

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Lynn Cass & Mark Mewshaw

Date: Tuesday, September 27, 2016

RU 421-7 Production

API# 05-045-23233-00

Sincerely,

Grand Junction Cement Engineering

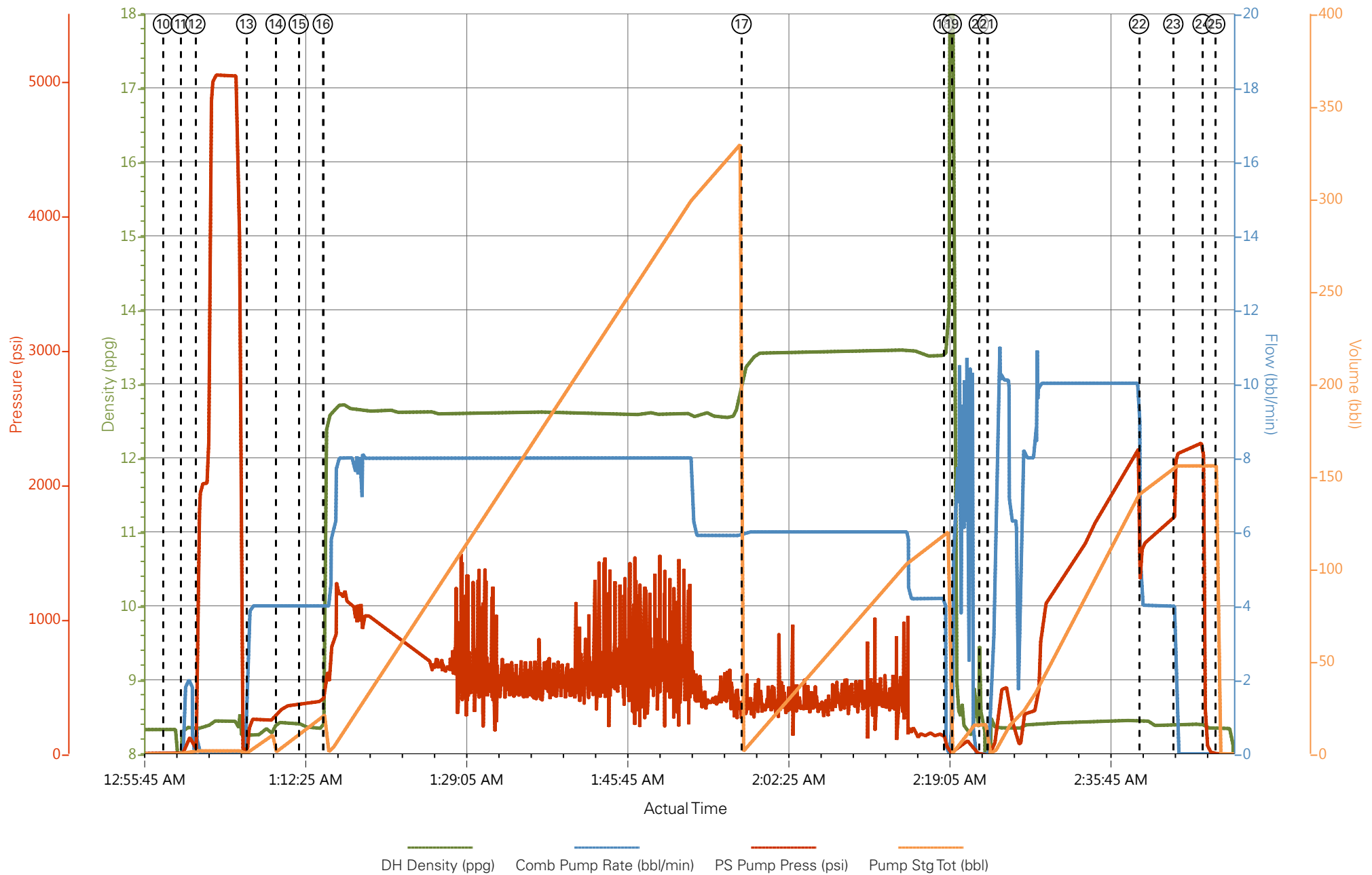
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	9/26/2016	10:00:00	USER					REQUESTED ON LOCATION AT 16:30 9/26/16
Event	2	Pre-Convoy Safety Meeting	9/26/2016	11:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	9/26/2016	12:00:00	USER					1 - 550 PU, 1 - 660 BULK TRUCK AND 1 - ELITE PUMP. ALL TRUCKS LEFT THE YARD TOGETHER
Event	4	Arrive At Loc	9/26/2016	13:30:00	USER					ARRIVED 3 HOURS EARLY. CASING CREW WAS JUST RIGGING UP
Event	5	Assessment Of Location Safety Meeting	9/26/2016	13:45:00	USER					MET WITH CO REP TO GO OVER NUMBERS AND DID A WALK AROUND OF LOCATION. COLLECTED WATER SAMPLE (PH-7, CHL-0, TEMP 58F)
