

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Tuesday, April 10, 2018

RU 423-17 Production PJR

API# : 05-045-23745

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

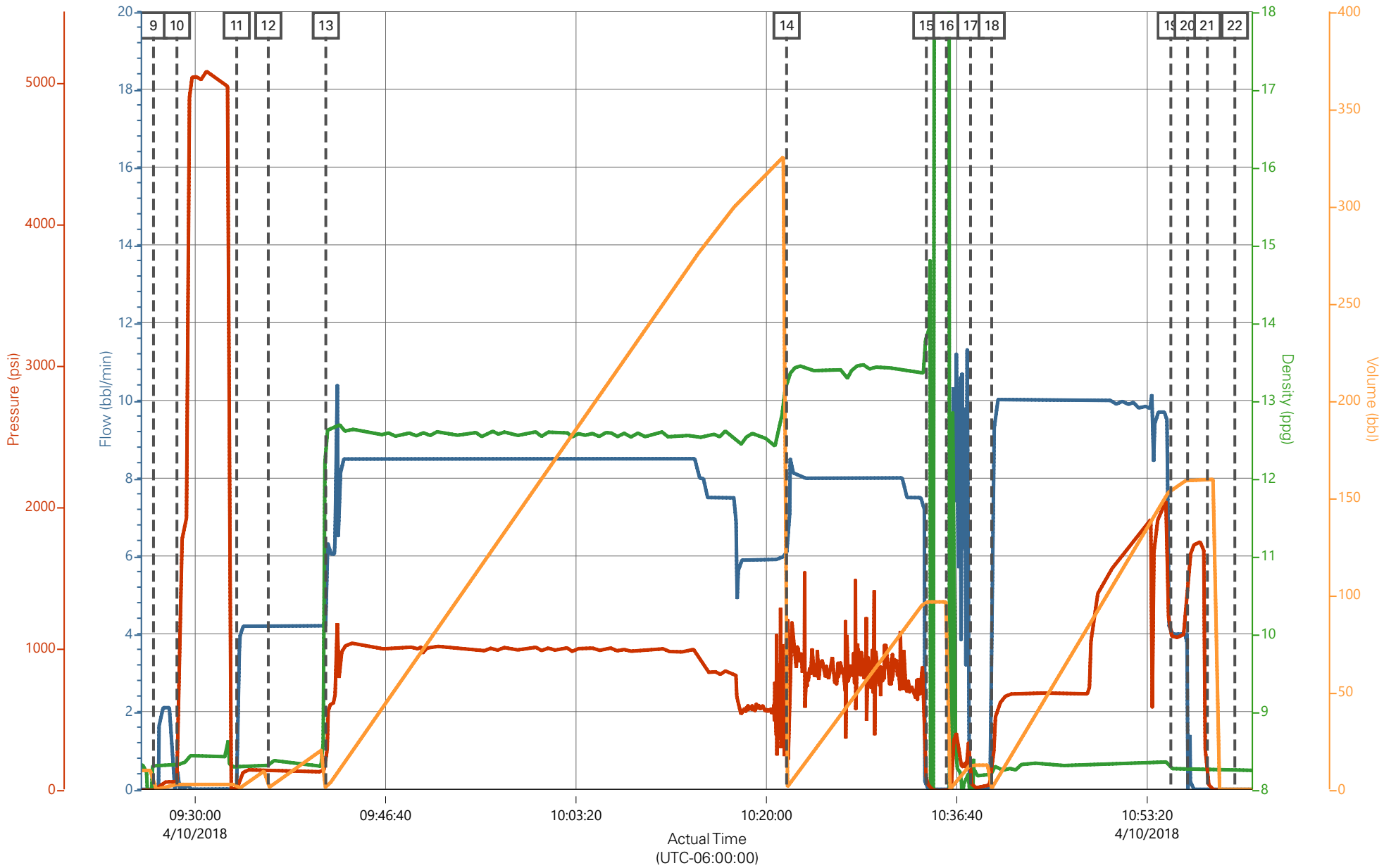
2.1 Job Event Log

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	4/9/2018	20:00:00	USER					
Event	2	Depart Yard Safety Meeting	4/9/2018	21:40:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	4/9/2018	21:45:00	USER					
Event	4	Arrive At Loc	4/9/2018	23:15:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	4/9/2018	23:20:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	4/10/2018	00:00:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	4/10/2018	00:05:00	USER					
Event	8	Pre-Job Safety Meeting	4/10/2018	07:00:00	USER					JSA COMPLETED
Event	9	Start Job	4/10/2018	09:26:21	COM4					CASING 4 1/2"-11.6# IN 8 3/4" HOLE, TD 10388', TP 10383.5', SJ 30.6', MUD WEIGHT 9.0 PPG, WATER TEST TEMP 60, PH 7, CHLORIDES 0. RIG HAD RETURNS BEFORE SHUTTING DOWN TO RIG UP CEMENT HEAD.
Event	10	Test Lines	4/10/2018	09:28:24	COM4	0.00	8.33	5000.00	0.00	TEST LINES TO 5000 PSI
Event	11	Pump Spacer 1	4/10/2018	09:33:38	COM4	4.00	8.33	130.00	10.00	PUMP 10 BBL WATER SPACER, 130 PSI
Event	12	Pump Spacer 2	4/10/2018	09:36:24	COM4	4.00	8.40	130.00	20.00	PUMP 20 BBL MUDFLUSH, 130 PSI

Event	13	Pump Lead Cement	4/10/2018	09:41:26	COM4	8.50	12.50	1000.00	321.3	PUMP 321.3 BBL LEAD CEMENT, 930 SKS @ 12.5 PPG / 1.94 YLD / 9.6 GAL/SK H2O REQ, 1000 PSI
Event	14	Pump Tail Cement	4/10/2018	10:21:46	COM4	8.00	13.30	850.00	81.6	PUMP 81.6 BBL TAIL CEMENT, 265 SKS @ 13.3 PPG / 1.73 YLD / 7.81 GAL/SK H2O REQ, 850 PSI
Event	15	Shutdown	4/10/2018	10:34:00	USER					
Event	16	Clean Lines	4/10/2018	10:35:45	COM4					CLEAN LINES TO PIT
