

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

**For: Terra**

Date: Tuesday, September 05, 2017

**GM 342-10 Production PJR**

API #: 05-045-22699-00

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

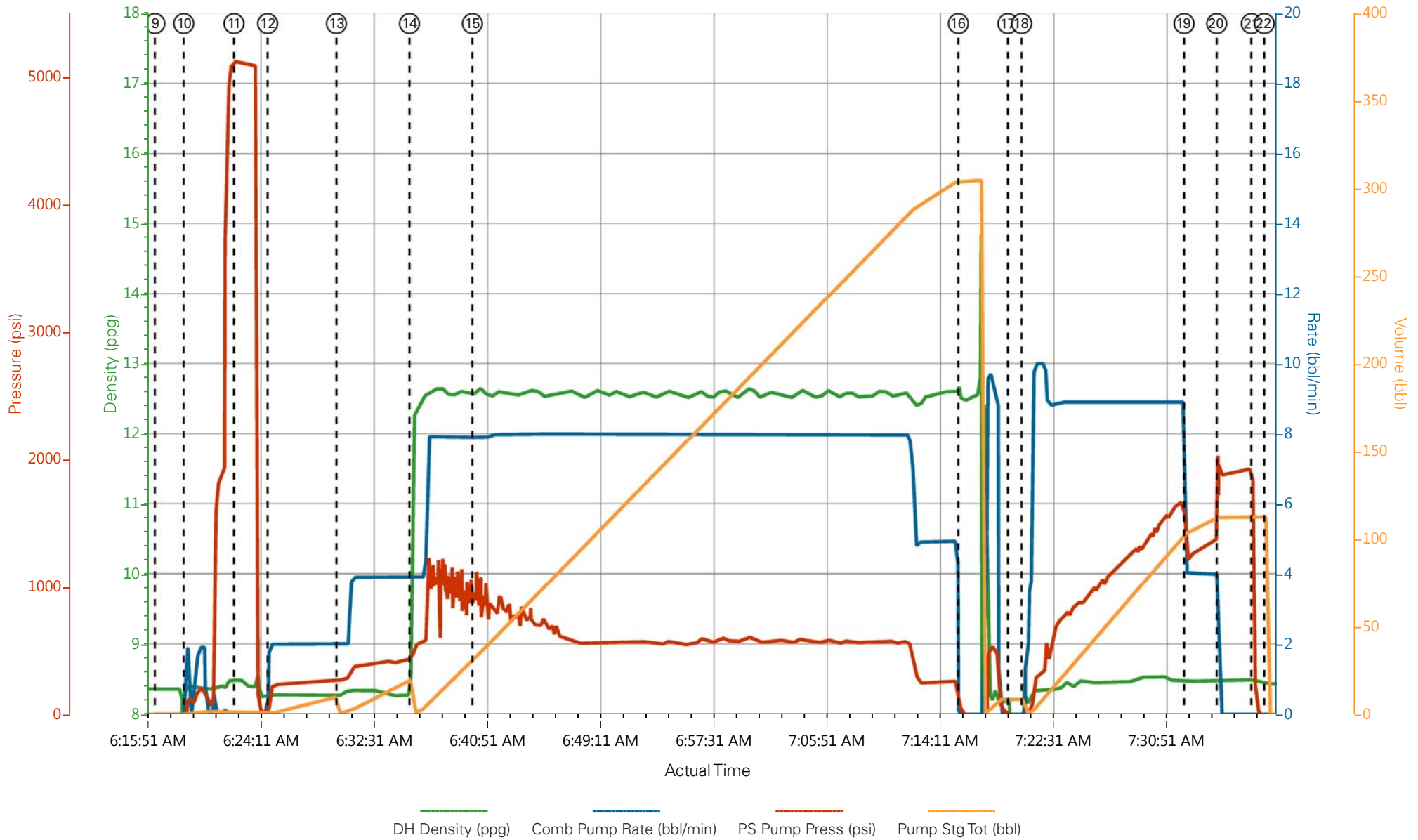
### 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	9/5/2017	00:00:00	USER					O/L time 0600
Event	2	Pre-Convoy Safety Meeting	9/5/2017	01:45:00	USER					
Event	3	Crew Leave Yard	9/5/2017	02:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	9/5/2017	03:30:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	9/5/2017	03:45:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 68 degrees
Event	6	Pre-Rig Up Safety Meeting	9/5/2017	04:15:00	USER					
Event	7	Rig-Up Equipment	9/5/2017	04:30:00	USER					Manifold on ground, hard line to standpipe, hard line to pit, water hoses to uprights, bulk hoses to silo and 660
Event	8	Pre-Job Safety Meeting	9/5/2017	06:00:00	USER					All HES personnel, rig crew, and company rep - Rig circulating @ 10 bpm w/ 1090 psi for 1 hour
Event	9	Start Job	9/5/2017	06:16:38	COM5					TD 7332', TP 7325.49', SJ 31.34', Mud 9.6 ppg, 8 ¾" OH, Surf @ 1176', 4 ½" 11.6# P110 casing
Event	10	Prime Lines	9/5/2017	06:18:46	USER	8.33	2.0	230	2.0	Fresh water
Event	11	Test Lines	9/5/2017	06:22:27	COM5			5138		Pressure held well
Event	12	Pump H2O Spacer	9/5/2017	06:24:56	COM5	8.33	2.0	220	10.0	Fresh water
Event	13	Pump Mud Flush	9/5/2017	06:30:00	COM5	8.33	4.0	440	20.0	80 lbs Mud Flush III
Event	14	Pump Lead Cement	9/5/2017	06:35:22	COM5	12.5	8.0	1080	310.7	890 sks, 12.5 ppg, 1.96 yielded, 9.38

