

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

**For: Terra**

Date: Tuesday, January 09, 2018

**PA 341-26 Production PJR**

API# 05-045-23650-00

Sincerely,

**Grand Junction Cement Engineering**

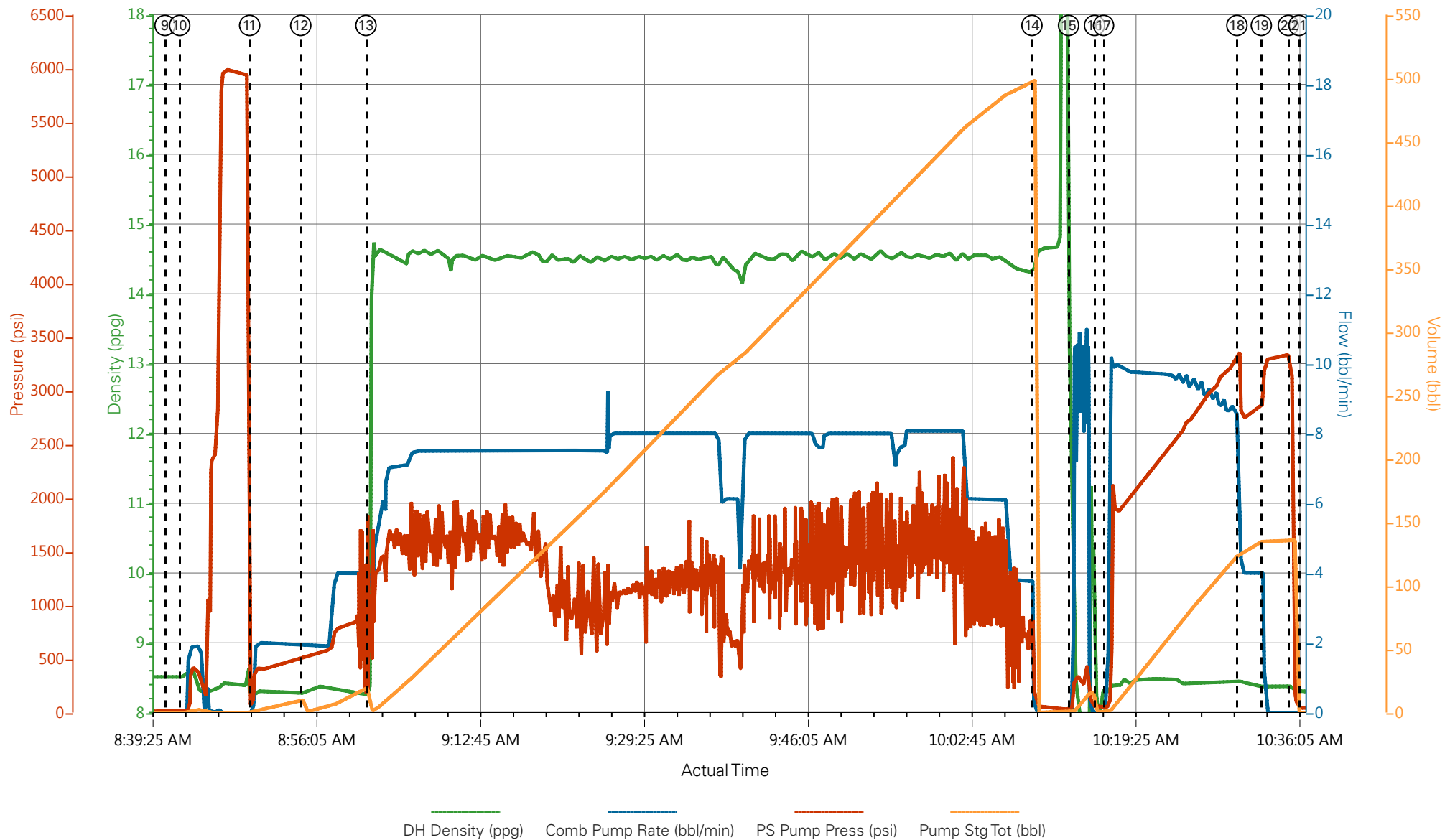
## 2.0 Real-Time Job Summary

## 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	1/08/2018	19:00:00	USER					ELITE #1, REQUESTED ON LOCATION TIME 0100
Event	2	Pre-Convoy Safety Meeting	1/08/2018	21:00:00	USER					ALL HES EMPLOYEES
Event	3	Arrive At Loc	1/08/2018	22:30:00	USER					ARRIVED ON LOCATION 3 1/2 HOURS EARLY RIG RUNNING CASING
Event	4	Meet With Company Rep	1/08/2018	22:45:00	USER					COMPANY REP OFFERED SDS / WATER TEST: TEMP: 45 PH: 7 CHLORIDES: 0
Event	5	Assessment Of Location Safety Meeting	1/08/2018	23:15:00	USER					ALL HES EMPLOYEES
Event	6	Pre-Rig Up Safety Meeting	1/08/2018	23:20:00	USER					ALL HES EMPLOYEES
Event	7	Rig-Up Equipment	1/08/2018	23:30:00	USER					1 HT-400 PUMP TRUCK 1 660 BULK TRUCK 1 BODY LOAD 2 SILOS 1 F-550 PICKUP
Event	8	Pre-Job Safety Meeting	1/09/2018	07:00:00	USER					ALL HES EMPLOYEES AND RIG CREW RIG CIRCULATED @ 473 GPM PRIOR TO THE JOB GAS @ 700 PRIOR TO STARTING
Event	9	Start Job	1/09/2018	08:41:00	COM4					TD: 8722 TP: 8717 SJ: 40 CSG: 4 1/2 11.6# P-110 OH: 8 3/4 SURFACE SHOE @ 1120 MUD WT: 13.5 PPG
Event	10	Prime Lines	1/09/2018	08:42:29	COM4	8.33	2.0	476	3.0	PRIME LINES WITH 3 BBLs FRESH WATER
Event	11	Pump Fresh Water Spacer	1/09/2018	08:49:36	COM4	8.33	4.0	508	2.0	PUMP 10 BBL FRESH WATER SPACER