Event	17	Drop Top Plug	4/10/2018	10:37:52	COM4					PLUG AWAY
Event	18	Pump Displacement	4/10/2018	10:39:43	COM4	8.00	8.40	2050.00	160.5	PUMP 160.5 BBL KCL DISPLACEMENT WITH 1 GAL MMCR AND 3 LBS BE-6, 2050 PSI
Event	19	Slow Rate	4/10/2018	10:55:24	USER	4.00	8.40	2050.00	150.0	SLOW RATE AT 150 BBLS AWAY TO 4 BBL/MIN, 2050 PSI
Event	20	Bump Plug	4/10/2018	10:56:52	COM4	4.00	8.40	1100.00	160.5	PLUG BUMPED AT CALCULATED, FINAL CIRCULATING PRESSURE 1100 PSI, BROUGHT TO 1700 PSI
Event	21	Check Floats	4/10/2018	10:58:36	USER					FLOATS HELD, 1 BBL BACK TO PUMP
Event	22	End Job	4/10/2018	11:01:00	COM4					GOOD RETURNS THROUGHOUT JOB, PIPE RECIPRICATED THROUGHOUT JOB. NO SUGAR WAS USED AND NO ADD HOURS WERE CHARGED
Event	23	Pre-Rig Down Safety Meeting	4/10/2018	11:25:00	USER					JSA COMPLETED

Event	24	Rig-Down Equipment	4/10/2018	11:30:00	USER	
Event	25	Pre-Convoy Safety Meeting	4/10/2018	12:15:00	USER	JSA COMPLETED
Event	26	Crew Leave Location	4/10/2018	12:20:00	USER	THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

TEP - FEDERAL RU 423-17 - 4 1/2" PRODUCTION



— Comb Pump Rate (bbl/min) 8
 — DH Density (ppg) 8.22
 — PS Pump Press (psi) 251
 — Pump Stg Tot (bbl) 15.1

Job Information

Request/Slurry	2464484/1	Rig Name	H&P 318	Date	02/APR/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	RU 423-17

Well Information

Casing/Liner Size	4.5 in	Depth MD	10594 ft	BHST	127°C / 260°F
Hole Size	8.75 in	Depth TVD	10581 ft	BHCT	92°C / 198°F
Pressure	6707 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				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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Operation Test Results Request ID 2464484/1

Thickening Time - ON-OFF-ON

07/APR/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)
198	6707	52	4:12	4:46	4:54	5:03	15	62	15	12