Event	6	Pre-Rig Up Safety Meeting	9/26/2016	15:00:00	USER					ALL HES PRESENT
Event	7	Rig-up Lines	9/26/2016	15:15:00	USER					RIGGED UP WHAT WE COULD STAYING OUT OF THE RED ZONE. WHEN CASING WAS COMPLETE AT 21:00 WE FINISHED RIGGING UP TO THE STAND PIPE
Event	8	Pre-Job Safety Meeting	9/26/2016	22:30:00	USER					MET WITH RIG CREW TO GO OVER JOB. ALL HES PRESENT
Event	9	Other	9/26/2016	22:30:01	USER					RIG CIRCULATED TO TRY TO GET GAS DOWN
Event	10	Start Job	9/27/2016	00:57:59	USER					TD 9564', TP 9554', SURFACE 1174', SJ 9525' (29'), OH 8.75", CSG 4.5" 11.6# P-110, MW 10PPG. DURING CIRCULATION RIG WAS UNABLE TO GET GAS BELOW 2300. CO REP DECIDED TO GO AHEAD WITH THE CEMENT JOB. DURING CEMENT THE GAS LEVELS DROPPED TO ABOUT 300
Event	11	Prime Pumps	9/27/2016	00:59:49	COM5	8.33	2	330	2	2 BBLS FRESH WATER
Event	12	Test Lines	9/27/2016	01:01:20	COM5			5037		TESTED TO 5051 PSI. KO FUNCTIONING. TESTED GOOD

