

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Saturday, August 25, 2018

NR 611-3 Production PJR

Job Date: Saturday, August 25, 2018

API# 05-045-23906-00

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

1.1 Job Event Log

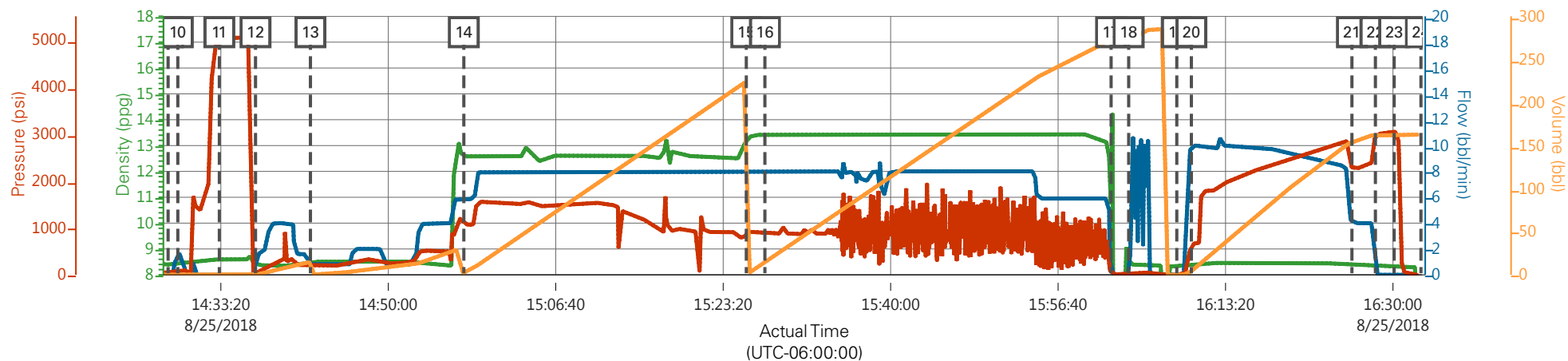
Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	8/25/2018	07:00:00	USER					REQUESTED ON LOCATION @ 1230
Event	2	Pre-Convoy Safety Meeting	8/25/2018	08:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	8/25/2018	09:15:00	USER					1 F550, 1 PUMP TRUCK & 2 660 BULK TURCK
Event	4	Arrive at Location from Service Center	8/25/2018	11:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	8/25/2018	11:30:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 400, TEMP- 71F, TDS 800 PPM). COMP REP WAS OFFERED SDS FOR ALL CHEMICALS USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	8/25/2018	11:45:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	8/25/2018	12:30:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	8/25/2018	14:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	8/25/2018	14:28:05	USER					TD 10535', TP 10531.23', SJ 31.99', OH 8.75'', CSG 4.5" 11.6#, MUD 11.8 PPG. RIG CIRCULATED AT 450 GPM, 1360 PSI WITH 700 CFM. CALIBRATED THE PRESSURIZED MUD SCALES ON FRESH WATER.
Event	10	Prime Pumps	8/25/2018	14:29:03	USER	146.00	8.33	2.00	1.00	8.33 PPG FRESH WATER

