

HALLIBURTON

iCem[®] Service

TERRA ENERGY LTD.

For: Terra

Date: Sunday, September 17, 2017

GM 532-5 Production

API# 05-045-23505

Sincerely,

Grand Junction Cement Engineering

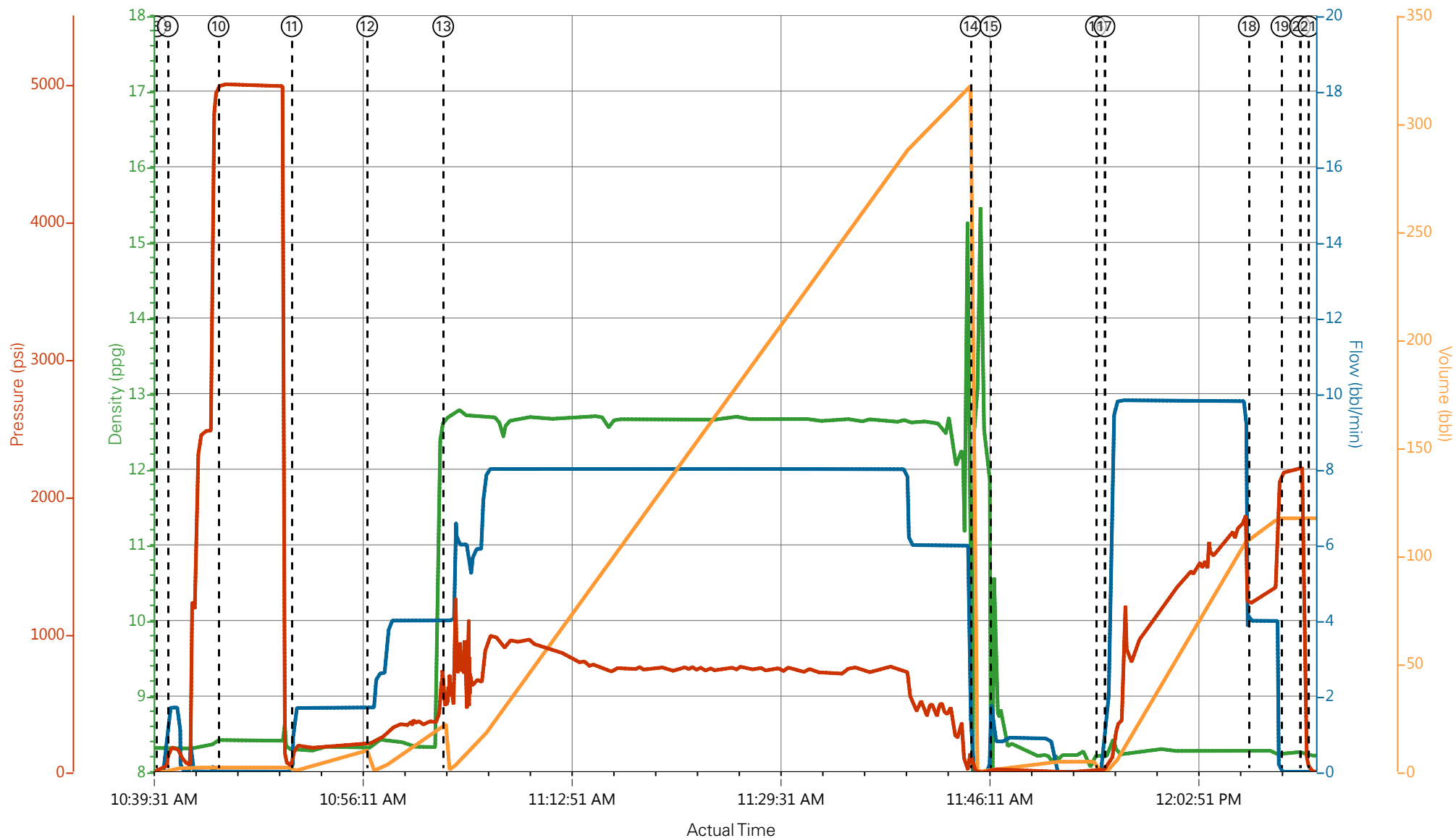
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	9/17/2017	01:00:00	USER					REQUESTED ON LOCATION @ 0700
Event	2	Pre-Convoy Safety Meeting	9/17/2017	02:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	9/17/2017	02:45:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	9/17/2017	05:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	9/17/2017	05:30:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 61F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	9/17/2017	06:00:00	USER					ALL HES PRESENT
Event	7	Pre-Job Safety Meeting	9/17/2017	10:27:08	USER					ALL HES AND RIG CREW PRESENT
Event	8	Start Job	9/17/2017	10:40:00	USER					TD 7305', TP 7299.8', SJ 34.1', OH 8.75'', CSG 4.5'' 11.6#, MUD 9.8 PPG. RIG CIRCULATED WELL @ 10 BPM WITH 800 PSI FOR APPROX 1 HRS.
Event	9	Prime Pumps	9/17/2017	10:40:53	USER	174.00	8.30	1.00	2.0	8.33 PPG FRESH WATER
Event	10	Test Lines	9/17/2017	10:44:56	COM6	4999.00	8.42	0.50	0.5	ALL LINES HELD PRESSURE AT 4999 PSI
Event	11	Pump Spacer 1	9/17/2017	10:50:46	COM6	201.00	8.35	2.00	10.2	8.33 PPG FRESH WATER (10 BBL)
Event	12	Pump Spacer 2	9/17/2017	10:56:48	COM6	212.00	8.32	4.00	20.3	8.4 PPG MUDFLUSH III (20 BBL)
Event	13	Pump Cement	9/17/2017	11:02:52	COM6	569.00	12.58	8.00	307.0	NEOCEM CEMENT 880 SKS (308 BBLS), 12.5 PPG, 1.96 FT3/SK, 9.35 GAL/SK
Event	14	Shutdown	9/17/2017	11:44:56	USER					END OF JOB
Event	15	Clean Lines	9/17/2017	11:46:31	USER					WASH UP PUMPS AND LINES TO THE PIT

