

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

For: Terra

Date: Monday, July 23, 2018

NR 11-3 Production PJR

API# 05-045-23923-00

Sincerely,

Grand Junction Cement Engineering

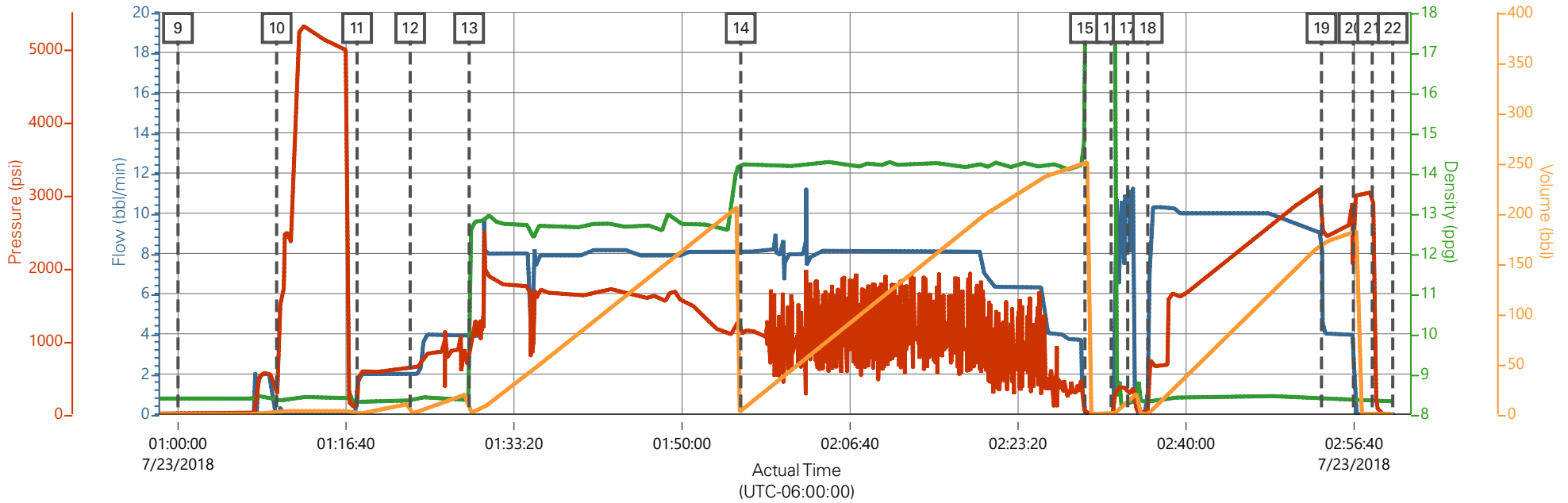
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	7/22/2018	12:00:00	USER					REQUESTED ON LOCATION 7/22/18 @ 18:00
Event	2	Depart Yard Safety Meeting	7/22/2018	14:55:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	7/22/2018	15:00:00	USER					
Event	4	Arrive At Loc	7/22/2018	16:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	7/22/2018	16:15:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	7/22/2018	18:55:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	7/22/2018	19:00:00	USER					
Event	8	Pre-Job Safety Meeting	7/23/2018	00:00:00	USER					JSA COMPLETED
Event	9	Start Job	7/23/2018	01:00:00	COM4					4 1/2"-11.6# CASING IN 8 3/4" OH, TD 11176', TP 11166', ST 32.3', MUD 11.6 PPG, WATER TEMP 65, PH 7, CHLORIDES 0
Event	10	Test Lines	7/23/2018	01:09:47	COM4			5000.00		TEST LINES TO 5000 PSI
Event	11	Pump Spacer 1	7/23/2018	01:17:46	COM4	2.00	8.33	590.00	10.00	10 BBL FRESH WATER
Event	12	Pump Spacer 2	7/23/2018	01:23:02	COM4	4.00	8.40	850.00	20.00	20 BBL MUDFLUSH
Event	13	Pump Lead Cement	7/23/2018	01:28:53	COM4	8.00	12.70	1700.00	182.60	182.6 BBL LEAD CEMENT, 565 SKS @ 12.7 PPG / 1.85 YLD / 8.94 GAL/SK

