

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

United States of America, COLORADO

Date: Monday, August 27, 2018

## **CLOUGH NR 511-3**

API# 05-045-23914

Terra Clough NR 511-3 Surface

Job Date: Tuesday, July 31, 2018

Sincerely,

**Grand Junction Cement Engineering**

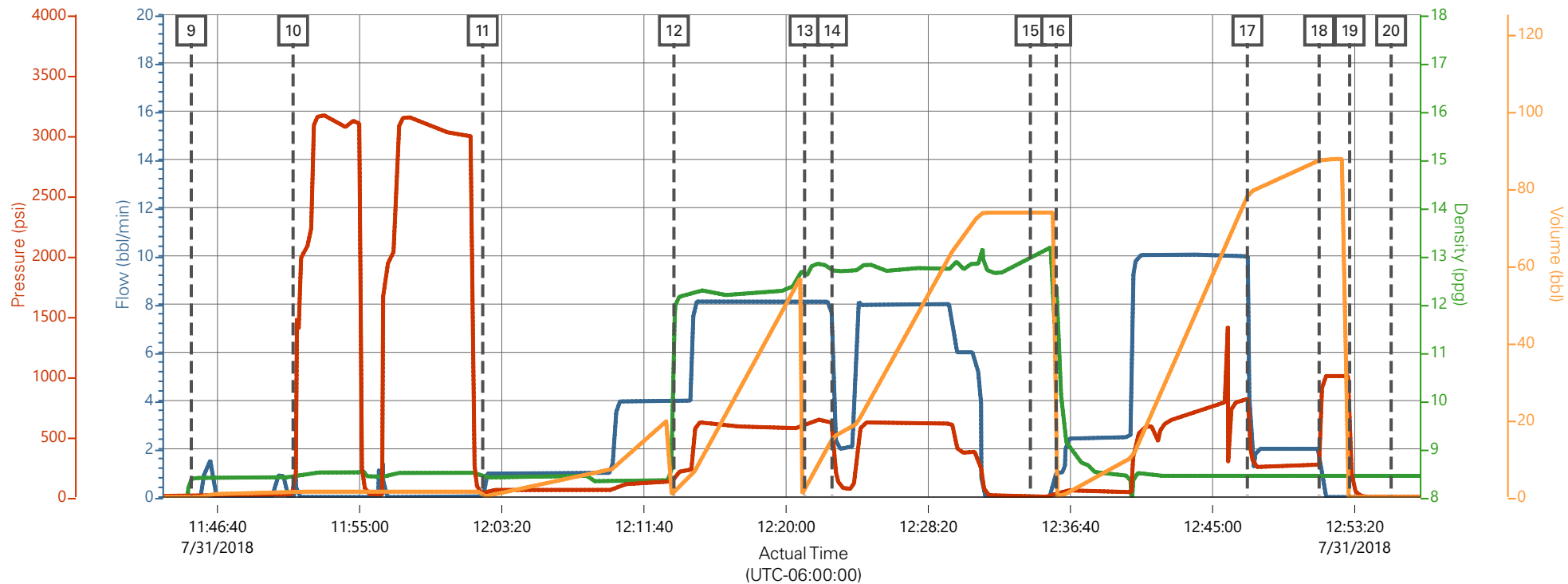
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	7/31/2018	03:00:00	USER					REQUESTED ON LOCATION 7/31/18 @ 07:00
Event	2	Depart Yard Safety Meeting	7/31/2018	04:55:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	7/31/2018	05:00:00	USER					
Event	4	Arrive At Loc	7/31/2018	07:00:00	USER					RIG TRIPPING OUT OF HOLE
Event	5	Assessment Of Location Safety Meeting	7/31/2018	07:05:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	7/31/2018	07:15:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	7/31/2018	07:20:00	USER					
Event	8	Pre-Job Safety Meeting	7/31/2018	09:00:00	USER					JSA COMPLETED
Event	9	Start Job	7/31/2018	11:45:08	COM4					9 5/8"-36# CASING IN 13 1/2" OH, TD 1135', TP 1125', ST 44.6', MUD 9.4 PPG, WATER TEMP 60, PH 7, CHLORIDES 0
Event	10	Test Lines	7/31/2018	11:51:06	COM4			3000.00		TEST LINES TO 3000 PSI, FIRST TEST HAD LOOSE HAMMER UNION, SECOND TEST HELD GOOD
Event	11	Pump Spacer 1	7/31/2018	12:02:13	COM4	4.00	8.33	50.00	20.00	20 BBL FRESH WATER
Event	12	Pump Lead Cement	7/31/2018	12:13:25	COM4	8.00	12.30	600.00	53.00	53 BBLS LEAD CEMENT, 125 SKS @ 12.3 PPG / 2.38 YLD / 13.77 GAL/SK

