

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra Energy

Ware SR 24-12

API# 05-045-23445-00

Ware SR 24-12 Production

Job Date: Sunday, February 04, 2018

Sincerely,

Grand Junction Cement Engineering

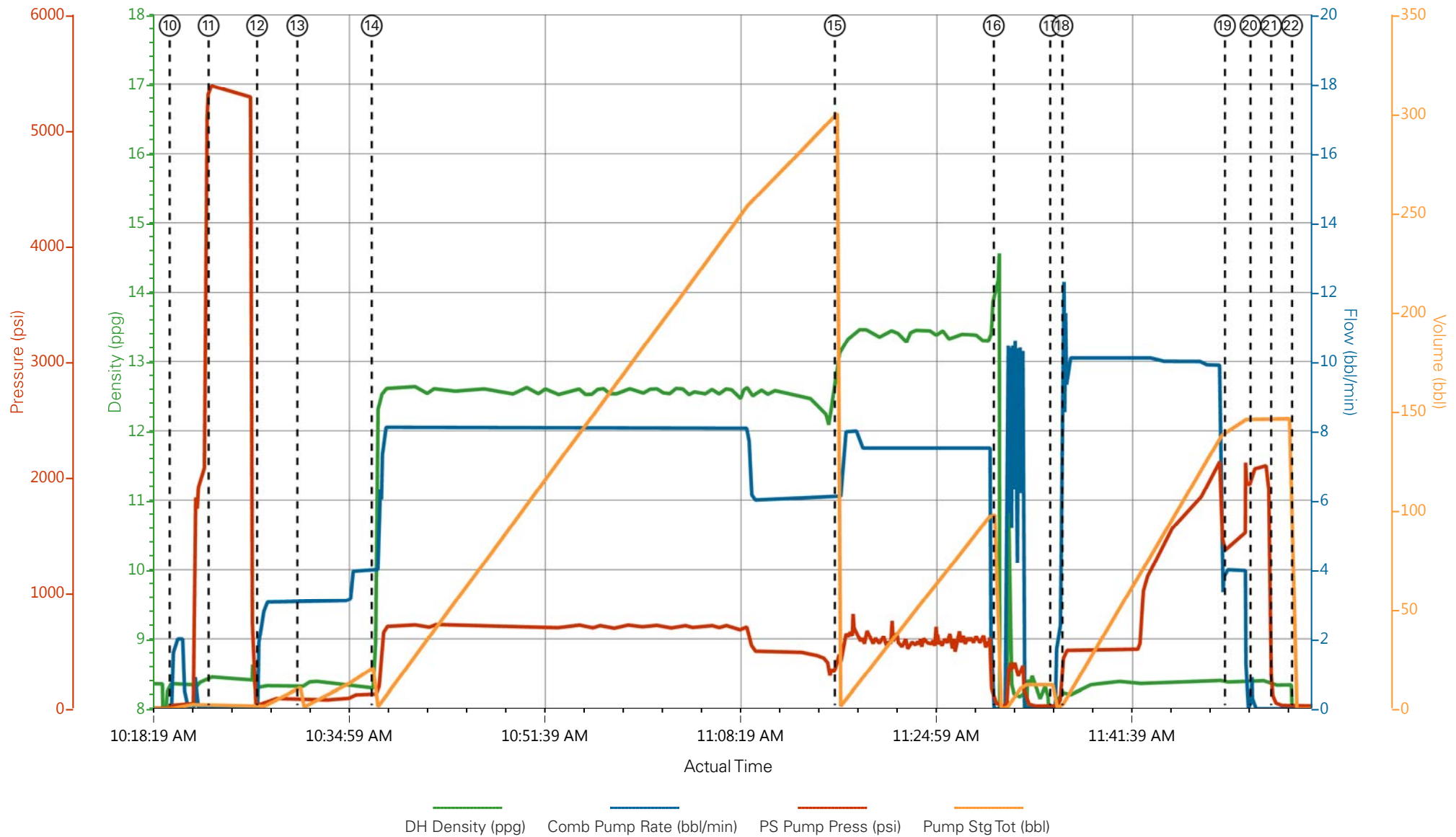
Real-Time Job Summary

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	2/3/2018	22:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	2/4/2018	00:01:00	USER					JSA COMPLETED
Event	3	Crew Leave Yard	2/4/2018	00:20:00	USER					
Event	4	Arrive At Loc	2/4/2018	02:00:00	USER					OSR SIGNED WOC, RIG RUNNING CASING HAD LOSS CIRCULATION ISSUES
Event	5	Assessment Of Location Safety Meeting	2/4/2018	02:36:59	USER					1 ELITE, 1 660, 1 SILO
Event	6	PRE RIG UP SAFETY MEETING	2/4/2018	03:00:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	2/4/2018	03:30:00	USER					
Event	8	Other	2/4/2018	03:45:00	USER					4.5 11.6# TD- 9542, TP-9535, S.J.-31.3, HOLE- 8 3/4, MUD#- 9.2, SURFACE CASING SET AT 1117 9 5/8 32.3#
Event	9	Pre-Job Safety Meeting	2/4/2018	10:00:00	USER					JSA COMPLETE
Event	10	Start Job	2/4/2018	10:20:00	COM5					
Event	11	Test Lines	2/4/2018	10:23:18	COM5	8.45	0.00	5393.00	2.1	5393 PSI
Event	12	Pump Spacer 1	2/4/2018	10:27:26	COM5	8.33	2.30	47.00	10.00	FRESH WATER
Event	13	Pump Spacer 2	2/4/2018	10:30:51	COM5	8.40	4.00	115.00	20.00	MUD FLUSH
Event	14	Pump Lead Cement	2/4/2018	10:37:12	COM5	12.5	8.00	720.00	279.9	810 SKS, 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK
Event	15	Pump Tail Cement	2/4/2018	11:16:37	COM5	13.30	7.5	560.00	81.6	265 SKS, 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK
Event	16	Clean Lines	2/4/2018	11:30:09	COM5					TO PIT FROM MANIFOLD ON GROUND, THEN BLEW AIR FROM RIG FLOOR TO CLEAN OUT STAND PIPE

Event	17	Drop Top Plug	2/4/2018	11:34:57	COM5					AWAY USING POSITIVE DISPLACEMENT
Event	18	Pump Displacement	2/4/2018	11:35:59	COM5	8.40	10.00	2047	147.3	KCL WATER, 3 BAGS BE-6, 1 GAL MMCR
Event	19	Slow Rate	2/4/2018	11:49:49	USER	8.40	4.00	1380	137.00	TO BUMP PLUG
Event	20	Bump Plug	2/4/2018	11:52:00	COM5	8.40	4.00	1570	147.3	PLUG BUMPED
Event	21	Check Floats	2/4/2018	11:53:45	USER			2100		FLOATS HELD, 1 BBL BACK TO TRUCK
Event	22	End Job	2/4/2018	11:55:32	COM5					
Event	23	Other	2/4/2018	12:05:00	USER					INTERMITTENT RETURNS THROUGH OUT JOB. HAD CIRCULATION AT BEGINNING OF JOB
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	2/4/2018	12:10:00	USER					
Event	25	Rig Down Lines	2/4/2018	13:00:00	USER					
Event	26	Crew Leave Location	2/4/2018	13:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

TEP - SR 24-12 - 4.5 PRODUCTION CASING



- | | | | | |
|---|--------------------------|---------------------|---|------------------------|
| ① Call Out | ⑦ Rig-Up Equipment | ⑬ Pump Spacer 2 | ⑲ Slow Rate | 25 Rig Down Lines |
| ② Pre-Convoy Safety Meeting | ⑧ Other | ⑭ Pump Lead Cement | 20 Bump Plug | 26 Crew Leave Location |
| ③ Crew Leave Yard | ⑨ Pre-Job Safety Meeting | ⑮ Pump Tail Cement | 21 Check Floats | |
| ④ Arrive At Loc | ⑩ Start Job | ⑯ Clean Lines | 22 End Job | |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Test Lines | ⑰ Drop Top Plug | 23 Other | |
| ⑥ PRE RIG UP SAFETY MEETING | ⑫ Pump Spacer 1 | ⑱ Pump Displacement | 24 Post-Job Safety Meeting (Pre Rig-Down) | |

