

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

United States of America, COLORADO

Date: Monday, March 11, 2019

### **Trail Ridge 444-22-597 Surface**

Terra Trail Ridge 444-22-597 Surface

API# 05-045-23689

Job Date: Monday, February 18, 2019

Sincerely,

**Grand Junction Cement Engineering**

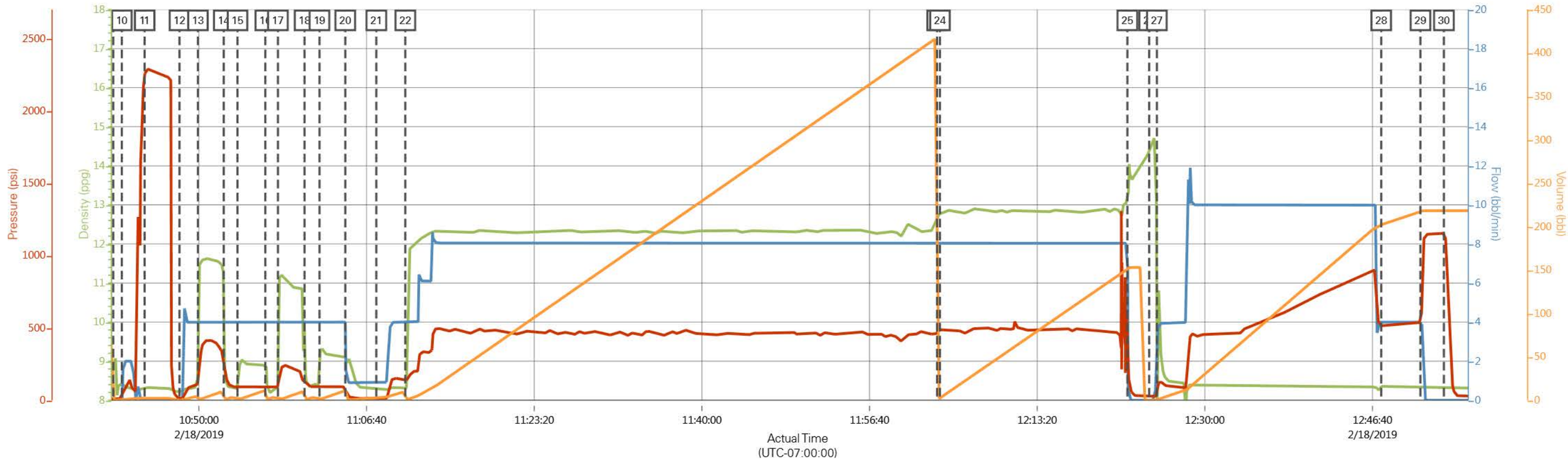
## 1.0 Real-Time Job Summary

### 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	2/17/2019	15:30:00	USER					Requested on Location @ 00:01
Event	2	Pre-Convoy Safety Meeting	2/17/2019	18:15:00	USER					
Event	3	Crew Leave Yard	2/17/2019	18:30:00	USER					1 Elite, 1 transport, 1 pickup
Event	4	Arrive at Location from Service Center	2/17/2019	23:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	2/17/2019	23:15:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 68 degrees
Event	6	Pre-Rig Up Safety Meeting	2/18/2019	00:15:00	USER					1 hardline to standpipe, water hoses to uprightS, bulk hose to silos
Event	7	Pre-Job Safety Meeting	2/18/2019	09:16:10	USER					All HES personnel, rig crew, and company rep
Event	8	Other	2/18/2019	10:30:00	USER					Rig Circulated 30 mins prior to cement job at 450 gpm 120 psi
Event	9	Start Job	2/18/2019	10:41:29	USER	8.34	0.00	8.00	0.00	TP 2754.67', SJ 32.70', OH 14.75'', Csg 9.625'' 36 lb/ft J-55, Mud 9.8 ppg.
Event	10	Fill Lines	2/18/2019	10:42:20	USER	8.44	2.00	240.00	3.00	Fresh Water
Event	11	Test Lines	2/18/2019	10:44:36	USER	8.34	0.00	2290.00	3.00	Held pressure 2 minutes no leaks
Event	12	Pump Water Spacer	2/18/2019	10:48:04	COM5	8.33	4.00	12.00	5.00	Fresh Water
Event	13	Pump Super Flush 100	2/18/2019	10:49:54	COM5	11.70	4.00	400.00	10.00	10 bbls Super flush
Event	14	Pump Water Spacer	2/18/2019	10:52:28	COM5	8.33	4.00	258.00	5.00	Fresh water
Event	15	Pump Calcium Chloride	2/18/2019	10:53:50	COM5	8.39	4.00	200.00	10.00	Calcium Chloride water
Event	16	Pump Water Spacer	2/18/2019	10:56:36	COM5	8.33	4.00	197.00	5.00	Fresh water
Event	17	Pump Super Flush 100	2/18/2019	10:57:51	COM5	11.70	4.00	250.00	10.00	10 bbls Super flush

