

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS-EBUS

United States of America, COLORADO

For: Terra

Date: Monday, February 11, 2019

SG 421-22 Surface

API#05-045-24134

GARFIELD, SG

TEP SG 421-22 SURFACE

Job Date: Monday, February 11, 2019

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	2/10/2019	21:30:00	USER					CREW CALLED OUT TO H&P 318 FOR TEP SURFACE JOB. REQUESTED ON LOCATION AT 03:00.
Event	2	Pre-Convoy Safety Meeting	2/11/2019	00:15:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	2/11/2019	00:30:00	USER					
Event	4	Arrive at Location	2/11/2019	02:00:00	USER					RIG WAS PULLING OUT OF HOLE WITH DRILL PIPE UPON HES ARRIVAL
Event	5	Assessment of Location Safety Meeting	2/11/2019	02:05:00	USER					WITH ALL HES PERSONNEL
Event	6	Spot Equipment	2/11/2019	02:10:00	USER					SPOT EQUIPMENT
Event	7	Pre-Rig Up Safety Meeting	2/11/2019	02:20:00	USER					WITH ALL HES PERSONNEL
Event	8	Rig-Up Equipment	2/11/2019	02:30:00	USER					1-RCM ELITE PUMP TRUCK, 1-660 FT3 BULK TRUCK, 1-PICKUP
Event	9	Rig-Up Completed	2/11/2019	03:00:00	USER					RIG UP COMPLETED. WAIT FOR RIG TO FINISH RUNNING CASING.
Event	10	Pre-Job Safety Meeting	2/11/2019	05:30:00	USER					WITH ALL PERSONNEL ON LOCATION
Event	11	Comment	2/11/2019	05:50:00	USER					PRESSURIZED MUD SCALES CALIBRATED ON WATER PRIOR TO JOB. ALL FLUID DENSITIES VERIFIED USING PRESSURIZED MUD SCALES THROUGHOUT JOB.
Event	12	Start Job	2/11/2019	05:58:00	USER					
Event	13	Pump Water	2/11/2019	05:59:46	USER	50	8.33	2	2	PUMP 2 BBL H2O AHEAD TO PRIME LINES. PUMPED AT 2 BPM WITH 50 PSI
Event	14	Shutdown	2/11/2019	06:01:02	USER					SHUTDOWN TO LINE OUT VALVES ON MANIFOLD FOR PRESSURE TEST