Event	12	Pump Mud Flush III Spacer	1/09/2018	08:54:48	COM4	8.4	4.0	1100	20	PUMP 20 BBL MUD FLUSH III SPACER
Event	13	Pump Cement	1/09/2018	09:01:26	COM4	14.5	8.0	1800	460.5	1959 SKS 14.5 PPG 1.32 YIELD 5.86 GAL/SK CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	14	Shutdown	1/09/2018	10:09:11	COM4					SHUTDOWN TO CLEAN PUMPS AND LINES
Event	15	Clean Lines	1/09/2018	10:12:55	COM4	8.33			10	CLEAN PUMPS AND LINES TO PIT AND BLOW PUMP LINE DOWN WITH AIR
Event	16	Drop Top Plug	1/09/2018	10:15:33	COM4					RE PRIMED LINES WITH 6X5, PLUG AWAY NO PROLBEMS USED POSITIVE DISPLACEMENT MANIFOLD
Event	17	Pump Displacement	1/09/2018	10:16:28	COM4	8.4	10.0	3350	134.5	13 BAGS KCL 3#S BE-6 1 GAL MMCR, FRESH WATER DISPLACEMENT
Event	18	Slow Rate	1/09/2018	10:30:02	COM4	8.4	4.0	2860	124	SLOW RATE TO BUMP PLUG
Event	19	Bump Plug	1/09/2018	10:32:31	COM4	8.4	4.0	3339	134.5	PSI BEFORE BUMPING PLUG 2860 BUMPED PLUG UP TO 3339 PSI
Event	20	Check Floats	1/09/2018	10:35:16	COM4					FLOATS HELD 2 BBLS BACK TO DISPLACEMENT TANKS
Event	21	End Job	1/09/2018	10:36:21	COM4					GOOD RETURNS THROUGHOUT JOB 10 BBLS WATER SPACER TO SURFACE PIPE RECIPROCATED DURING CEMENT RIG USED 40#S OF SUGAR
Event	22	Pre-Rig Down Safety Meeting	1/09/2018	10:45:00	USER					ALL HES EMPLOYEES
Event	23	Rig-Down Equipment	1/09/2018	10:50:00	USER					
Event	24	Pre-Convoy Safety Meeting	1/09/2018	11:50:00	USER					ALL HES EMPLOYEES
Event	25	Crew Leave Location	1/09/2018	12:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, DUSTIN SMITH AND CREW