Event	13	Pump Tail Cement	7/31/2018	12:21:05	COM4	8.00	12.80	600.00	65.80	65.8 BBL TAIL CEMENT 175 SKS @ 12.8 PPG / 2.11 YLD / 11.78 GAL/SK
Event	14	Slow Rate	7/31/2018	12:22:41	USER					CELLAR PUMP BLEW HYDRAULIC HOSE, SLOW RATE TO KEEP CELLAR FROM OVERFLOWING
Event	15	Drop Top Plug	7/31/2018	12:34:19	COM4					PLUG AWAY
Event	16	Pump Displacement	7/31/2018	12:35:50	COM4	10.00	8.33	820.00	85.00	85 BBLS FRESH WATER DISPLACEMENT
Event	17	Slow Rate	7/31/2018	12:47:02	USER	2.00	8.33	240.00	75.00	SLOW RATE AT 75 BBLS AWAY, 820 PSI @10 BBL/MIN TO 240 PSI @ 2 BBL/MIN
Event	18	Bump Plug	7/31/2018	12:51:15	COM4	2.00	8.33	260.00	85.00	PLUG BUMPED AT CALCULATED, FINAL CIRCULATING PRESSURE 260 PSI BROUGHT TO 1000 PSI
Event	19	CHECK FLOATS	7/31/2018	12:53:02	COM4					FLOATS HELD, .5 BBL BACK TO PUMP
Event	20	End Job	7/31/2018	12:55:28	COM4					GOOD CIRCULATION THROUGHOUT, 32 BBLS CEMENT TO SURFACE, 40# SUGAR USED, NO ADD HOURS CHARGED
Event	21	Pre-Rig Down Safety Meeting	7/31/2018	13:10:00	USER					JSA COMPLETED
Event	22	Rig-Down Equipment	7/31/2018	13:15:00	USER					
Event	23	Pre-Convoy Safety Meeting	7/31/2018	13:55:00	USER					JSA COMPLETED
Event	24	Crew Leave Location	7/31/2018	14:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