Event	11	Test Lines	8/25/2018	14:33:11	COM3	5030.00	8.33	0.50	0.50	ALL LINES HELD PRESSURE AT 5030 PSI
Event	12	Pump Spacer 1	8/25/2018	14:36:47	COM3	11.00	8.33	4.00	10.00	8.33 PPG FRESH WATER (10 BBL)
Event	13	Pump Spacer 2	8/25/2018	14:42:15	COM3	172.00	8.40	4.00	20.00	8.4 PPG MUDFLUSH III (20 BBL)
Event	14	Pump Lead Cement	8/25/2018	14:57:31	COM3	1092.00	12.50	5.80	223.00	NEOCEM CEMENT 645 SKS (223 BBLS), 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK
Event	15	Pump Tail Cement	8/25/2018	15:25:38	COM3	1013.00	13.30	8.00	223.00	THERMACEM CEMENT 725 SKS (223 BBLS), 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK
Event	16	Check Weight	8/25/2018	15:27:29	COM3					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	17	Shutdown	8/25/2018	16:01:57	USER					END OF CMT
Event	18	Clean Lines	8/25/2018	16:03:42	USER					WASH UP PUMPS AND LINES
Event	19	Drop Top Plug	8/25/2018	16:08:29	USER					PLUG WENT, VERIFIED BY CO REP
Event	20	Pump Displacement	8/25/2018	16:09:56	COM3	2832.00	8.40	10.00	153.8	8.34 PPG FRESH WATER (163.8 BBLS) 3 BAGS BE6, 1 GAL MMCR & 13 SKS KCL
Event	21	Slow Rate	8/25/2018	16:25:55	USER	2269.00	8.40	4.00	10.00	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	22	Bump Plug	8/25/2018	16:28:15	USER	2949.00	8.40	0.00	163.80	LAND PLUG AT 2350 PSI, BROUGHT UP TO 2900 PSI
Event	23	Check Floats	8/25/2018	16:30:07	USER	3050.00	8.40	0.00	163.80	FLOATS HELD, 1.5 BBL BACK TO TRUCK
Event	24	End Job	8/25/2018	16:32:47	USER					PARTIAL TO FULL RETURNS THROUGHOUT, PIPE WAS RECIPROCATED
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	8/25/2018	16:40:00	USER					ALL HES PRESENT
Event	26	Rig-Down Completed	8/25/2018	17:30:00	USER					ALL HES PRESENT
Event	27	Pre-Convoy Safety Meeting	8/25/2018	17:40:00	USER					ALL HES PRESENT

Event 28 Crew Leave Location 8/25/2018 17:50:00 USER

THANK YOU FOR CHOOSING HALLIBURTON
CEMENT, CHRIS SMITH AND CREW

TEP - NR 611-3 - 4.5" PRODUCTION



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

Description	Actual Time (UTC-06:00:00)	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)
9 Start Job	14:28:05	8.34	0.00	22.00	0.00
10 Prime Pumps	14:29:03	8.44	1.70	46.00	0.60
11 Test Lines	14:33:11	8.60	0.00	5030.00	1.50
12 Pump Spacer 1	14:36:47	8.46	0.40	11.00	0.00
13 Pump Spacer 2	14:42:15	8.48	0.80	172.00	0.00
14 Pump Lead Cement	14:57:31	12.57	5.80	1092.00	2.50
15 Pump Tail Cement	15:25:38	13.24	8.00	1013.00	224.40
16 Check Weight	15:27:29	13.42	8.00	864.00	14.80
17 Shutdown	16:01:57	10.80	0.00	45.00	271.70
18 Clean Lines	16:03:42	8.48	0.00	17.00	271.70
19 Drop Top Plug	16:08:29	8.33	0.00	2.00	0.00
20 Pump Displacement	16:09:56	8.42	10.00	632.00	4.30
21 Slow Rate	16:25:55	8.36	4.00	2274.00	153.90
22 Bump Plug	16:28:15	8.38	0.00	2949.00	162.60
23 Check Floats	16:30:07	8.38	0.00	3050.00	162.60
24 End Job	16:32:47	n/a	n/a	n/a	n/a

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Created: 2018-08-25 12:58:20, (UTC-06:00), Version: 4.5.139