# TEP - PA 341-26 - 4 1/2 PRODUCTION



- |   |                             |                             |                     |                                |
|---|-----------------------------|-----------------------------|---------------------|--------------------------------|
| ① Call Out                              | ⑥ Pre-Rig Up Safety Meeting | ⑪ Pump Fresh Water Spacer   | ⑬ Drop Top Plug     | 21 End Job                     |
| ② Pre-Convoy Safety Meeting             | ⑦ Rig-Up Equipment          | ⑫ Pump Mud Flush III Spacer | ⑭ Pump Displacement | 22 Pre-Rig Down Safety Meeting |
| ③ Arrive At Loc                         | ⑧ Pre-Job Safety Meeting    | ⑬ Pump Cement               | ⑮ Slow Rate         | 23 Rig-Down Equipment          |
| ④ Meet With Company Rep                 | ⑨ Start Job                 | ⑭ Shutdown                  | ⑯ Bump Plug         | 24 Pre-Convoy Safety Meeting   |
| ⑤ Assessment Of Location Safety Meeting | ⑩ Prime Lines               | ⑮ Clean Lines               | 20 Check Floats     | 25 Crew Leave Location         |

▼ **HALLIBURTON** | iCem® Service

Created: 2018-01-08 18:43:56, Version: 4.2.393