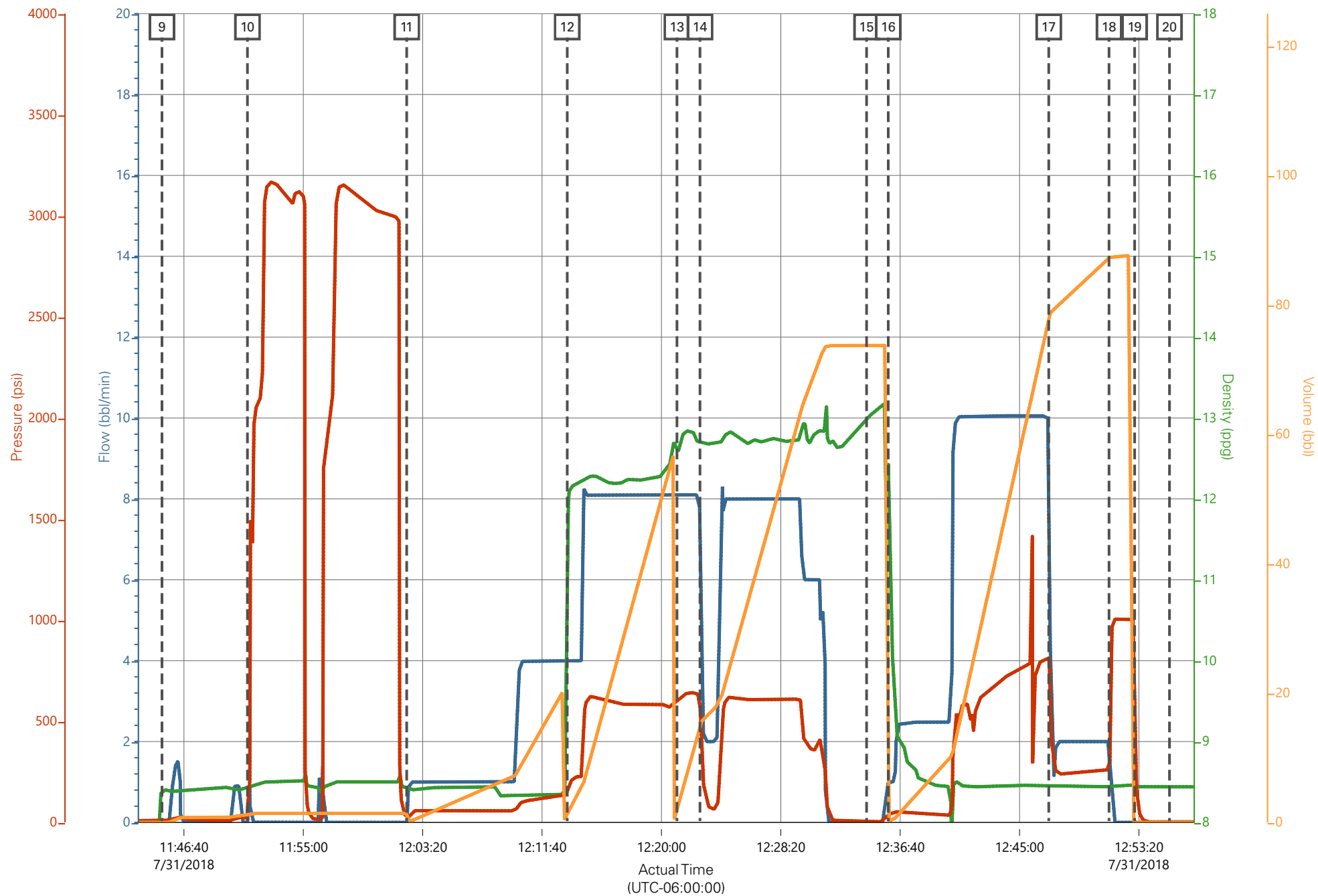
# TEP - CLOUGH NR 511-3 - 9 5/8" SURFACE CASING



Comb Pump Rate (bbl/min) 0    DH Density (ppg) 8.44    PS Pump Press (psi) 3    Pump Stg Tot (bbl) 0

Description	Actual Time (UTC-06:00:00)	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)
9 Start Job	11:45:08	0.00	8.39	8.00	0.00
10 Test Lines	11:51:06	0.00	8.43	22.00	1.30
11 Pump Spacer 1	12:02:13	0.00	8.42	24.00	1.40
12 Pump Lead Cement	12:13:25	4.00	11.32	148.00	1.30
13 Pump Tail Cement	12:21:05	8.10	12.56	605.00	2.00
14 Slow Rate	12:22:41	7.20	12.71	579.00	15.00
15 Drop Top Plug	12:34:19	0.00	12.98	4.00	73.70
16 Pump Displacement	12:35:50	1.00	12.45	40.00	0.20
17 Slow Rate	12:47:02	10.00	8.45	816.00	78.00
18 Bump Plug	12:51:15	2.00	8.44	261.00	87.20
19 CHECK FLOATS	12:53:02	0.00	8.46	1004.00	0.00
20 End Job	12:55:28	0.00	8.44	3.00	0.00

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DH Density (ppg) 8.44

PS Pump Press (psi) 3

Pump Stg Tot (bbl) 0