

# HALLIBURTON

iCem<sup>®</sup> Service

**TEP ROCKY MOUNTAIN LLC**

**For: Brandon Hilts and Abe Alexander**

Date: Sunday, February 12, 2017

**TR 524-21-597 Surface**

**API/UWI #: 05-045-23348-00**

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

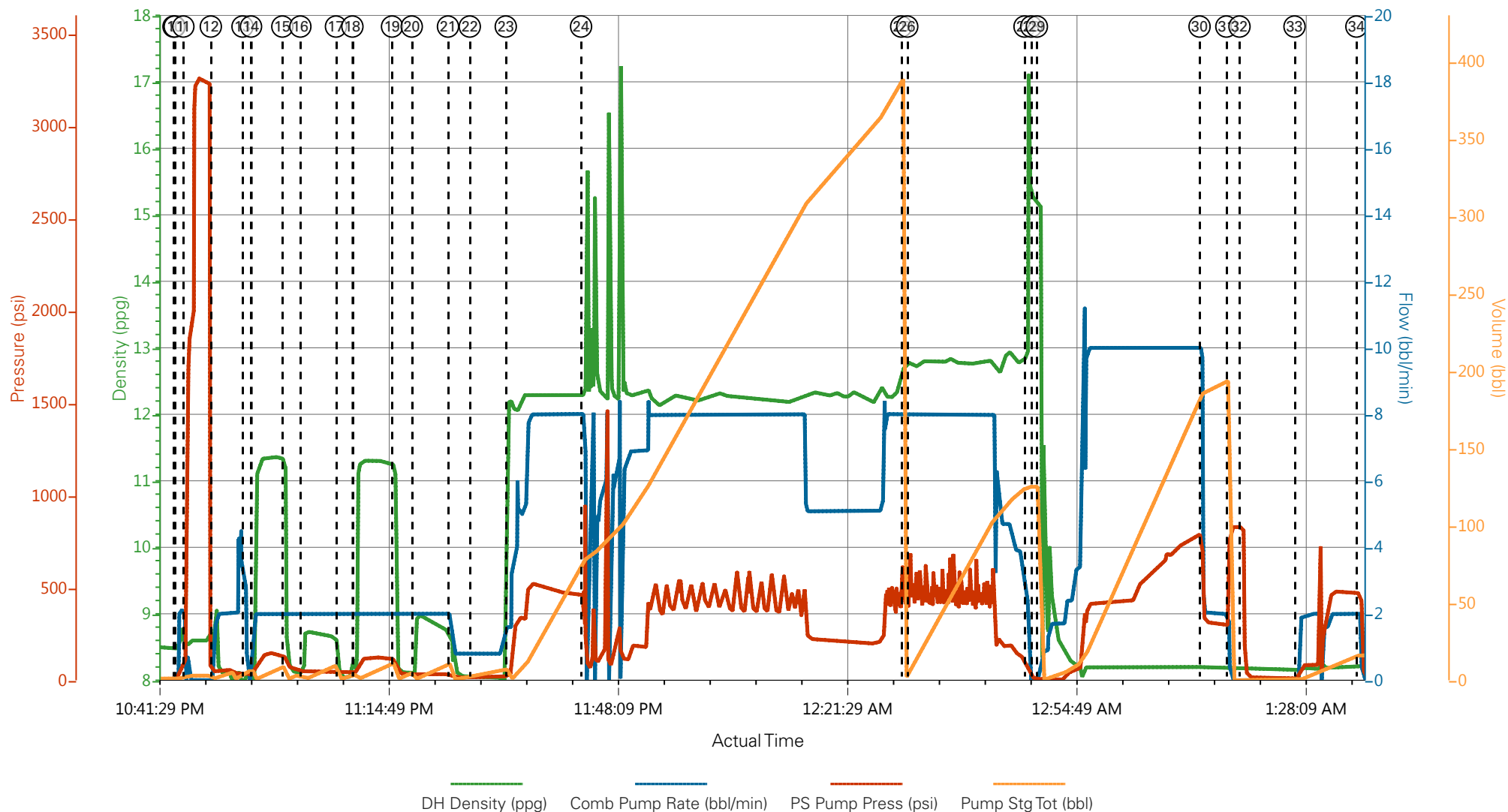
## 1.1 Job Event Log

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	2/11/2017	10:00:00	USER					Requested on Location @ 19:00
Event	2	Pre-Convoy Safety Meeting	2/11/2017	12:15:00	USER					
Event	3	Crew Leave Yard	2/11/2017	12:30:00	USER					1 Elite, 1 Frue, 1 pickup, 1 Transport
Event	4	Arrive at Location from Service Center	2/11/2017	18:00:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	2/11/2017	18:15:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 60 degrees
Event	6	Pre-Rig Up Safety Meeting	2/11/2017	19:40:00	USER					
Event	7	Rig-Up Equipment	2/11/2017	20:00:00	USER					1 hardline to standpipe, water hoses to upright and day tank, bulk hoses to silo and 660.
Event	8	Pre-Job Safety Meeting	2/11/2017	22:20:00	USER					All HES personnel, Rig crew, and Company Rep
Event	9	Start Job	2/11/2017	22:44:00	COM6					TD 2579' OF 14 3/4" OH, 18" Conductor @108', TP 2582', 1651.3' OF 9 5/8" J-55 36#/FT, 902.7' OF 9 5/8" J-55 40#/FT, SJ 27.8', Parasite 1.90" Total length 2492', Mud 9.2 PPG
Event	10	Fill lines	2/11/2017	22:44:10	USER	8.4	2	50	10	Fresh water
Event	11	Test Lines	2/11/2017	22:45:26	USER	8.4	.5	3030	.5	Held pressure 2 minutes no leaks
Event	12	Pump H2O Spacer	2/11/2017	22:49:25	COM6	8.4	2	40	5	5 bbls Fresh water
Event	13	Shutdown	2/11/2017	22:54:02	COM6					Shutdown to resolve Super flush delivery issue
Event	14	Pump Super Flush 100	2/11/2017	22:55:16	COM6	11	2	80	10	10 bbls Super Flush 100
Event	15	Pump H2O Spacer	2/11/2017	22:59:49	COM6	8.4	2	40	5	5 bbls Fresh water

Event	16	Pump Calcium Chloride Spacer	2/11/2017	23:02:26	COM6	9	2	59	10	10 sks Calcium Chloride in 10 bbls H2O
