HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS

For: Manny Parras

Date: Wednesday, November 21, 2018

Duck Club 12W-20-11N

Sincerely,

Nick Cummins/Kamereon White

Legal Notice

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The Road to Excellence Starts with Safety

Sold To #: 369404	**Ship To #:** 3894488	**Quote #:**	**Sales Order #:** 0905291276
Customer: EXTRACTION OIL & GAS-EBUS		**Customer Rep:** Manny Parras	
Well Name: DUCK CLUB	**Well #:** 12W-20-11N		**API/UWI #:** 05-001-10156-00
Field: WATTENBERG	**City (SAP):** BARR LAKE	**County/Parish:** ADAMS	**State:** COLORADO
Legal Description: NW SW-12-1S-66W-2324FSL-682FWL			
Contractor: PATTERSON-UTI ENERGY		**Rig/Platform Name/Num:** PATTERSON 901	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		**Srvc Supervisor:** Nicholas Cummins/Kamereon White	

Job

Formation Name				
Formation Depth (MD)	**Top**	1655ft	**Bottom**	12655ft
Form Type			**BHST**	
Job depth MD	17640ft		**Job Depth TVD**	7254ft
Water Depth			**Wk Ht Above Floor**	3ft
Perforation Depth (MD)	From		**To**	

Well Data

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing	0	9.625	8.921	36			0	1655		0
Casing	0	5.5	4.778	20			0	17640		0
Open Hole Section			8.5				1655	17655	0	7254

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5	1		17640		**Top Plug**	5.5	1	KLX
Float Collar	5.5	1		17636					
						Plug Container	5.5	1	HES

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.91		6	24

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	585	sack	13.2	1.57		8	7.66

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	GasStop	ELASTICEM (TM) SYSTEM	615	sack	13.2	1.56		6	5.01

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	ElastiCem	ELASTICEM (TM) SYSTEM	1595	sack	13.2	1.57		8	7.66

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	MMCR Displacement	MMCR Displacement	40	bbl	8.33			10	
0.50 gal/bbl		**MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)**							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
6	Displacement	Displacement	391	bbl	8.33			10	

Cement Left In Pipe	**Amount**	0 ft	Reason	**Wet Shoe**

Mix Water:	pH 7	**Mix Water Chloride:**	<400ppm	Mix Water Temperature:	**79 °F**
		Plug Displaced by:	8.33 lb/gal		
Plug Bumped?	Yes	**Bump Pressure:**	2760 psi	Floats Held?	**Yes**
Cement Returns:	50 bbl	**Returns Density:**	13.2 lb/gal		
Comment					

1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	11/20/2018	15:00:00	USER					The crew was called out on 11/20/18 at 1500. The customer requested HES on location at 2100 on 11/20/18.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/20/2018	18:40:00	USER					The crew held a pre journey safety meeting discussing the route and potential hazards while driving The supervisor called in a journey. The crew departed service center.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	11/20/2018	19:00:00	USER					The crew arrived on location safely. The rig was still running casing. The supervisor met with the Tool Hand and received numbers. TD 17,655', TP 17,640' 5 1/2" 17# P-110, FC 17,636', PC 1,655' 9 5/8" 36# J-55, TVD 7,254', OH 8 1/2", Mud 9.5ppg.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	11/20/2018	19:05:00	USER					Crew discussed all potential hazards on location.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/20/2018	19:10:00	USER					Crew held a safety meeting discussing the rig up procedure. Also all potential hazards associated with rigging up all HES equipment and lines.
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/20/201	20:00:00	USER					The crew rigged up all HES

