

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Saturday, March 25, 2017

Trail ridge 513-21-597 Production

API# 05-045-23345-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

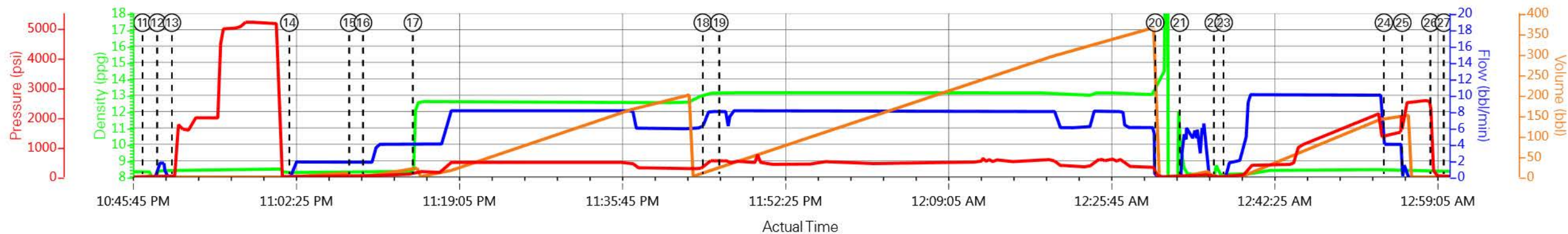
2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	3/24/2017	13:00:00	USER					crew called out to Terra 4.5 Production, 1 E8 pup trk, 1 660 job trk and 1 crew pickup. took sugar off of ticket, took top plug off ticket, used one gallon of mmcr, used 3lbs of be6, changed depth to 9545
Event	2	Pre-Convoy Safety Meeting	3/24/2017	14:50:00	USER					meeting with all hes personnel to discuss safety/hazards associated with traveling to location.
Event	3	Depart from Service Center or Other Site	3/24/2017	15:00:00	USER					
Event	4	Arrive at Location from Service Center	3/24/2017	19:10:00	USER					met with Terra company rep Garrett Wade and went over job numbers, iron placement and water sources. company rep signed hes work order
Event	5	Assessment Of Location Safety Meeting	3/24/2017	19:11:00	USER					td9555, tp9545, sj29.05, fc9515.95, oh8.75, sp2717, 9.625 36# surface casing, 4.5" 11.6# production casing, wf 8.8, cnt 32, baskets 2, chlo 0, ph7, temp 60.
Event	6	Pre-Rig Up Safety Meeting	3/24/2017	19:15:00	USER					meeting with all hes personnel to discuss safety/hazards associated with rigging up
Event	7	Rig-Up Equipment	3/24/2017	19:30:00	USER					
Event	8	Casing on Bottom	3/24/2017	21:30:00	USER					rig landed casing, circulated at 10bpm and pressure was 650
Event	9	Pre-Job Safety Meeting	3/24/2017	22:10:00	USER	2.00	8.54	0.00	27.3	meeting with all personnel on location to discuss safety/hazards associated with job in hand and also covered job procedures. all personnel signed a jsa
Event	10	Break Circulation	3/24/2017	22:30:00	USER	2.00	8.33	0.00	0.0	rig kicked out pumps and rigged up hes
Event	11	Start Job	3/24/2017	22:47:00	COM9	1.00	8.32	0.00	0.0	hes came on line
Event	12	Fill Lines Fw	3/24/2017	22:48:30	USER	27.00	8.40	1.70	0.6	fill lines with 2bbls of fw at 2bpm and top pressure was 33