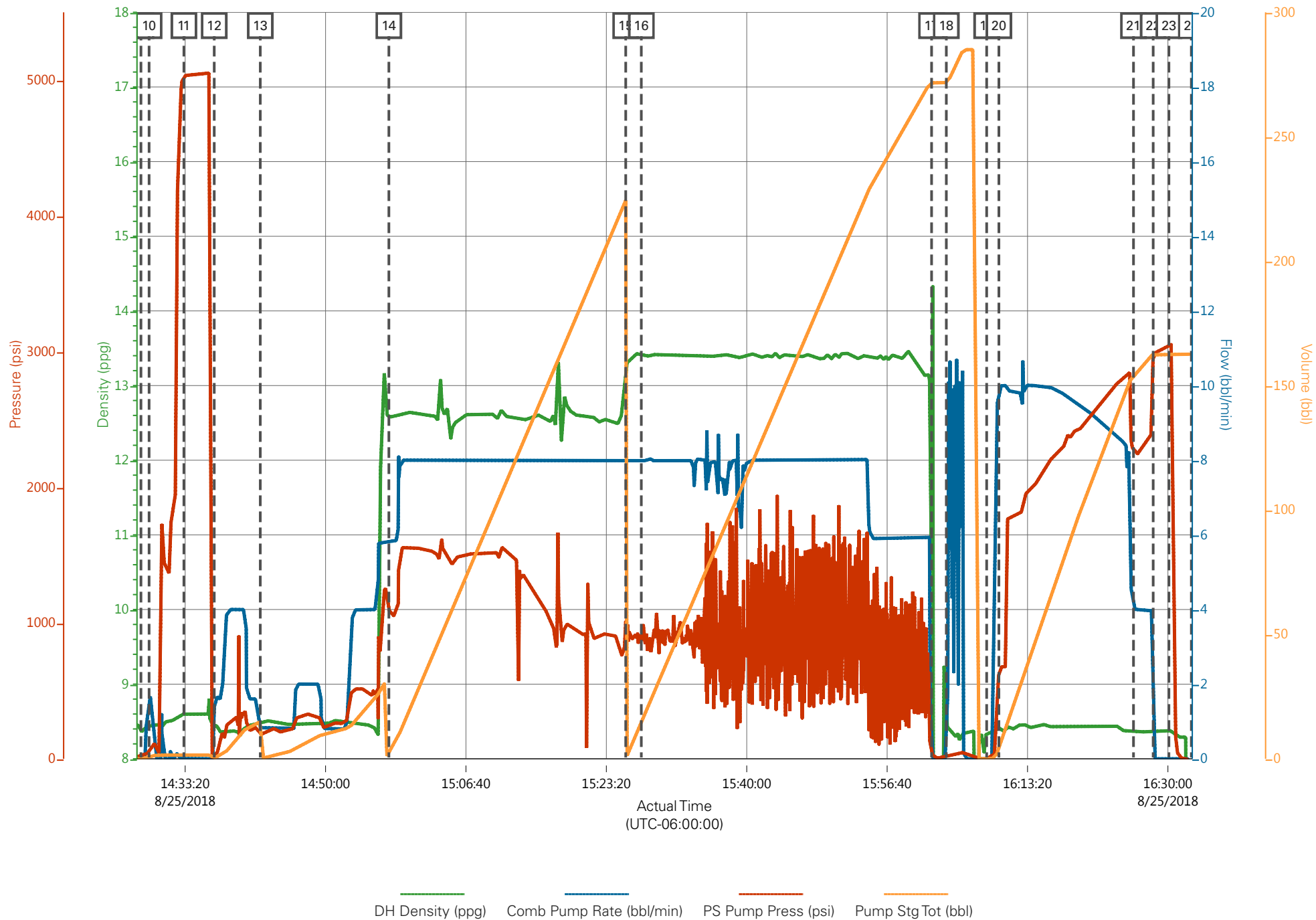
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Customer : TERRA ENERGY PARTNERS
Representative : KARL

Job Date : 8/25/2018
Sales Order # : 905073340

Well : NR 611-3
ELITE 1 : C.SMITH/ S.LEWIS

TEP - NR 611-3 - 4.5" PRODUCTION



Job Information

Request/Slurry	2494729/1	Rig Name	H&P 318	Date	14/AUG/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	NR 611-3

Well Information

Casing/Liner Size	4.5 in	Depth MD	10567 ft	BHST	121°C / 250°F
Hole Size	8.75 in	Depth TVD	10024 ft	BHCT	88°C / 190°F
Pressure	6317 psi				