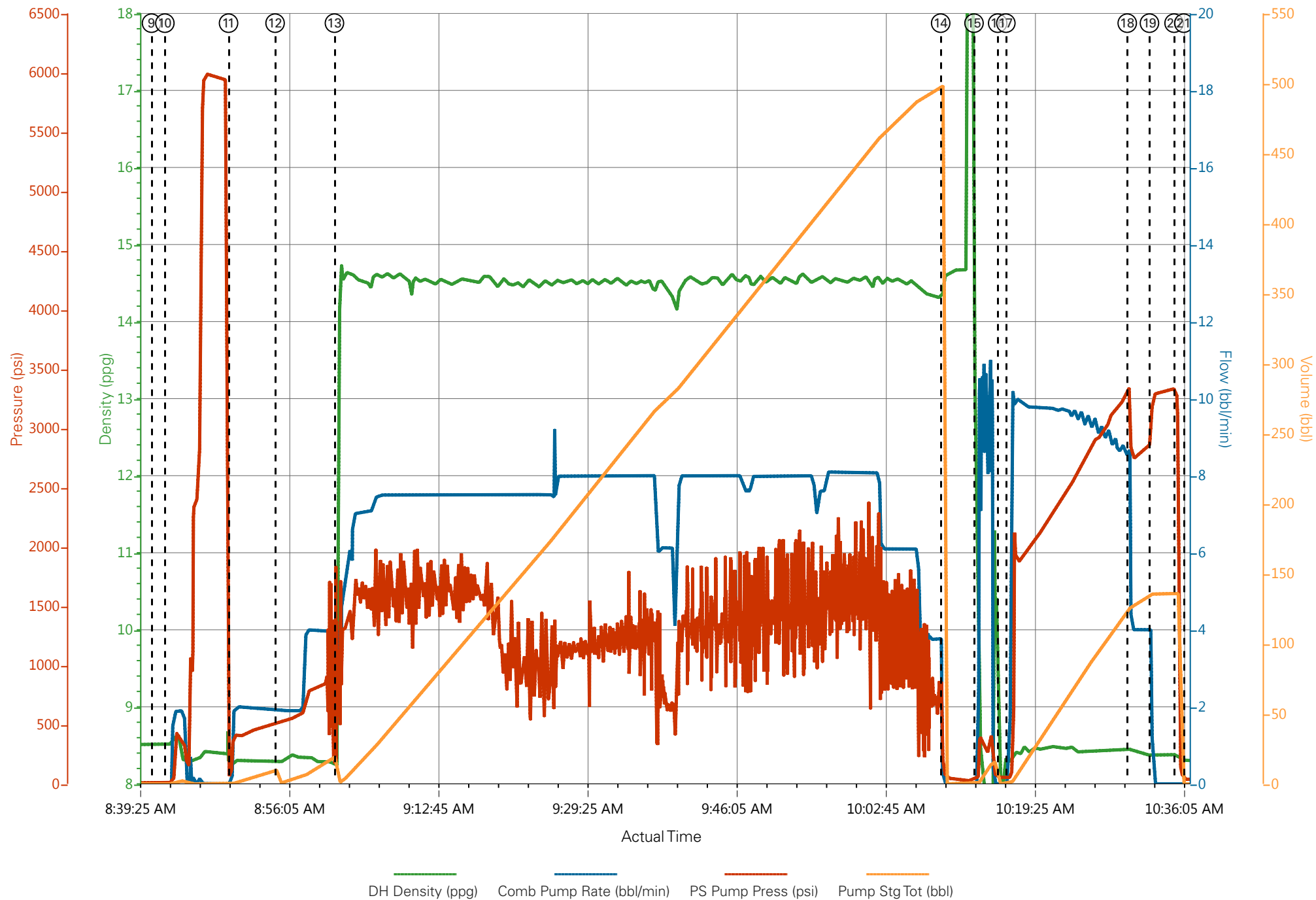
Edit

Customer: TERRA ENERGY PARTNERS-EBUS  
Representative: COY BURR / GARRETT WADE

Job Date: 1/9/2018 5:59:12 AM  
Sales Order #: 0904553901

Well: PA 341-26  
ELITE #1: DUSTIN SMITH / WES GOWEN

# TEP - PA 341-26 - 4 1/2 PRODUCTION



### Job Information

Request/Slurry	2442458/4	Rig Name	H&P 271	Date	04/JAN/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	PA 341-26

### Well Information

Casing/Liner Size	4.5 in	Depth MD	8641 ft	BHST	102°C / 215°F
Hole Size	8.75 in	Depth TVD	7928 ft	BHCT	63°C / 145°F
Pressure	4850 psi				

### Drilling Fluid Information

Mud Supplier Name	AMC	Mud Trade Name	Density
-------------------	-----	----------------	---------

### Cement Information - Primary Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	14.5	lbm/gal
						Slurry Yield	1.32	ft3/sack
						Water Requirement	5.856	gal/sack
						Total Mix Fluid	5.856	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

# Operation Test Results Request ID 2442458/4

## Thickening Time - ON-OFF-ON

08/JAN/2018

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)
145	4850	50	4:32	4:42	4:42	4:42	17	60	15	18