Event	13	Test Lines	3/24/2017	22:50:00	USER	33.00	8.37	0.00	1.4	test electronic kick outs, 5th gear stall and tested lines to 5007, psi fell to quickly so hes bumped psi with opposite ht. pressure was 5182, held for three minutes final psi was 5125
Event	14	Pump FW Spacer	3/24/2017	23:02:00	USER	11.00	8.32	0.00	0.0	pumped 10bbbls of fw at 2bpm and average psi was 20
Event	15	Pump Mud Flush Spacer	3/24/2017	23:08:07	USER	45.00	8.33	1.80	0.8	pumped 20bbbls of mud flush(80lbs)at 4bpm psi was 125
Event	16	Check weight	3/24/2017	23:09:31	COM9	47.00	8.37	1.80	3.3	weight confirmed by hes supervisor
Event	17	Pump Lead Cement	3/24/2017	23:14:37	USER	129.00	12.40	4.00	21.6	pumped 184bbbls of lead cmt NeoCem, 545sks, 12.5ppg, 1.94 yield, 9.58 gal/sk, pumped at 8bpm and average psi was 550(slowed to 6bpm at end of silo,psi 350). weight confirmed using high pressure mud scales. weight confirmed by hes supervisor. wet sample left on location. calculated top of lead at 1009ft
Event	18	Pump Tail Cement	3/24/2017	23:44:15	USER	466.00	13.06	7.20	9.8	pumped 284bbbls of tailcmt NeoCem, 770sks, 13.0ppg, 2.07 yield, 9.43 gal/sk, pumped at 8bpm and average psi was 550. (slowd to 6bpm at end of silo psi was 350). weight confirmed using high pressure mud scales, weigh confirmed by hes supervisor. wet sample left on location. calculated top of tail at 4361ft
Event	19	Check weight	3/24/2017	23:45:56	COM9	559.00	13.12	8.00	23.3	
Event	20	Shutdown	3/25/2017	00:30:30	USER	27.00	13.73	0.00	0.0	done pumping cmt
Event	21	Clean Lines	3/25/2017	00:33:00	USER	34.00	9.07	5.40	0.4	clean lines to earth pit, used 13bbbls to clean lines and pumping unit
Event	22	Drop Top Latching Plug	3/25/2017	00:36:29	USER	7.00	8.74	0.00	0.0	hes dropped top latching plug, witnessed by Terra company rep Garrett Wade
Event	23	Pump KCL Displacement	3/25/2017	00:37:29	USER	8.00	8.14	0.00	0.0	hes calculated 147.50bbbls of kcl displacement
Event	24	Slow Rate	3/25/2017	00:53:52	USER	1444.00	8.40	4.00	144.4	slow rate at 137.5bbbls, psi at 10bpm was 2150, psi at 4bpm was 1425
Event	25	Bump Plug	3/25/2017	00:55:45	USER	2452.00	8.41	0.70	150.8	plug bumped at calculated volume 147.5bbbls, psi 1462 kicked out pumps at 2475 and psi climbed to 2570 and held solid
Event	26	Check Floats	3/25/2017	00:58:37	USER	248.00	8.38	0.00	0.0	floats held 1.5bbbls back to the pumping unit

Event	27	End Job	3/25/2017	01:00:00	USER	6.00	8.34	0.00	0.0	Great returns through out job
Event	28	Pre-Rig Down Safety Meeting	3/25/2017	01:05:00	USER	5.00	-0.18	0.00	0.0	meeting with all hes personnel to discuss safety/hazards associated with rigging down
Event	29	Rig-Down Equipment	3/25/2017	01:10:00	USER	74.00	11.62	4.60	2.8	
Event	30	Pre-Convoy Safety Meeting	3/25/2017	02:45:00	USER					meeting with all hes personnel to discuss safety/hazards associated with traveling to service center
Event	31	Depart Location for Service Center	3/25/2017	03:00:00	USER					
Event	32	Other	3/25/2017	03:01:00	USER					Thank You for Choosing Halliburton Cement. Parker and Crew.(713)703-3283

TERRA ENERGY CHEVRON TR 513-21-597 4.5" PRODUCTION



— DH Density (ppg)
 — Comb Pump Rate (bbl/min)
 — DS Pump Press (psil)
 — Pump Stg Tot (bbl)