Event	17	Pump H2O Spacer	2/11/2017	23:07:37	COM6	8.4	2	40	5	5 bbls Fresh water
Event	18	Pump Super Flush 100	2/11/2017	23:10:00	COM6	11	2	123	10	10 bbls Super Flush 100
Event	19	Pump H2O Spacer	2/11/2017	23:15:46	COM6	8.4	2	100	5	5 bbls Fresh water
Event	20	Pump Calcium Chloride Spacer	2/11/2017	23:18:38	COM6	9	2	30	10	10 sks Calcium Chloride in 10 bbls H2O
Event	21	Pump H2O Spacer	2/11/2017	23:23:54	COM6	8.4	.8	20	10	10 bbls Fresh water
Event	22	Check weight	2/11/2017	23:27:04	COM6	12.3				Density Verified via Mud Scales
Event	23	Pump Lead Cement	2/11/2017	23:32:18	COM6	12.3	8	520	358.2	845 sks Varicem 12.3 PPG, 2.38 Ft3/sk, 13.76 Gal/sk. with lbs Tuf-Fiber throughout Cement after first 20 bbls away.
Event	24	Shutdown	2/11/2017	23:43:15	USER					Kicked out/ shutdown to resolve HT400 not moving fluid
Event	25	Pump Tail Cement	2/12/2017	00:29:49	COM6	12.8	8	440	129.6	345 Sks Varicem 12.8 PPG, 2.11 Ft3/sk, 11.78 Gal/sk
Event	26	Check weight	2/12/2017	00:30:41	COM6	12.8				Density Verified via Mud Scales
Event	27	Shutdown	2/12/2017	00:47:44	USER					Wash up on top of plug
Event	28	Drop Top Plug	2/12/2017	00:48:43	USER					Verify Plug Launched
Event	29	Pump Displacement	2/12/2017	00:49:32	COM6	8.4	10	795	196.1	Freshwater
Event	30	Slow Rate	2/12/2017	01:13:11	USER	8.4	2	320	186	Slow Rate 10 bbls to Calculated Displacement
Event	31	Bump Plug	2/12/2017	01:17:05	COM6	8.4	2	320	196.1	Plug Bumped at 320 psi, Brought up to 839 psi
Event	32	Check Floats	2/12/2017	01:19:00	USER			839		Floats held – ½ bbl back to the truck
Event	33	Clear Parasite String	2/12/2017	01:27:00	USER	8.4	2	800	16	10 lbs sugar in 15 bbls H2O
Event	34	Shutdown	2/12/2017	01:36:00	USER					Circulation broke at 800 psi
Event	35	Wait on Cement	2/12/2017	02:00:00	USER					Waiting to topout. No returns throughout job
Event	36	Start Topout	2/12/2017	06:43:11	USER					Cement top tagged at 320'
Event	37	H2O Spacer	2/12/2017	06:43:51	USER	8.4	1	20	1	1 bbl Freshwater