gal/sk – 60 lbs Tuf Fiber added on fly

Event	15	Check weight	9/5/2017	06:40:00	COM5	12.5					Recirc matched mud scales
Event	16	Shutdown	9/5/2017	07:15:45	USER						Wash & blow out lines to pit
Event	17	Drop Top Plug	9/5/2017	07:19:23	USER						Plug launched – verified by company rep
Event	18	Pump Displacement	9/5/2017	07:20:24	COM5	8.40	9.0	1680	113.1		1 gal MMCR, 3 lbs BE-6, 2 % KCl
Event	19	Slow Rate	9/5/2017	07:32:21	USER	8.40	4.0	1230	@ 103		Good returns throughout job
Event	20	Bump Plug	9/5/2017	07:34:45	COM5			1421			Pipe reciprocated throughout job
Event	21	Check Floats	9/5/2017	07:37:18	COM5			1910			Floats held – 1 bbl flowback
Event	22	End Job	9/5/2017	07:38:15	COM5						
Event	23	Pre-Rig Down Safety Meeting	9/5/2017	07:45:00	USER						
Event	24	Rig-Down Equipment	9/5/2017	08:00:00	USER						
Event	25	Pre-Convoy Safety Meeting	9/5/2017	08:45:00	USER						
Event	26	Crew Leave Location	9/5/2017	09:00:00	USER						Thank you for using Halliburton - Ed Deussen and crew

# TERRA ENERGY - GM 342-10 - 4 1/2" Production



- |   |                             |                    |                     |                                |                        |
|---|-----------------------------|--------------------|---------------------|--------------------------------|------------------------|
| ① Call Out                              | ⑥ Pre-Rig Up Safety Meeting | ⑪ Test Lines       | ⑯ Shutdown          | 21 Check Floats                | 26 Crew Leave Location |
| ② Pre-Convoy Safety Meeting             | ⑦ Rig-Up Equipment          | ⑫ Pump H2O Spacer  | ⑰ Drop Top Plug     | 22 End Job                     |                        |
| ③ Crew Leave Yard                       | ⑧ Pre-Job Safety Meeting    | ⑬ Pump Mud Flush   | ⑱ Pump Displacement | 23 Pre-Rig Down Safety Meeting |                        |
| ④ Arrive At Location                    | ⑨ Start Job                 | ⑭ Pump Lead Cement | ⑲ Slow Rate         | 24 Rig-Down Equipment          |                        |
| ⑤ Assessment Of Location Safety Meeting | ⑩ Prime Lines               | ⑮ Check weight     | 20 Bump Plug        | 25 Pre-Convoy Safety Meeting   |                        |

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Created: 2017-09-05 03:56:55, Version: 4.2.393

