HALLIBURTON

iCem® Service

TERRA ENERGY PARTNERS

For: Terra

Date: Monday, July 17, 2017

TR 13-24-597 Production PJR

API# 05-045-23475-00

Sincerely,

Grand Junction Cement Engineering

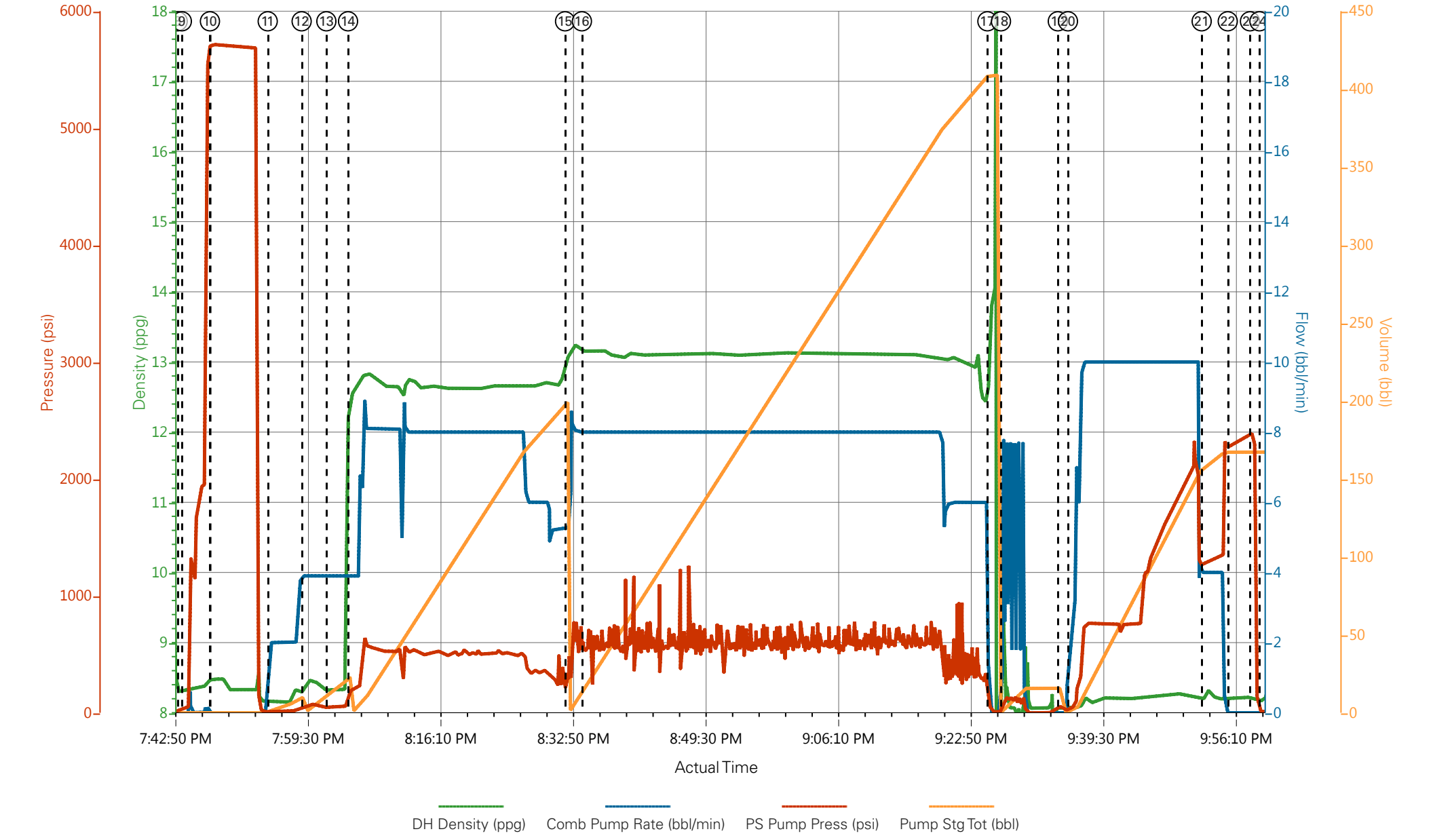
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	7/17/2017	07:00:00	USER					REQUESTED ON LOCATION @ 1300 AND LATER CHANGED TO 1630.
Event	2	Pre-Convoy Safety Meeting	7/17/2017	09:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Other Location	7/17/2017	09:15:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK, CREW WAITED IN THE FIELD FOR THE CALLOUT WITH ALL EQUIPMENT AND MATERIALS FOR THE JOB.
Event	4	Arrive At Loc	7/17/2017	14:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	7/17/2017	17:00:00	USER					ALL HES PRESENT
Event	6	Rig-Up Equipment	7/17/2017	17:15:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	7	Pre-Job Safety Meeting	7/17/2017	19:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	8	Start Job	7/17/2017	19:43:30	COM6					TD 10390', TP 10380', SJ 26', OH 8.75'', CSG 4.5'' 11.6#, MUD 8.7 PPG. RIG CIRCULATED WELL FOR APPROX 1.5 HRS.
Event	9	Prime Pumps	7/17/2017	19:44:01	COM6	46.00	8.31	1.00	2.0	8.33 PPG FRESH WATER
Event	10	Test Lines	7/17/2017	19:47:33	COM6	5717.00	8.38	0.50	0.5	ALL LINES HELD PRESSURE AT 5717 PSI
Event	11	Pump Spacer 1	7/17/2017	19:54:49	COM6	22.00	8.18	2.00	9.7	FRESH WATER (10 BBL), 8.33 PPG
Event	12	Pump Spacer 2	7/17/2017	19:59:05	COM6	54.00	8.33	3.90	20.9	MUD FLUSH III (20 BBL), 8.4 PPG