① Call Out n/a , n/a , n/a , n/a	⑧ Casing on Bottom n/a , n/a , n/a , n/a	⑮ Pump Mud Flush Spacer 8.33 , 1.8 , 45 , 0.8	22 Drop Top Latching Plug 8.61 , 0 , 7 , 0	29 Rig-Down Equipment 11.6 , 4.6 , 75 , 2.9
② Pre-Convoy Safety Meeting n/a , n/a , n/a , n/a	⑨ Pre-Job Safety Meeting 8.54 , 0 , 2 , 27.3	⑯ Check weight 8.37 , 1.8 , 47 , 3.3	23 Pump KCL Displacement 8.14 , 1.4 , 16 , 0	30 Pre-Convoy Safety Meeting n/a , n/a , n/a , n/a
③ Depart from Service Center or Other Site n/a , n/a , n/a , n/a	⑩ Break Circulation 8.33 , 0 , 2 , 0	⑰ Pump Lead Cement 12.4 , 4 , 129 , 21.6	24 Slow Rate 8.4 , 4 , 1431 , 144.5	31 Depart Location for Service Center n/a , n/a , n/a , n/a
④ Arrive at Location from Service Center n/a , n/a , n/a , n/a	⑪ Start Job 8.32 , 0 , 1 , 0	⑱ Pump Tail Cement 13.07 , 7.2 , 466 , 9.9	25 Bump Plug 8.42 , 0 , 2450 , 150.8	32 Other n/a , n/a , n/a , n/a
⑤ Assessment Of Location Safety Meeting n/a , n/a , n/a , n/a	⑫ Fill Lines Fw 8.4 , 1.7 , 27 , 0.6	⑲ Check weight 13.11 , 8 , 537 , 23.4	26 Check Floats 8.38 , 0 , 208 , 0	
⑥ Pre-Rig Up Safety Meeting n/a , n/a , n/a , n/a	⑬ Test Lines 8.37 , 0 , 33 , 1.4	20 Shutdown 13.74 , 0 , 25 , 0	27 End Job 8.34 , 0 , 6 , 0	
⑦ Rig-Up Equipment n/a , n/a , n/a , n/a	⑭ Pump FW Spacer 8.32 , 0 , 11 , 0	21 Clean Lines 9.01 , 5.4 , 34 , 0.5	28 Pre-Rig Down Safety Meeting -0.18 , 0 , 5 , 0	

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Created: 2017-03-24 14:02:52, Version: 4.2.393

