017	18:46:18	COM5					CLEANED PUMPS AND LINES TO PIT, LINES BLOWN BACK TO PIT
Event	20	Drop Top Plug	8/28/2017	18:56:00	COM5					LATCH DOWN PLUG AWAY
Event	21	Pump Displacement	8/28/2017	18:58:57	COM5	8.40	10.00	1660.00	111.9	KCL WATER, 1-GAL

7										MMCR, 3-1#BE6
Event	22	Slow Rate	8/28/2017	19:11:32	COM5	8.40	4.00	1000.00	10.0	SLOW RATE LAST 10 BBLs
Event	23	Bump Plug	8/28/2017	19:13:54	COM5	8.35	4.00	1060.00	121.9	PLUG BUMPED 1060 PSI
Event	24	Check Floats	8/28/2017	19:20:01	COM5	8.33	0.00	2289.00	121.9	FLOATS HELD, 1 BBL BACK
Event	25	End Job	8/28/2017	19:20:31	COM5					GOOD RETURNS THROUGH OUT JOB
Event	26	Pre-Rig Down Safety Meeting	8/28/2017	19:25:00	USER					ALL HES PRESENT
Event	27	Rig-Down Completed	8/28/2017	19:25:01	USER					
Event	28	Pre-Convoy Safety Meeting	8/28/2017	19:25:02	USER					ALL HES PRESENT
Event	29	Crew Leave Location	8/28/2017	19:25:03	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

# TEP - GM 41-10 - 4.5" PRODUCTION



- ① Call Out
- ② Pre-Convoy Safety Meeting
- ③ Crew Leave Location
- ④ Arrive at Location from Other Job or Site
- ⑤ Assessment Of Location Safety Meeting
- ⑥ Pre-Rig Up Safety Meeting
- ⑦ Rig-Up Completed
- ⑧ Pre-Job Safety Meeting
- ⑨ Other
- ⑩ Start Job
- ⑪ Prime Pumps
- ⑫ Test Lines
- ⑬ Pump Spacer 1
- ⑭ Pump Spacer 2

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Created: 2017-08-28 09:32:47, Version: 4.2.393