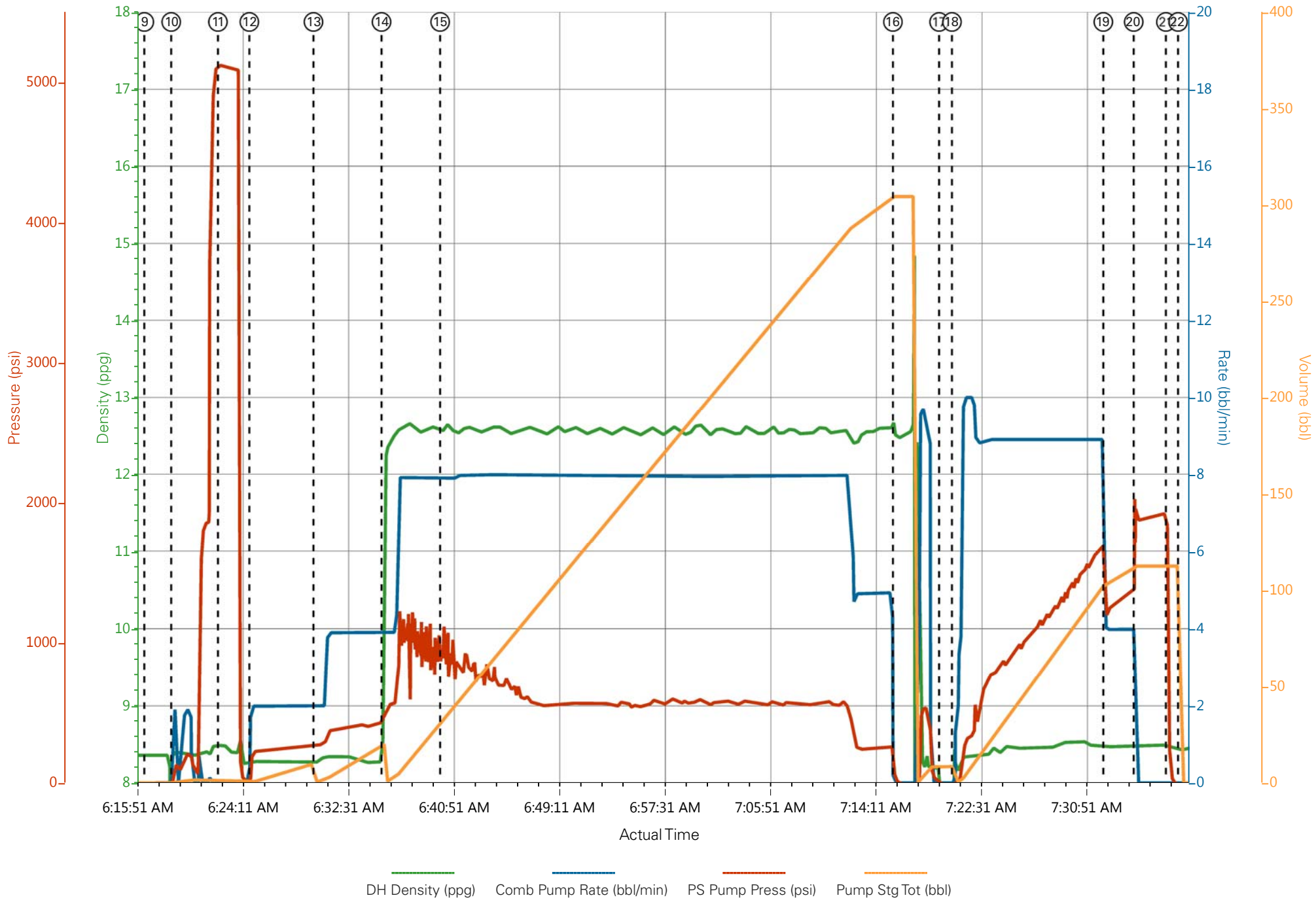
Edit

Customer : TERRA ENERGY PARTNERS  
 Representative : W.C. Wilson

Job Date : 9/5/2017 5:31:53 AM  
 Sales Order # : 904282077

Well : GM 342-10  
 Elite #1 : Ed Deussen / Dirk Brennecke

# TERRA ENERGY - GM 342-10 - 4 1/2" Production



### Job Information

<b>Request/Slurry</b>	2414338/2	<b>Rig Name</b>	H&P 273	<b>Date</b>	01/SEP/2017
<b>Submitted By</b>	Aaron Katz	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Terra Energy Partners	<b>Location</b>	Garfield	<b>Well</b>	GM 342-10