Event	13	Pump Spacer 1	9/27/2016	01:06:36	COM5	8.33	4	360	10	10 BBLS H2O SPACER
Event	14	Pump Spacer 2	9/27/2016	01:09:38	COM5	8.5	4	365	20	20 BBLS MUD FLUSH III
Event	15	Check weight	9/27/2016	01:12:02	COM5	12.5				12.5 PPG
Event	16	Pump Lead Cement	9/27/2016	01:14:31	COM5	12.5	8	550	294	850 SKS (294 BBLS) 12.5 PPG, 1.94 FT3/SK, 9.58 GAL/SK
Event	17	Pump Tail Cement	9/27/2016	01:57:52	COM5	13.3	6	410	82	265 SKS (82 BBLS) 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK
Event	18	Shutdown	9/27/2016	02:18:45	USER					END OF CEMENT
Event	19	Clean Lines	9/27/2016	02:19:37	COM5	8.33	6	21	10	10 BBLS FRESH WATER TO PIT
Event	20	Drop Top Plug	9/27/2016	02:22:25	COM5					PLUG WENT. CUSTOMER WITNESSED
Event	21	Pump Displacement	9/27/2016	02:23:18	COM5	8.4	10	2270	147.6	147.6 BBLS KCL WATER WITH BE-6 IN THE FIRST 30 BBLS AND MMCR IN THE FIRST 10 BBLS
Event	22	Slow Rate	9/27/2016	02:39:00	USER	8.4	4	1570	137	SLOWED TO 4 BBLS/MIN 10 BBLS OUT TO LAND PLUG
Event	23	Bump Plug	9/27/2016	02:42:33	COM5	8.4	4	1720	147.6	LANDED AT 1720 PSI AND WENT TO 2314 PSI
Event	24	Check Floats	9/27/2016	02:45:34	COM5	8.36	0.00	2314	147.6	FLOATS HELD. 1 BBL BACK TO TRUCK
Event	25	End Job	9/27/2016	02:46:52	COM5					GREAT RETURNS THROUGHOUT JOB. NO CEMENT CALCULATED BACK TO SURFACE
Event	26	Pre-Rig Down Safety Meeting	9/27/2016	02:50:00	USER					ALL HES PRESENT
Event	27	Rig Down Lines	9/27/2016	03:00:00	USER					
Event	28	Pre-Convoy Safety Meeting	9/27/2016	04:00:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	9/27/2016	04:10:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT. CLIFF SPARKS AND CREW