				8							equipment and lines.
Event	7	Other	Mix Latex	11/20/2018	23:00:00	USER					We started recirculating the latex mix water.
Event	8	Casing on Bottom	Casing on Bottom	11/21/2018	02:00:00	USER	-30.00	8.42	0.00	3.30	Casing on bottom. The rig started circulating through the CRT ay 0207. The rig circulated at 12 bpm, pressure was at 1,750 psi.
Event	9	Rig-Up Completed	Rig-Up Completed	11/21/2018	02:15:00	USER	-30.00	8.42	0.00	3.30	Rig up completed, no one got hurt.
Event	10	Safety Meeting - Pre Job	Safety Meeting - Pre Job	11/21/2018	02:45:00	USER	-31.00	8.42	0.00	3.30	The crew and all personal involved with cement job discussed all potential hazards associated with job. Followed by the job procedure to ensure everyone understood the plan of action
Event	11	Other	Fill Lines	11/21/2018	03:55:23	COM4	-26.00	8.33	0.00	16.20	We filled lines with 3 bbls of spacer at 3 bpm, pressure was at 370 psi.
Event	12	Check Weight	Check Weight	11/21/2018	03:56:40	COM4	150.00	11.38	0.00	18.80	We used pressurized scales to check the weight of the spacer. It weighed up at 11.5 ppg.
Event	13	Test Lines	Test Lines	11/21/2018	03:59:59	COM4	4659.00	11.51	0.00	18.90	We pressure tested all HES lines to 4,700 psi. 500 psi eKos kicked out and pressure climbed to 736 psi. 5th gear stall 1,964 psi. The 4,700 psi pressure test passed.
Event	14	Pump Spacer 1	Pump Spacer 1	11/21/2018	04:03:45	COM4	-24.00	8.43	0.00	0.00	We pumped 50 bbls of tuned spacer with surfactants. At 5 bpm with 560 psi on the lines. 11.5 ppg 3.91 yield 24 gals/sk.

											We verified the density using pressurized scales.
Event	15	Pump Cap Cement	Pump Cap Cement	11/21/2018	04:19:08	COM4	320.00	13.50	4.00	50.00	We pumped 164 bbls (585 sks) of cap cement at 8 bpm. Pressure was at 464 psi. 13.2 ppg 1.57 yield 7.66 gal/sk. We verified the density using pressurized scales.
Event	16	Check Weight	Check Weight	11/21/2018	04:20:15	COM4	320.00	13.43	4.00	4.50	We used pressurized scales to check the weight of the cap cement. It weighed up at 13.1 ppg.
Event	17	Check Weight	Check Weight	11/21/2018	04:33:46	COM4	464.00	13.23	8.20	89.10	We used pressurized scales to check the weight of the lead cement. It weighed up at 13.2 ppg.
Event	18	Pump Lead Cement	Pump Lead Cement	11/21/2018	04:46:59	COM4	475.00	13.23	8.40	0.10	We pumped 171 bbls (615 sks) of cap cement at 8 bpm. Pressure was at 464 psi. 13.2 ppg 1.56 yield 7.61 gal/sk. We verified the density using pressurized scales.
Event	19	Check Weight	Check Weight	11/21/2018	04:49:20	COM4	432.00	13.54	8.40	19.80	We used pressurized scales to check the weight of the lead cement. It weighed up at 13.2 ppg.
Event	20	Check Weight	Check Weight	11/21/2018	05:07:08	COM4	288.00	13.34	5.10	127.50	We used pressurized scales to check the weight of the lead cement. It weighed up at 13.3 ppg.
Event	21	Check Weight	Check Weight	11/21/2018	05:13:28	COM4	110.00	13.16	3.00	161.00	We used pressurized scales to check the weight of the lead cement. It weighed up at 13.2 ppg.
Event	22	Check Weight	Check Weight	11/21/201	05:20:13	COM4	316.00	13.19	5.30	198.00	We used pressurized scales

