

# HALLIBURTON

iCem<sup>®</sup> Service

**EXTRACTION OIL & GAS-EBUS**

**Duck Club 12W-20-1C Surface**

Sincerely,  
**Meghan Jacobs**

## 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-20-1C** 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 25 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 #: 3894456	Quote #:	Sales Order #: 0905257353							
Customer: EXTRACTION OIL & GAS -		Customer Rep: Chad Kelly								
Well Name: DUCK CLUB	Well #: 12W-20-1C	API/UWI #: 05-001-10160-00								
Field: WATTENBERG	City (SAP): BARR LAKE	County/Parish: ADAMS	State: COLORADO							
Legal Description: NW SW-12-1S-66W-2603FSL-695FWL										
Contractor:		Rig/Platform Name/Num: Cartel 88								
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Nicholas Roles								
<b>Job</b>										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	1640ft	Job Depth TVD								
Water Depth		Wk Ht Above Floor								
Perforation Depth (MD)	From	To								
<b>Well Data</b>										
Description	New / Used	Size in	ID in	Weight lbn/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	1640	0	1640
Open Hole Section			13.5				0	1640	0	1640
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	9.625			1640	Top Plug	9.625	1	HES		
Float Shoe	9.625				Bottom Plug	9.625		HES		
Float Collar	9.625			1595.77	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>										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbn/gal	Yield ft <sup>3</sup> /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 lbn/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	SwiftCem	SWIFTCCEM (TM) SYSTEM	525	sack	13.5	1.74		8	9.2	
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbn/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	

last updated on 11/14/2018 1:47:22 PM

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## Cementing Job Summary

3	Fresh Water	Fresh Water	123	bbl	8.33			8	
Cement Left In Pipe		Amount	44 ft		Reason		Shoe Joint		
Mix Water:		pH 06	Mix Water Chloride:		00 ppm	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:		1100psi MPa	Floats Held?:		Yes	
Cement Returns:		25 bbl m3	Returns Density:		## lb/gal kg/m3	Returns Temperature:		## °F °C	
Comment Got 25bbbls cement to surface.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	11/11/2018	10:30:00	USER	Called out by Service Coordinator for O/L at 1430
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/11/2018	11:00:00	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	11/11/2018	11:45:00	USER	Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/11/2018	12:00:00	USER	Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Other	Other	11/11/2018	12:30:00	USER	Water test- PH-6, Chlor-0, Temp-85.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/11/2018	14:00:00	USER	Discussed rigging up hazards and procedure according to HMS.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	11/11/2018	15:00:00	USER	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	11/11/2018	15:30:00	USER	TD-1640' 13.5", TP-1640' 9.625" 36#, FC-1595.77, Mud-9#
Event	9	Pressure Test	Pressure Test	11/11/2018	15:40:00	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	11/11/2018	15:50:00	USER	Pumped 25bbls fresh water at 6bpm
Event	11	Pump Spacer 2	Pump Spacer 2	11/11/2018	15:58:00	USER	Pumped 10bbls fresh water with 2# Red Dye at 6bpm 140psi.

Event	12	Pump Cement	Pump Cement	11/11/2018	16:10:00	USER	Pumped 525sks or 163bbbls 13.5# 1.74y 9.2g/s Swiftcem at 8bpm 310psi.
Event	13	Drop Top Plug	Drop Top Plug	11/11/2018	16:35:00	USER	Dropped by HES supervisor, witnessed by company man.
Event	14	Pump Displacement	Pump Displacement	11/11/2018	16:36:00	USER	Pumped 123bbbls of fresh water at 8bpm.
Event	15	Standby - Other - see comments	Standby - Other - see comments	11/11/2018	16:50:00	USER	Before job my usb pigtail to connect my cat5 cable to record data for iCem would not work and had planned to pull the job file from pump after job. However, during displacement, the system power switch was accidentally tripped and restart flecs resulting in no End Job event being sent and no job file was able to be pulled. I have added job events into job log but could not get a chart for job. All information is included.
Event	16	Bump Plug	Bump Plug	11/11/2018	17:00:00	USER	Slowed down to 3bpm at 110bbbls away, final circulating pressure -380psi, Bumped at 800psi. Held for 5min casing test.
Event	17	Check Floats	Check Floats	11/11/2018	17:05:00	USER	Released pressure and got 0.5bbbls back. Floats held.
Event	18	End Job	End Job	11/11/2018	17:08:00	USER	Got 25bbbls cement to surface.
Event	19	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	11/11/2018	17:15:00	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.
Event	20	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/11/2018	18:15:00	USER	All HSE present and fit to drive. Aware of directions and hazards.
Event	21	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/11/2018	18:30:00	USER	Pre journey management prior to departure.