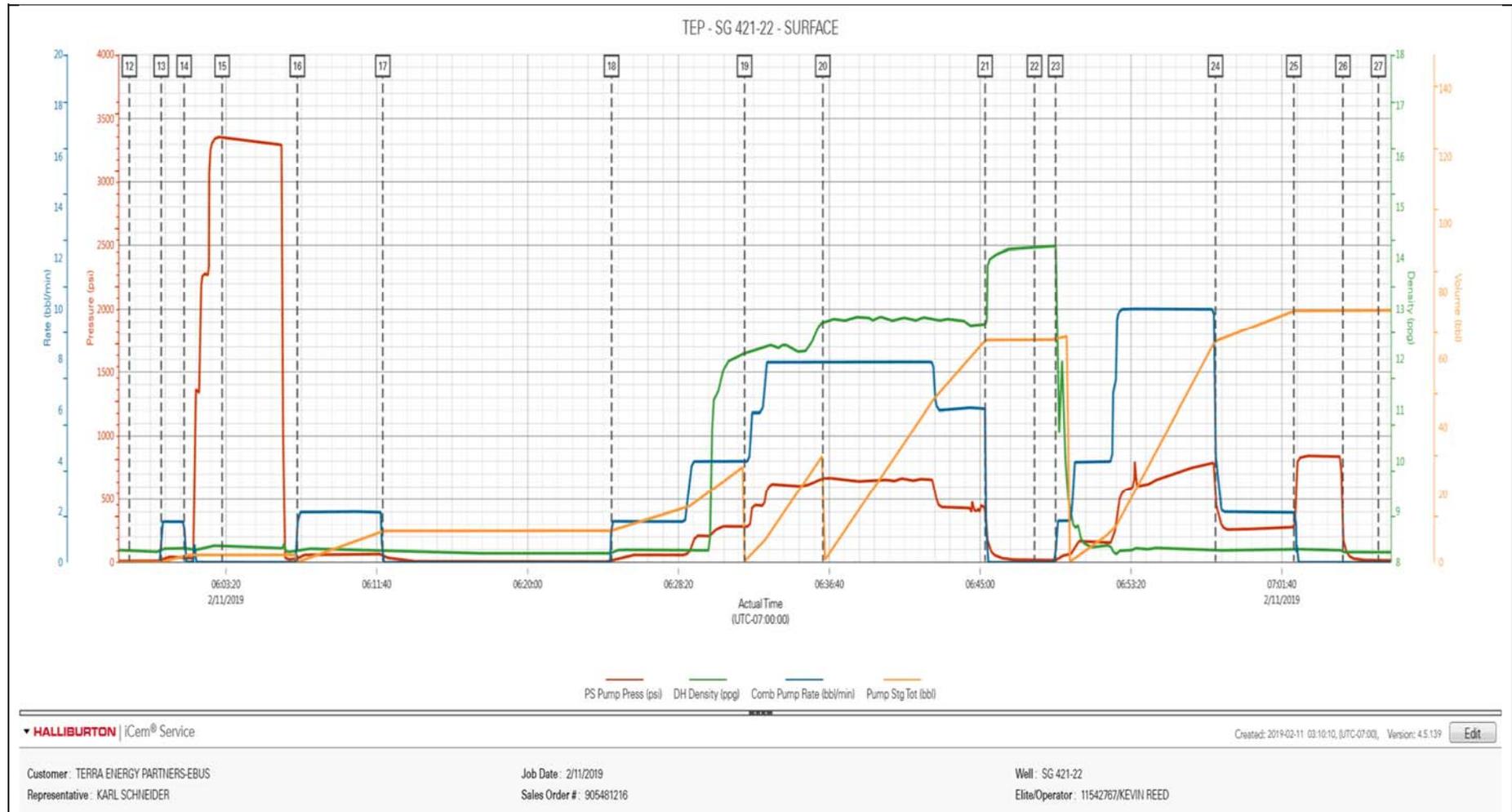
Event	15	Pressure Test	2/11/2019	06:03:08	USER	3356.00				SET KICKOUTS TO 500 PSI FOR LOW TEST TO ENSURE KICKOUTS ARE FUNCTIONING PROPERLY. BROUGHT PRESSURE UP TO 3,350 PSI FOR HIGH TEST.
Event	16	Pump Spacer	2/11/2019	06:07:17	USER	200	8.33	3	20	PUMP 20 BBL H2O SPACER. PUMPED AT 4 BPM WITH 200 PSI.
Event	17	Shutdown	2/11/2019	06:12:00	USER					SHUTDOWN DUE TO LEAK ON WELL HEAD IN CELLAR.
Event	18	Resume Pumping	2/11/2019	06:24:38	USER					RESUME PUMPING SPACER AFTER WELL HEAD WAS TIGHTENED.
Event	19	Pump Lead Cement	2/11/2019	06:31:59	USER	650	12.3	8	42.4	PUMP 42.4 BBL VARICEM GJ1 LEAD CEMENT. 100 SKS AT 12.3 PPG, 2.38 FT3/SK, 13.77 GAL/SK. PUMPED AT 8 BPM WITH 630 PSI
Event	20	Pump Tail Cement	2/11/2019	06:36:19	USER	690	12.8	8	65.8	PUMP 65.8 BBL VARICEM GJ1 TAIL CEMENT. 175 SKS AT 12,8 PPG, 2.11 FT3/SK, 11.78 GAL/SK. PUMPED AT 8 BPM WITH 690 PSI
Event	21	Shutdown	2/11/2019	06:45:17	USER					SHUTDOWN TO DROP TOP PLUG.
Event	22	Drop Top Plug	2/11/2019	06:48:00	USER					DROP HES TOP PLUG. PLUG LAUNCHED. WITNESSED BY CUSTOMER REP.
Event	23	Pump Displacement	2/11/2019	06:49:10	USER	790	8.33	10	66.7	PUMP 66.7 BBL H2O DISPLACEMENT AT 10 BPM WITH 795 PSI.
Event	24	Slow Rate	2/11/2019	06:58:00	USER	290	8.33	2	10	SLOW RATE TO 2 BPM 10 BBL PRIOR TO CALCULATED DISPLACEMENT TO BUMP PLUG.
Event	25	Bump Plug	2/11/2019	07:02:20	USER	840			76.7	PLUG BUMPED AT 2 BPM. FCP-290 PSI. BROUGHT PRESSURE UP TO 840 PSI. TOTAL DISPLACEMENT-76.7 BBL
Event	26	Check Floats	2/11/2019	07:05:02	USER					FLOATS HOLDING. RETURNED 1/2 BBL FLUID TO TRUCK
Event	27	End Job	2/11/2019	07:07:00	USER					PIPE WAS STATIC DURING JOB. GOOD CIRCULATION THROUGHOUT JOB.
Event	28	Pre-Rig Down Safety Meeting	2/11/2019	07:10:00	USER					WITH ALL HES PERSONNEL
Event	29	Rig-Down Equipment	2/11/2019	07:15:00	USER					
Event	30	Rig-Down Completed	2/11/2019	07:50:00	USER					
Event	31	Pre-Convoy Safety	2/11/2019	07:55:00	USER					WITH ALL HES PERSONNEL

Meeting

Event	32	Crew Leave Location	2/11/2019	08:00:00	USER	
Event	33	Well Info	2/11/2019	08:01:00	USER	TD-1,020', TP-1,015.65', SHOE-41.17', HOLE 13 1/2", MUD-10.6 PPG WBM, CSG-9 5/8" 32.3 LB/FT H-40
Event	34	Rig Info	2/11/2019	08:02:00	USER	RIG ON BOTTOM AT 05:00 , CIRCULATED AT 9.5 BPM WITH 120 PSI, 151 BBL CIRCULATED
Event	35	Job Info	2/11/2019	08:03:00	USER	ESTIMATED TOP OF TAIL CEMENT-296', RETURNED 11 BBL LEAD CEMENT TO SURFACE. USED 40 LBS SUGAR IN CEMENT RETURNS. TOP PLUG WAS USED FOR JOB.
Event	36	Comment	2/11/2019	08:04:00	USER	THANK YOU FOR USING HALLIBURTON CEMENT DEPARTMENT. JEREMY YOUNG AND CREW.

3.0 Attachments

3.1 TEP SG 421-22 SURFACE-WITH EVENTS.png



3.2 TEP SG 421-22 SURFACE-WITHOUT EVENTS.png