Event	14	Pump Tail Cement	7/23/2018	01:55:49	COM4	8.00	14.20	1000.00	224.10	224.1 BBLs TAIL CEMENT, 740 SKS @ 14.2 PPG / 1.7 YLD / 7.53 GAL/SK
Event	15	Shutdown	7/23/2018	02:29:58	COM4					
Event	16	Clean Lines	7/23/2018	02:32:34	COM4					
Event	17	Drop Top Plug	7/23/2018	02:34:13	COM4					PLUG AWAY
Event	18	Pump Displacement	7/23/2018	02:36:12	COM4	10.00	8.40	3090.00	172.60	172.6 BBL KCL WATER DISPLACEMENT WITH 3# BE-6 AND 1 GALLON MMCR
Event	19	SLOW RATE	7/23/2018	02:53:26	COM4	4.00	8.40	3090.00	162.00	SLOW RATE AT 162 BBLs AWAY TO 4 BBL/MIN, 3090 PSI TO 2400 PSI
Event	20	Bump Plug	7/23/2018	02:56:36	COM4	4.00	8.40	2600.00	172.60	PLUG BUMPED AT CALCULATED, FINAL CIRCULATING PRESSURE 2600 PSI, BROUGHT TO 3000 PSI
Event	21	CHECK FLOATS	7/23/2018	02:58:28	COM4					FLOATS HELD, 2 BBL BACK TO PUMP
Event	22	End Job	7/23/2018	03:00:30	COM4					PIPE RECIPRICATED, GOOD RETURNS THROUGHOUT, 3# BE-6, 1 GALLON MMCR USED, NO SUGAR USED, 1 ADD HOUR CHARGED
Event	23	Pre-Rig Down Safety Meeting	7/23/2018	03:15:00	USER					JSA COMPLETED
Event	24	Rig-Down Equipment	7/23/2018	03:20:00	USER					
Event	25	Pre-Convoy Safety Meeting	7/23/2018	03:55:00	USER					JSA COMPLETED
Event	26	Crew Leave Location	7/23/2018	04:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

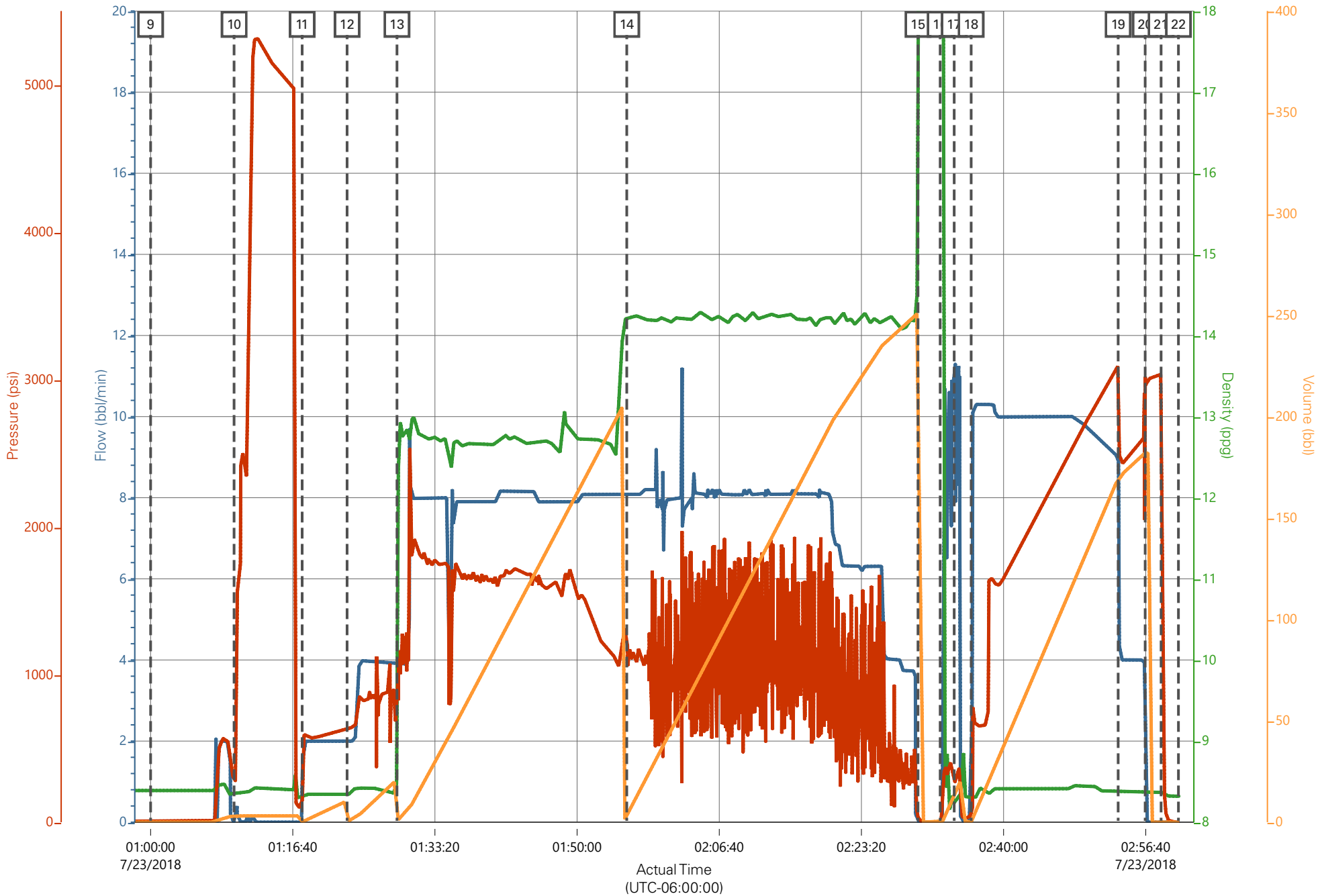
TEP - CLOUGH NR 11-3 - 4 1/2" PRODUCTION CASING