Drilling Fluid Information

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



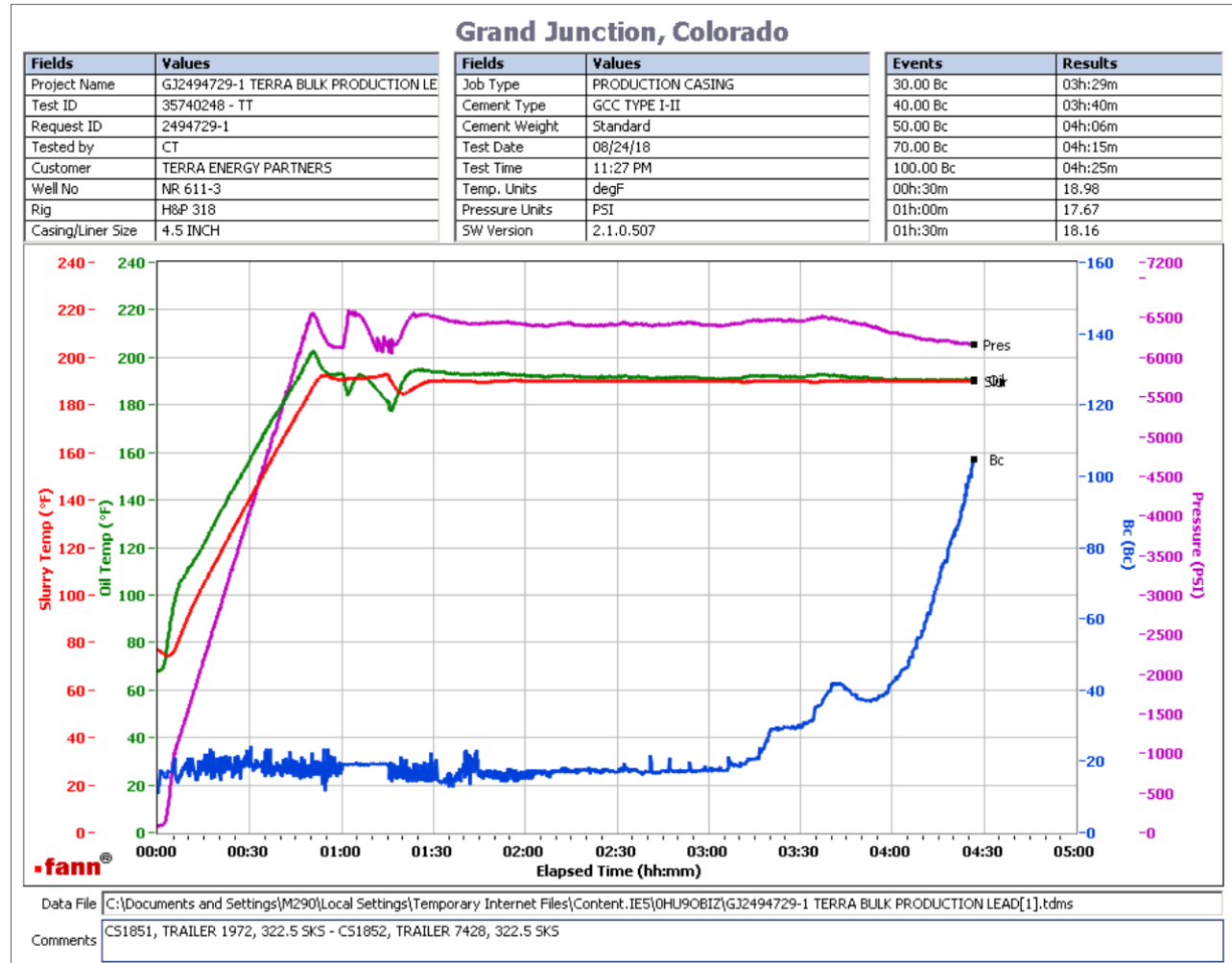
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

25/AUG/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)
190	6317	50	3:29	4:06	4:15	4:25	11	60	15	18



Total sks = 645
 CS1851, Trailer 1972, 322.5 sks
 CS1852, Trailer 7428, 322.5 sks
 Deflection: 18 - 18

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2493943/1	Rig Name	H&P 318	Date	10/AUG/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	NR 611-3

Well Information

Casing/Liner Size	4.5 in	Depth MD	10567 ft	BHST	119°C / 246°F
Hole Size	8.75 in	Depth TVD	10024 ft	BHCT	80°C / 176°F
Pressure	6146 psi				