TERRA YOUNBERG RU 421-7 4.5" PRODUCTION



ther ⑩ Start Job ⑪ Prime Pumps ⑫ Test Lines ⑬ Pump Spacer 1 ⑭ Pump Spacer 2 ⑮ Check weight ⑯ Pump Lead Cement ⑰ Pump Tail Cement ⑱ Shutdown ⑲ Clean Lines 20 Drop Top

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Created: 2016-09-26 14:34:24, Version: 4.2.393

Edit

Customer: TERRA ENERGY PARTNERS

Job Date: 9/26/2016 8:58:48 PM

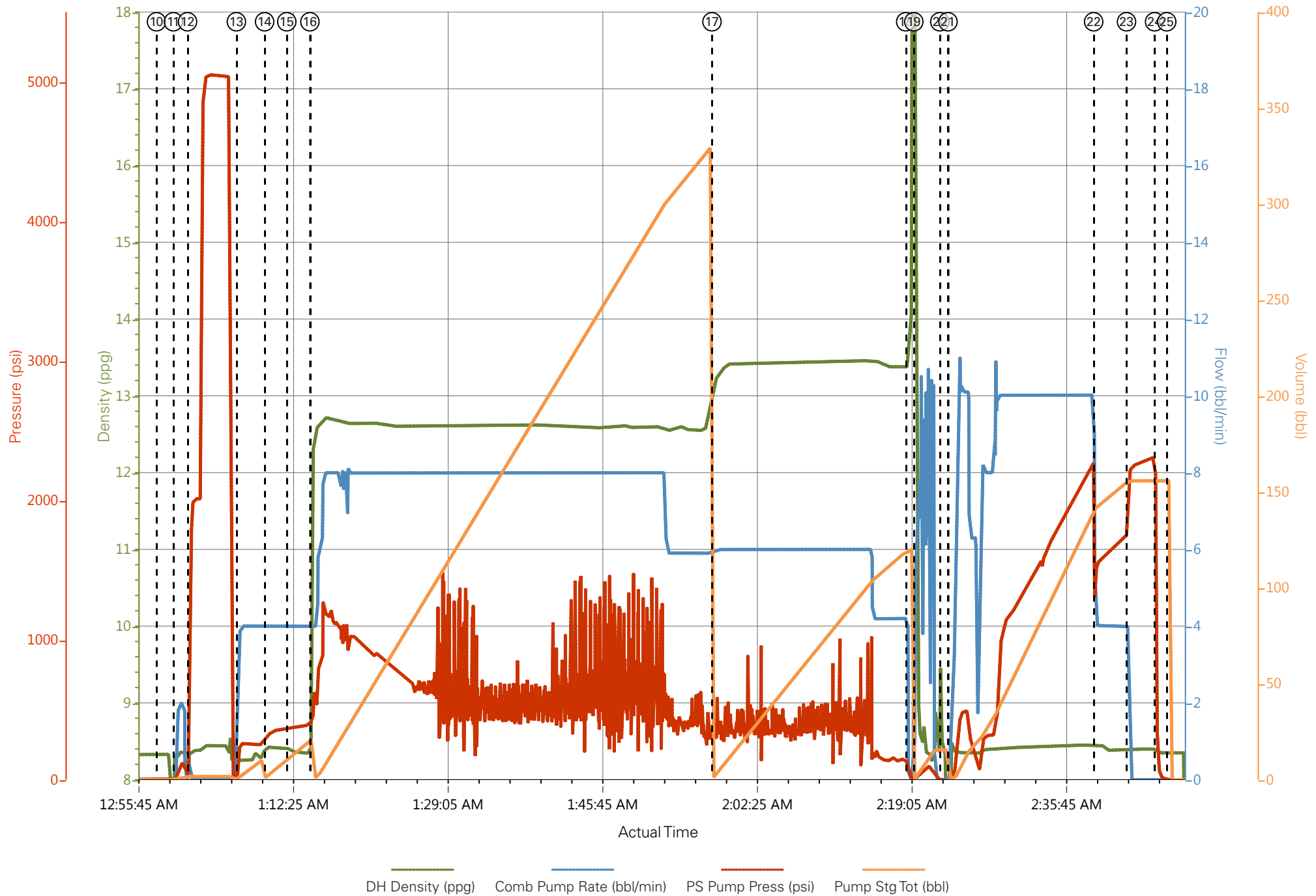
Well: RU 421-7

Representative: TED RAGSDALE

Sales Order #: 903560044

ELITE 8: CLIFF SPARKS / RYAN MARTIN

TERRA YOUNBERG RU 421-7 4.5" PRODUCTION



Job Information

Request/Slurry	2341220/2	Rig Name	H&P 318	Date	22/SEP/2016
Submitted By	Evan Russell	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	RU 421-7

Well Information

Casing/Liner Size	4.5 in	Depth MD	9503 ft	BHST	116°C / 240°F
Hole Size	8.75 in	Depth TVD	9421 ft	BHCT	77°C / 170°F
Pressure	5890 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	10.2 lbm/gal
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Cement Information - Lead Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		NeoCem™ Cement				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 2341220/2

