

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

Rock Springs District, Colorado

For: H&P 318

Date: Tuesday, November 12, 2019

GM 313-8 Surface

API# 05-045-24090

Job Date: Tuesday, November 12, 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

2.0 Real-Time Job Summary

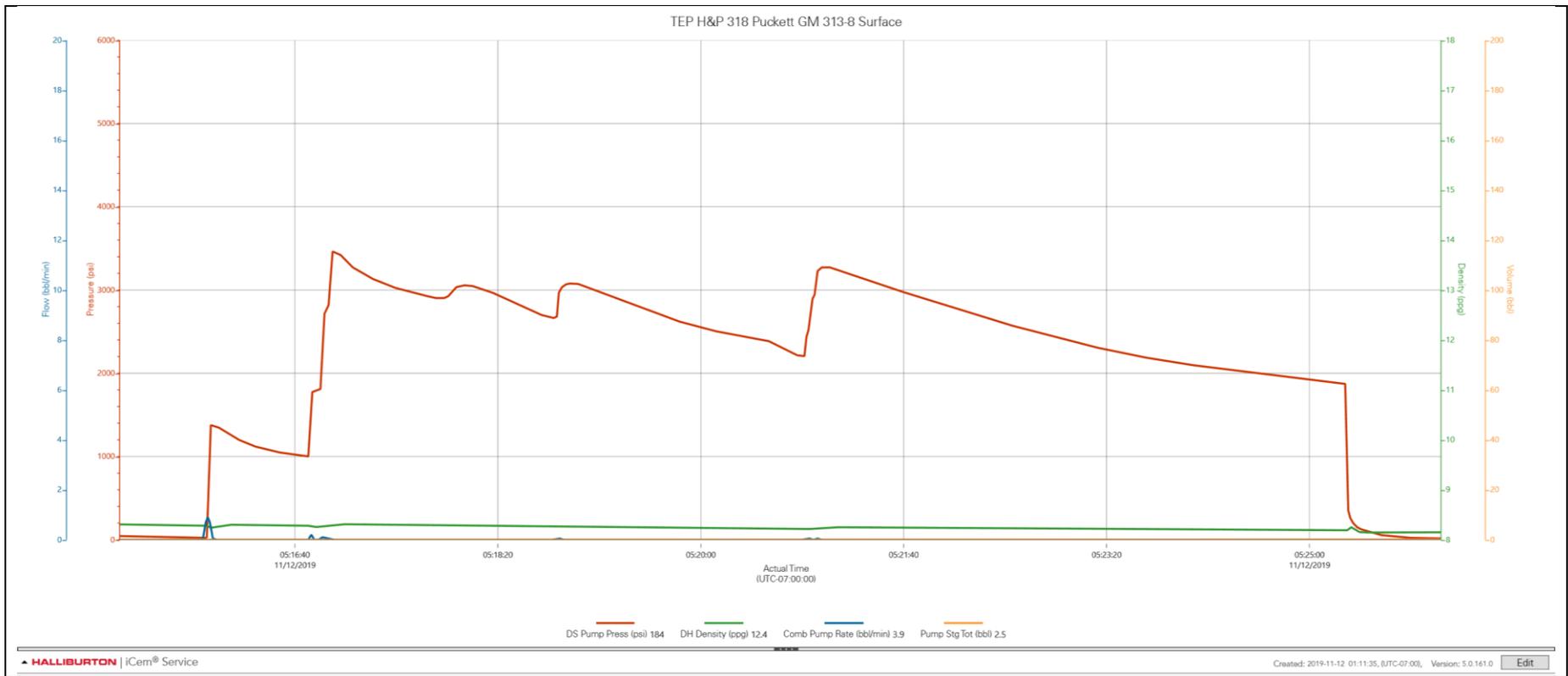
2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DS 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	11/11/2019	20:00:00	USER					
Event	2	Pre Journey	11/12/2019	00:15:00	USER					Discuss all travel related safety issues with crew
Event	3	Leave Staging Area	11/12/2019	00:30:00	USER					
Event	4	Arrive at Job	11/12/2019	01:00:00	USER					Meet with customer J.G. Wade and get numbers. 9.625" 36 lb casing set at 1014', 13.5" hole at 1020', 9.6 ppg WBM in the hole, 18" Conductor set at 72', 36' Shoe Joint. Mud properties: PV 12@120, YP 12, Gels 6/22/32. Water Test: pH 6.5, Temp 70, Cl <200. Rig was running casing when we arrived on location. ~ 20 joints left to run.
Event	5	Site Assement	11/12/2019	01:05:00	USER					Identify and discuss all hazards with the crew
Event	6	Spot Equipment	11/12/2019	01:10:00	USER					Use spotters and radios
Event	7	Pre Rig Up	11/12/2019	01:15:00	USER					Discuss all rig up related safety issues with crew
Event	8	Rig Up	11/12/2019	01:20:00	USER					
Event	9	Pre Job	11/12/2019	05:00:00	USER					Discuss all job related safety issues and pump schedule with customer, crew, and rig crew.
Event	10	Start Job	11/12/2019	05:11:30	USER					
Event	11	Fill Lines	11/12/2019	05:12:29	USER	3.00	8.27	0.80	0.00	5 bbls water
Event	12	Pressure Test	11/12/2019	05:21:00	USER	3274.00	8.24	0.00	0.10	Low and high pressure tests
Event	13	Pump Water	11/12/2019	05:27:00	USER	17.00	8.15	0.80	0.10	20 bbls
Event	14	Pump Lead Cement	11/12/2019	05:33:00	USER	103.00	12.35	0.00	0.90	53 bbls lead cement 12.3 ppg, 2.38 cuft/sk, 13.74 gal/sk 125 sks. 41 bbls water needed.
Event	15	Pump Tail Cement	11/12/2019	05:40:54	USER	517.00	12.81	8.00	2.00	57 bbls cement 12.8 ppg, 2.11 cuft/sk, 11.74 gal/sk, 150 sks. 42 bbls water needed.

