

HALLIBURTON

iCem[®] 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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1.0 Cementing Job Summary

1.1 Executive Summary

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

Sold To #: 369404		Ship To #: 3839595		Quote #:		Sales Order #: 0905257727				
Customer: EXTRACTION OIL & GAS -				Customer Rep:						
Well Name: DUCK CLUB			Well #: 12W-20-4N			API/UWI #: 05-001-10157-00				
Field: WATTENBERG		City (SAP): BARR LAKE		County/Parish: ADAMS			State: COLORADO			
Legal Description: NE SE-7-4N-68W-1544FSL-858FEL										
Contractor:				Rig/Platform Name/Num: Cartel 41						
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srcv Supervisor: Bradley Hinkle						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type					BHST					
Job depth MD		1616ft			Job Depth TVD			1616ft		
Water Depth					Wk Ht Above Floor					
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	8 RD	J-55	0	1616	0	1616
Open Hole Section			13.5				0	1616	0	1616
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
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	
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	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	
3	Cement	SWIFTCEM	525	sack	13.5	1.74		8	9.2
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 <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	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