Edit

Customer : TERRA ENERGY PARTNERS

Job Date : 3/24/2017 9:40:53 PM

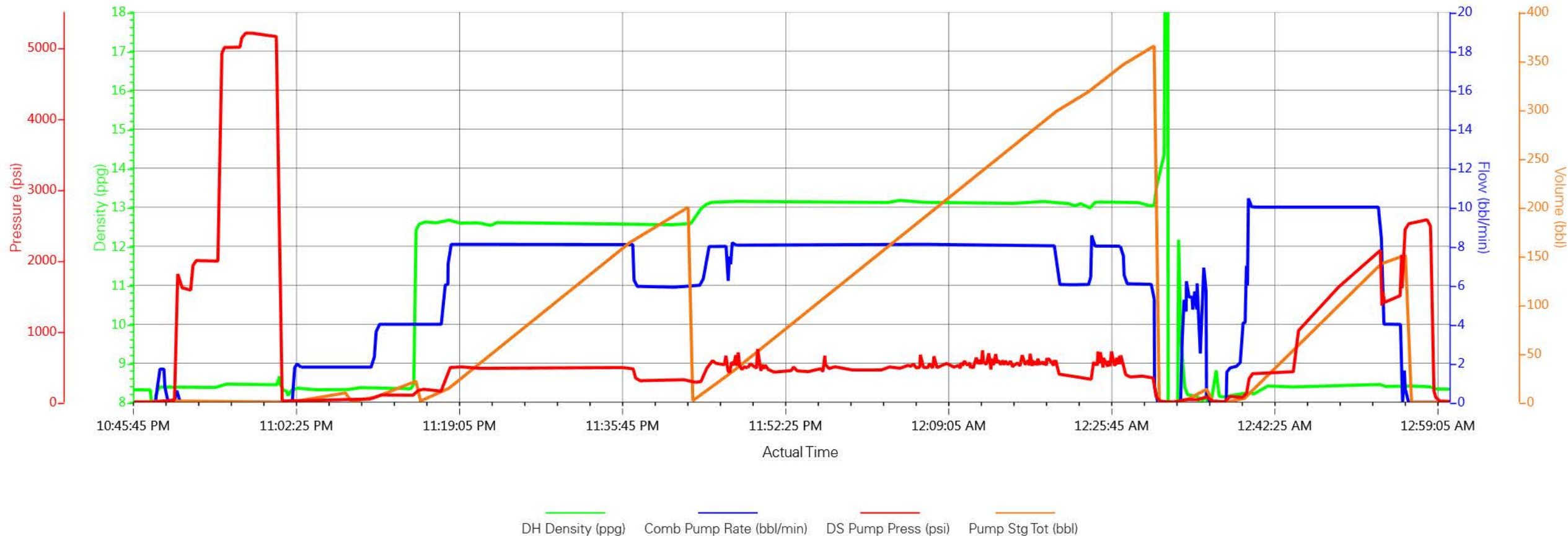
Well : Chevron TR 513-21-597

Representative : Garrett Wade

Sales Order # : 903918096

Pump/Operator : E8/Ryan Martin

TERRA ENERGY CHEVRON TR 513-21-597 4.5" PRODUCTION



Job Information

Request/Slurry	2375611/1	Rig Name	H&P 271	Date	20/MAR/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	Trail Ridge 513-21-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9569 ft	BHST	114°C / 238°F
Hole Size	8.75 in	Depth TVD	9306 ft	BHCT	76°C / 168°F
Pressure	5814 psi				

