

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

Date: Wednesday, December 05, 2018

### **Duck Club 12W-20-10N Production**

Job Date: Saturday, November 17, 2018

Sincerely,  
**Tyler Hill**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Duck Club 12W-20-10N** cement **Production** casing 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.

**Approximately 48 bbls of cement were returned to surface.**

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 Ft. Lupton**

*The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3894514		Quote #:		Sales Order #: 0905281091				
Customer: EXTRACTION OIL & GAS				Customer Rep: Danny Herrera						
Well Name: DUCK CLUB			Well #: 12W-20-10N		API/UWI #: 05-001-10163-00					
Field: WATTENBERG		City (SAP): BARR LAKE		County/Parish: ADAMS		State: COLORADO				
Legal Description: NW SW-12-1S-66W-2352FSL-683FWL										
Contractor:				Rig/Platform Name/Num: Patterson 901						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Kamereon White / Nick Cummins						
<b>Job</b>										
Formation Name										
Formation Depth (MD)		Top	0	Bottom		17700ft				
Form Type				BHST						
Job depth MD		17686ft		Job Depth TVD		7479ft				
Water Depth				Wk Ht Above Floor						
Perforation Depth (MD)		From		To						
<b>Well Data</b>										
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		J-55	0	1655	0	0
Casing	0	5.5	4.778	20	BTC	P-110	0	17686	0	7479
Open Hole Section			8.5				1655	17700	0	7479
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5	1		17686		Top Plug	5.5	1	KLX	
Float Collar	5.5	1		17683		Plug Container	5.5	1	HES	
<b>Fluid Data</b>										
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	24.4	5		

iCem® Service  
(v. 5.0.161.0)

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	Recirc Density (ppg)	Comments
Event	1	Call Out	Call Out	11/17/2018	02:00:00	USER				The crew was called out on 11/17/18 at 0200. The customer requested HES to be on location on 11/17/18 at 0600. Ready to pump at 0800.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/17/2018	05:30:00	USER				The crew held a pre journey safety meeting discussing the route and potential hazards while driving.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/17/2018	05:40:00	USER				The supervisor called in a journey. The crew departed service center.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/17/2018	06:00:00	USER				The crew arrived on location safely. The rig was still running casing. The supervisor met with the Tool Hand and received numbers. TD 17,700', TP 17,686' 5 1/2" 20# P-110, FC 17,683', PC 1,655' 9 5/8" 36# J-55, TVD 7,479', OH 8 1/2", Mud 9.5 ppg.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	11/17/2018	06:10:00	USER				Crew discussed all potential hazards on location.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/17/2018	06:20:00	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	7	Rig-Up Equipment	Rig-Up Equipment	11/17/2018	06:30:00	USER				The crew rigged up all HES equipment and lines.
Event	8	Rig-Up Completed	Rig-Up Completed	11/17/2018	07:30:00	USER				Rig up completed no one got hurt.
Event	9	Casing on Bottom	Casing on Bottom	11/17/2018	09:30:00	USER				Casing on bottom, the rig began circulating through CRT.
Event	10	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/17/2018	10:25:00	USER	-60.00	0.00	-0.01	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	Start Job	Start Job	11/17/2018	10:34:16	COM4	-60.00	0.00	0.00	Elite 11368474 began recording data.
Event	12	Check Weight	Check Weight	11/17/2018	10:43:52	COM4	6.00	0.00	11.68	We used pressurized scales to check the weight of the spacer it weighed up at 11.5 ppg.
Event	13	Other	Fill Lines	11/17/2018	11:24:50	COM4	1.00	1.60	11.51	We filled lines with 3 bbls of spacer. At 3bpm with 260 psi on the lines.
Event	14	Test Lines	Test Lines	11/17/2018	11:27:31	COM4	4462.00	0.00	12.10	We pressure tested HES lines to 4,500 psi. The ekos kicked out at 500 psi and brought pressure up to 1000 psi. 5th gear stall was at 1,600 psi. The pressure test passed.
Event	15	Pump Spacer 1	Pump Spacer 1	11/17/2018	11:30:57	COM4	35.00	0.10	11.64	We pumped 50 bbls of tuned spacer at 5 bpm, with 480 psi on the lines. 11.5 ppg 3.91 yield 24.4 gal/sk.
Event	16	Pump Cement	Pump Cement	11/17/2018	11:44:13	COM4	268.00	5.00	13.18	We pumped 782 bbls (2795