Event	13	Check weight	7/17/2017	20:02:11	COM6				VERIFIED VIA PRWEIGHT ESSUREIZED MUD SCALES
Event	14	Pump Lead Cement	7/17/2017	20:04:55	COM6	396.00	12.51	7.90	199.0	NEOCEM CEMENT 575 SKS (199 BBLS), 12.5 PPG, 1.94 FT3/SK, 9.58 GAL/SK
Event	15	Pump Tail Cement	7/17/2017	20:32:12	COM6	488.00	13.08	8.00	326.5	NEOCEM CEMENT 885 SKS (326 BBLS), 13 PPG, 2.07 FT3/SK, 9.43 GAL/SK.
Event	16	Check weight	7/17/2017	20:34:19	COM6				VERIFIED VIA PRWEIGHT ESSUREIZED MUD SCALES
Event	17	Shutdown	7/17/2017	21:25:17	USER				END OF CMT
Event	18	Clean Lines	7/17/2017	21:27:00	USER				WASH UP PUMPS AND LINES TO THE PIT, BLOW AIR FROM RIG FLOOR TO PIT.
Event	19	Drop Top Plug	7/17/2017	21:34:09	USER				PLUG WENT, VERIFIED BY CO REP.
Event	20	Pump Displacement	7/17/2017	21:35:25	COM6	44.00	8.08	1.80	150.5	8.34 PPG KCL WATER (160.5 BBLS) 1 GAL MMCR & 3 BAGS BE6
Event	21	Slow Rate	7/17/2017	21:52:14	USER	1280.00	8.20	4.00	10.2	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	22	Bump Plug	7/17/2017	21:55:31	USER	2279.00	8.21	0.00	160.7	LAND PLUG AT 1350 PSI, BROUGHT UP TO 2400 PSI
Event	23	Check Floats	7/17/2017	21:58:18	USER	2400.00	8.22	0.00	160.7	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	24	End Job	7/17/2017	21:59:30	USER				PIPE WAS RECIPROCATED DURING THE JOB, AIR RAN @ 1500 UNITS FROM START- LAST 40 BBL OF TL CMT, 400 UNITS FROM LAST 40 BBL OF TL CMT- 80 BBL AWAY OR DISP. AND THEN TURNED OFF. 0 BBL CEMENT BACK TO SURFACE
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	7/17/2017	22:02:50	USER				ALL HES PRESENT
Event	26	Rig-Down Equipment	7/17/2017	22:11:13	USER				ALL HES PRESENT
Event	27	Pre-Convoy Safety Meeting	7/17/2017	23:00:00	USER				ALL HES PRESENT
Event	28	Crew Leave Location	7/17/2017	23:10:00	USER				THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