Drilling Fluid Information

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



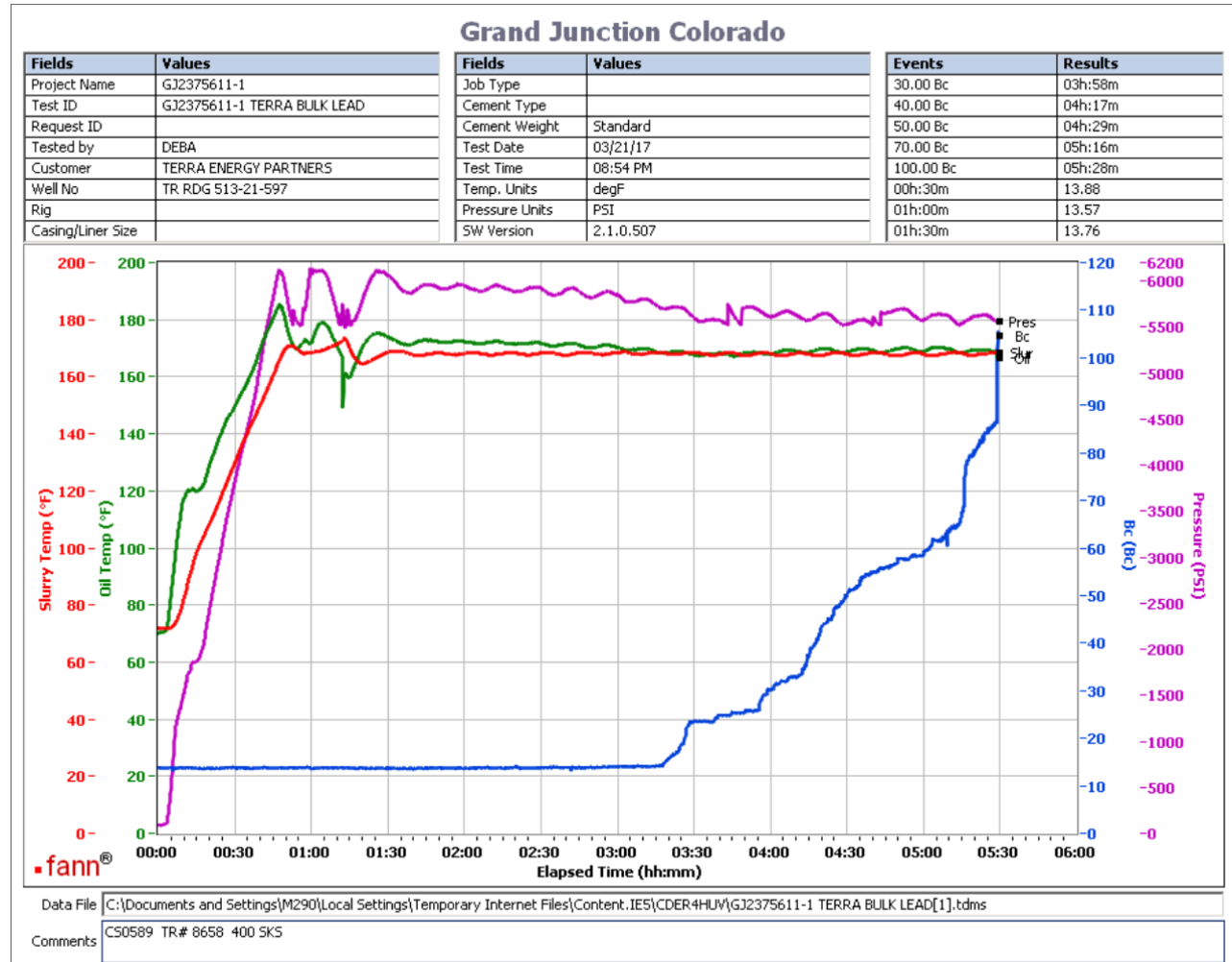
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water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

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Thickening Time - ON-OFF-ON

21/MAR/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)
168	5814	47	3:58	4:29	5:16	5:28	14	57	15	13



Total Sacks= 545
CS0589 TR# 8658 400 SKS
no deflection was observed.

