

HALLIBURTON

iCem[®] Service

CONFLUENCE DJ LLC-EBUS

Ft. Lupton District, Colorado

SILVERTON 5-2-2L

Job Date: Saturday, February 29, 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 Case 1-Custom Results.png.....10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **SILVERTON 5-2-2L** 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 38 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 #: 3917342		Quote #: 0022678007		Sales Order #: 0906327217				
Customer: CONFLUENCE DJ LLC-EBUS				Customer Rep: Bryan Olmstad						
Well Name: SILVERTON			Well #: 5-2-2L		API/UWI #: 05-123-48437-00					
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD		State: COLORADO				
Legal Description: SW NW-4-4N-63W-2584FNL-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		1550ft			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	1581	0	
Open Hole Section			13.5				0	1592		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1581		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	0	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	SWIFTCEN (TM) SYSTEM	290	sack	12.5	2.16		8	12.28
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	SWIFTCEN (TM) SYSTEM	195	sack	13.5	1.74		8	9.16
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		0	bbl	8.3			8	
Cement Left In Pipe		Amount	40 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride: 0 ppm		Mix Water Temperature:			55 °F	
Cement Temperature:			Plug Displaced by: 8.33 lb/gal		Disp. Temperature:				
Plug Bumped?		Yes	Bump Pressure: 440 psi		Floats Held?			Yes	
Cement Returns:		38 bbls	Returns Density:		Returns Temperature:				
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	2/29/2020	06:00:00	USER					CREW CALLED OUT 06:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	2/29/2020	10:45:00	USER					DISCUSS ROUTE AND HAZARDS
Event	3	Crew Leave Yard	Crew Leave Yard	2/29/2020	11:00:00	USER					CREW DEPART YARD
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	2/29/2020	12:00:00	USER					ARRIVE ON LOCATION, RIG RUNNING CASING UPON HES ARRIVAL, GOT NUMBERS FROM COMPANY MAN, TD-1592 TP- 1581 FC-1535 CSG- 9 5/8 36# PREV CSG- 13.5 " 80' MW-8.4 #
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	2/29/2020	12:15:00	USER					DISCUSS LOCATION HAZARDS AND HOW TO MITIGATE THEM, TESTED WATER, PH 7, CHLORIDES 0. TEMP 55 DEGREES.
Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	2/29/2020	13:00:00	USER					DISCUSS HAZARDS AND WAYS TO MITIGATE THEM
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	2/29/2020	14:00:00	USER	0.00	21.00	8.47	16.90	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
Event	8	Start Job	Start Job	2/29/2020	14:31:31	COM4	2.00	36.00	8.61	0.30	STARTED TO RECORD DATA.
Event	9	Test Lines	Test Lines	2/29/2020	14:32:49	COM4	0.00	24.00	8.62	1.00	TEST LINES TO 3000.
Event	10	Pump Spacer 1	Pump Spacer 1	2/29/2020	14:36:27	COM4	0.00	26.00	8.63	1.00	MIX AND PUMPED 160#'S OF MUD FLUSH AND 1 BOTTLE OF RED DYE INTO

											40 BBLS OF FRESH WATER, 5.5 BPM AT 90 PSI
Event	11	Check Weight	Check Weight	2/29/2020	14:43:00	COM4	3.30	59.00	8.52	15.00	CHECKED WEIGHT WITH PRESSURIZED SCALES
Event	12	Pump Lead Cement	Pump Lead Cement	2/29/2020	14:48:15	COM4	5.40	66.00	8.48	0.00	MIX AND PUMPED 290 SACKS 111.56 BBLS OF LEAD CEMENT. 12.5 PPG 2.16 YIELD 12.28 GAL/SK , PUMPED AT 8 BPM 200 PSI,
Event	13	Pump Tail Cement	Pump Tail Cement	2/29/2020	15:03:36	COM4	8.10	197.00	12.35	0.10	MIX AND PUMPED 195 SACKS 60.43 BBLS OF TAIL CEMENT, 13.56 PPG 1.74 YIELD 9.16 GAL/SK , PUMPED AT 8 BPM 80 PSI, TOTC 927.32'
Event	14	Check Weight	Check Weight	2/29/2020	15:04:31	COM4	8.10	249.00	13.59	7.50	CHECKED WEIGHT WITH PRESSURIZED SCALES
Event	15	Drop Top Plug	Drop Top Plug	2/29/2020	15:15:05	COM4	0.00	18.00	-0.56	65.30	LAUNCHED TOP PLUG
Event	16	Pump Displacement	Pump Displacement	2/29/2020	15:15:07	COM4	0.00	18.00	-0.56	65.30	PUMPED 118 BBLS OF FRESH WATER DISPLACEMENT, 10 BPM 520 PSI. 38 BBLS OF CEMENT TO SURFACE.
Event	17	Bump Plug	Bump Plug	2/29/2020	15:35:51	COM4	0.00	1109.00	8.48	123.00	BUMPED PLUG AT CALCULATED DISPLACEMENT. LAST CIRCULATION PSI 440 , K/O 900, LEVELED OUT 1100. HELD FOR A MINUTE.
Event	18	Other	Other	2/29/2020	15:36:30	COM4	0.00	42.00	1.49	123.00	CHECKED FLOATS TO THE PUMP. 1 BBL BACK
Event	19	End Job	End Job	2/29/2020	15:36:46	COM4	0.00	25.00	8.42	123.00	STOPPED RECORDING DATA.
Event	20	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig- Down	2/29/2020	15:40:00	USER					DISCUSS HAZARDS AND WAYS TO MITIGATE THEM

Event	21	Depart Location Safety Meeting	Depart Location Safety Meeting	2/29/2020	16:45:00	USER	DISCUSS HAZARDS AND ROUTE
Event	22	Crew Leave Location	Crew Leave Location	2/29/2020	17:00:00	USER	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Case 1-Custom Results.png