CS0062 TR#5692 99 SKS

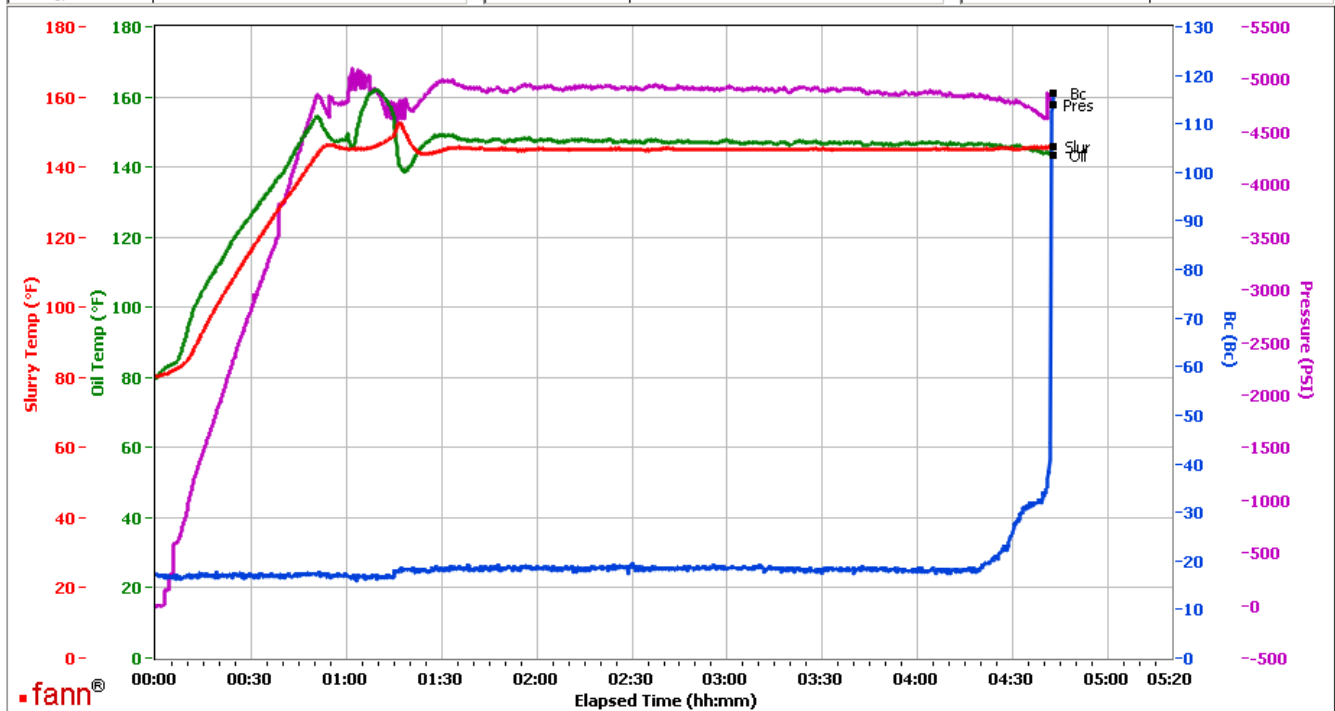
No deflection. 18Bc--- > 18Bc

## Grand Junction, Colorado

Fields	Values
Project Name	GJ2442458-4 TERRA PRODUCTION BULK PR
Test ID	35160367
Request ID	GJ2442458-4
Tested by	DEBA
Customer	TERRA ENERGY PARTNER
Well No	PA 341-26
Rig	H&P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	01/08/18
Test Time	08:54 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:32m
40.00 Bc	04h:41m
50.00 Bc	04h:42m
70.00 Bc	04h:42m
100.00 Bc	04h:42m
00h:30m	17.20
01h:00m	17.35
01h:30m	18.42



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9YZ0P2R\GJ2442458-4 TERRA PRODUCTION BULK PRIMARY [1].tdms

Comments CS0062 TR#5692 99 SKS

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

## Operation Test Results Request ID 2442458/3

### Thickening Time - ON-OFF-ON

08/JAN/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)
145	4850	50	5:49	5:51	5:51	5:51	6	60	15	6