Event	16	Drop Top Plug	9/17/2017	11:54:56	USER					PLUG WENT, VERIFIED BY CO REP
Event	17	Pump Displacement	9/17/2017	11:55:37	COM6	1950.00	8.33	10.00	102.5	8.34 PPG FRESH WATER (112.7 BBLS) 3 BAGS BE6, 1 GAL MMCR & 11 SKS KCL
Event	18	Slow Rate	9/17/2017	12:07:08	USER	1230.00	8.38	4.00	10.0	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	19	Bump Plug	9/17/2017	12:09:44	USER	2174.00	8.34	4.00	112.5	LAND PLUG AT 1350 PSI, BROUGHT UP TO 2175 PSI
Event	20	Check Floats	9/17/2017	12:11:12	USER					FLOATS HELD, 1 BBL BACK TO TRUCK
Event	21	End Job	9/17/2017	12:11:54	USER					GOOD RETURNS THROUGHOUT, PIPE WAS RECIPROCATED
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	9/17/2017	12:15:40	USER					ALL HES PRESENT
Event	23	Pre-Convoy Safety Meeting	9/17/2017	12:30:00	USER					ALL HES PRESENT
Event	24	Crew Leave Location	9/17/2017	12:45:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

TEP - GM 532-5 - 4.5" PRODUCTION



① Call Out n/a;n/a;n/a;n/a ③ Crew Leave Yard n/a;n/a;n/a;n/a ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a ⑦ Pre-Job Safety Meeting 8.33;0;6;0 ⑨ Prime Pumps 8.3;1.7;17
 ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a ④ Arrive At Loc n/a;n/a;n/a;n/a ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a ⑧ Start Job 8.3;0;28;0 ⑩ Test Lines 8.42;0;4999;

III

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Created: 2017-09-17 08:10:53, Version: 4.2.393