TEP -13-24-597 - 4.5" PRODUCTION



① Call Out n/a;n/a;n/a;n/a
② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a
③ Crew Leave Other Location n/a;n/a;n/a;n/a
④ Arrive At Loc n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a
⑥ Rig-Up Equipment n/a;n/a;n/a;n/a
⑦ Pre-Job Safety Meeting 8.34;0;-1;0
⑧ Start Job 8.3;0;40;0
⑨ Prime Pumps 8.31;0;46;0
⑩ Test Lines 8.48;0;5717;0
⑪ Pump Spacer 1 8.18;2;22;0.8
⑫ Pump Spacer 2 8.33;3.9;54;7.16
⑬ Check weight 8.33;3.9
⑭ Pump Lead Cement 12
⑮ Pump Tail Cement 13.0

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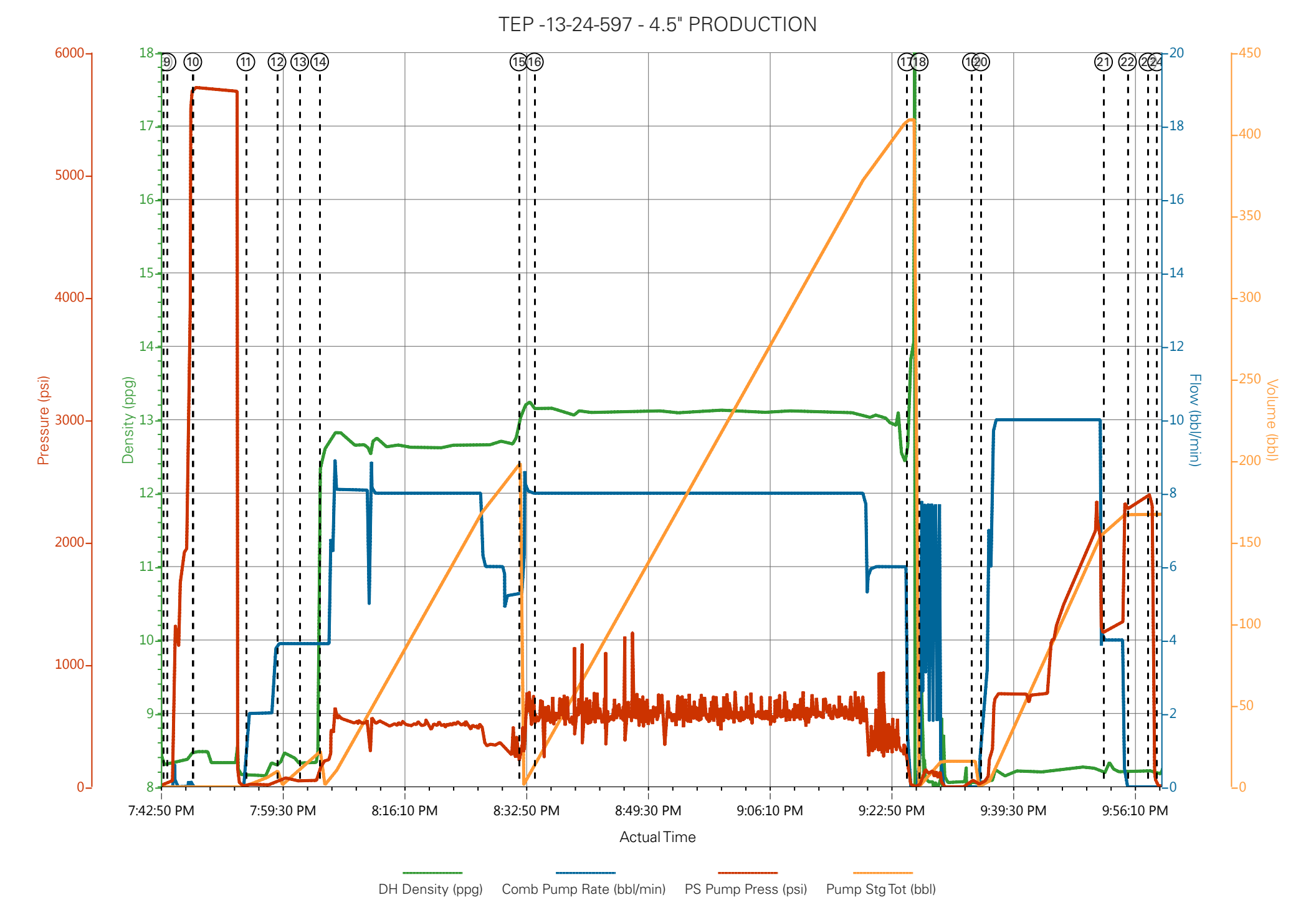
Created: 2017-07-17 17:45:57, Version: 4.2.393