Event	18	Pump Water Spacer	2/18/2019	11:00:30	COM5	8.33	4.00	128.00	5.00	Fresh water
Event	19	Pump Calcium Chloride	2/18/2019	11:01:59	COM5	8.55	4.00	150.00	10.00	Calcium Chloride water
Event	20	Pump Water Spacer	2/18/2019	11:04:33	COM5	8.33	4.00	120.00	10.00	Fresh water
Event	21	Check Weight	2/18/2019	11:07:38	USER					Density Verified via Mud Scales
Event	22	Pump Lead Cement	2/18/2019	11:10:31	USER	12.30	8.00	480.00	388.3	920 Sks 12.3 ppg 2.37 yield 13.74 gal/sk
Event	23	Pump Tail Cement	2/18/2019	12:03:23	USER	12.80	8.00	555.00	129.6	345 Sks 12.8 ppg 2.11 yield 11.75 gal/sk
Event	24	Check Weight	2/18/2019	12:03:40	COM5					Density Verified via Mud Scales
Event	25	Shutdown	2/18/2019	12:22:18	USER					Wash up on top of plug
Event	26	Drop Top Plug	2/18/2019	12:24:28	COM5					
Event	27	Pump Displacement	2/18/2019	12:25:14	COM5	8.34	10.00	904.00	210.40	Fresh Water
Event	28	Slow Rate	2/18/2019	12:47:32	USER	8.36	4.00	517.00	190.40	Slow Rate 20 bbls to calculated displacement
Event	29	Bump Plug	2/18/2019	12:51:26	USER	8.33	4.00	535.00	210.40	Plug Bumped at 535 psi, Brought up to 1155 psi
Event	30	Check Floats	2/18/2019	12:53:46	USER	8.32	0.00	1155.00	210.40	Floats held – 1 bbl back to the truck
Event	31	Clear Parasite Line	2/18/2019	13:11:33	COM5	8.33	2.00	520.00	10.00	10 bbls sugar water pumped
Event	32	Other	2/18/2019	14:28:44	COM5	8.42	0.00	13.00	0.00	Check for flow
Event	33	Pump Cement	2/18/2019	14:30:36	COM5	15.60	2.00	23.00	4.50	Top out cement 15.6ppg, 1.19 yield, 5.24 gl/sk.
Event	34	Shutdown	2/18/2019	14:35:43	COM5	15.67	0.00	55.00	4.50	56 sks total mixed, 4.5 bbls topped off well.
Event	35	End Job	2/18/2019	14:37:00	USER	15.09	0.00	13.00	5.50	Partial returns throughout job,
Event	36	Post-Job Safety Meeting (Pre Rig-Down)	2/18/2019	14:47:17	USER					10 lbs sugar, 7 add hours
Event	37	Pre-Convoy Safety Meeting	2/18/2019	15:45:00	USER					
Event	38	Crew Leave Location	2/18/2019	16:00:00	USER					Thanks For Using Halliburton Cement. Andrew Brennecke And Crew.

TERRA - TR 444-22-597 - 9.625" SURFACE



DH Density (ppg)    Comb Pump Rate (bbl/min)    PS Pump Press (psi)    Pump Stg Tot (bbl)