Thickening Time

24/SEP/2016

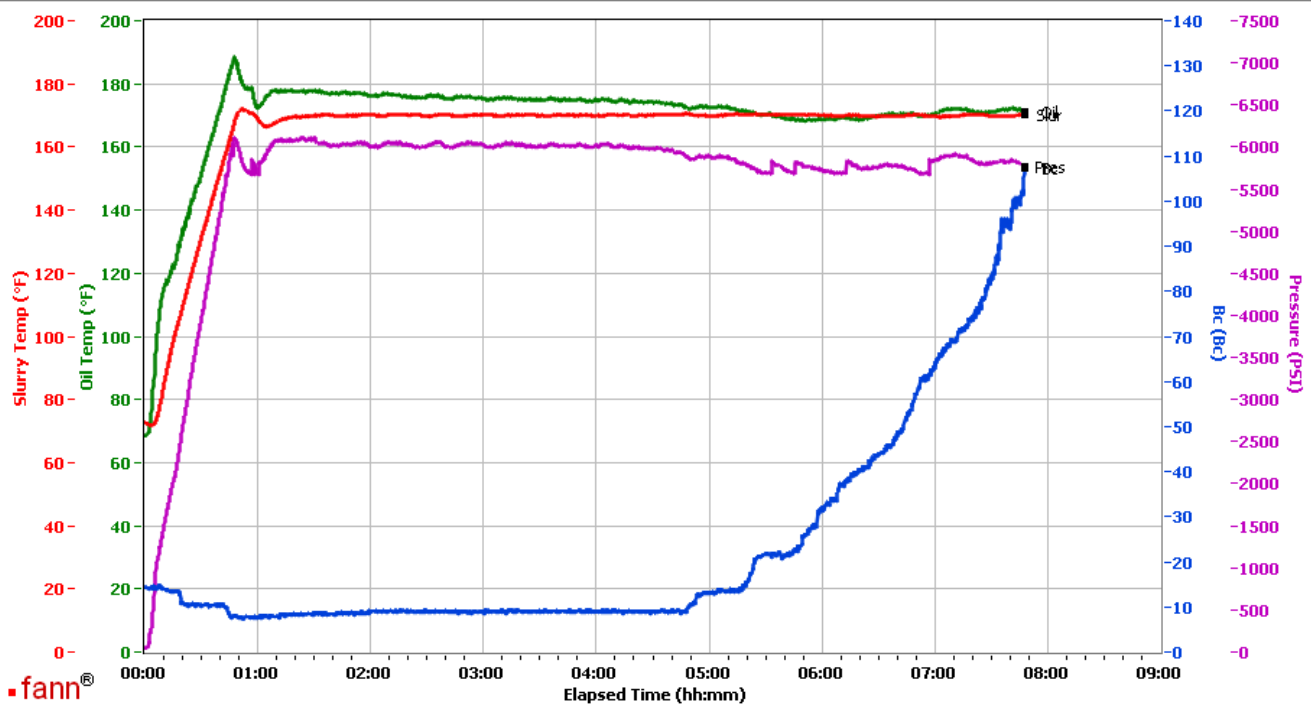
Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
170	5890	47	14	5:57	6:18	6:43	7:12	7:41

Total Sacks= 850

CS0902 TR 8678 425 SKS

Grand Junction, Colorado

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2341220-2 TERRA PRODUCTION BULK LE	Job Type	PRODUCTION	30.00 Bc	05h:57m
Test ID	GJ2341220-2 TERRA PRODUCTION BULK LE	Cement Type	NEOCEM	40.00 Bc	06h:18m
Request ID	GJ2341220-2 TERRA PRODUCTION BULK LE	Cement Weight	Light Weight	50.00 Bc	06h:43m
Tested by	JASON	Test Date	09/23/16	70.00 Bc	07h:12m
Customer	TERRA	Test Time	08:47 PM	100.00 Bc	07h:41m
Well No	RU 421-7	Temp. Units	degF	00h:30m	10.40
Rig	H&P 318	Pressure Units	PSI	01h:00m	7.58
Casing/Liner Size	4.5	SW Version	2.1.0.507	01h:30m	9.05



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CDER4HUV\GJ2341220-2 TERRA PRODUCTION BULK LEAD[1].tdms

Comments CS0902 TR 8678 425 SKS

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Operation Test Results Request ID 2341220/1

Thickening Time

24/SEP/2016

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
170	5890	47	9	6:02	6:26	6:44	6:53	7:05