— Comb Pump Rate (bbl/min) 0
 — DH Density (ppg) 8.32
 — PS Pump Press (psi) -5
 — Pump Stg Tot (bbl) 0

Description	Actual Time (UTC-06:00:00)	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)
9 Start Job	01:00:00	0.00	8.39	5.00	0.00
10 Test Lines	01:09:47	0.00	8.34	290.00	3.00
11 Pump Spacer 1	01:17:46	0.00	8.30	107.00	0.00
12 Pump Spacer 2	01:23:02	2.00	8.34	640.00	0.30
13 Pump Lead Cement	01:28:53	3.90	8.83	895.00	0.60
14 Pump Tail Cement	01:55:49	8.10	14.24	1273.00	3.40
15 Shutdown	02:29:58	0.00	15.96	35.00	250.70
16 Clean Lines	02:32:34	0.00	19.58	-9.00	0.00
17 Drop Top Plug	02:34:13	10.60	8.22	242.00	13.40
18 Pump Displacement	02:36:12	1.10	8.30	31.00	0.00
19 SLOW RATE	02:53:26	9.00	8.38	3094.00	169.30
20 Bump Plug	02:56:36	0.00	8.37	3011.00	182.10
21 CHECK FLOATS	02:58:28	0.00	8.37	3037.00	0.00
22 End Job	03:00:30	0.00	8.32	-4.00	0.00

TEP - CLOUGH NR 11-3 - 4 1/2" PRODUCTION CASING



— Comb Pump Rate (bbl/min) 0
 — DH Density (ppg) 8.32
 — PS Pump Press (psi) -5
 — Pump Stg Tot (bbl) 0

Job Information

Request/Slurry	2487990/1	Rig Name	H&P 318	Date	14/JUL/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	NR 11-3

Well Information

Casing/Liner Size	4.5 in	Depth MD	11193 ft	BHST	122°C / 252°F
Hole Size	8.75 in	Depth TVD	10094 ft	BHCT	88°C / 191°F
Pressure	6366 psi				