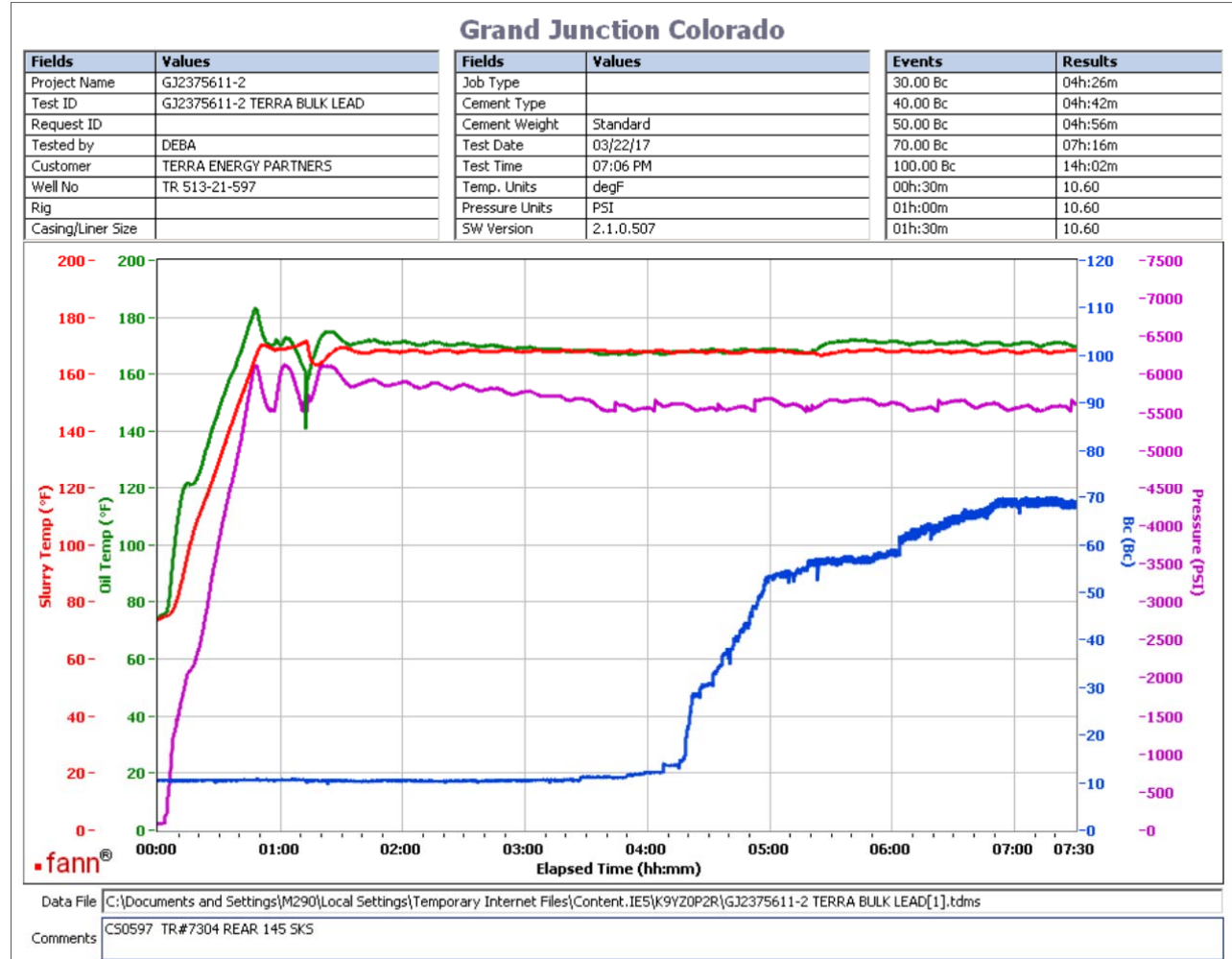
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Operation Test Results Request ID 2375611/2

Thickening Time - ON-OFF-ON

23/MAR/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)
168	5814	47	4:26	4:56	7:16	14:02	10	57	15	10



Total Sacks= 545
CS0597 TR# 7304 145 SKS
no deflection was observed.

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Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2375612/1	Rig Name	H&P 271	Date	20/MAR/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	Trail Ridge 513-21-597

Well Information

Casing/Liner Size	4.5 in	Depth MD	9569 ft	BHST	114°C / 238°F
Hole Size	8.75 in	Depth TVD	9306 ft	BHCT	76°C / 168°F
Pressure	5814 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



