HALLIBURTON

iCem® Service

TERRA ENERGY PARTNERS-EBUS

Rock Springs District, WY

For: H&P 318

Date: Friday, October 25, 2019

GM 14-8 Surface

Garfield, Puckett

API 05-045-24100

Job Date: Friday, October 25, 2019

Sincerely,

Rock Springs Engineering

Legal Notice

Disclaimer:

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services for this cementing services job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton, Rock Springs

Job Times

	Date	Time	Time Zone
Called Out	10/25/2019	0900	MST
On Location	10/25/2019	1130	MST
Job Started	10/25/2019	1500	MST
Job Completed	10/25/2019	1630	MST
Departed Location	10/25/2019	1730	MST

1.2 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	48
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	9.8
4	Time circulated before job	HH:MM	00:30
5	Mud volume circulated	Bbls	300
6	Rate at which well was circulated	Bpm	11
7	Pipe movement during hole circulation	Y/N	N
8	Rig pressure while circulating	Psi	450
9	Time from end mud circulation to start of job	HH:MM	00:10
10	Pipe movement during cementing	Y/N	N
11	Calculated displacement	Bbls	75
12	Job displaced by	Rig/HES	HES
13	Annular flow before job	Y/N	N
14	Annular flow after job	Y/N	N
15	Length of rat hole	Ft	5
16	Units of gas detected while circulating	Units	0
17	Was lost circulation experienced at any time ?	Y/N	N

1.3 Water Analysis Report

CEMENT MIX WATER REQUIREMENTS

Item	Recorded Test Value	Units	Max. Acceptable Limit	Potential Problems in Exceeding Limit
pH	7	----	6.0 - 8.0	Chemicals in the water can cause severe retardation
Chlorides	0	ppm	3000 ppm	Can shorten thickening time of cement
Temperature	70	°F	50-80 °F	High temps will accelerate; Low temps may risk freezing in cold weather