				8						sk) of cement at 8 bpm with 500 psi on the lines. At 650 bbls away pressure was at 600 psi. 13.2 ppg 1.57 yield 7.53 gal/sk.
Event	17	Check Weight	Check Weight	11/17/2018	11:44:42	COM4	304.00	5.00	13.16	We used pressurized scales to check the weight of the lead cement. It weighed up at 13.1 ppg.
Event	18	Check Weight	Check Weight	11/17/2018	11:49:22	COM4	187.00	5.00	13.20	We used pressurized scales to check the weight of the lead cement. It weighed up at 13.3 ppg.
Event	19	Check Weight	Check Weight	11/17/2018	11:51:40	COM4	157.00	4.20	13.18	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	11/17/2018	12:00:15	COM4	472.00	8.60	13.18	We used pressurized scales to check the weight of the cement. It weighed up at 13.2 ppg.
Event	21	Check Weight	Check Weight	11/17/2018	12:02:07	COM4	485.00	8.60	13.18	We used pressurized scales to check the weight of the cement. It weighed up at 13.3 ppg.
Event	22	Shutdown	Shutdown	11/17/2018	13:26:09	COM4	195.00	1.60	8.47	Shutdown to blow air from the rig floor to the wash up tank, and wash pumps and lines to wash up tank. Also to drop latch down plug.
Event	23	Drop Top Plug	Drop Plug	11/17/2018	13:34:32	COM4	22.00	0.00	-0.18	Company man and tool hand witnessed latch down plug drop.
Event	24	Pump Displacement	Pump Displacement	11/17/2018	13:35:59	COM4	13.00	0.00	-0.18	We pumped the calculated 392 bbls of displacement with MMCR in the first 20 bbls, at 6 bpm till we caught

										cement per customer request.
Event	25	Displ Reached Cement	Displ Reached Cement	11/17/2018	13:42:06	COM4	419.00	6.10	-0.18	Displacement reached cement at 32 bbls away.
Event	26	Bump Plug	Bump Plug	11/17/2018	14:31:23	COM4	3392.00	0.00	-0.18	We bumped the plug, final circulating pressure was 2,960 psi. We brought the pressure up to 3,300 psi before shutting down.
Event	27	Other	Rupture	11/17/2018	14:31:28	COM4	3395.00	0.00	-0.18	We brought pressure up to 4,340 psi at 2 bpm. The wet shoe sub did not shift. We bled pressure off to 1,700 psi before trying to re pressure up. While bleeding off pressure the sub shifted and we pumped the 5 bbl wet shoe at 4 bpm.
Event	28	Other	Check Floats	11/17/2018	14:38:55	COM4	2513.00	0.00	-0.18	We bled pressure off the well back to the truck. We got 3 bbls back to the truck.
Event	29	End Job	End Job	11/17/2018	14:41:13	COM4				Cement job complete. We got 50 bbls of spacer to surface and another 48 bbls of cement to surface.
Event	30	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	11/17/2018	14:45:00	USER	19.00	0.00	-0.18	Crew held a safety meeting discussing the rig down and flush stack procedure. Also all potential hazards associated with rigging down all HES equipment and lines.
Event	31	Rig Down Lines	Rig Down Lines	11/17/2018	14:50:00	USER	70.00	0.00	-0.18	The crew flushed the rigs stack and rigged down all HES equipment and lines.
Event	32	Rig-Down Completed	Rig-Down Completed	11/17/2018	15:45:00	USER				Rig down completed no one got hurt.

Event	33	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/17/2018	16:00:00	USER
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The crew held a pre journey safety meeting discussing the route and potential hazards while driving. The supervisor called in a journey. Kamereon White/Nick Cummins and crew would like to thank you for your business and choosing Halliburton Cement. If you have any questions please feel free to call.

3.0 Attachments

3.1 Duck Club 12W-20-10N Production.png