Drilling Fluid Information

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



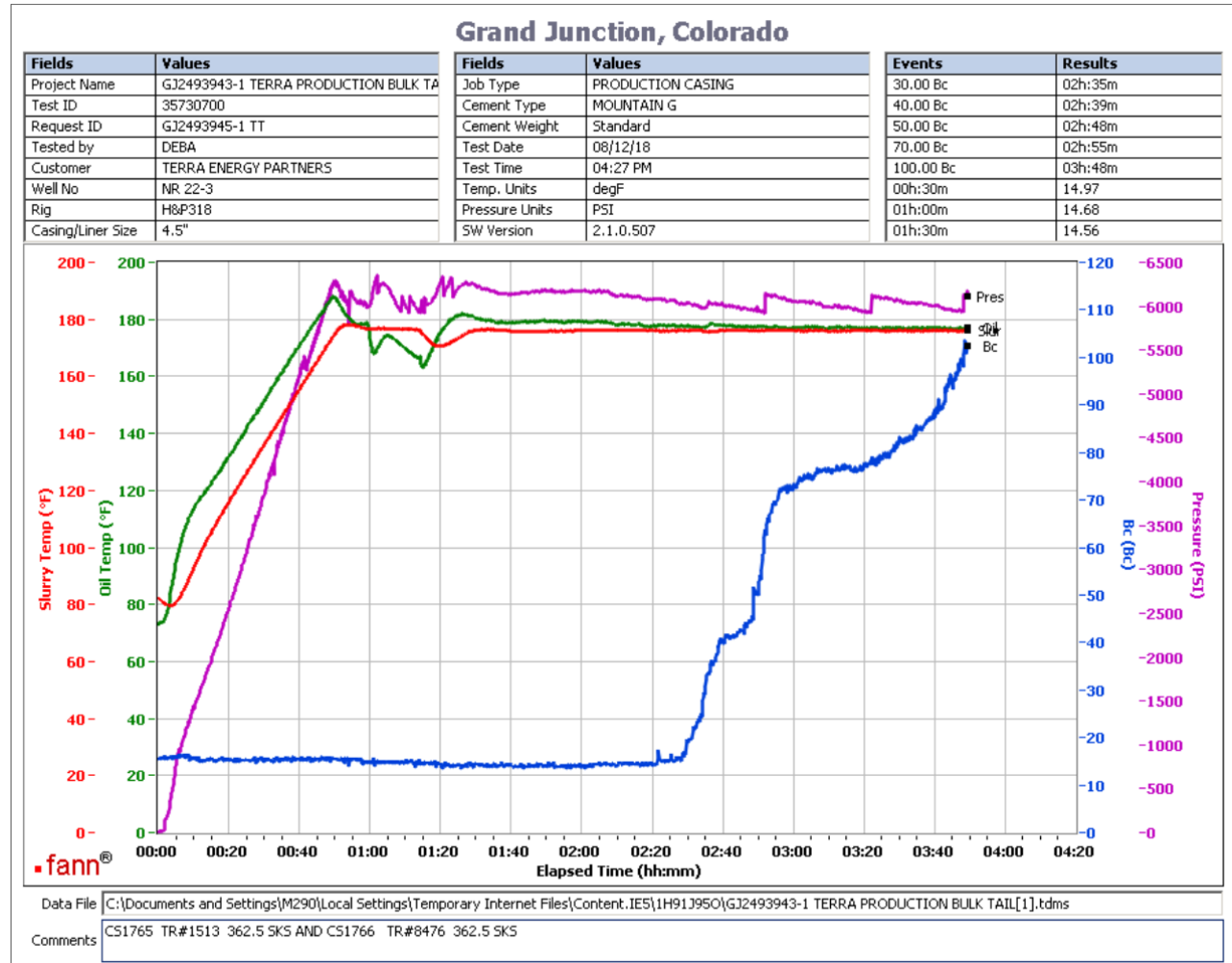
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.734	ft3/sack
						Water Requirement	7.809	gal/sack
						Total Mix Fluid	7.809	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

13/AUG/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)
176	6146	57	2:35	2:48	2:55	3:48	15	67	15	15



Total sks = 725

CS1765 TR# 1513 362.5 SKS

CS1766 TR#8476 362.5 SKS

no deflection 15Bc--- > 15Bc

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