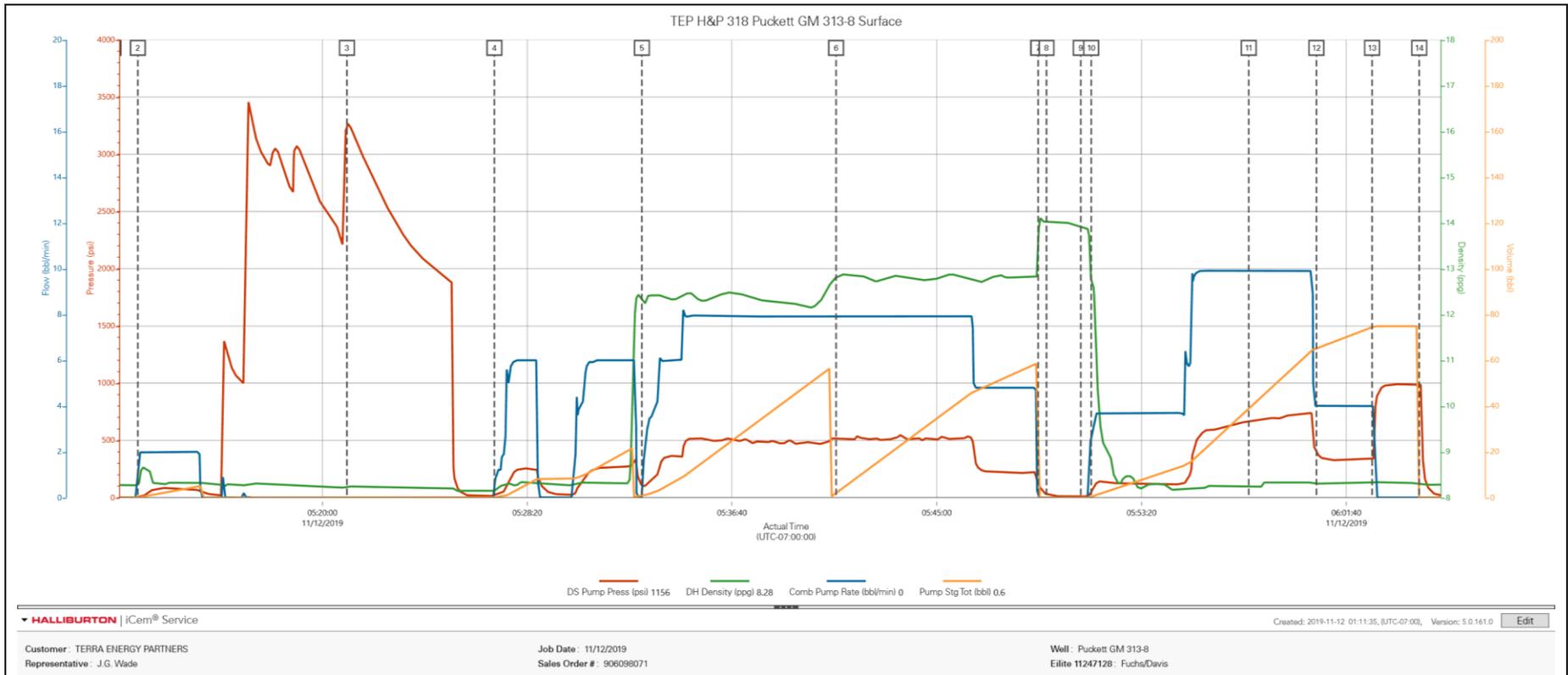
Event	16	Shutdown	11/12/2019	05:49:08	USER	120.00	13.67	0.00	0.00	Shutdown to drop plug
Event	17	Clean Lines	11/12/2019	05:49:28	USER	29.00	14.02	0.00	0.00	Wash up on top of the plug.
Event	18	Drop Top Plug	11/12/2019	05:50:52	USER	11.00	13.91	0.00	0.00	Customer to witness and verify.
Event	19	Pump Displacement	11/12/2019	05:51:17	USER	55.00	12.73	2.50	0.30	76 bbls Water 8.33 ppg
Event	20	Cement Returns to Surface	11/12/2019	05:57:42	USER	665.00	8.24	9.90	38.90	40 bbls of cement to surface.
Event	21	Slow Rate	11/12/2019	06:00:27	USER	394.00	8.31	4.00	65.30	Last 10 bbls
Event	22	Bump Plug	11/12/2019	06:02:43	USER	339.00	8.32	4.00	74.50	392 psi differential, 428 psi to lift pipe.
Event	23	Check Floats	11/12/2019	06:04:38	USER	986.00	8.31	0.00	0.00	Floats held. .5 bbls back
Event	24	Casing Test	11/12/2019	06:11:11	USER	1241.00	8.30	0.00	0.60	1200 psi for 15 min
Event	25	End Job	11/12/2019	06:24:12	COM5					
Event	26	End Job	11/12/2019	06:26:00	USER					
Event	27	Total Fluid Volumes	11/12/2019	06:27:00	USER					Spacer: 20 Lead: 53 Tail: 57 Displacement: 76
Event	28	Items to return	11/12/2019	06:28:00	USER					100 lbs sugar
Event	29	Pre Rig Down	11/12/2019	06:30:00	USER					Discuss all rig up related safety issues with crew
Event	30	Rig Down	11/12/2019	06:35:00	USER					
Event	31	Pre Journey	11/12/2019	07:45:00	USER					Discuss all travel related safety issues with crew
Event	32	Leave Job	11/12/2019	08:00:00	USER					Thank you for your business! Benjamin Fuchs and crew.