Drilling Fluid Information

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

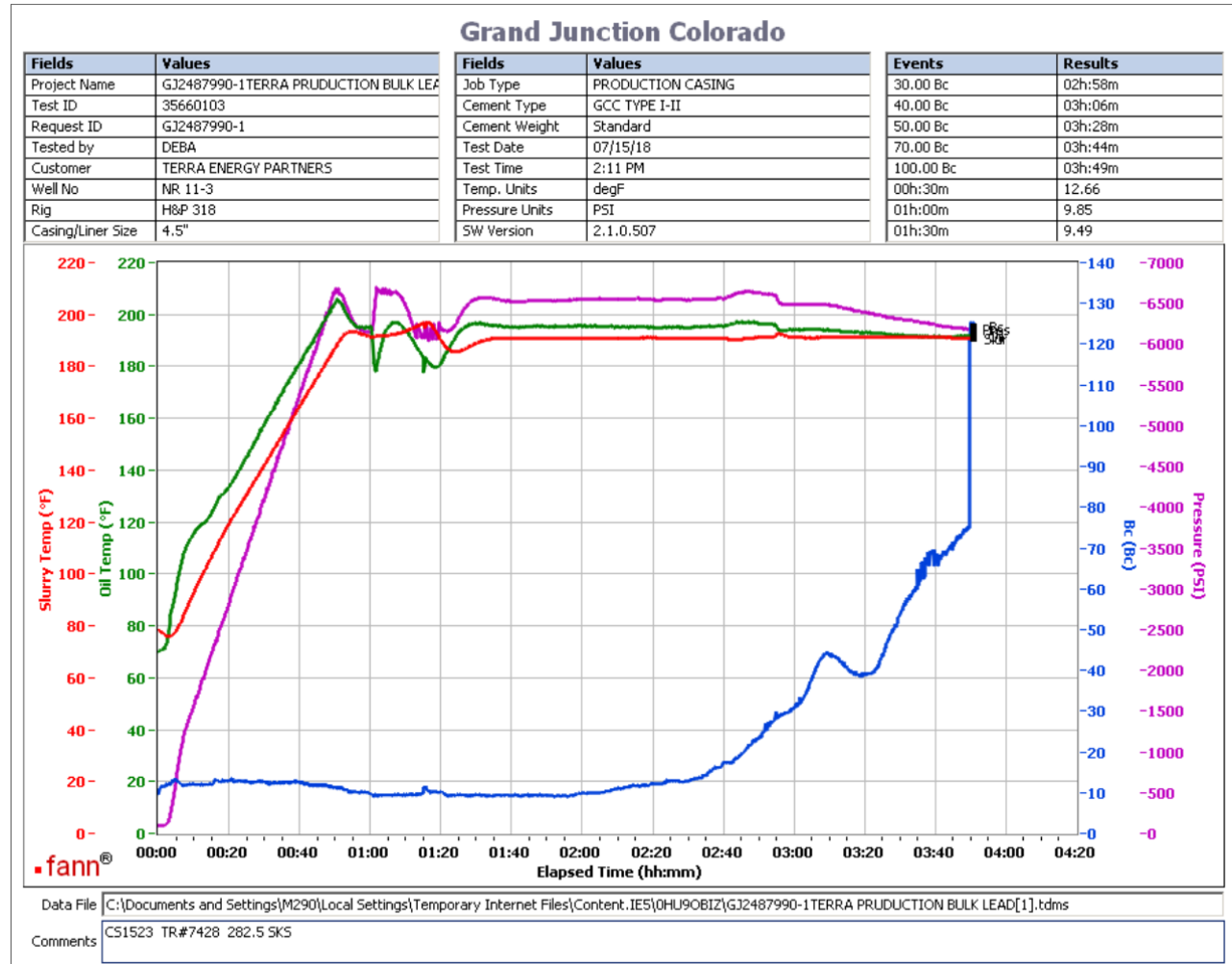
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.7	lbm/gal
						Slurry Yield	1.852	ft3/sack
						Water Requirement	8.959	gal/sack
						Total Mix Fluid	8.959	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

16/JUL/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)
191	6366	50	2:58	3:28	3:44	3:49	10	60	15	11