Edit

Customer : TERRA ENERGY PARTNERS

Job Date : 8/28/2017 9:36:07 AM

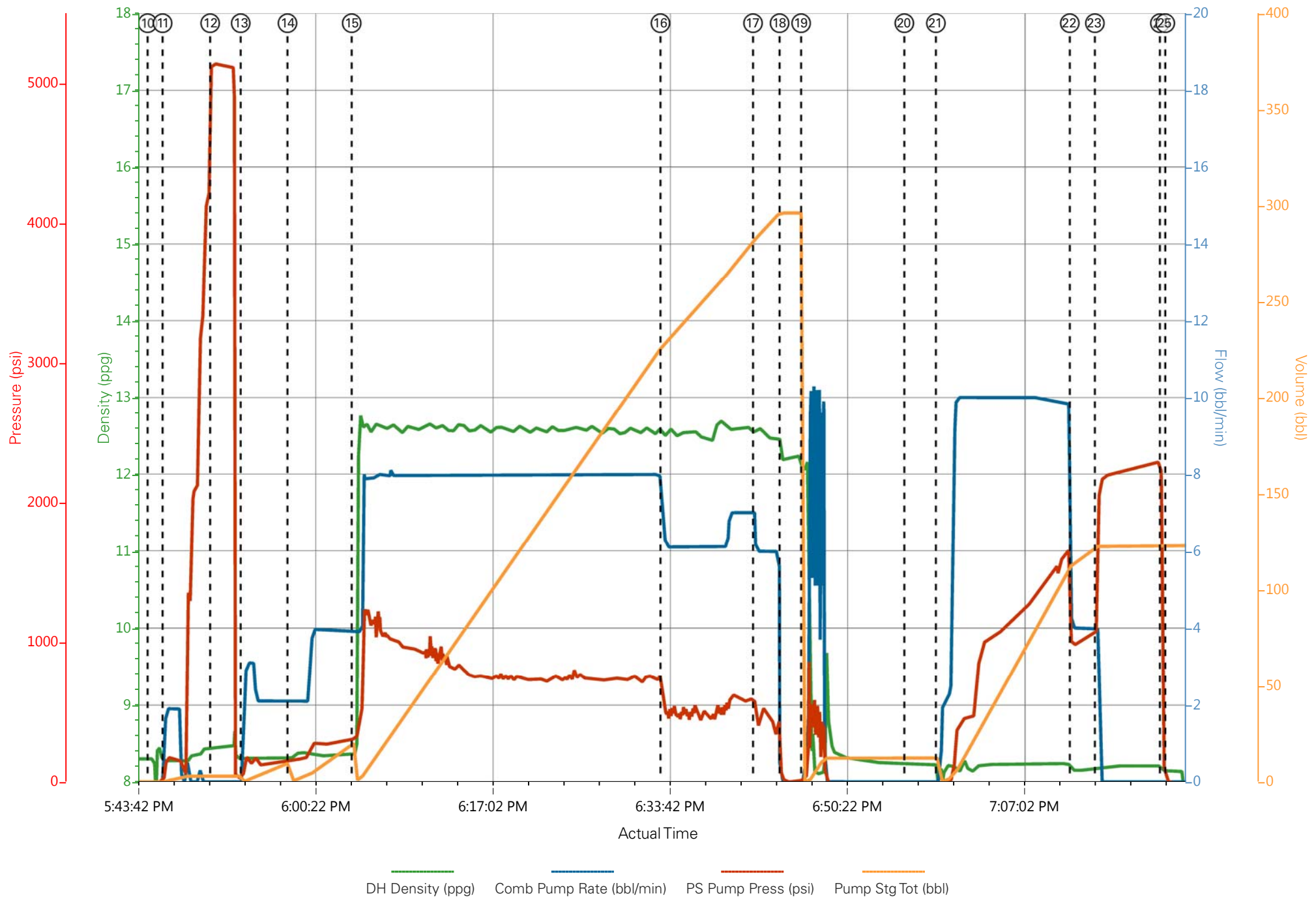
Well : GM 41-10

Representative : ADAM ABFALL

Sales Order # : 904260708

ELITE 1 : A.BRENNECKE/J.LEIST

# TEP - GM 41-10 - 4.5" PRODUCTION



## Job Information

Request/Slurry	2412205/2	Rig Name	H&P 273	Date	22/AUG/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 41-10

## Well Information

Casing/Liner Size	4.5 in	Depth MD	8006 ft	BHST	93°C / 199°F
Hole Size	8.75 in	Depth TVD	7011 ft	BHCT	56°C / 133°F
Pressure	4210 psi				

## Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.2 lbm/gal
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## Cement Information - Primary Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.962	ft3/sack
						Water Requirement	9.434	gal/sack
						Total Mix Fluid	9.434	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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# Operation Test Results Request ID 2412205/2

## Thickening Time - ON-OFF-ON

26/AUG/2017

Test Temp (°F)	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)
133	4210	37	3:06	3:25	3:40	4:51	7	47	15	7

