

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

For: Terra

Date: Wednesday, May 24, 2017

TR 12-24-597 Surface PJR

API# 05-045-23473-00

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	5/23/2017	07:30:00	USER					O/L time 1530
Event	2	Pre-Convoy Safety Meeting	5/23/2017	10:45:00	USER					
Event	3	Crew Leave Yard	5/23/2017	11:00:00	USER					1 Elite, 1 660, 1 transport, 1 pickup
Event	4	Arrive at Location	5/23/2017	14:30:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	5/23/2017	14:45:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 58 degrees
Event	6	Pre-Rig Up Safety Meeting	5/23/2017	15:00:00	USER					
Event	7	Rig-Up Equipment	5/23/2017	15:25:00	USER					Hard line to standpipe, water hoses to uprights and transport, bulk hoses to silos and 660
Event	8	Pre-Job Safety Meeting	5/23/2017	17:15:00	USER					All HES personnel, rig crew, and company rep - Rig was not circulating prior to job
Event	9	Start Job	5/23/2017	17:43:00	USER					TD 3010', TP 3017.8', SJ 27.9', Mud 9.2 ppg, 14 3/4" OH, 9 5/8" 40# J55 casing
Event	10	Prime Lines	5/23/2017	17:45:00	USER	8.33	2.0	30	2.0	Fresh water
Event	11	Test Lines	5/23/2017	17:47:58	COM5			3353		Pressure held very well
Event	12	Pump H2O Spacer	5/23/2017	17:50:15	COM5	8.33	2.0	72	5.0	Start Spacer Train
Event	13	Pump SuperFlush	5/23/2017	17:52:50	COM5	11.5	2.0	110	10.0	10 bbl SuperFlush
Event	14	Pump H2O Spacer	5/23/2017	17:55:04	COM5	8.33	4.0	90	5.0	H2O

Event	15	Pump CaCl water	5/23/2017	17:56:20	COM5	9.0	4.0	145	10.0	500 lbs CaCl
Event	16	Pump H2O Spacer	5/23/2017	17:58:38	COM5	8.33	4.0	85	5.0	H2O
Event	17	Pump SuperFlush	5/23/2017	18:00:06	COM5	11.5	4.0	240	10.0	10 bbl SuperFlush
Event	18	Pump H2O Spacer	5/23/2017	18:02:19	COM5	8.33	4.0	105	5.0	H2O
Event	19	Pump CaCl water	5/23/2017	18:03:25	COM5	9.0	4.0	90	10.0	500 lbs CaCl
Event	20	Pump H2O Spacer	5/23/2017	18:05:44	COM5	8.33	4.0	80	10.0	H2O - Water behind - end spacer train
Event	21	Pump Lead Cement	5/23/2017	18:12:01	COM5	12.3	8.0	440	498.1	1175 sks, 12.3 ppg, 2.38 yield, 13.76 gal/sk - Tuf Fiber added on fly
Event	22	Check weight	5/23/2017	18:13:50	COM5	12.3				Recirc matched mud scales
Event	23	Pump Tail Cement	5/23/2017	19:20:43	COM5	12.8	7.5	455	129.6	345 sks, 12.8 ppg, 2.11 yield, 11.78 gal/sk
Event	24	Shutdown	5/23/2017	19:37:00	USER					Wash up on top of plug
Event	25	Drop Top Plug	5/23/2017	19:40:00	USER					Plug launched - verified by company rep
Event	26	Pump Displacement	5/23/2017	19:42:16	COM5	8.4	10.0	705	226.6	Fresh water
Event	27	Slow Rate	5/23/2017	20:06:44	USER	8.4	2.0	220	@ 215	No returns throughout entire job
Event	28	Bump Plug	5/23/2017	20:09:09	USER			225		
Event	29	Check Floats	5/23/2017	20:12:31	USER			780		Floats held - 1 bbl flowback
Event	30	Pump Sugar water	5/23/2017	20:20:59	COM5					Clear Parasite line
Event	31	Shutdown	5/23/2017	20:23:31	USER					Standby for topout
Event	32	Pump SuperFlush	5/23/2017	21:19:32	COM5	11.5	2.2	30	10.0	10 bbl
Event	33	Pump Cement	5/23/2017	21:33:04	USER	15.6	2.2	30	42.4	200 sks, 15.6 ppg, 1.19 yield, 5.24 gal/sk
Event	34	Pump SuperFlush	5/23/2017	21:53:57	COM5	11.5	2.2	30	10.0	10 bbl
Event	35	Pump Cement	5/23/2017	22:16:18	USER	15.6	2.2	30	42.4	200 sks
Event	36	Shutdown	5/23/2017	22:35:15	USER					Wait one hour

Event	37	Pump Cement	5/23/2017	23:50:23	COM5	15.6	2.6	35	63.6	300 sks
Event	38	Shutdown	5/24/2017	00:09:20	USER					Wait two hours
Event	39	Pump Cement	5/24/2017	02:25:59	COM5	15.6	3.0	40	33.9	Approx. 160 sks –emptied silo – no cement to surface
Event	40	Shutdown	5/24/2017	02:37:18	USER					860 sks total – 4 add hours
Event	41	Pre-Rig Down Safety Meeting	5/24/2017	03:00:00	USER					
Event	42	Rig-Down Equipment	5/24/2017	03:15:00	USER					
Event	43	Pre-Convoy Safety Meeting	5/24/2017	03:45:00	USER					
Event	44	Crew Leave Location	5/24/2017	04:00:00	USER					Thank you for using Halliburton - Ed Deussen and crew

