

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Saturday, May 20, 2017

TR 13-24-597 Surface PJR

API/UWI #: 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	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	5/19/2017	01:00:00	USER					Requested on Location @ 08:00
Event	2	Pre-Convoy Safety Meeting	5/19/2017	03:30:00	USER					
Event	3	Crew Leave Yard	5/19/2017	04:00:00	USER					1 Elite, 1 660, 1 pickup, 1 Transport
Event	4	Arrive at Location	5/19/2017	11:00:00	USER					Rig running casing when supervisor arrives on location. HES was 3 hours behind schedule due to vehicle issues enroute to the rig. Customer was not waiting on HES.
Event	5	Equipment on Location	5/19/2017	13:30:00	USER					All HES equipment arrives on location. Crew was delayed by rig move and road conditions. Begin transport and crew hours.
Event	6	Assessment Of Location Safety Meeting	5/19/2017	13:45:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 54 degrees
Event	7	Pre-Rig Up Safety Meeting	5/19/2017	13:55:00	USER					
Event	8	Rig-Up Equipment	5/19/2017	14:00:00	USER					DME iron to standpipe. Water hoses to both uprights, bulk hoses to silo and 660.
Event	9	Other	5/19/2017	18:30:00	USER					Rig Circulated 30 mins prior to cement job 8 bbls/min at 260 psi
Event	10	Pre-Job Safety Meeting	5/19/2017	19:00:00	USER					All HES personnel, Rig crew, and Company Rep
Event	11	Start Job	5/19/2017	19:21:46	USER					TD 3014', 14 ¾" OH, TP 3017.9', FC 2991', SJ 26.9',

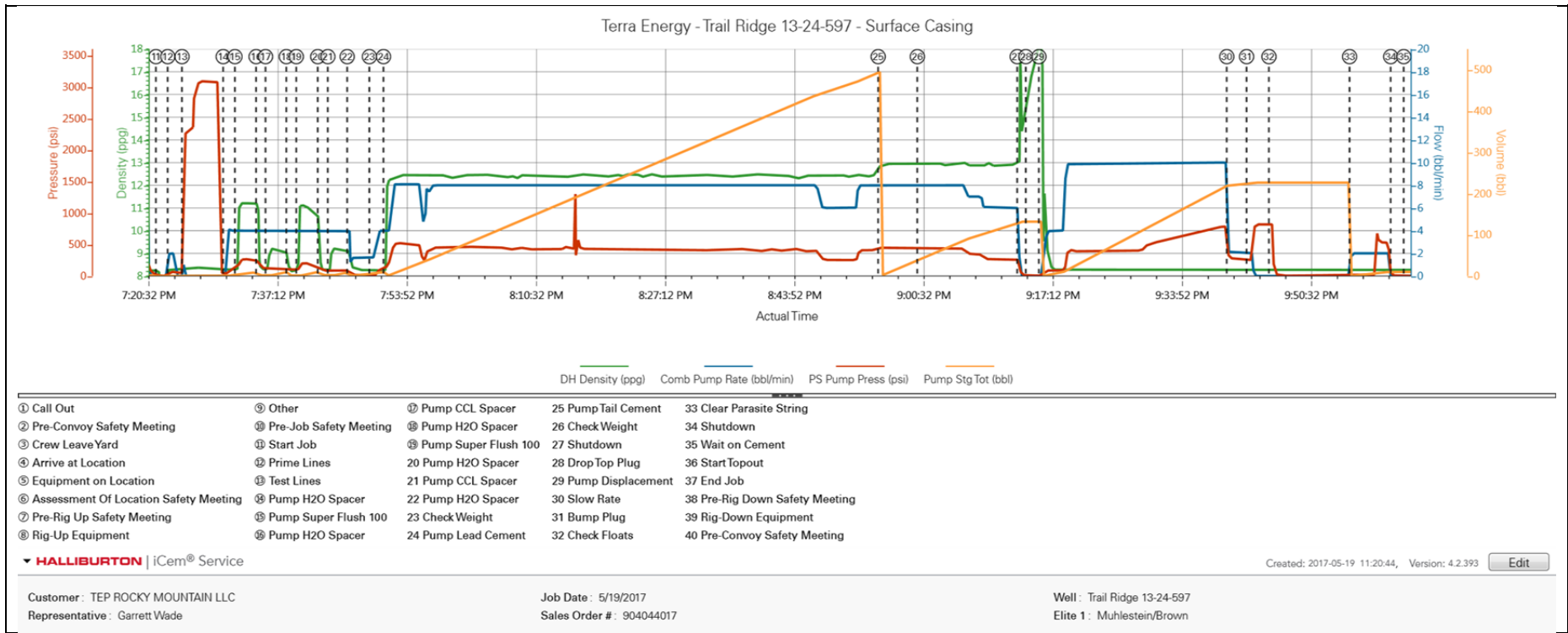
Csg. 9 5/8" J-55 36# to 2702.2, 9 5/8" 40# to 3017.9 Parasite 1.90" ID. Total length 2868', Mud 8.4 PPG