Total sks = 930

CS0822, Trailer 8426, 400 sks

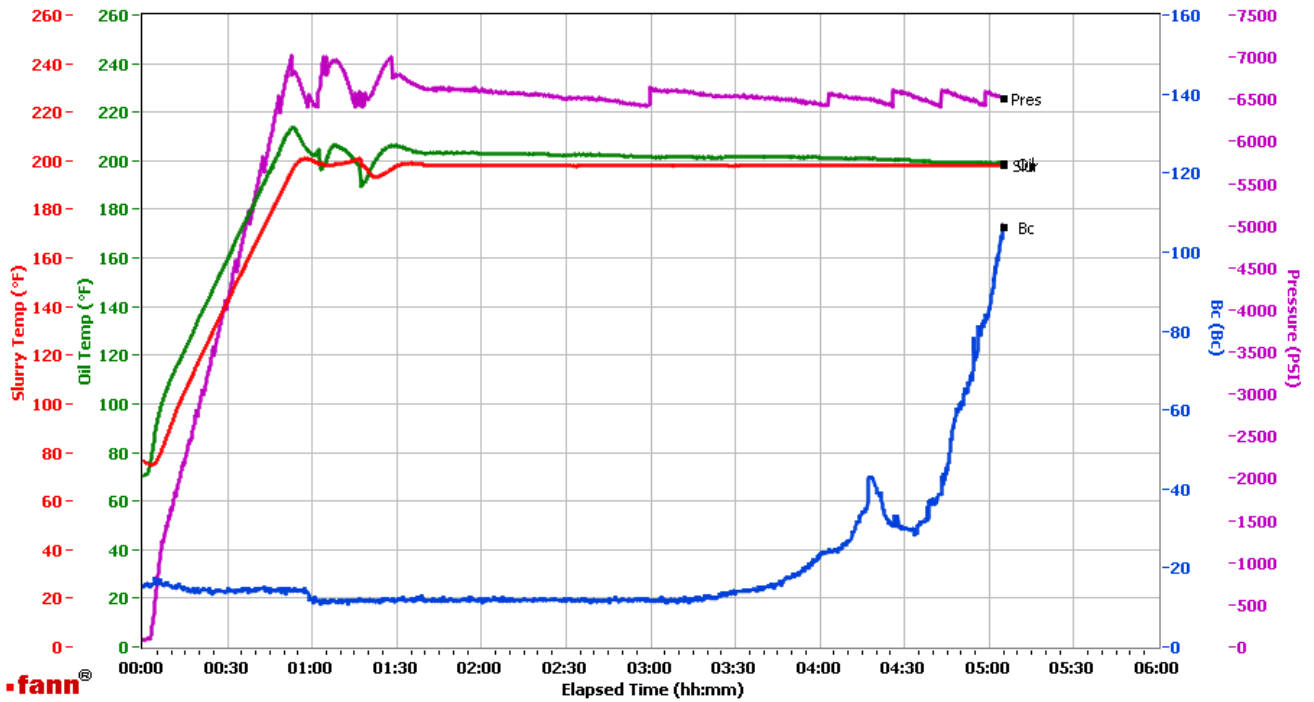
CS0823, Trailer 2878, 400 sks

CS0824, Trailer 3212, 130 sks

Deflection: 12 - 12

Grand Junction Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	2464484-1 TERRA BULK PRODUCTION LEAD	Job Type	PRODUCTION CASING	30.00 Bc	04h:12m
Test ID	35384981 - TT	Cement Type	HOLCIM TYPE I-II	40.00 Bc	04h:17m
Request ID	2464484-1	Cement Weight	Standard	50.00 Bc	04h:46m
Tested by	CT	Test Date	04/07/18	70.00 Bc	04h:54m
Customer	TERRA ENERGY PARTNERS	Test Time	10:56 PM	100.00 Bc	05h:03m
Well No	RU 423-17	Temp. Units	degF	00h:30m	14.17
Rig	H&P 318	Pressure Units	PSI	01h:00m	12.25
Casing/Liner Size	4.5 INCH	SW Version	2.1.0.507	01h:30m	12.16



Data File C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files\Content.IE5\AFG5UB25\GJ2464484-1 TERRA BULK PRODUCTION LEAD[1].tdms