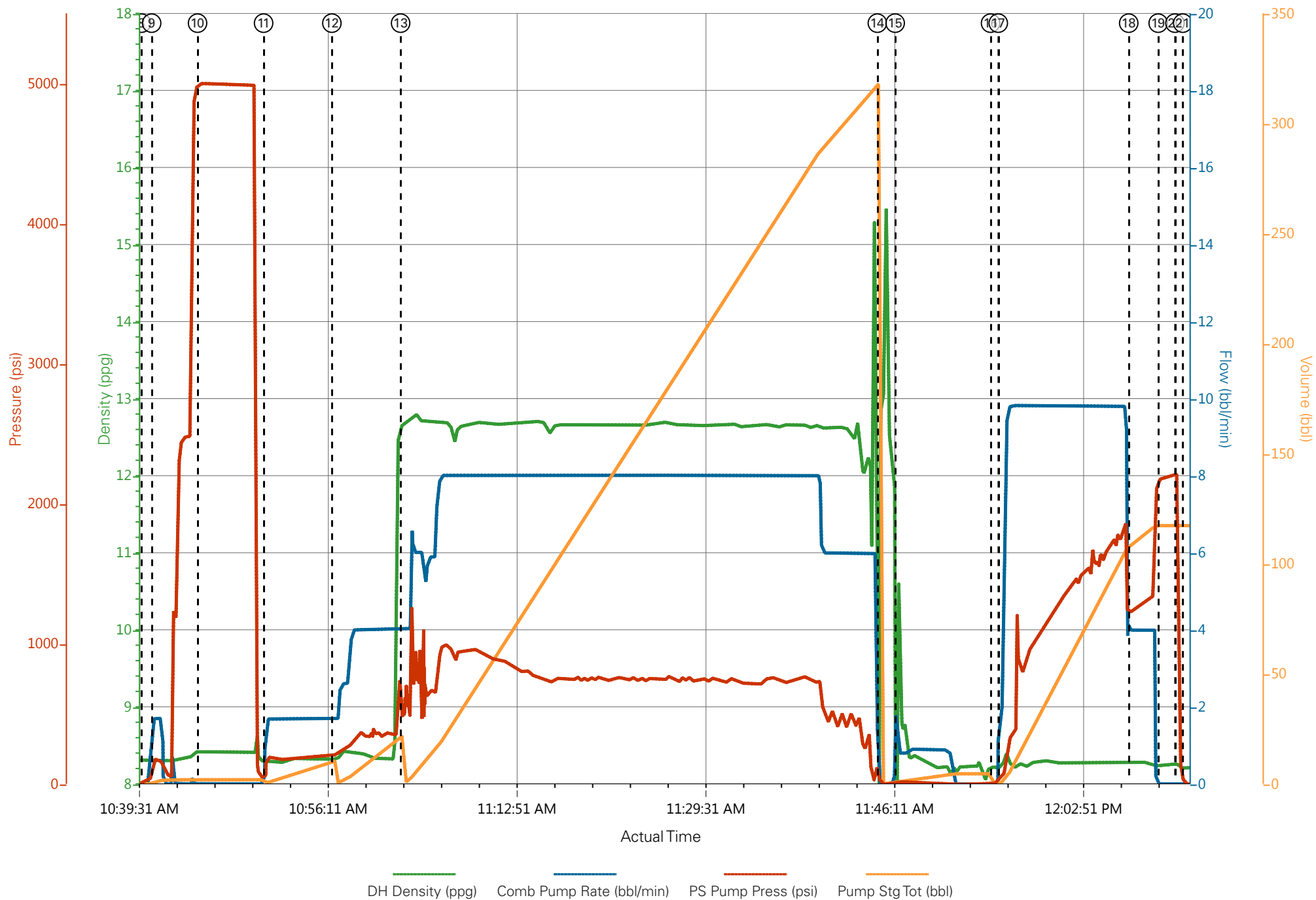
Edit

Customer : TERRA ENERGY LTD.
 Representative : KARL

Job Date : 9/17/2017
 Sales Order # : 904301366

Well : GM 532-5
 ELITE 8 : C.SMITH/ D.PORTER

TEP - GM 532-5 - 4.5" PRODUCTION



Job Information

Request/Slurry	2416687/1	Rig Name	H&P 271	Date	13/SEP/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 532-5

Well Information

Casing/Liner Size	4.5 in	Depth MD	7308 ft	BHST	90°C / 194°F
Hole Size	8.75 in	Depth TVD	6691 ft	BHCT	54°C / 129°F
Pressure	3980 psi				

Drilling Fluid Information

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



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.962	ft3/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 2416687/1