Event	12	Prime Lines	5/19/2017	19:23:17	COM6	8.4	4	75	2	Fresh water
Event	13	Test Lines	5/19/2017	19:25:07	COM6	8.4	.5	3090	.5	Held pressure 2 minutes no leaks
Event	14	Pump H2O Spacer	5/19/2017	19:30:26	COM6	8.4	4	265	5	5 bbls Fresh water
Event	15	Pump Super Flush 100	5/19/2017	19:31:57	COM6	11	4	285	10	10 bbls Super Flush 100
Event	16	Pump H2O Spacer	5/19/2017	19:34:41	COM6	8.4	4	125	5	5 bbls Fresh water
Event	17	Pump CCL Spacer	5/19/2017	19:35:54	COM6	9	4	118	10	10 sks Calcium Chloride in 10 bbls H2O
Event	18	Pump H2O Spacer	5/19/2017	19:38:35	COM6	8.4	4	110	5	5 bbls Fresh water
Event	19	Pump Super Flush 100	5/19/2017	19:39:52	COM6	11	4	209	10	10 bbls Super Flush 100
Event	20	Pump H2O Spacer	5/19/2017	19:42:38	COM6	8.4	4	105	5	5 bbls Fresh water
Event	21	Pump CCL Spacer	5/19/2017	19:43:56	COM6	9	4	88	10	10 sks Calcium Chloride in 10 bbls H2O
Event	22	Pump H2O Spacer	5/19/2017	19:46:26	COM6	8.4	4	124	10	10 bbls Fresh water
Event	23	Check Weight	5/19/2017	19:49:18	USER					Density Verified via Mud Scales
Event	24	Pump Lead Cement	5/19/2017	19:51:07	COM6	12.3	8	540	498	1175 sks Varicem 12.3 PPG, 2.38 Ft3/sk, 13.76 Gal/sk. with Tuf-Fiber throughout Cement after first 20 bbls pumped.
Event	25	Pump Tail Cement	5/19/2017	20:54:56	COM6	12.8	8	450	129.6	345 Sks Varicem 12.8 PPG, 2.11 Ft3/sk, 11.78 Gal/sk
Event	26	Check Weight	5/19/2017	21:00:00	USER					Density Verified via Mud Scales
Event	27	Shutdown	5/19/2017	21:12:53	USER					Wash up on top of plug
Event	28	Drop Top Plug	5/19/2017	21:14:00	USER					Customer verified top plug launched
Event	29	Pump Displacement	5/19/2017	21:15:41	COM6	8.4	10	800	230.8	Fresh Water

Event	30	Slow Rate	5/19/2017	21:40:20	USER	8.4	2	262	220	Slow Rate 10 bbls to Calculated Displacement
Event	31	Bump Plug	5/19/2017	21:43:12	COM6	8.4	10	832	230.8	Plug Bumped at 262 psi, Brought up to 832 psi
Event	32	Check Floats	5/19/2017	21:45:22	COM6					Floats held – 1 bbl back to the truck
Event	33	Clear Parasite String	5/19/2017	21:55:46	USER	8.4	2	700	10	10 lbs sugar in 10 bbls H2O
Event	34	Shutdown	5/19/2017	22:01:04	USER					Circulation broke at 700 psi
Event	35	Wait on Cement	5/19/2017	22:02:45	USER					Waiting to topout. No returns throughout job
Event	36	Start Topout	5/19/2017	22:36:02	USER					Boost H2O with 6x5 to ensure DME is clear.
Event	37	Pump Super Flush 100	5/19/2017	23:22:12	COM6	11	2	105	10	10 bbls Super Flush 100
Event	38	Pump Spacer	5/19/2017	23:27:29	COM6	8.4	2	90	2.5	Freshwater to clear Superflush from HT400 pumps
Event	39	Pump Cement	5/19/2017	23:32:48	COM6	15.6	2	200	42.4	200 sks Topout (42.4bbls), 15.6 ppg, 1.19 Ft3/sk, 5.24 Gal/sk. 3 sks of 50 lb a bag CCL
Event	40	Shutdown	5/19/2017	23:47:09	USER					Wait for customer to tag cement
Event	41	Wash-up	5/19/2017	23:55:24	USER					Wash pump to reserve pit.
Event	42	Pump Cement	5/20/2017	00:11:58	COM6	15.6	2	200	16	75 sks additional topout pumped
Event	43	Shutdown	5/20/2017	00:27:26	USER					Cement top tagged at 35' Company Rep. released crew said they will get it to surface next job.
Event	44	End Job	5/20/2017	00:28:12	USER					20 lbs sugar, 3 add hours, 25 sks total CCL charged for
Event	45	Pre-Rig Down Safety Meeting	5/20/2017	00:35:00	USER					
Event	46	Rig-Down Equipment	5/20/2017	00:45:00	USER					
Event	47	Pre-Convoy Safety Meeting	5/20/2017	01:45:00	USER					
Event	48	Crew Leave Location	5/20/2017	02:00:00	USER					Thank you for using Halliburton – Ryan Muhlestein and crew.

2.0 Attachments

2.1 Chart.png



3.0 Custom Graphs

3.1 Custom Graph