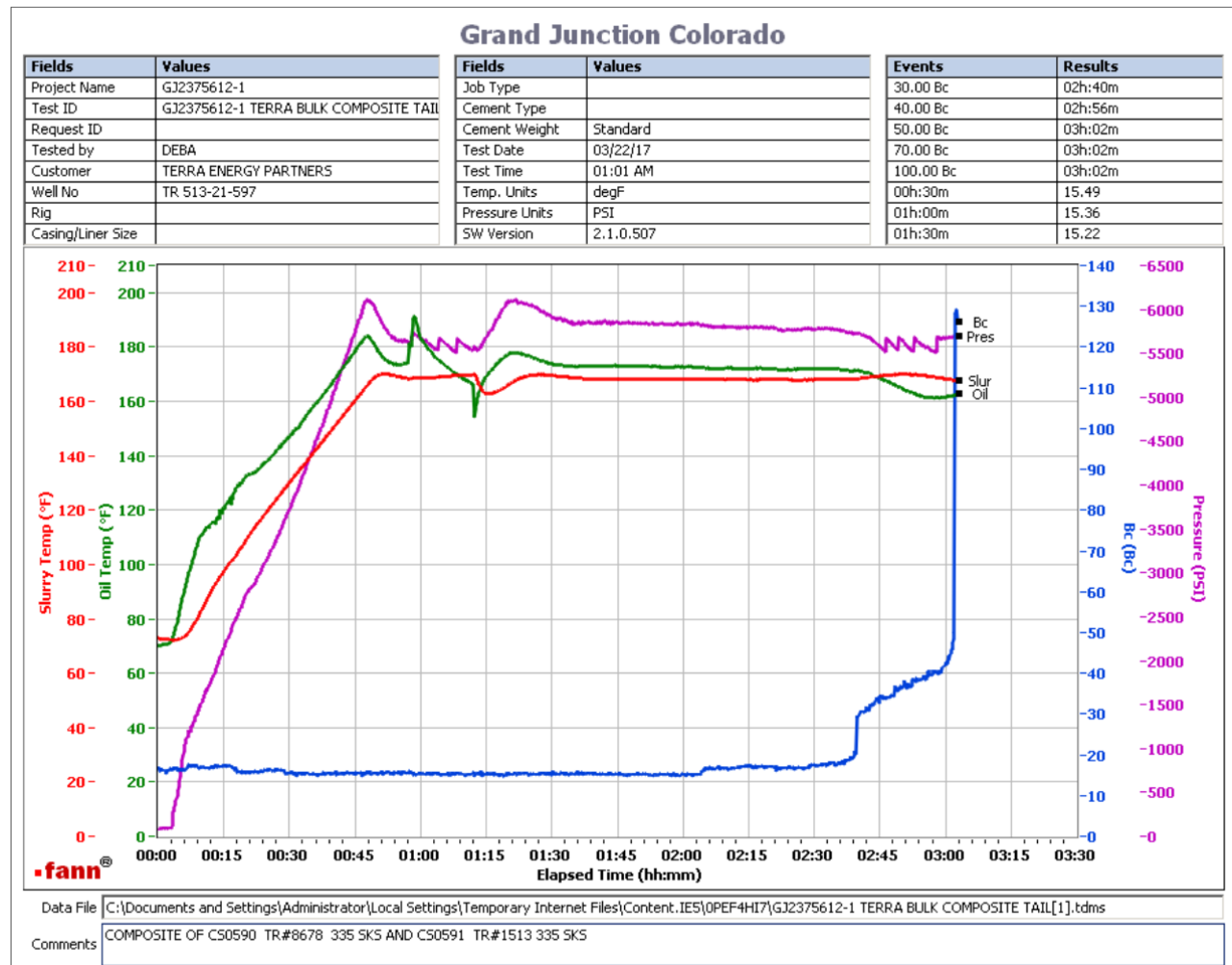
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Tail				Slurry Density	13	lbm/gal
						Slurry Yield	2.065	ft3/sack
						Water Requirement	9.429	gal/sack
						Total Mix Fluid	9.429	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

21/MAR/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)
168	5814	47	2:40	3:02	3:02	3:02	16	57	15	16



Total sks = 770

Composite of :