3.0 Attachments

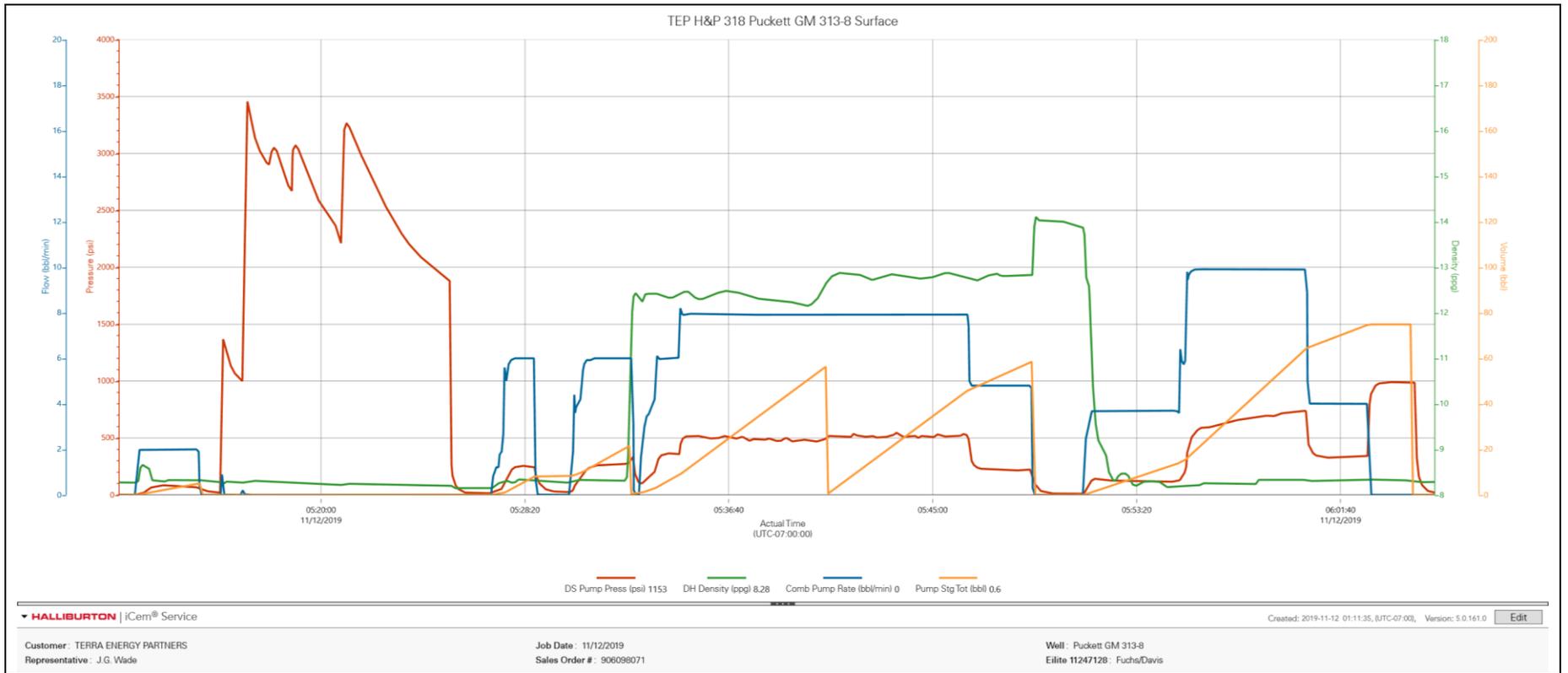
3.1 Pressure Test.png



3.2 Job Chart.png



3.3 Job Chart No Events.png



3.4 Casing Test.png