Edit

Customer : TERRA ENERGY LTD.
Representative : KARL

Job Date : 7/17/2017
Sales Order # : 904169802

Well : TR 13-24-597
ELITE 8 : C.SMITH / D.PORTER



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HALLIBURTON

Rockies, Grand Junction

Lab Results- Lead

Job Information

Request/Slurry	2401274/1	**Rig Name**	H&P 271	**Date**	14/JUL/2017
Submitted By	Patrick Ealey	**Job Type**	Production Casing	**Bulk Plant**	Grand Junction
Customer	Terra Energy Partners	**Location**	Garfield	**Well**	TR 13-24-597

Well Information

Casing/Liner Size	4.5 in	**Depth MD**	10590 ft	**BHST**	124°C / 256°F
Hole Size	8.75 in	**Depth TVD**	10374 ft	**BHCT**	91°C / 195°F
Pressure	6560 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	**Mud Trade Name**	BARADRIL-N	**Density**	10.4 lbm/gal

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.
		NeoCem Lead			

Cement Properties

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		

Operation Test Results Request ID 2401274/1

Thickening Time - ON-OFF-ON 16/JUL/2017

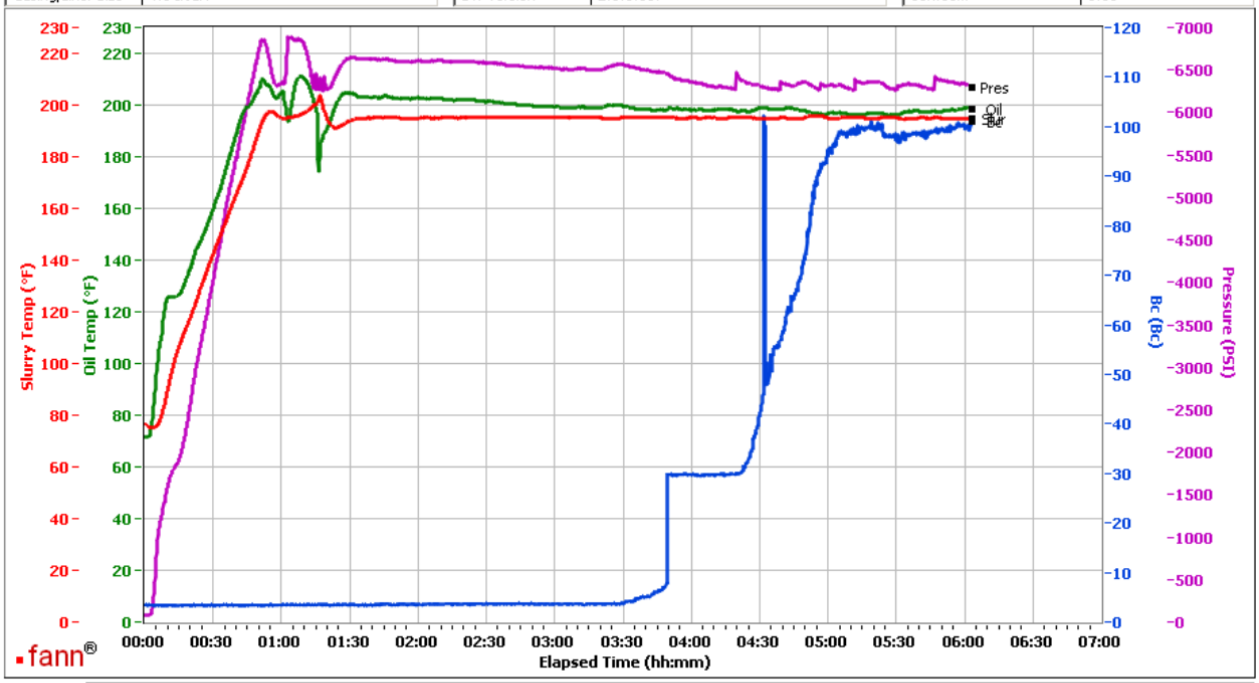
Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
195	6560	51	3:49	4:35	4:47	5:03	3	61	15	4