Total Sacks= 850

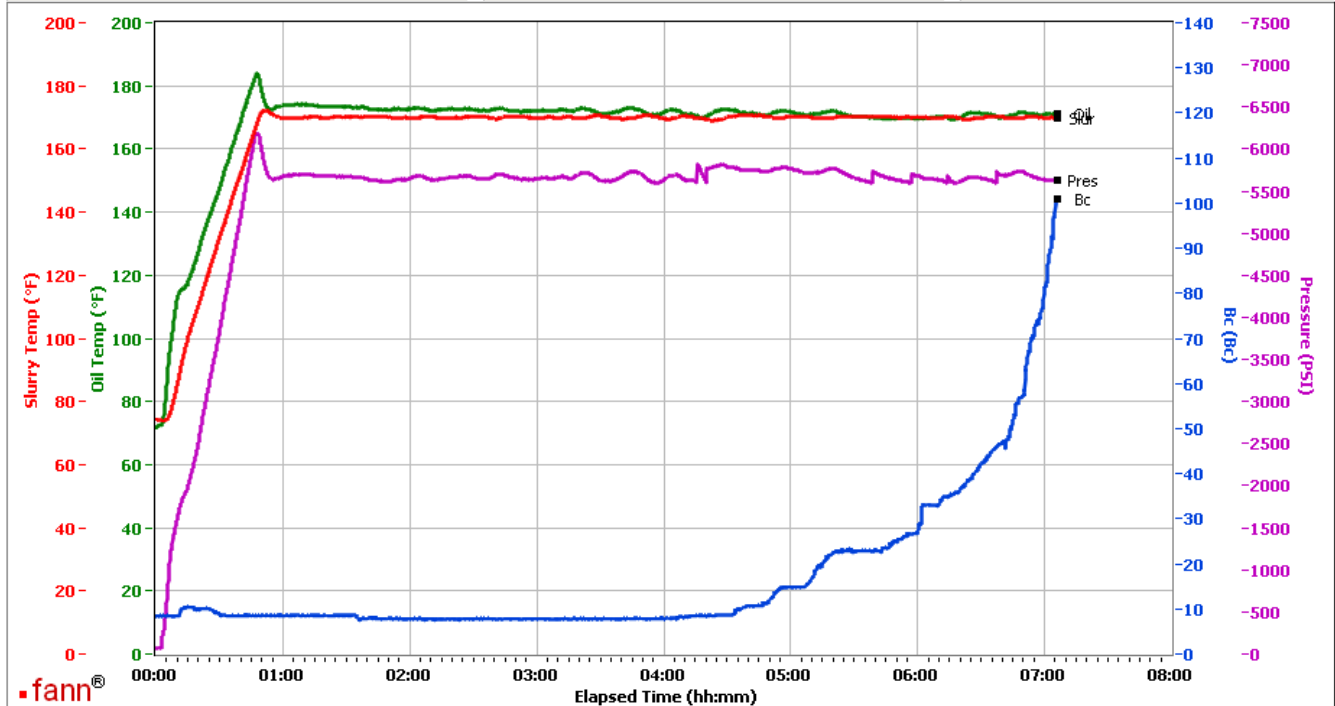
CS0901 TR 1513 425 SKS

Grand Junction Colorado

Fields	Values
Project Name	GJ2341220-1 TERRA PRODUCTION BULK LE
Test ID	GJ2341220-1 TERRA PRODUCTION BULK LE
Request ID	GJ2341220-1 TERRA PRODUCTION BULK LE
Tested by	JASON
Customer	TERRA
Well No	RU 421-7
Rig	H&P 318
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	09/23/16
Test Time	07:10 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	06h:02m
40.00 Bc	06h:26m
50.00 Bc	06h:44m
70.00 Bc	06h:53m
100.00 Bc	07h:05m
00h:30m	8.61
01h:00m	8.49
01h:30m	8.53



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2341220-1 TERRA PRODUCTION BULK LEAD.tdms

Comments CS0901 TR 1513 425 SKS

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2341222/1	Rig Name	H&P 318	Date	22/SEP/2016
Submitted By	Evan Russell	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	RU 421-7

Well Information

Casing/Liner Size	4.5 in	Depth MD	9503 ft	BHST	116°C / 240°F
Hole Size	8.75 in	Depth TVD	9421 ft	BHCT	77°C / 170°F
Pressure	5890 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	10.4 lbm/gal
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Cement Information - Tail Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ThermaCem				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		

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Operation Test Results Request ID 2341222/1

Thickening Time

24/SEP/2016

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
170	5890	47	11	3:02	3:09	3:20	3:46	3:54