Comments CS0822, TRAILER 8426, 400 SKS - CS0823, TRAILER 2878, 400 SKS - CS0824, TRAILER 3212, 130 SKS

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Job Information

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Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	RU 423-17

Well Information

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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>	<u>Cement Properties</u>		
		ThermaCem				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft ³ /sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2464485/1

Thickening Time - ON-OFF-ON

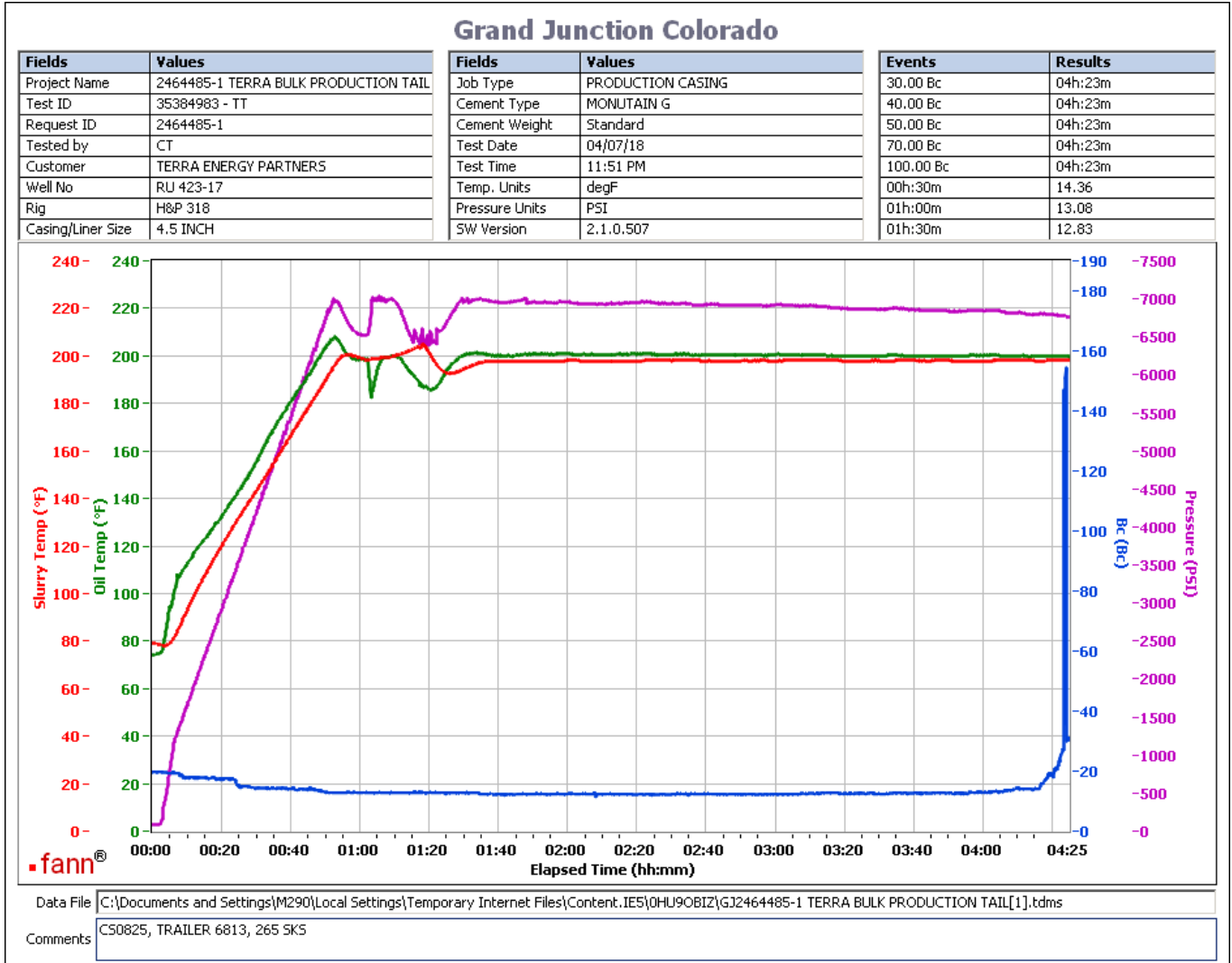
07/APR/2018

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198	6707	52	4:23	4:23	4:23	4:23	20	62	15	13

Total sks = 265

CS0825, Trailer 6813, 265 sks

Deflection: 13 - 13



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