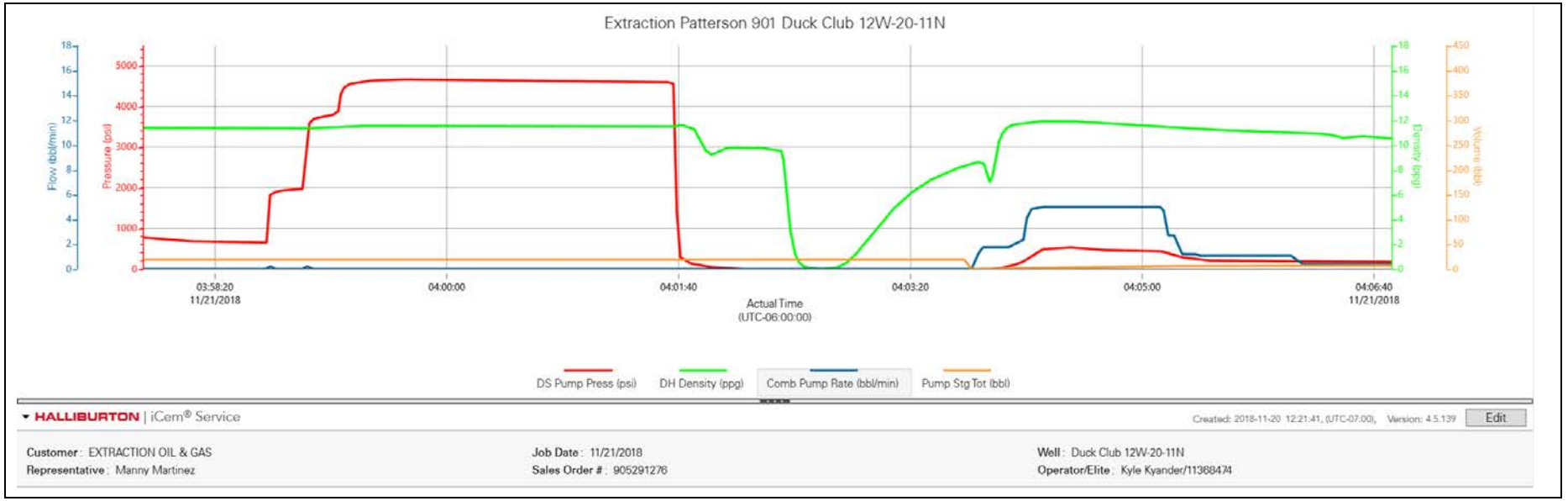
				8							to check the weight of the lead cement. It weighed up at 13.21 ppg.
Event	23	Pump Tail Cement	Pump Tail Cement	11/21/2018	05:27:42	COM4	481.00	13.27	8.40	245.60	We pumped 446 bbls (1595 sks) of cap cement at 8 bpm. Pressure was at 600 psi. 13.2 ppg 1.57 yield 7.66 gal/sk. We verified the density using pressurized scales.
Event	24	Check Weight	Check Weight	11/21/2018	05:27:55	COM4	472.00	13.28	8.40	1.80	We used pressurized scales to check the weight of the tail cement. It weighed up at 13.2 ppg.
Event	25	Check Weight	Check Weight	11/21/2018	06:00:12	COM4	503.00	13.24	8.50	272.10	We used pressurized scales to check the weight of the tail cement. It weighed up at 13.1 ppg.
Event	26	Shutdown	Shutdown	11/21/2018	06:21:13	COM4	111.00	13.57	0.00	429.30	Shutdown to drop latch down plug and clean lines.
Event	27	Clean Lines	Clean Lines	11/21/2018	06:28:45	COM4					We blew air from the rig floor down to the wash up tank. Then washed pumps and lines to the wash up tank.
Event	28	Drop Top Plug	Drop Top Plug	11/21/2018	06:30:14	COM4					Company man and tool hand witnessed latch down plug drop.
Event	29	Pump Displacement	Pump Displacement	11/21/2018	06:30:18	COM4					We pumped the calculated displacement of 391 bbls. With MMCR in the first 40 bbls. We shut down after pumping 70 bbls of displacement to fix a leak on the pup joint. We had to shut down again at 100 bbls away to fix the leak in the