CS0590 TR# 8678 335 SKS and CS0591 TR#1513 335 SKS

no deflection per graph

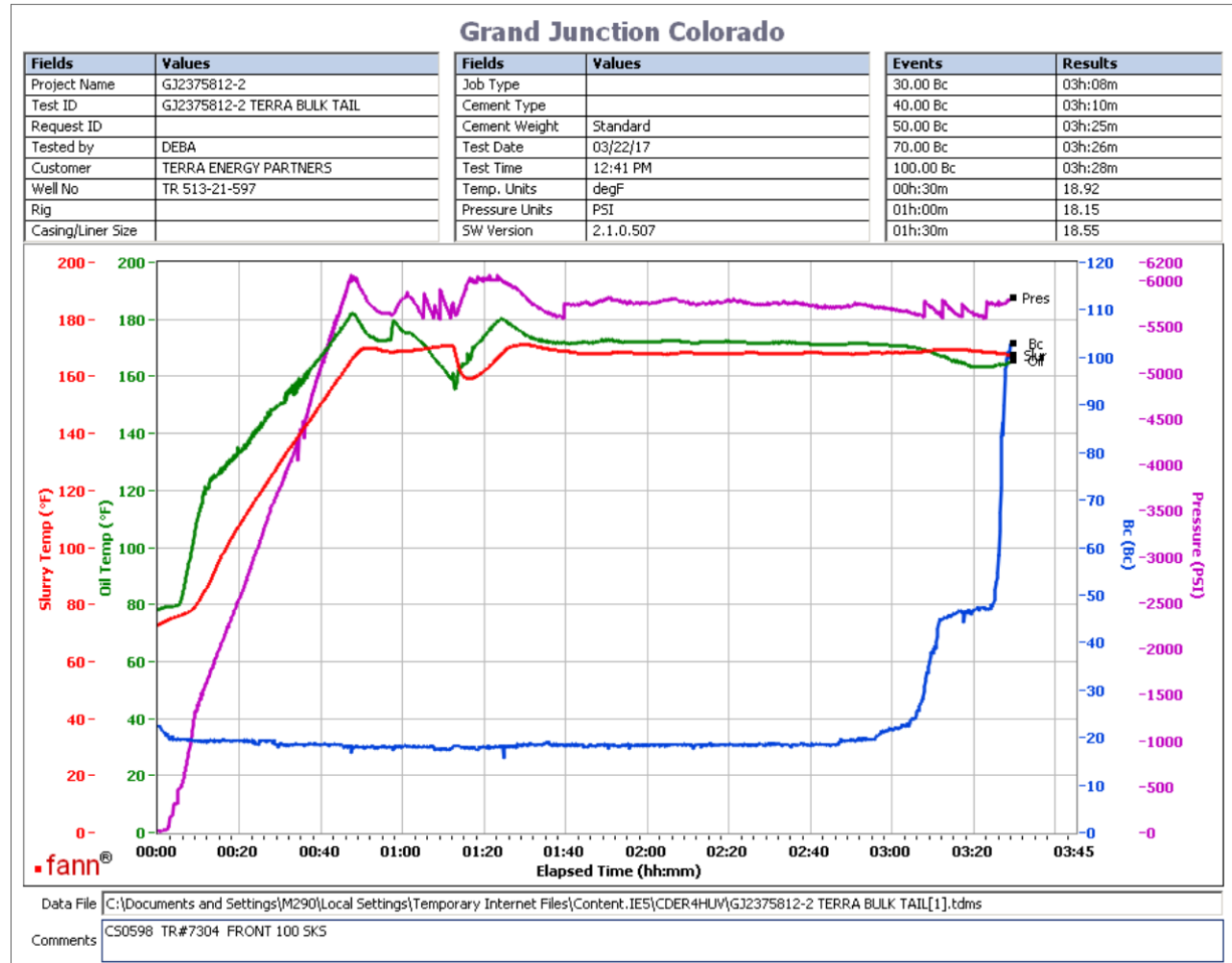
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Operation Test Results Request ID 2375612/2

Thickening Time - ON-OFF-ON

22/MAR/2017

Test Temp (°F)	Pressure (psi)	Reached in (min)	50 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
168	5814	47	3:25	3:28	22	57	15	17



Total sks = 770

CS0598 TR# 7304 Front 100 SKS

no deflection was observed

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