▼ **HALLIBURTON** | iCem® Service

Created: 2018-02-03 23:41:16, Version: 4.2.393

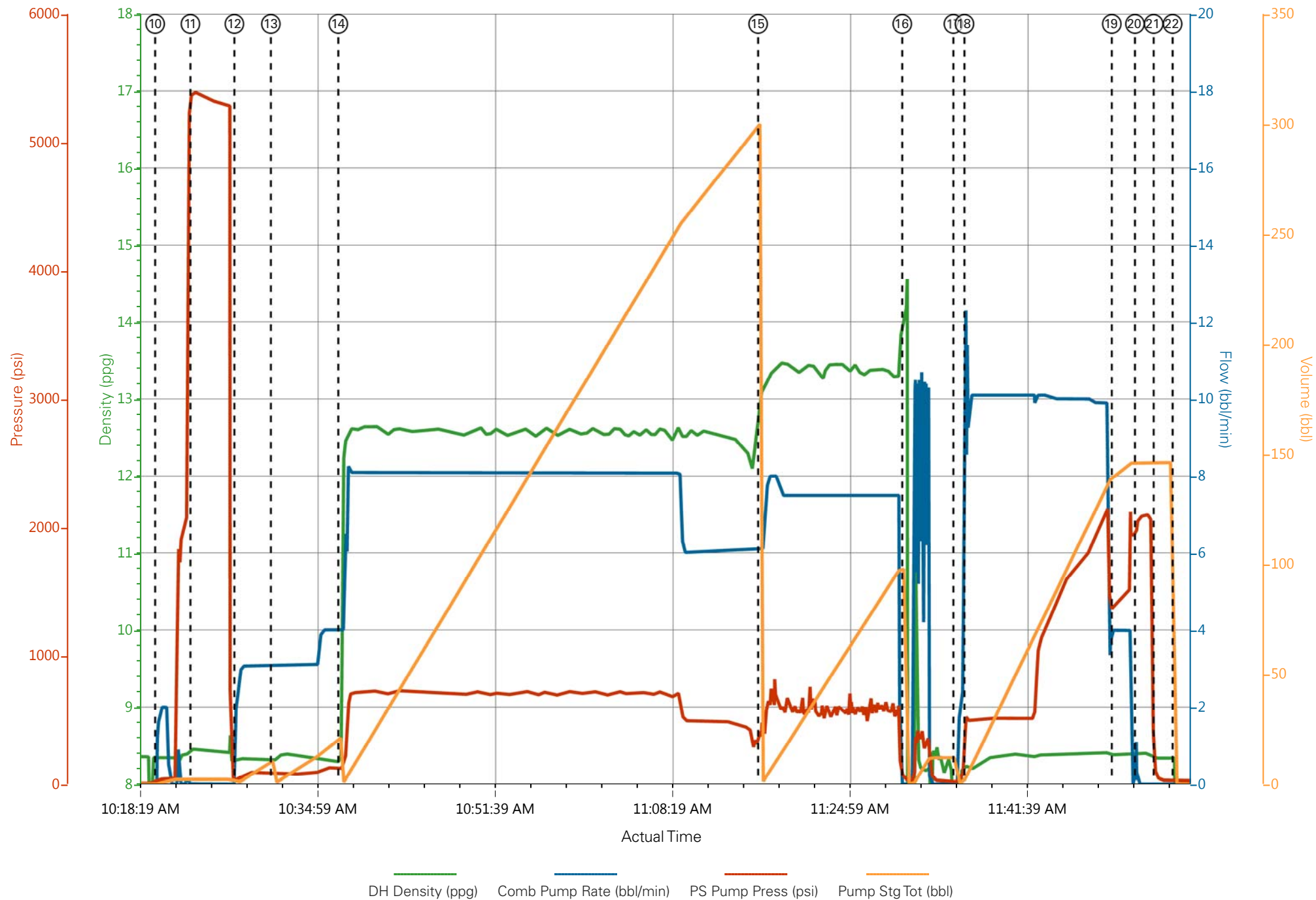
Edit

Customer: TERRA ENERGY PARTNERS-EBUS
Representative: ROBERT BROWN

Job Date: 2/4/2018 9:23:42 AM
Sales Order #: 904612932

Well: SR 24-12
ELITE 1: T. BROWN, J. LEIST

TEP - SR 24-12 - 4.5 PRODUCTION CASING



Job Information

Request/Slurry	2449820/1	Rig Name	H&P 318	Date	29/JAN/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 24-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9524 ft	BHST	116°C / 241°F
Hole Size	8.75 in	Depth TVD	9475 ft	BHCT	77°C / 171°F
Pressure	5933 psi				

Drilling Fluid Information

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

Cement Information - Lead Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	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 2449820/1

Thickening Time - ON-OFF-ON

31/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)
171	5933	48	5:01	5:16	5:25	6:04	6	58	15	7

Total sks = 810

Composite:

CS0309 TR# 8677 405 SKS

CS0310 TR# 2878 405 SKS

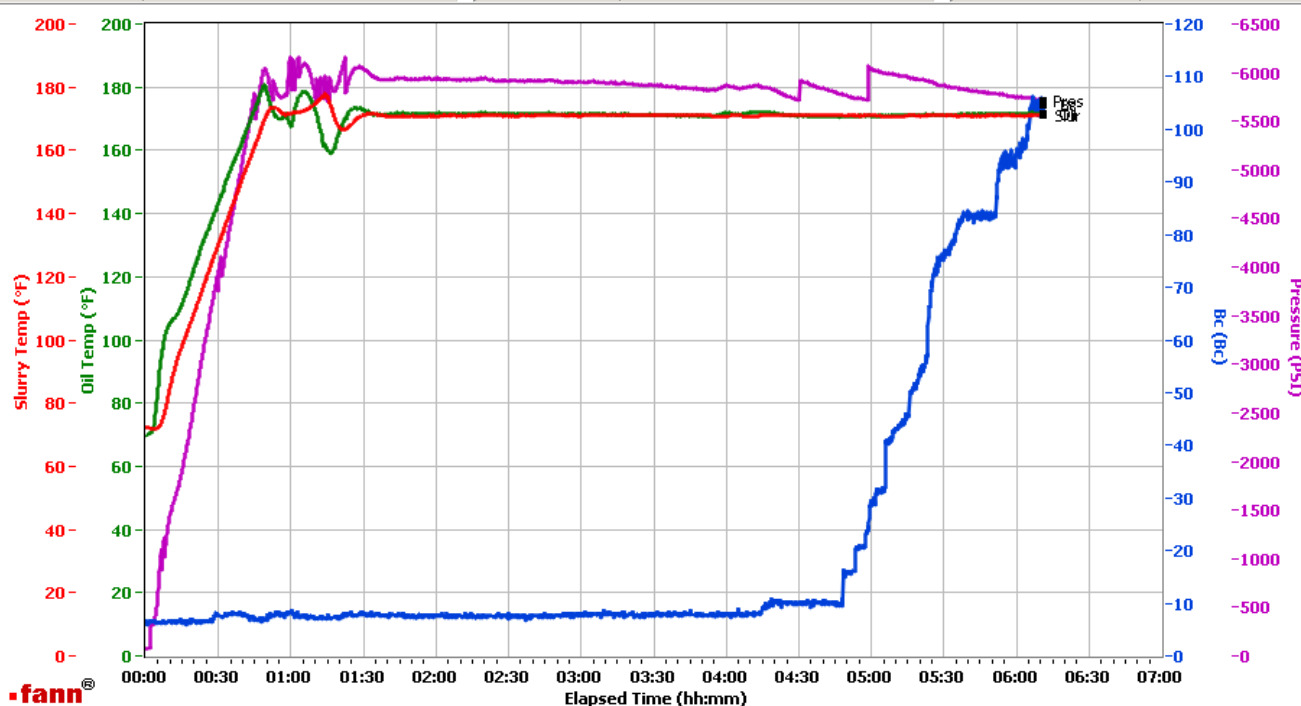
No deflected was observed. 7Bc--- > 7Bc

Grand Junction Colorado

Fields	Values
Project Name	GJ2449820-1 TERRA PRODUCTION BULK LE
Test ID	35214787
Request ID	GJ2449820-1
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	SR 24-12
Rig	H&P 318
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	GCC TYPE I-II
Cement Weight	Standard
Test Date	01/31/18
Test Time	12:20 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.1219

Events	Results
30.00 Bc	05h:01m
40.00 Bc	05h:05m
50.00 Bc	05h:16m
70.00 Bc	05h:25m
100.00 Bc	06h:04m
00h:30m	7.89
01h:00m	8.17
01h:30m	7.61



Data File	C:\Documents and Settings\HPHT\Local Settings\Temporary Internet Files\Content.IE5\KD2P41S3\GJ2449820-1 TERRA PRODUCTION BULK LEAD[1].tdms
Comments	COMPOSITE: CS0309 TR#8677 405 SKS & cCS0310 TR#2878 405 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.

HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2449821/1	Rig Name	H&P 318	Date	29/JAN/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SR 24-12

Well Information

Casing/Liner Size	4.5 in	Depth MD	9524 ft	BHST	116°C / 241°F
Hole Size	8.75 in	Depth TVD	9475 ft	BHCT	77°C / 171°F
Pressure	5933 psi				

Drilling Fluid Information

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

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>	
						Slurry Density	13.3 lbm/gal
						Slurry Yield	1.733 ft3/sack
						Water Requirement	7.799 gal/sack
						Total Mix Fluid	7.799 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 2449821/1

Thickening Time - ON-OFF-ON

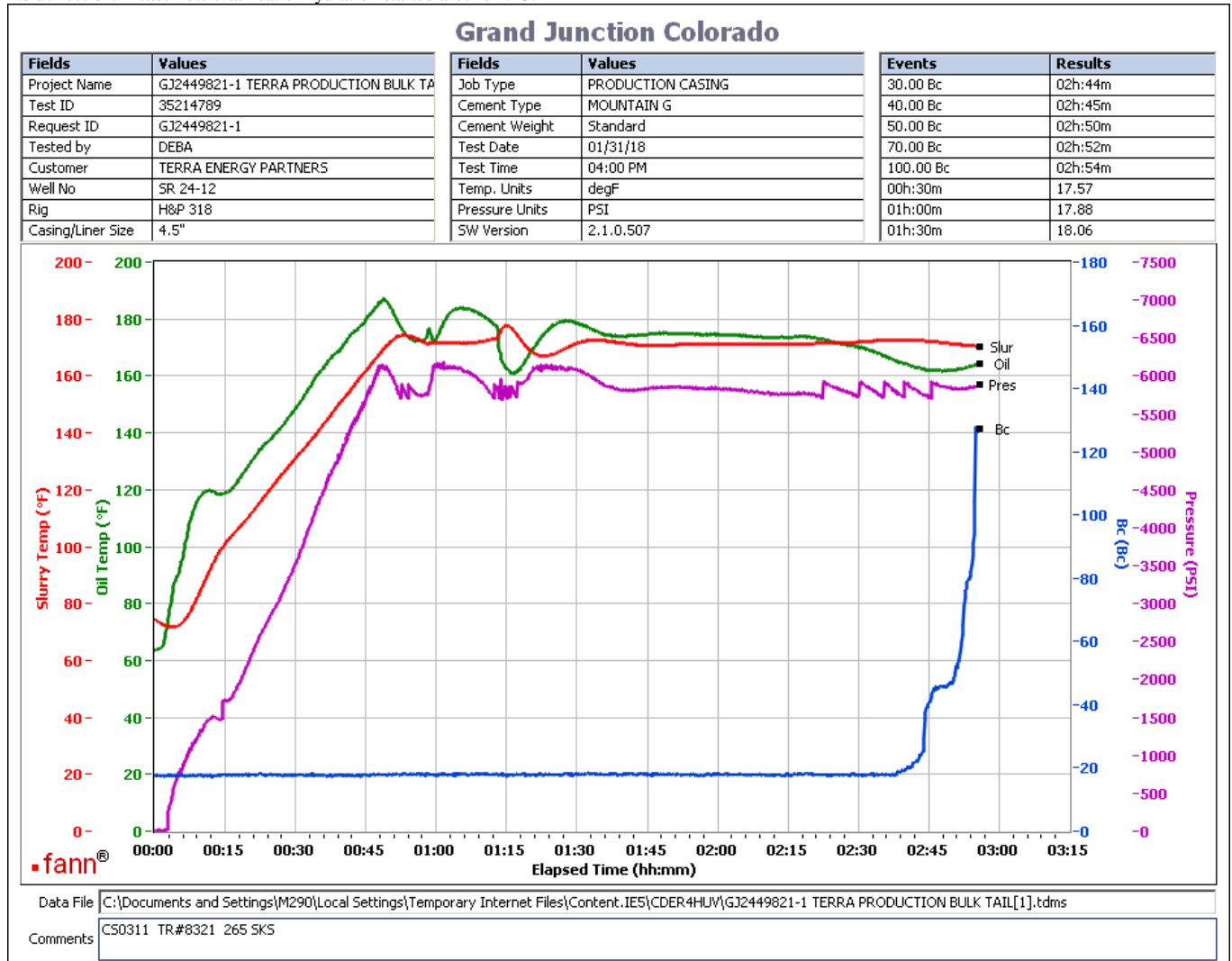
31/JAN/2018

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)
171	5933	48	2:44	2:50	2:52	2:54	17	58	15	18

265 sks tail

CS0311 TR#8321 265 SKS

No deflection. Please note that heat of hydration started around 2:25.



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.