											pup joint.
Event	30	Displ Reached Cement	Displ Reached Cement	11/21/2018	06:33:57	COM4					Displacement reached cement at 30 bbls away.
Event	31	Bump Plug	Bump Plug	11/21/2018	07:31:02	COM4					We bumped the plug, final circulating pressure was 2,760 psi. We pressured up to 3,200 before shutting down.
Event	32	Other	Pressure up / Wet Shoe	11/21/2018	07:31:56	COM4					We pressured up to 4,100 psi to rupture the disc at 2 bpm. We then proceeded to pump a 5 bbl wet shoe at 5 bpm
Event	33	Other	Check Floats	11/21/2018	07:34:40	COM4					We bled off pressure from the well back to the truck. We got 3 bbls back, the floats held.
Event	34	End Job	End Job	11/21/2018	07:37:38	COM4					Cement job complete. Estimated top of latex cement 2,518'. Estimated top of tail cement 6,709'. We got 50 bbls of spacer and 50 bbls of cement to surface.
Event	35	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/21/2018	07:40:00	USER	-9.00	8.36	0.00	417.60	Crew held a safety meeting discussing the rig down procedure. Also all potential hazards associated with rigging down all HES equipment and lines.
Event	36	Rig-Down Equipment	Rig-Down Equipment	11/21/2018	07:50:00	USER	-13.00	-0.04	0.00	417.60	We pumped 40 bbls of sugar water through the rigs stack. Then the crew rigged down all HES equipment and lines.
Event	37	Rig-Down Completed	Rig-Down Completed	11/21/2018	08:45:00	USER					Rig down completed no one got hurt.

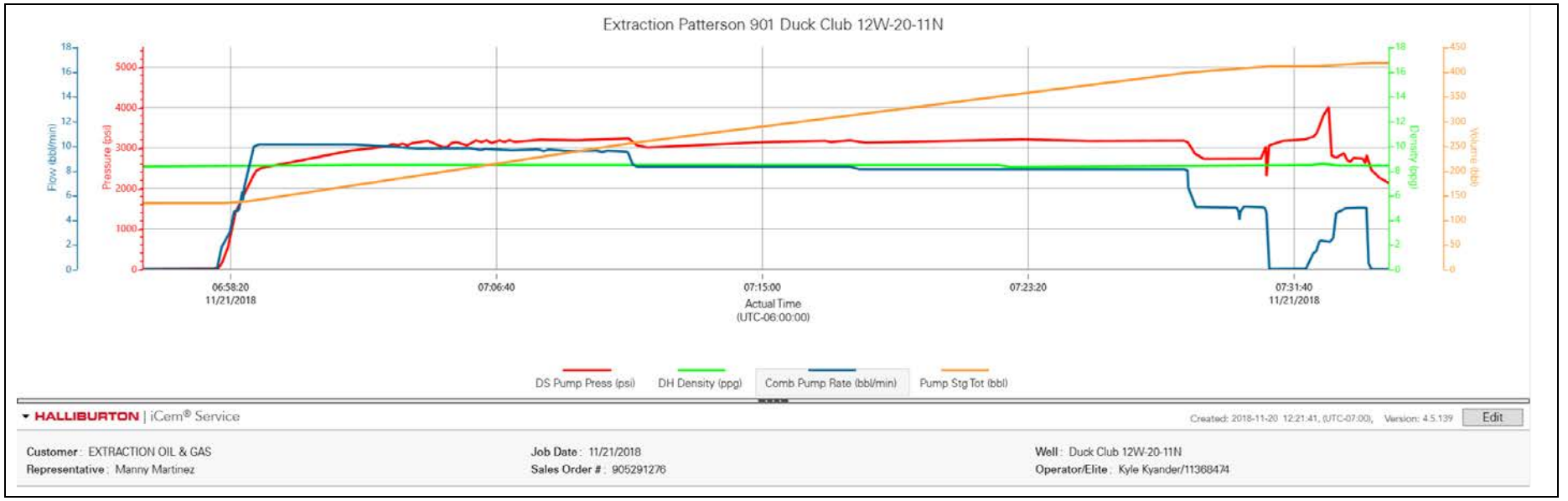
Event	38	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/21/2018	09:00:00	USER		The crew held a pre journey safety meeting discussing the route and potential hazards while driving The supervisor called in a journey.
Event	39	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/21/2018	09:05:00	USER		Nick Cummins/ Kamereon White and crew would like to thank you for your business, and choosing Halliburton Cement! Please feel free to call if you have any questions.

2.0 Attachments

2.1 Pre Job Pressure Test.png



2.2 Bump and Wet Shoe.png



2.3 Cement Job With Events.png

2.4 Cement Job Without Events.png