Event	38	Check weight	2/12/2017	06:45:31	COM6	15.6				Density Verified via Mud Scales
Event	39	Pump Topout Cement	2/12/2017	06:46:33	COM6	15.6	2	70	44.5	215 sks Topout 15.6 ppg, 1.19 Ft3/sk, 5.24 Gal/sk. 10 bbls Superflush and 10 50 lb bags of CCL. 8 bbls of cement pumped to surface. Total of 37.5 bbls (177 sks) to topout well.
Event	40	Shutdown	2/12/2017	07:11:03	USER					Wash-up and blow down pump to cellar
Event	41	End Job	2/12/2017	07:11:52	USER					Good returns throughout job, pipe was not reciprocated during cement, 8 bbls of cement to surface
Event	42	Other	2/12/2017	07:15:00	USER					Rig Circulated prior to cement job 32 total bbls at 138 psi
Event	43	Pre-Rig Down Safety Meeting	2/12/2017	08:12:49	USER					Ticket items, 50 lbs sugar, 5 add hours, 45 lbs tuff fiber, 10 bbls SF, 215 sks top out.
Event	44	Rig-Down Equipment	2/12/2017	08:15:00	USER					
Event	45	Pre-Convoy Safety Meeting	2/12/2017	09:15:00	USER					
Event	46	Crew Leave Location	2/12/2017	09:30:00	USER					Thank you for using Halliburton – Ryan Muhlestein and crew.

# Terra Energy - TR 524-21-597 - Surface Casing



- |                                          |                                |                                 |                      |                          |
|------------------------------------------|--------------------------------|---------------------------------|----------------------|--------------------------|
| ① Call Out                               | ⑨ Start Job                    | ⑰ Pump H2O Spacer               | 25 Pump Tail Cement  | 33 Clear Parasite String |
| ② Pre-Convoy Safety Meeting              | ⑩ Fill lines                   | ⑱ Pump Super Flush 100          | 26 Check weight      | 34 Shutdown              |
| ③ Crew Leave Yard                        | ⑪ Test Lines                   | ⑲ Pump H2O Spacer               | 27 Shutdown          | 35 Wait on Cement        |
| ④ Arrive at Location from Service Center | ⑫ Pump H2O Spacer              | 20 Pump Calcium Chloride Spacer | 28 Drop Top Plug     | 36 Start Topout          |
| ⑤ Assessment Of Location Safety Meeting  | ⑬ Shutdown                     | 21 Pump H2O Spacer              | 29 Pump Displacement |                          |
| ⑥ Pre-Rig Up Safety Meeting              | ⑭ Pump Super Flush 100         | 22 Check weight                 | 30 Slow Rate         |                          |
| ⑦ Rig-Up Equipment                       | ⑮ Pump H2O Spacer              | 23 Pump Lead Cement             | 31 Bump Plug         |                          |
| ⑧ Pre-Job Safety Meeting                 | ⑯ Pump Calcium Chloride Spacer | 24 Shutdown                     | 32 Check Floats      |                          |