2.0 Real-Time Job Summary

2.1 Job Event Log

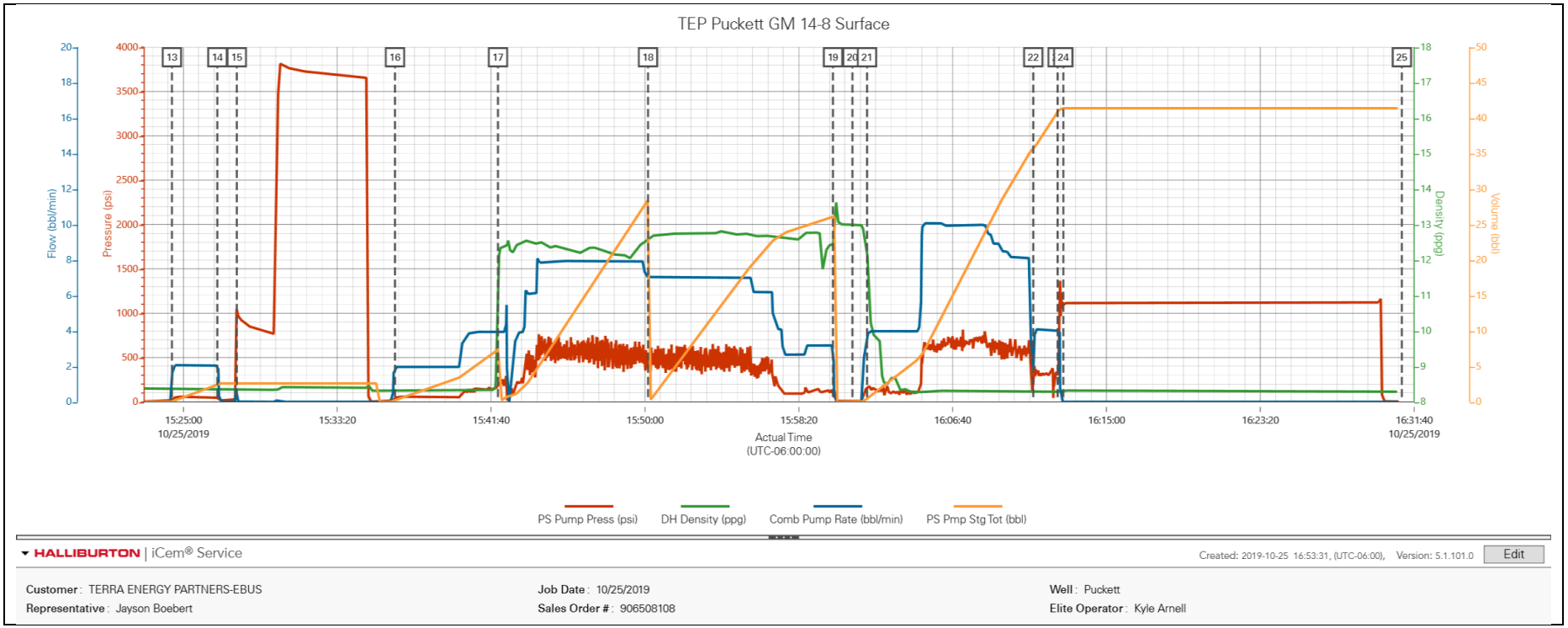
Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pmp Stg Tot (bbl)	Comments
Event	1	Call Out	10/25/2019	09:00:00	USER					Crew called out to H&P 318 for TEP Surface job. Requested on locaiton for 1200.
Event	2	Pre-Convoy Safety Meeting	10/25/2019	10:00:00	USER					ALL HAZARDS ASSOCIATED WITH DRIVING TO LOCATION DISCUSSED AMONG THE CREW.
Event	3	Crew Leave Yard	10/25/2019	10:15:00	USER					CREW LEFT STAGING AREA IN PARACHUTE CO.
Event	4	Arrive At Location	10/25/2019	11:00:00	USER					RIG STARTED RUNNIG CASING UPON HES ARRIVAL.
Event	5	Assessment Of Location Safety Meeting	10/25/2019	11:01:00	USER					LOCATION ASSESMENT DONE BY THE CREW.
Event	6	Spot Equipment	10/25/2019	11:10:00	USER					
Event	7	Pre-Rig Up Safety Meeting	10/25/2019	11:20:00	USER					ALL HAZARDS ASSOCIATED WITH RIG UP DISCUSSED AMONG THE CREW
Event	8	Rig-Up Equipment	10/25/2019	11:30:00	USER					1 RCM Elite Pump Truck 1- 660 cu.ft. Bulk Truck 2- 1700 cu.ft. Silos 1- Iron Truck
Event	9	Rig-Up Completed	10/25/2019	12:00:00	USER					Rig up completed.
Event	10	Check Weight	10/25/2019	12:01:00	USER					Pressurized mudscales calibrated using fresh water prior to start job. All fluid density's verified using pressurized mud scales throughout the job.
Event	13	Pre-Job Safety Meeting	10/25/2019	15:20:05	USER	23.14	8.32	1.14	1.35	ALL HAZARDS ASSOCIATED WITH PUMPING THE JOB WHERE DISCUSSED AMONG ALL MEMBERS ON LOCAITON
Event	16	Start Job	10/25/2019	15:22:00	USER	1.57	8.11	0.00	0.00	
Event	17	Pump Water	10/25/2019	15:24:23	USER	22.20	8.35	1.60	0.02	Pumped 5BBL H2O ahead to prime pumps and lines. Pumped at 2 BBL/MIN. Pressure was 60 PSI.