Total Sacks= 265

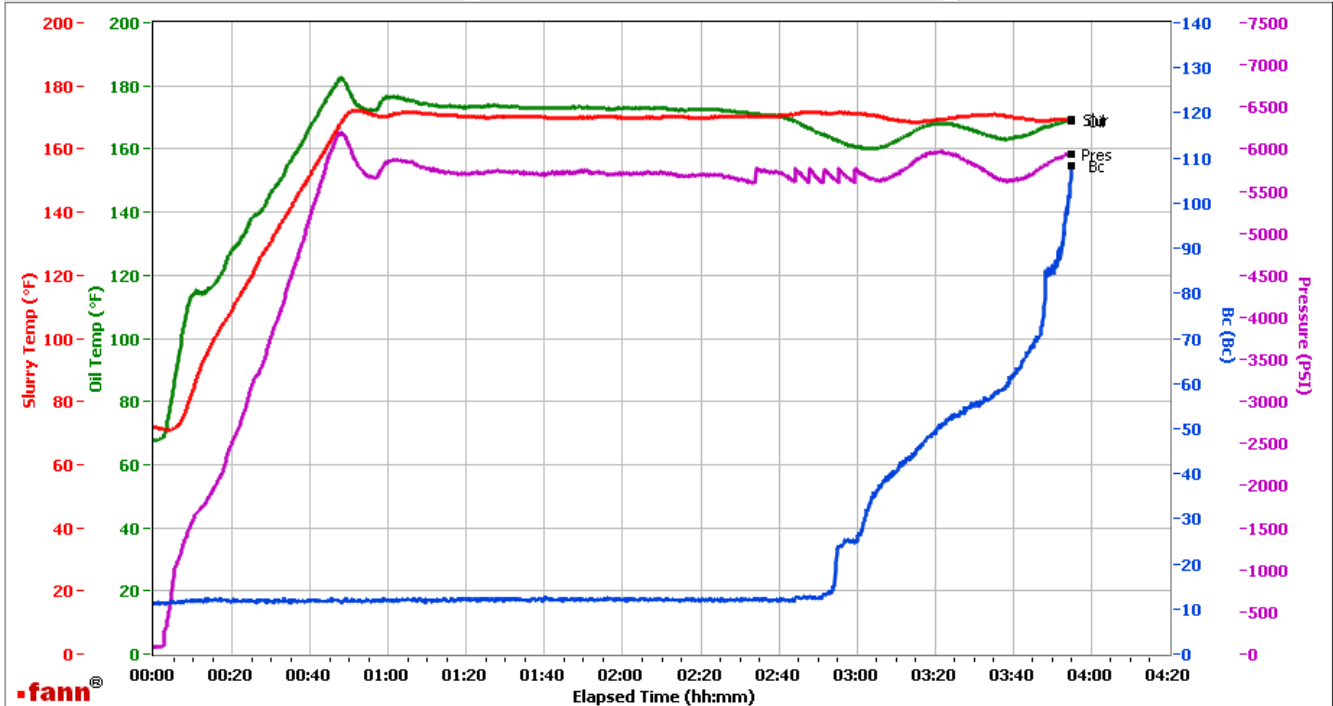
CS0904 TR 7304 265 SKS

Grand Junction Colorado

Fields	Values
Project Name	GJ2341222-1 TERRA PRODUCTION BULK TA
Test ID	34001169
Request ID	GJ2341222-1 TERRA PRODUCTION BULK TA
Tested by	JASON
Customer	TERRA
Well No	RU 421-7
Rig	H&P 318
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	THERMACEM
Cement Weight	Light Weight
Test Date	09/24/16
Test Time	07:19 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:02m
40.00 Bc	03h:09m
50.00 Bc	03h:20m
70.00 Bc	03h:46m
100.00 Bc	03h:54m
00h:30m	11.50
01h:00m	11.87
01h:30m	11.96



Data File C:\Documents and Settings\Administrator\Desktop\Test Data\GJ2341222-1 TERRA PRODUCTION BULK TAIL.tdms

Comments CS0904 TR 7304 265 SKS

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