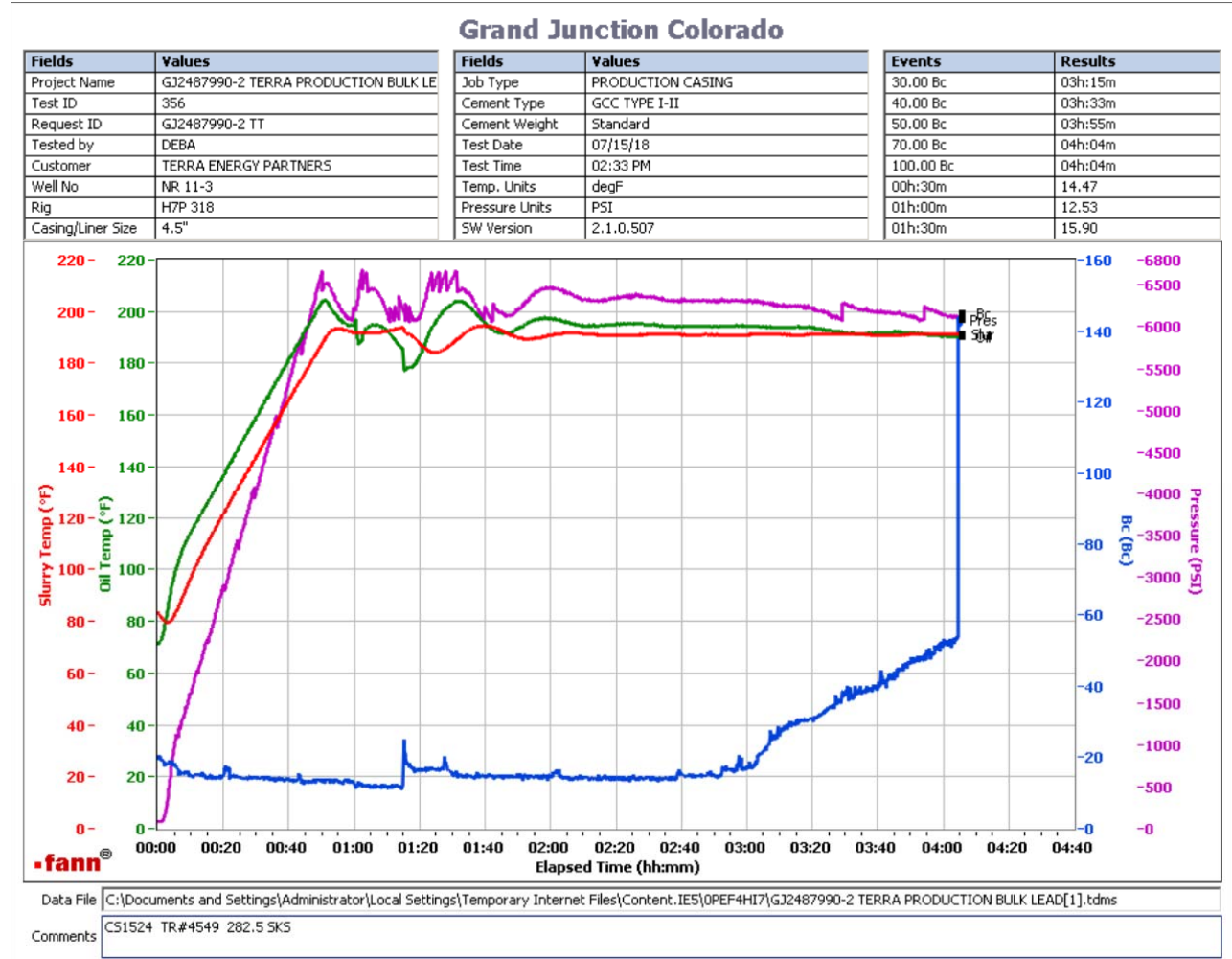
Total sks = 565
 CS1522 TR#7428 282.5 SKS
 No deflection, 11Bc-- > 11Bc

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Operation Test Results Request ID 2487990/2

Thickening Time - ON-OFF-ON 16/JUL/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)
191	6360	50	3:15	3:55	4:04	4:04	20	60	15	27



Total sks = 565
 CS1524 TR#4549 282.5 SKS
 deflected from 12Bc--- > 27Bc

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Job Information

Request/Slurry	2487991/1	Rig Name	H&P 318	Date	14/JUL/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	NR 11-3

Well Information

Casing/Liner Size	4.5 in	Depth MD	11193 ft	BHST	122°C / 252°F
Hole Size	8.75 in	Depth TVD	10094 ft	BHCT	88°C / 191°F
Pressure	6366 psi				