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	7352 ft	<b>BHST</b>	93°C / 199°F
<b>Hole Size</b>	8.75 in	<b>Depth TVD</b>	6916 ft	<b>BHCT</b>	56°C / 133°F
<b>Pressure</b>	4140 psi				

### Drilling Fluid Information

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

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>	
						Slurry Density	12.5 lbm/gal
						Slurry Yield	1.962 ft <sup>3</sup> /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 2414338/2

## Thickening Time - ON-OFF-ON

04/SEP/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	4140	37	3:06	3:06	3:23	4:18	15	47	15	10

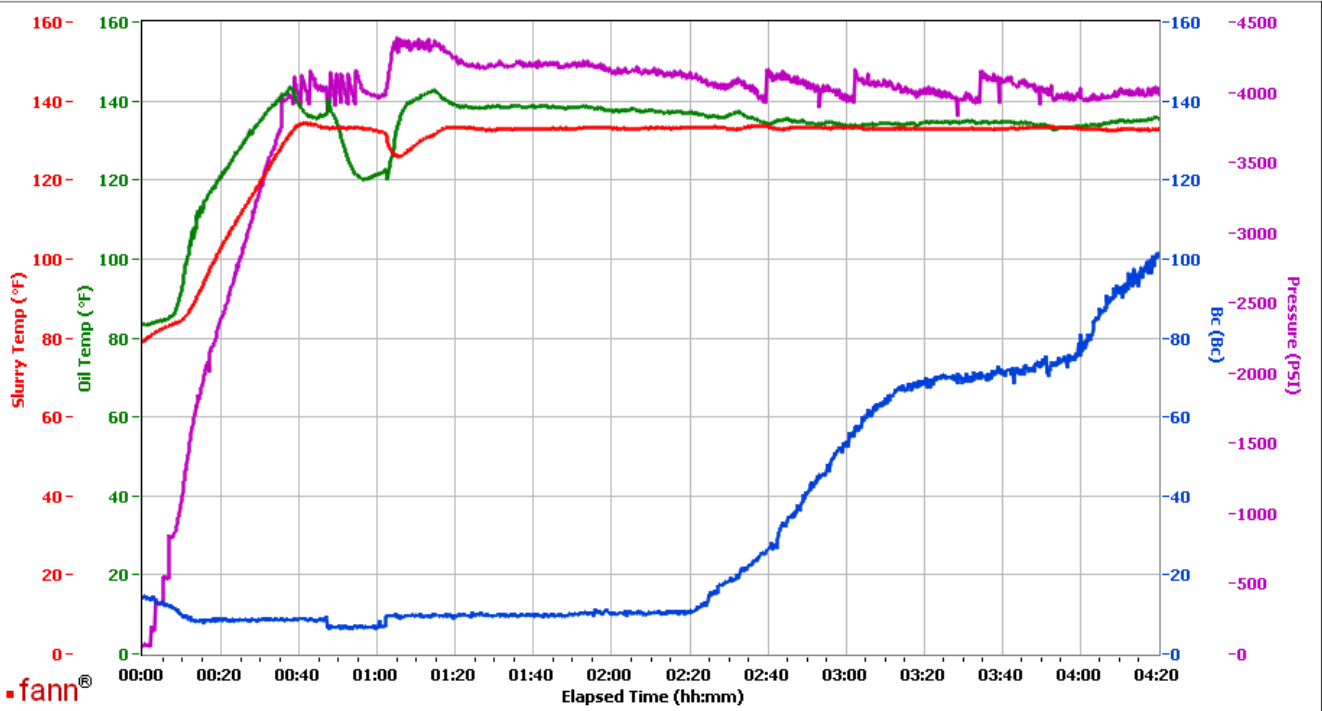
Total sks = 890  
 CS2366 TR#4080 Front 110 sks  
 deflected from 7Bc ---- > 10Bc

### Grand Junction, Colorado

Fields	Values
Project Name	GJ2414338-2 TERRA PRODUCTION BULK PR
Test ID	34834297
Request ID	GJ2414338-2
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	GM 342-10
Rig	H8P 273
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	HOLCIM TYPE I-II
Cement Weight	Standard
Test Date	09/04/17
Test Time	12:09 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:06m
40.00 Bc	03h:06m
50.00 Bc	03h:06m
70.00 Bc	03h:23m
100.00 Bc	04h:18m
00h:30m	60.76
01h:00m	60.76
01h:30m	60.76



