

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Tuesday, December 11, 2018

### **DUCK CLUB 12W-20-4N Surface**

Job Date: Friday, November 09, 2018

Sincerely,

**Bryce Hinsch**

## 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-20-4N** cement **surface** 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 54 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 Fort Lupton**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3839595		<b>Quote #:</b>		<b>Sales Order #:</b> 0905257727					
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b>							
<b>Well Name:</b> DUCK CLUB			<b>Well #:</b> 12W-20-4N		<b>API/UWI #:</b> 05-001-10157-00						
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> BARR LAKE		<b>County/Parish:</b> ADAMS		<b>State:</b> COLORADO					
<b>Legal Description:</b> NE SE-7-4N-68W-1544FSL-858FEL											
<b>Contractor:</b>				<b>Rig/Platform Name/Num:</b> Cartel 41							
<b>Job BOM:</b> 7521 7521											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Bradley Hinkle							
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>							
<b>Form Type</b>				<b>BHST</b>							
<b>Job depth MD</b>		1616ft		<b>Job Depth TVD</b>		1616ft					
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>							
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>							
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing	0	9.625	8.921	36	8 RD	J-55	0	1616	0	1616	
Open Hole Section			13.5				0	1616	0	1616	
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
Guide Shoe	9.625					Top Plug	9.625	1	HES		
Float Shoe	9.625	1		1616		Bottom Plug	9.625		HES		
Float Collar	9.625	1		1571		SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625	1	HES		
Stage Tool	9.625					Centralizers	9.625		HES		
<b>Fluid Data</b>											
<b>Stage/Plug #: 1</b>											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	Spacer	Fresh Water			25	bbl	8.33			5	

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	Spacer	Red Dye Water	10	bbl	8.33			5	
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	Cement	SWIFTCEM	525	sack	13.5	1.74		8	9.2
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	Displacement	Fresh Water	121	bbl	8.33			8	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	0 ppm			Mix Water Temperature:	71 °F		
Cement Temperature:	## °F °C	Plug Displaced by:				Disp. Temperature:	## °F °C		
Plug Bumped?	Yes	Bump Pressure:	640 psi			Floats Held?	Yes		
Cement Returns:	25 bbl	Returns Density:	## lb/gal kg/m3			Returns Temperature:	## °F °C		
Comment 54 bbls cement to surface.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Rig-Up Equipment	Rig-Up Equipment	11/8/2018	06:00:00	USER				RIG HAS MOVED CASING RACKS AND CREW BEGINS SPOTTING IN
Event	2	Pressure Test	Call Out	11/8/2018	23:30:00	USER				CREW CALLED OUT
Event	3	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/9/2018	03:15:00	USER				CREW HAS JOURNEY MANAGEMENT SAFETY MEETING DISCUSSING CONVOY, ROUTES AND HAZARDS
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/9/2018	03:30:00	USER				CREW DEPARTS FOR LOCATION
Event	5	Arrive At Loc	Arrive At Loc	11/9/2018	04:15:00	USER				CREW ARRIVES AT LOCATION. RIG RUNNING CASING.
Event	6	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	11/9/2018	04:30:00	USER				CREW ASSESSES LOCATION FOR HAZARDS AND EQUIPMENT LAYOUT. CAN'T SPOT EQUIPMENT UNTIL CASING ON BOTTOM
Event	7	Casing on Bottom	Casing on Bottom	11/9/2018	05:30:00	USER				CASING ON BOTTOM. CREW BEGINS TO SPOT EQUIPMENT WHILE RIG CIRCULATES
Event	8	Start Job	Start Job	11/9/2018	06:46:46	COM7	0.31	0.00	-8.00	CREW IS RIGGED UP AND READY TO BEGIN
Event	9	Comment	Comment	11/9/2018	07:15:00	USER	0.31	0.00	-6.00	PUMP TRUCK VALVES FROZEN SHUT ON BOOST AND GRAVITY. CAN'T PRIME UP SO REMOVE PLUG

										CONTAINER AND TURN OVER TO RIG TO CIRCULATE. SUPERVISOR RETURNS TO CAMP TO BRING BACK A HEATER TRAILER
Event	10	Arrive At Loc	Arrive At Loc	11/9/2018	09:45:00	USER				SUPERVISOR ARRIVES ON LOCATION WITH HEATER TRAILER
Event	11	Comment	Comment	11/9/2018	10:10:00	USER				RIG CREW RIGGED DOWN CIRCULATING SWEDGE, BLEW DOWN TOP DRIVE, PLUG CONTAINER INSTALLED AND PUMP TRUCK PRIMED UP READY TO BEGIN
Event	12	Establish Rate	Establish Rate	11/9/2018	10:15:28	COM7				FILL LINES 3 BBL AND BREAK CIRCULATION
Event	13	Pressure Test	Pressure Test	11/9/2018	10:21:00	USER	8.47	0.00	1914.00	PRESSURE TEST LINES TO 3000 PSI, HELD FOR A FEW MINUTES
Event	14	Pump Spacer 1	Pump Spacer 1	11/9/2018	10:24:10	COM7	8.41	2.20	32.00	PUMP 25 BBL FRESH WATER SPACER
Event	15	Pump Spacer	Pump Spacer	11/9/2018	10:29:00	USER	8.44	4.80	110.00	PUMP 10 BBL RED DYED SPACER
Event	16	Pump Lead Cement	Pump Lead Cement	11/9/2018	10:32:17	COM7	8.46	0.00	27.00	PUMP 162 BBL SLURRY. 13.5#/GAL, 1.74 FT3/SACK, 9.2 GAL/SACK, 525 SACKS
Event	17	Shutdown	Shutdown	11/9/2018	10:58:00	USER	1.09	0.00	52.00	SHUTDOWN AND DROP TOP PLUG
Event	18	Pump Displacement	Pump Displacement	11/9/2018	11:00:00	USER	0.65	0.00	5.00	PUMP 121 BBL FRESH WATER DISPLACEMENT
Event	19	Cement Returns to Surface	Cement Returns to Surface	11/9/2018	11:11:00	USER	8.41	6.80	397.00	CEMENT RETURNS TO SURFACE. GOT CALCULATED BACK, 54 BBL



Event	20	Bump Plug	Bump Plug	11/9/2018	11:19:43	COM7	8.44	0.00	1349.00	BUMP PLUG. FINAL CIRCULATING PSI 640. TOOK TO 1300 PSI. HELD FOR 5 MINUTES
Event	21	Check Floats	Check Floats	11/9/2018	11:24:00	USER	8.41	0.00	297.00	CHECK FLOATS. 1 BBL BACK. FLOATS HELD

3.0 Attachments

3.1 Extraction Duck Club 12W-20-4N Surface Job Chart