Drilling Fluid Information

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

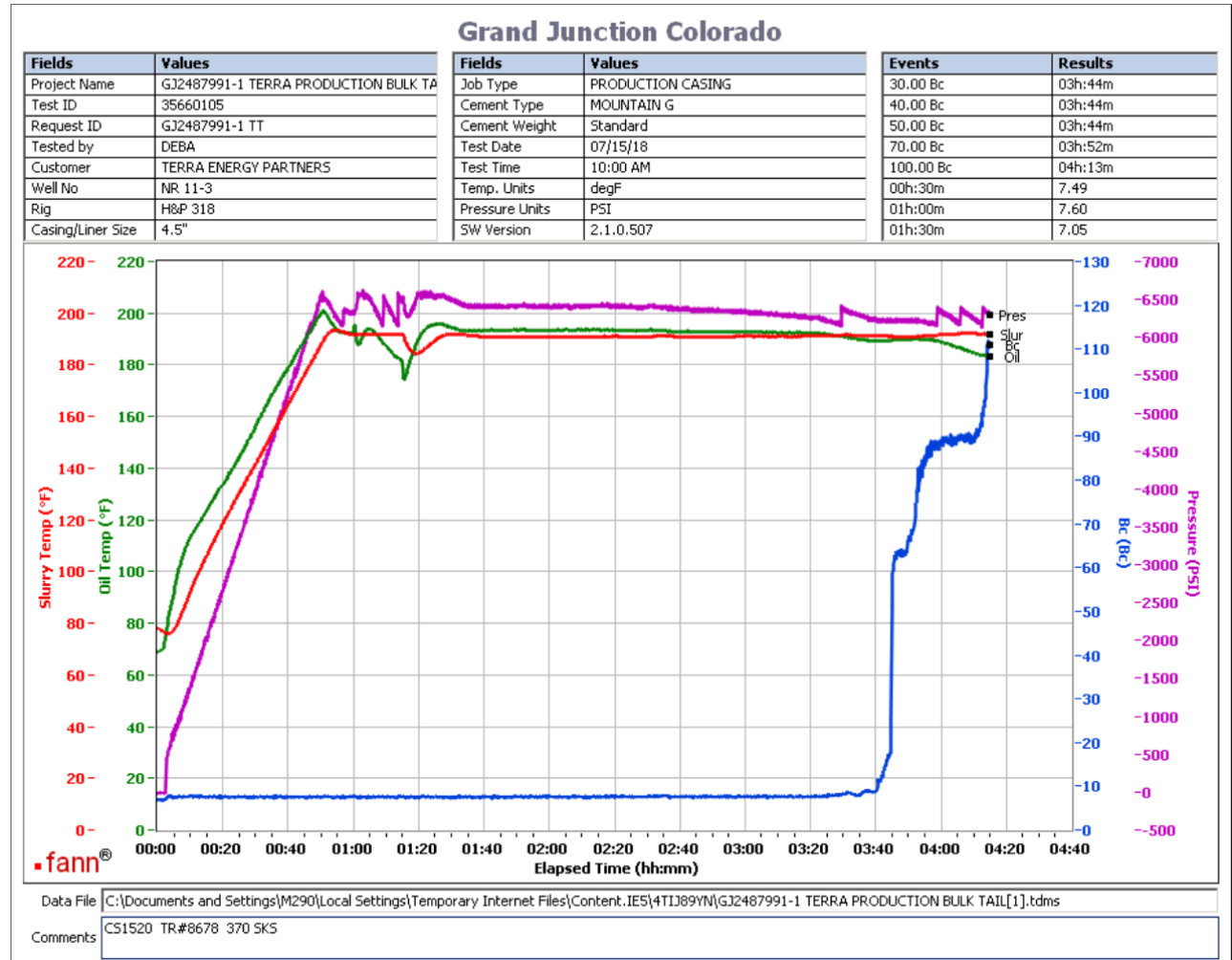
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	14.2	lbm/gal
						Slurry Yield	1.705	ft3/sack
						Water Requirement	7.526	gal/sack
						Total Mix Fluid	7.526	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

15/JUL/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)
191	6366	50	3:44	3:52	4:13	7	60	15	7