Total sks = 850

CS2285, Trailer 4549, 100 sks

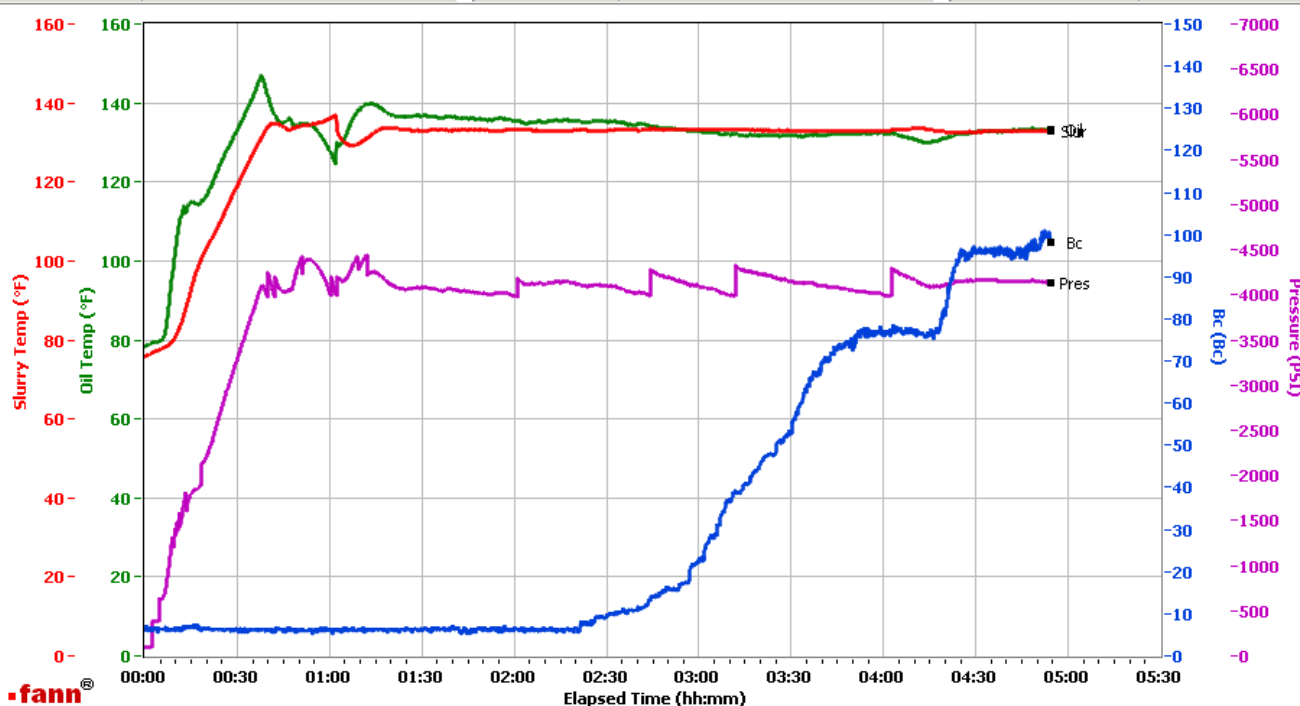
Deflection: 6 – 7

## Grand Junction Colorado

Fields	Values
Project Name	2412205-2 TERRA ENERGY BULK PRODUCTI
Test ID	34815347 - TT
Request ID	2412205-2
Tested by	CT
Customer	TERRA ENERGY
Well No	GM 41-10
Rig	H8P 273
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	TYPE I-II
Cement Weight	Standard
Test Date	10/03/10
Test Time	08:15 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.1219

Events	Results
30.00 Bc	03h:06m
40.00 Bc	03h:14m
50.00 Bc	03h:25m
70.00 Bc	03h:40m
100.00 Bc	04h:51m
00h:30m	6.17
01h:00m	6.35
01h:30m	6.34



Data File C:\Documents and Settings\HPHT\Local Settings\Temporary Internet Files\Content.IE5\09ERK9UN\GJ2412205-2 TERRA PRODUCTION PRIMARY BULK COMPOSITE[1].tdms

Comments CS2285, TRAILER 4549, 100 SKS

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## Operation Test Results Request ID 2412205/1

### Thickening Time - ON-OFF-ON

26/AUG/2017

Test Temp (°F)	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)
133	4210	37	3:44	4:01	4:16	5:00	16	47	15	7

Total sks = 850

Composite:

CS2283 TR MT201 375 SKS

CS2284 TR MT613 375 SKS

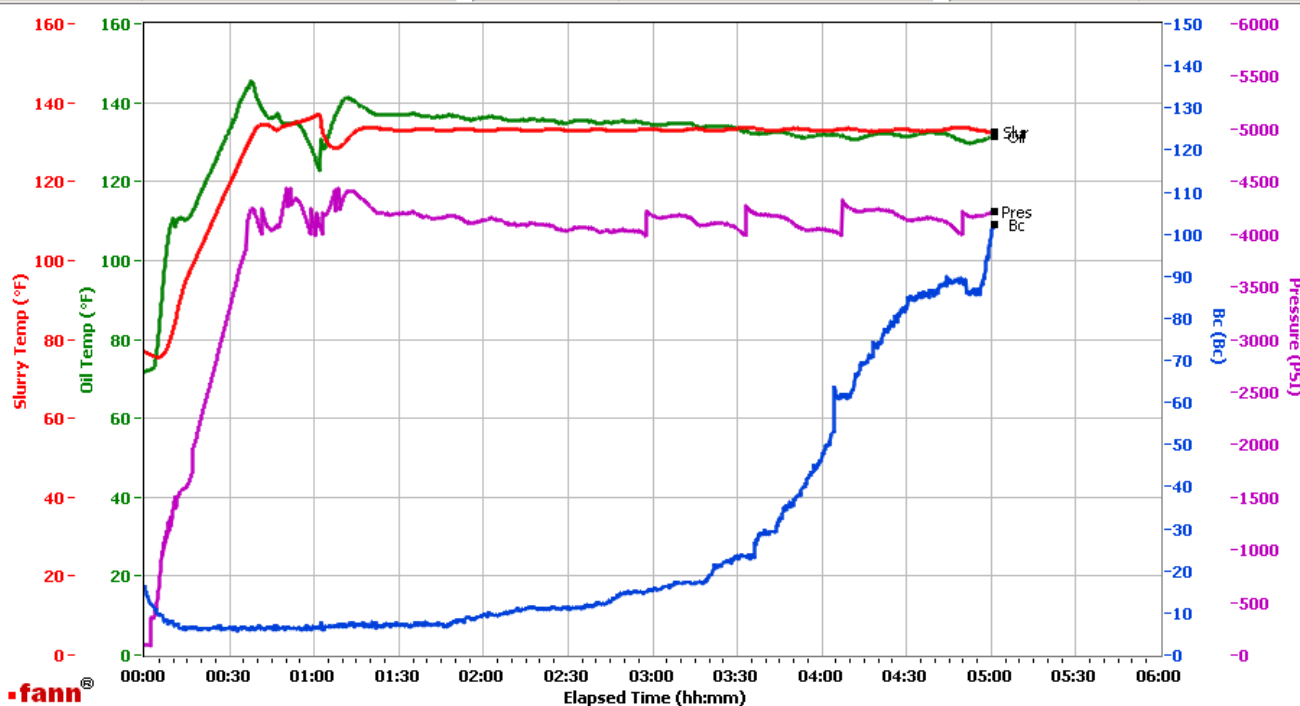
Deflection: 6 – 7

### Grand Junction Colorado

Fields	Values
Project Name	GJ2412205-1 TERRA PRODUCTION PRIMAR
Test ID	34805615
Request ID	GJ2412205-1
Tested by	JASON
Customer	TERRA ENERGY PARTNERS
Well No	GM 41-10
Rig	H8P 273
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION
Cement Type	HOLCIM TYPE I-II
Cement Weight	Light Weight
Test Date	10/02/10
Test Time	07:51 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.1219

Events	Results
30.00 Bc	03h:44m
40.00 Bc	03h:54m
50.00 Bc	04h:01m
70.00 Bc	04h:16m
100.00 Bc	05h:00m
00h:30m	6.31
01h:00m	6.48
01h:30m	7.01



Data File C:\Documents and Settings\HPHT\Local Settings\Temporary Internet Files\Content.IE5\8HEN8T6Z\GJ2412205-1 TERRA PRODUCTION PRIMARY BULK COMPOSITE[1].tdms

Comments CS2283 TR MT201 375 SKS CS2284 TR MT613 375 SKS

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