▼ **HALLIBURTON** | iCem® Service

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Edit

Customer : TEP ROCKY MOUNTAIN LLC

Job Date : 2/11/2017

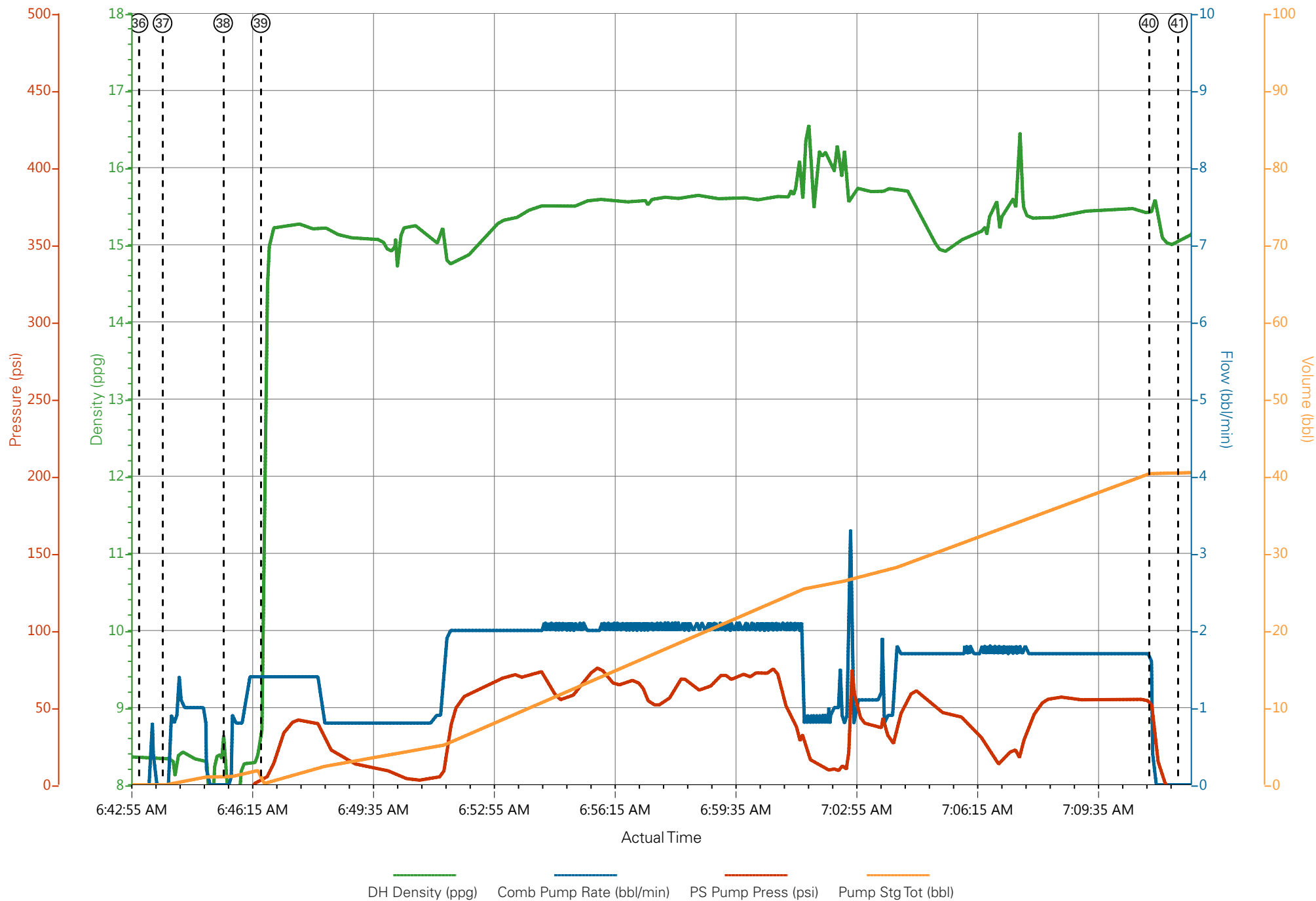
Well : TR 524-21-597

Representative : Jason Boebert

Sales Order # : 903832595

Elite 1 : Muhlestein/Angelo

# Terra Energy - TR 524-21-597 - Topout #1



# Terra Energy - TR 524-21-597 - Surface Casing