Test a composite of all bulk samples loaded for this job at 14.5#

CS0034 TR 8677 400 SKS

CS0035 TR 8678 400 SKS

CS0040 TR 7304 260 SKS

CS0032 TR 0812 400 SKS

CS0033 TR 8658 400 SKS

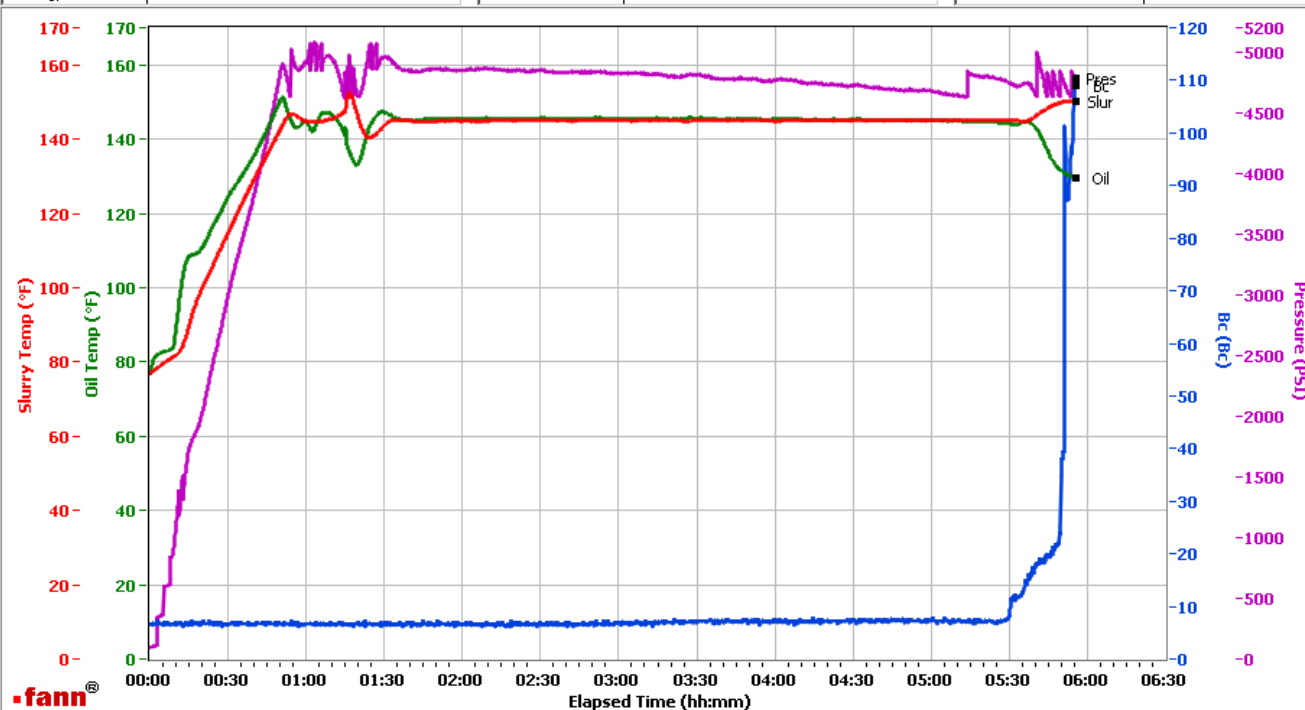
No deflection was observed. 6Bc--- > 6Bc

### Grand Junction Colorado

Fields	Values
Project Name	GJ2442458-3 TERRA PRODUCTION BULK PR
Test ID	35159876
Request ID	GJ2442458-3
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	PA 341-26
Rig	H&P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	01/8/18
Test Time	09:13 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.1219

Events	Results
30.00 Bc	05h:49m
40.00 Bc	05h:51m
50.00 Bc	05h:51m
70.00 Bc	05h:51m
100.00 Bc	05h:51m
00h:30m	6.44
01h:00m	6.68
01h:30m	6.60



Data File C:\Documents and Settings\HPHT\Local Settings\Temporary Internet Files\Content.IE5\KD2P4153\GJ2442458-3 TERRA PRODUCTION BULK PRIMARY AT 14.5PPG[1].tdms

Comments COMPOSITE: CS 0034, 0035, 0040, 0032 AND 0033 AT 14.5PPG

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.