

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Duck Club 12W-20-2N Surface

Sincerely,
Meghan Jacobs

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-20-2N** 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 60 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

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3894418		Quote #:		Sales Order #: 0905257352					
Customer: EXTRACTION OIL & GAS -				Customer Rep: Chad Kelly							
Well Name: DUCK CLUB				Well #: 12W-20-2N		API/UWI #: 05-001-10162-00					
Field: WATTENBERG		City (SAP): BARR LAKE		County/Parish: ADAMS		State: COLORADO					
Legal Description: NW SW-12-1S-66W-2575FSL-694FWL											
Contractor:					Rig/Platform Name/Num: Cartel 88						
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199					Srv Supervisor: Nicholas Roles						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		1610ft			Job Depth TVD						
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	1610	0	1610	
Open Hole Section			13.5				0	1610	0	1610	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			1610		Top Plug	9.625	1	HES		
Float Shoe	9.625					Bottom Plug	9.625		HES		
Float Collar	9.625			1565.75		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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Red Dye Spacer	Red Dye Spacer		10	bbl	8.33			6		
Fluid #	Stage Type	Fluid Name		Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	SwiftCem	SWIFTCEM (TM) SYSTEM		525	sack	13.5	1.74		8	9.2	
Fluid #	Stage Type	Fluid Name		Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	

last updated on 11/12/2018 11:42:42 AM

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Cementing Job Summary

3	Fresh Water	Fresh Water	121	bbbl	8.33			8
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint
Mix Water:	pH 06	Mix Water Chloride:	00ppm		Mix Water Temperature:			55 °F °C
Cement Temperature:	## °F °C	Plug Displaced by:	8.33 lb/gal		Disp. Temperature:			55 °F °C
Plug Bumped?:	Yes	Bump Pressure:	1100 psi MPa		Floats Held?:			Yes
Cement Returns:	60 bbl m3	Returns Density:	## lb/gal kg/m3		Returns Temperature:			## °F °C
Comment Got 60bbbls cement to surface.								

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DS Pump Rate (bbl/min)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	11/10/2018	15:30:00	USER				Called out by Service Coordinator for O/L at 0000
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/10/2018	16:30:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/10/2018	17:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/10/2018	18:00:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/10/2018	20:00:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	11/10/2018	20:15:00	USER				Water test- PH-6, Chlor-0, Temp-55.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	11/10/2018	20:30:00	USER				Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	11/10/2018	20:41:37	USER				TD-1610' 13.5", TP-1610' 9.625" 36#, FC-1565.75, Mud-9#
Event	9	Pressure Test	Pressure Test	11/10/2018	20:45:18	USER				Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1400psi proceeded to bring pressure to 2500psi. Held good no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	11/10/2018	20:53:04	USER				Pumped 25bbls fresh water at 6bpm
Event	11	Pump Spacer 2	Pump Spacer 2	11/10/2018	20:58:32	USER				Pumped 10bbls fresh water with 2# Red Dye at 6bpm 140psi.

Event	12	Pump Cement	Pump Cement	11/10/2018	21:03:42	USER				Pumped 525sks or 170bbls 13.5# 1.74y 9.2g/s Swiftcem at 8bpm 310psi.
Event	13	Pump Displacement	Pump Displacement	11/10/2018	21:03:57	USER				Pumped 121bbls of fresh water at 8bpm 500psi.
Event	14	Drop Top Plug	Drop Top Plug	11/10/2018	21:27:26	USER				Dropped by HES supervisor, witnessed by company man.
Event	16	Test Lines	Test Lines	11/10/2018	21:45:19	RTD Import	15.74	0.00	8.61	Test Lines
Event	30	Bump Plug	Bump Plug	11/10/2018	21:51:31	USER	2901.93	0.00	8.59	Slowed down to 3bpm at 110bbls away, final circulating pressure - 530psi, Bumped at 1100psi.
Event	34	Pump Spacer 1	Pump Spacer 1*	11/10/2018	21:52:42	RTD Import	11.98	0.00	8.52	Pump Spacer 1*
Event	39	Standby - Other - see comments	Standby - Other - see comments	11/10/2018	21:55:19	USER	197.36	6.21	8.62	Pulled RTD file from pump to import job log. When pulling RTD file pressure line is not consistent with actual job pressures.
Event	55	Check Floats	Check Floats	11/10/2018	21:56:31	USER	232.18	6.19	8.63	Released pressure and got 0.5bbls back. Floats held.
Event	67	End Job	End Job	11/10/2018	21:56:59	USER	144.67	6.19	8.63	Got 60bbls cement to surface.
Event	99	Pump Spacer 2	Pump Spacer2*	11/10/2018	21:58:19	RTD Import	103.26	6.19	8.63	Pump Spacer2*
Event	178	Pump Cement	Pump Cement*	11/10/2018	22:03:11	RTD Import	17.62	0.00	8.58	Pump Cement*
Event	189	Comment	Mud Cup Sample Pulled	11/10/2018	22:05:05	RTD Import	114.55	5.06	13.23	Mud Cup Sample Pulled
Event	202	Comment	Mud Cup Sample Pulled	11/10/2018	22:11:57	RTD Import	219.01	8.03	13.48	Mud Cup Sample Pulled
Event	206	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/10/2018	22:15:00	USER	238.77	8.01	13.53	All HSE present and fit to drive. Aware of directions and hazards.
Event	261	Shutdown	Shutdown	11/10/2018	22:26:55	RTD Import	16.68	0.00	17.33	Shutdown

Event	282	Drop Top Plug	Drop Top Plug	11/10/2018	22:28:19	RTD Import	11.98	0.00	16.90	Drop Top Plug
Event	283	Pump Displacement	Pump Displacement*	11/10/2018	22:28:25	RTD Import	11.98	0.00	16.88	Pump Displacement*
Event	289	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/10/2018	22:30:00	USER	21.39	2.78	8.12	Pre journey management prior to departure.
Event	318	Bump Plug	Bump Plug	11/10/2018	22:51:43	RTD Import	1177.93	0.00	7.73	Bump Plug
Event	320	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	11/10/2018	23:00:00	USER				All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.

3.0 Attachments

.. Duck Club 12W-20-2N Surface – Job Chart with Events



Duck Club 12W-20-2N Surface – Job Chart without Events