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CDER4HUV\GJ2414338-2 TERRA PRODUCTION BULK PRIMAR\1].tdms  
 Comments CS2366 TR#4080 FRONT 110 SKS

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# Operation Test Results Request ID 2414338/1

## Thickening Time - ON-OFF-ON

03/SEP/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	4140	37	3:50	4:22	6:18	6:24	10	47	15	7

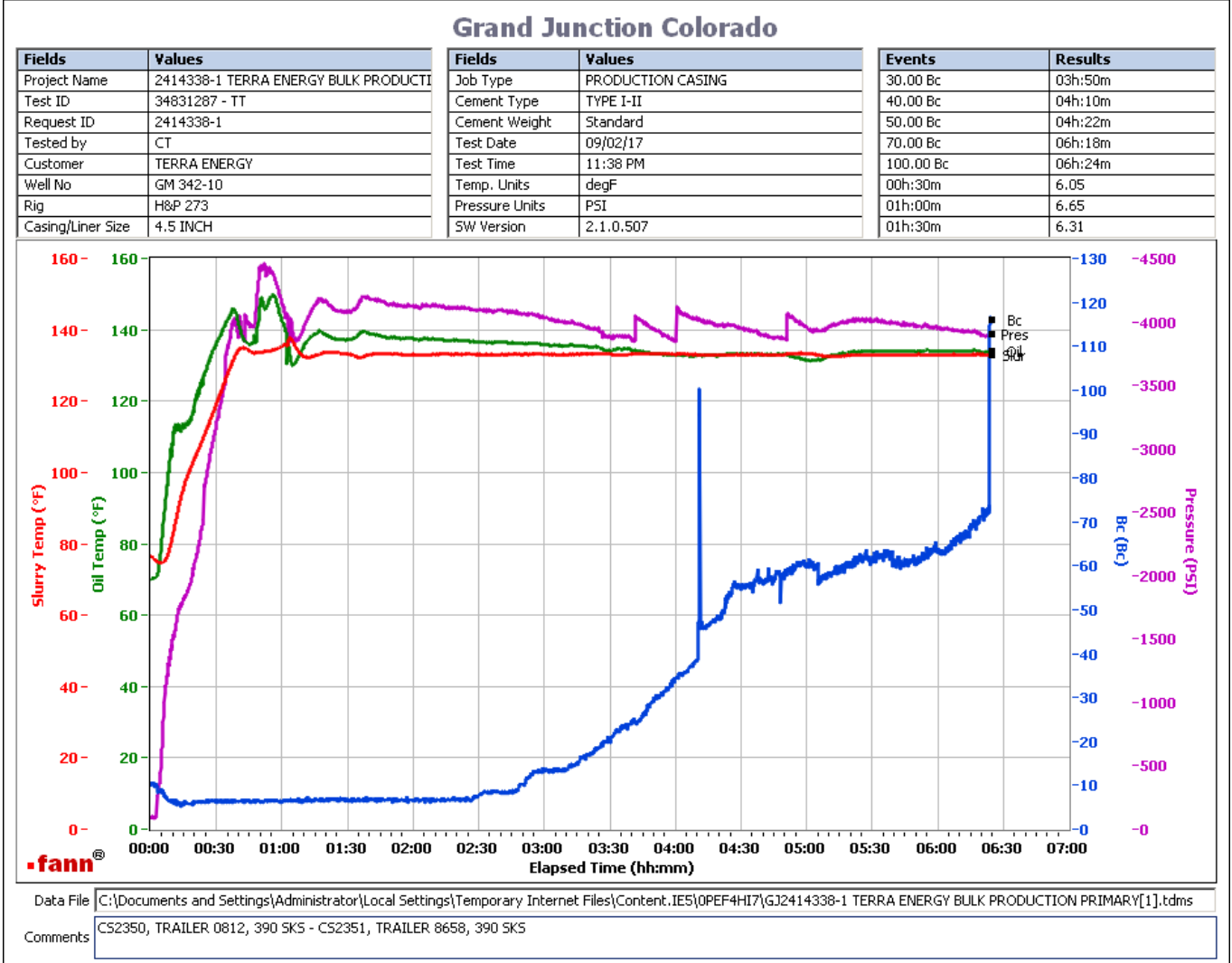
Total sks = 890

Composite:

CS2350, Trailer 0812, 390 sks

CS2351, Trailer 8658, 390 sks

no significant deflected was observed 6Bc---- > 7Bc



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