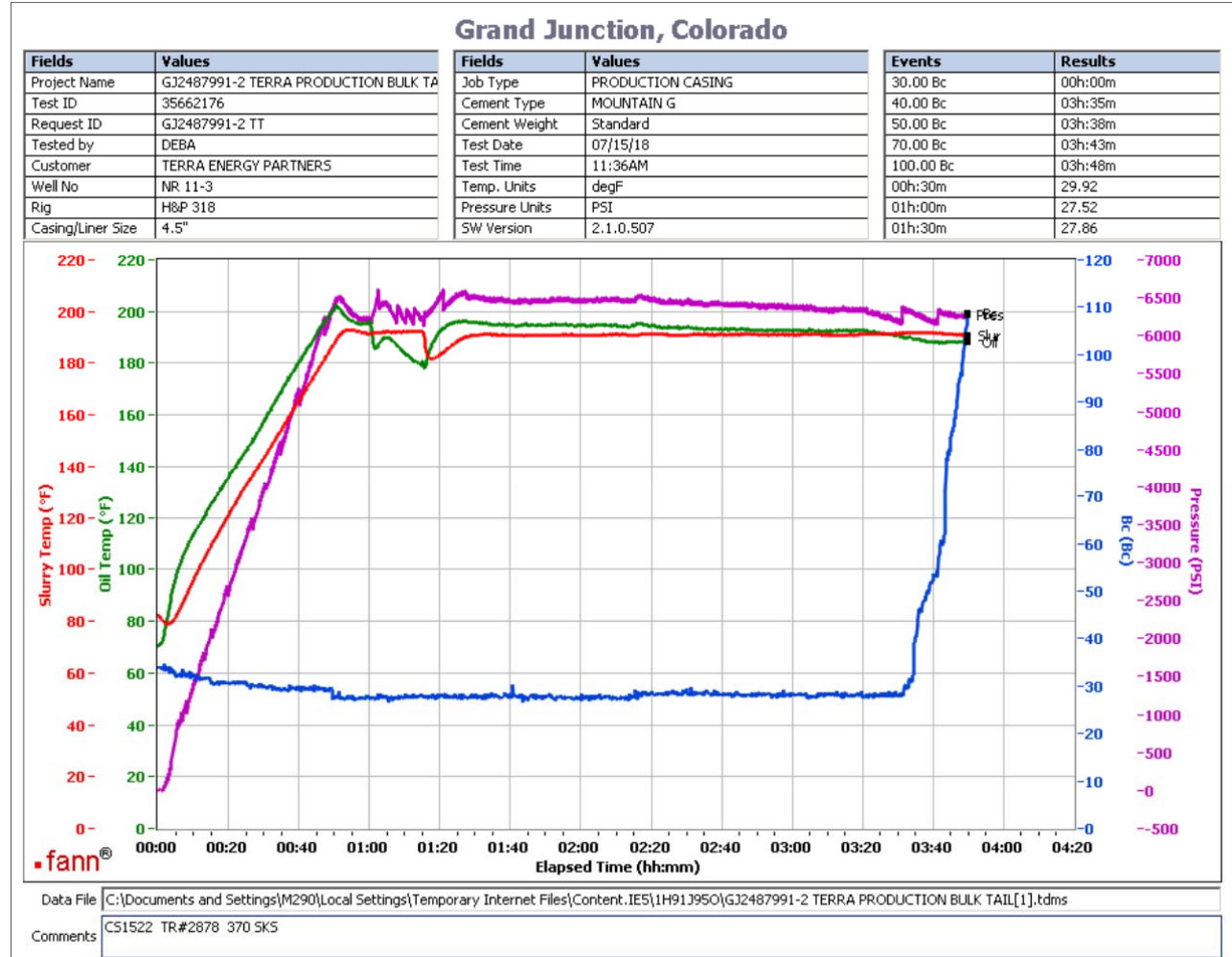
Total sks = 740
 CS1520 TR#8678 370 SKS
 No deflection, 7Bc-- > 7Bc

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Thickening Time - ON-OFF-ON

15/JUL/2018

Test Temp (degF)	Pressure (psi)	Reached in (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)
191	6366	50	3:38	3:43	3:48	28	60	15	28



Total sks = 740
 CS1522 TR#2878 370 sks
 no deflection, 28Bc--> 28Bc

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