

HALLIBURTON

iCem[®] Service

CONFLUENCE DJ LLC-EBUS

Ft. Lupton District, COLORADO

SILVERTON 5-4-3L

Job Date: Monday, March 02, 2020

Sincerely,

Andrew McIntosh

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

1.0 Cementing Job Summary 4

 1.1 Executive Summary4

2.0 Real-Time Job Summary 7

 2.1 Job Event Log7

3.0 Attachments..... 10

 3.1 CONFLUENCE SILVERTON 5-4-3L -Custom Results.png10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **SILVERTON 5-4-3L** 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 39 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 #: 375989		Ship To #: 3917343		Quote #: 0022678007		Sales Order #: 0906327218					
Customer: CONFLUENCE DJ LLC-EBUS				Customer Rep: Red Bengé							
Well Name: SILVERTON			Well #: 5-4-3L		API/UWI #: 05-123-48438-00						
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO					
Legal Description: SW NW-4-4N-63W-2634FNL-255FWL											
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 122							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA/H171328				Srv Supervisor: Kyle Bath							
Job											
Formation Name											
Formation Depth (MD)		Top				Bottom					
Form Type						BHST					
Job depth MD		1580ft				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		9.625	8.921	36			0	1580	0	0	
Open Hole Section			13.5				0	1592		0	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			1580		Top Plug	9.625		HES		
Float Shoe	9.625					Bottom Plug	9.625		HES		
Float Collar	9.625					SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625		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	Mud Flush III (Powder)	Mud Flush III			40	bbl	8.4			8	
42 gal/bbl		FRESH WATER									

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	12.5# SwiftCem	SWIFTCCEM (TM) SYSTEM	275	sack	12.5	2.16	12.28	8	3377
12.28 Gal		FRESH WATER							
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	13.5# SwiftCem	SWIFTCCEM (TM) SYSTEM	195	sack	13.5	1.74	9.16	8	1786
9.16 Gal		FRESH WATER							
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 fluid		119	bbl	8.3			8	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Mix Water:		pH ##	Mix Water Chloride:## ppm			Mix Water Temperature:## °F °C			
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:## °F °C				
Plug Bumped?		Yes/No	Bump Pressure:#### psi MPa			Floats Held?Yes/No			
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3			Returns Temperature:## °F °C				
Comment									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	DH Density (ppg)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	3/1/2020	12:00:00	USER					CREW CALLED OUT 12:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	3/1/2020	14:00:00	USER					DISCUSS ROUTE AND HAZARDS
Event	3	Crew Leave Yard	Crew Leave Yard	3/1/2020	14:15:00	USER					CREW DEPART YARD
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/1/2020	16:00:00	USER					ARRIVE ON LOCATION, RIG ON BOTTOM WITH DRILL PIPE UPON HES ARRIVAL, SPOKE TO THE COMPANY MAN AND GOT NUMBERS , TD-1592 TP-1580 FC-1536 CSG- 9 5/8 36# OPEN HOLE- 13.5" PREV CSG- 16" 80'
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	3/1/2020	16:15:00	USER					DISCUSS LOCATION HAZARDS AND HOW TO MITIGATE THEM, TESTED WATER , PH 7, CHLORIDES 0, TEMP- 36 DEGREES.
Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	3/1/2020	19:30:00	USER					DISCUSS HAZARDS AND WAYS TO MITIGATE THEM
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/1/2020	20:15:00	USER	0.00	9.00	0.00	0.00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
Event	8	Start Job	Start Job	3/1/2020	20:36:23	COM4	0.00	10.00	8.45	8.50	STARTED RECORDING DATA.
Event	9	Test Lines	Test Lines	3/1/2020	20:39:46	COM4	0.00	24.00	8.45	3.10	TESTED LINES TO 3000 PSI.

Event	10	Pump Spacer 1	Pump Spacer 1	3/1/2020	20:47:24	COM4	0.00	18.00	8.33	0.00	MIXED AND PUMPED 160 #S OF MUD FLUSH 1 BOTTLE OF RED DYE INTO 40 BBLS OF FRESH WATER. PUMPED AT 6 BPM 146 PSI.
Event	11	Pump Lead Cement	Pump Lead Cement	3/1/2020	20:56:13	COM4	4.50	173.00	12.67	43.80	MIXED AND PUMPED 275 SACKS 105.79 BBLS OF LEAD CEMENT. 12.5 PPG, 2.16 YIELD, 12.28 GAL/SK. PUMPED AT 8 BPM 275 PSI.
Event	12	Pump Tail Cement	Pump Tail Cement	3/1/2020	21:11:57	COM4	8.30	287.00	12.70	114.90	MIXED AND PUMPED 195 SACKS 60.43 BBLS OF TAIL CEMENT, 13.5 PPG, 1.74 YIELD, 9.16 GAL/SK. PUMPED AT 8 BPM 350 PSI. TOTC 924.48'
Event	13	Drop Top Plug	Drop Top Plug	3/1/2020	21:25:02	COM4	0.00	12.00	36.20	86.70	LAUNCHED TOP PLUG.
Event	14	Pump Displacement	Pump Displacement	3/1/2020	21:25:10	COM4	0.00	12.00	36.16	0.00	PUMPED 119 BBLS OF FRESH WATER DISPLACEMENT AT 8.5 BPM 570 PSI. GOT RED DYE AT 50 BBLS AWAY AND GOOD CEMENT AT 80 BBLS AWAY. 39 BBLS TO SURFACE.
Event	15	Bump Plug	Bump Plug	3/1/2020	21:45:06	COM4	2.80	757.00	8.39	122.90	BUMPED PLUG AT CALCULATED DISPLACEMENT, LAST CIRCULATING PSI 450, K/O 950, LEVELED OUT 1050.
Event	16	Other	Other	3/1/2020	21:46:02	COM4	0.00	733.00	8.43	123.00	CHECKED FLOATS , 1 BBL RETURNED TO THE PUMP.
Event	17	End Job	End Job	3/1/2020	21:47:13	COM4	0.00	14.00	8.38	0.00	STOPPED RECORDING DATA.
Event	18	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	3/1/2020	21:50:00	USER					DISCUSS HAZARDS AND WAYS TO MITIGATE THEM

Event	19	Depart Location Safety Meeting	Depart Location Safety Meeting	3/1/2020	23:00:00	USER	DISCUSS HAZARDS AND ROUTE
Event	20	Crew Leave Location	Crew Leave Location	3/1/2020	23:30:00	USER	THANK YOU FOR USING HALLIBURTON, JOSHUA WASHBURN AND CREW

3.0 Attachments

3.1 CONFLUENCE SILVERTON 5-4-3L -Custom Results.png