Grand Junction Colorado

Fields	Values
Project Name	24001274-1 TERRA ENERGY BULK PRODUCT
Test ID	34704744 - TT
Request ID	2401274-1
Tested by	CT
Customer	TERRA ENERGY
Well No	TR 13-24-597
Rig	H&P 271
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	TYPE I-II
Cement Weight	Standard
Test Date	07/16/17
Test Time	12:10 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:49m
40.00 Bc	04h:29m
50.00 Bc	04h:35m
70.00 Bc	04h:47m
100.00 Bc	06h:03m
00h:30m	3.31
01h:00m	3.54
01h:30m	3.50



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CDER4HUV\GJ2401274-1 TERRA ENERGY BULK PRODUCTION LEAD TT[1].tdms

Comments OPERATION - COMPOSITE TT - CS1820, TRAILER 8658, 425 SKS - CS1823, TRAILER 4053, 150 SKS

Total sks = 575
Composite:
CS1820, Trailer 8658, 425 sks
CS1823, Trailer 4053, 150 sks
no deflection

HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2401275/1	**Rig Name**	H&P 271	**Date**	14/JUL/2017
Submitted By	Patrick Ealey	**Job Type**	Production Casing	**Bulk Plant**	Grand Junction
Customer	Terra Energy Partners	**Location**	Garfield	**Well**	TR 13-24-597

Well Information

Casing/Liner Size	4.5 in	**Depth MD**	10590 ft	**BHST**	124°C / 256°F
Hole Size	8.75 in	**Depth TVD**	10374 ft	**BHCT**	91°C / 195°F
Pressure	6560 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	**Mud Trade Name**	BARADRIL-N	**Density**	10.4 lbm/gal

Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.
		NeoCem Tail			

Cement Properties

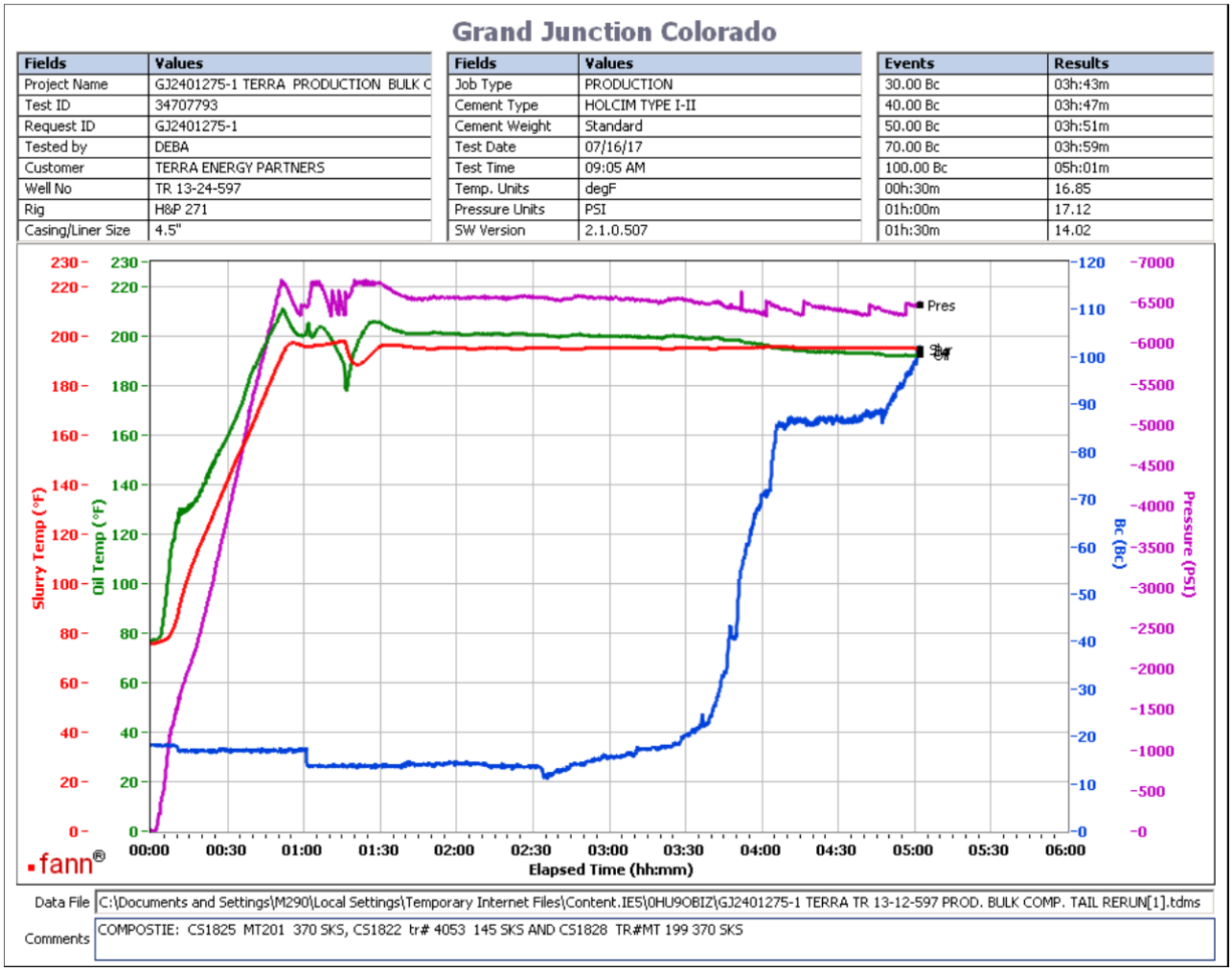
Slurry Density	13	lbm/gal
Slurry Yield	2.065	ft3/sack
Water Requirement	9.424	gal/sack
Total Mix Fluid	9.424	gal/sack

Water Source	Fresh Water
Water Chloride	

Operation Test Results Request ID 2401275/1

Thickening Time - ON-OFF-ON 16/JUL/2017

Test Temp (°F)	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)
195	6560	51	3:51	3:59	5:01	17	61	15	13



Fields	Values
Project Name	GJ2401275-1 TERRA PRODUCTION BULK C
Test ID	34707793
Request ID	GJ2401275-1
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	TR 13-24-597
Rig	H&P 271
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION
Cement Type	HOLCIM TYPE I-II
Cement Weight	Standard
Test Date	07/16/17
Test Time	09:05 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:43m
40.00 Bc	03h:47m
50.00 Bc	03h:51m
70.00 Bc	03h:59m
100.00 Bc	05h:01m
00h:30m	16.85
01h:00m	17.12
01h:30m	14.02

Total sks 885
Composite: Retest
CS1825, Trailer MT201, 370 sks
CS1822, Trailer 4053, 145 sks
CS1828, Trailer MT199, 370 sks