Event	18	Shutdown	10/25/2019	15:26:50	USER	51.26	8.36	2.06	2.53	SHUTDOWN TO LINE OUT VALVES FOR PRESSURE TEST
Event	22	Pressure Test	10/25/2019	15:27:54	USER	998.15	8.33	0.00	2.60	Set kickouts to 500 PSI for low test to ensure kickouts function properly. Brought pressure up to 3,500 PSI for high pressure test.
Event	26	Pump H2O	10/25/2019	15:36:28	USER	50.33	8.32	1.98	0.11	Pumped 15 BBL of H20 at 4 BBL/MIN pressure was 97 PSI.
Event	44	Pump Lead Cement	10/25/2019	15:42:02	USER	174.08	11.49	3.95	7.36	Pumped 53 BBL of VariCem RS1 Lead Cement 125 SK - 12.3 PPG - 2.38 FT3/SK - 13.77 GAL/SK. Pumped at 8 BPM with 470 PSI
Event	101	Pump Tail Cement	10/25/2019	15:50:10	USER	473.14	12.58	7.05	28.48	Pumped 56.4 BBL of VariCem Tail Cement 150 SK - 12.5 PPG - 2.11 FT3/SK - 11.78 GAL/SK. Pumped at 8 BPM with 450 PSI.
Event	178	Shutdown	10/25/2019	16:00:11	USER	79.39	12.44	3.19	26.10	SHUTDOWN TO DROP HES TOP PLUG.
Event	187	Drop Top Plug	10/25/2019	16:01:14	USER	7.20	12.99	0.00	0.00	Dropped HES top plug. Customer representative witnessed. Plug launched successfully.
Event	191	Pump Displacement	10/25/2019	16:02:02	USER	157.20	12.20	3.52	0.36	Pumped 65 BBL of H20 Displacement at 8 BBL/MIN with 700 PSI.
Event	194	Slow Rate	10/25/2019	16:11:02	USER	289.39	8.29	1.78	35.69	Slow Rate to 4 BBL/MIN 10 BBL prior to calculated displacement to bump plug.
Event	195	Bump Plug	10/25/2019	16:12:21	USER	316.58	8.29	4.02	40.88	Plug bumped at 4BPM. FCP 320 PSI. Brought Pressure up to 1,114 PSI. Total Displacement 75 BBL.
Event	196	Casing Test	10/25/2019	16:12:40	USER	1101.28	8.32	0.00	41.38	Held 1,115 PSI on the casing for 15 minutes per customer request.
Event	198	End Job	10/25/2019	16:31:00	USER					Pipe was static during the job. Good circulation during the job.
Event	199	Check Floats	10/25/2019	16:45:00	USER					Floats holding. Returned 1.5 BBL to the pump truck.
Event	200	Pre-Rig Down Safety Meeting	10/25/2019	16:46:00	USER					Hazards associated with rig-down and job roles where discussed among the crew.
Event	201	Rig-Down Equipment	10/25/2019	16:50:00	USER					
Event	202	Rig-Down Completed	10/25/2019	17:20:00	USER					
Event	203	Pre-Convoy Safety Meeting	10/25/2019	17:21:00	USER					Hazards associated with driving from location were discussed among the crew members.
Event	204	Crew Leave Location	10/25/2019	17:30:00	USER					
Event	205	Well Information	10/25/2019	17:31:00	USER					TD 1,020 FT, TP 1,014.20 FT, SJ 42.92 FT, Hole 13.5 IN, Mud 9.5 LB/GAL WBM. Casing- 9.625 IN - 36 LB/FT - J-55.

Event	206	Rig Information	10/25/2019	17:32:00	USER	Rig on bottom at 1500. Circulated at 11 BBL/MIN with 450 PSI. Circulated 400 BBL.
Event	207	Job Information	10/25/2019	17:33:00	USER	Calculated Top of Tail Cement 405 FT. Returned 17 bbl Lead cement to surface.Used. HES top plug used, returned 100 pounds of sugar to the bulk plant.
Event	208	Comment	10/25/2019	17:34:00	USER	Thank you for using Halliburton Cement Department - Zack Crutchman and crew.

3.0 Attachments

3.1 TEP Pucket GM 14-8- With Events.png



3.2 TEP Pucket GM 14-8- Without Events.png