Thickening Time - ON-OFF-ON

15/SEP/2017

Test Temp (°F)	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)
129	3980	36	4:58	5:01	5:40	6:15	4	46	15	4

Total sks = 880

Composite:

CS2515 tr#812 390 sks

CS2517 TR#1513 390 SKS

CS2518 TR#4549 100 SKS

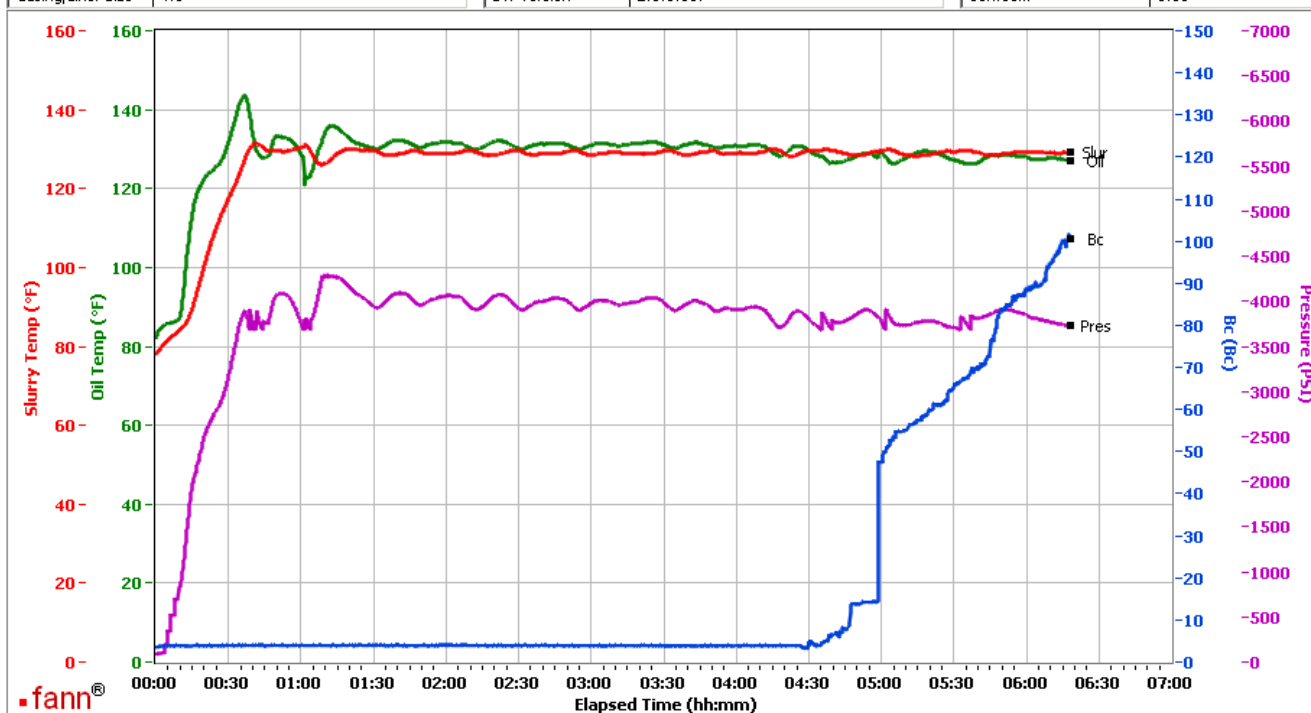
Deflection: 4 – 4

Grand Junction Colorado

Fields	Values
Project Name	GJ2416687-1 TERRA PRODUCTION BULK PR
Test ID	34860313
Request ID	GJ2416687-1
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	GM532-5
Rig	H&P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	HOLCIM TYPE I/II
Cement Weight	Standard
Test Date	09/15/17
Test Time	04:29 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:58m
40.00 Bc	04h:58m
50.00 Bc	05h:01m
70.00 Bc	05h:40m
100.00 Bc	06h:15m
00h:30m	3.89
01h:00m	3.98
01h:30m	3.86



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Comments COMPOSITE: CS2515 TR#812 390 SJS , CS2517 TR#1513 390 SKS AND CS2518 TR#4549 100 SKS

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