

HALLIBURTON

iCem® Service

CONFLUENCE DJ LLC-EBUS

Canal 22-2-2L

Production Casing

Job Date: Wednesday, September 01, 2021

Sincerely,

Nick Roles and Crew

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 Job Chart10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the Canal 22-2-2L production casing. 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 28 bbl. of spacer 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 #: 9082341		Quote #: 0022867223		Sales Order #: 0907358102				
Customer: CONFLUENCE DJ LLC-EBUS				Customer Rep: Josh Klesen						
Well Name: CANAL #22-2-2L,WELD			Well #: 9082341		API/UWI #:					
Field:		City (SAP): HUDSON		County/Parish: WELD		State: COLORADO				
Legal Description:										
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 161						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307				Srvc Supervisor: Nicholas Roles						
Job										
Job depth MD		17896ft		Job Depth TVD						
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	2697	0	2697
Casing		5.5	4.778	20		P-110	0	17896	0	7256
Open Hole Section			8.5				2697	17903	2697	7256
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	5.5	1		17896		Top Plug	5.5	1		
Float Collar	5.5	1		17853		Bottom Plug	5.5	2	HES	
						Plug Container	5.5	1	HES	
						Centralizers	5.5	330	HES	

Fluid Data									
Stage #: 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	Spacer	Tuned Prime Cement Spacer	190	bbl	12	3.26		8	6544
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	Cement	ElastiCem™ Cement	2080	sack	14.4	1.7	7.25	9	15080
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
3	Displacement	Fresh Water with MMCR	30	bbl	8.34			10	1260
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
4	Displacement	Treated Water	363	bbl	8.34			10	15246
Cement Left In Pipe		Amount	43 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		65 °F
Plug Bumped?		Yes	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		65 °F
Cement Returns:		0 bbl.	Bump Pressure:		2975 psi		Floats Held?		Yes
Comment: Pumped 190 bbl. of 12 lb/gal Tuned Prime Spacer and 2080sks or 630 bbl. of 14.4 lb/gal ElastiCem™ Cement. Final circulating pressure was 2975psi, bumped plug and brought pressure to 3550 psi. Released pressure and got 5 bbl. back. Floats held. Got 28 bbl. spacer to surface. Estimated TOC 3,500'.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Date	Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	8/31/2021	22:00:00					Called out by service coordinator for OL time of 2100 09/01.
2	Pre-Convoy Safety Meeting	9/1/2021	03:15:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	9/1/2021	03:30:00					Depart from service center or other job site.
4	Arrive at Location from Service Center	9/1/2021	04:00:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications. Upon arrival rig had landed casing and began circulating at 23:00.
5	Pre-Rig Up Safety Meeting	9/1/2021	04:05:00					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
6	Rig-Up Equipment	9/1/2021	04:15:00					Begin rig up with crew.
7	Rig-Up Completed	9/1/2021	06:00:00	7.99	0.00	33.00	0.00	Complete rig up for job to nearest point before red zone.
8	Other	9/1/2021	06:15:00	7.99	0.00	34.00	0.00	Mix water test results- PH-7, Chlo-0, Temp-65F.
9	Safety Meeting - Pre Job	9/1/2021	06:30:00	7.99	0.00	32.00	0.00	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.

10	Start Job	9/1/2021	06:49:15	7.98	0.00	35.00	16.60	TD-17903', OH-8.5", TP-17896.4' 5.5" 20#, FC-17853', TVD-7256', SURF-2697' 9.625" 36#, MUD 10#
11	Test Lines	9/1/2021	06:53:36	8.31	0.00	356.00	3.40	Pumped 3bbls fresh water to fill lines at 3bpm 320psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1800psi, proceeded to bring pressure to 4500psi, pressure stabilized and held with no leaks.
12	Pump Spacer 1	9/1/2021	06:58:02	8.28	0.00	270.00	3.50	Pumped 190bbls of 12# 3.26y 20.12g/s Tuned Prime Spacer with 20g D-air at 8bpm 557psi.
13	Drop Bottom Plug	9/1/2021	06:58:08	8.27	0.00	271.00	0.00	Dropped by HES supervisor, witnessed by company man.
14	Check Weight	9/1/2021	07:01:04	12.18	3.70	525.00	9.40	Weight verified with pressurized mud scales.
15	Drop Bottom Plug	9/1/2021	07:25:35	13.57	0.00	13.00	187.70	Dropped by HES supervisor, witnessed by company man.
16	Pump Cement	9/1/2021	07:25:38	13.61	0.00	11.00	0.00	Pumped 2080sks or 630bbls of 14.4# 1.7y 7.26g/s ElastiCem at 9bpm 758psi.
17	Check Weight	9/1/2021	07:27:55	14.15	2.80	146.00	3.80	Weight verified with pressurized mud scales.
18	Check Weight	9/1/2021	07:46:50	14.42	8.90	882.00	168.20	Weight verified with pressurized mud scales.
19	Check Weight	9/1/2021	08:00:01	14.44	8.90	1021.00	284.70	Weight verified with pressurized mud scales.
20	Check Weight	9/1/2021	08:29:13	14.42	9.10	890.00	547.20	Weight verified with pressurized mud scales.
21	Check Weight	9/1/2021	08:35:55	14.37	9.10	909.00	607.90	Weight verified with pressurized mud scales.
22	Shutdown	9/1/2021	08:41:40	14.58	0.00	124.00	644.30	
23	Clean Lines	9/1/2021	08:48:31	14.71	0.00	7.00	0.00	Shutdown, rig blew down lines from floor to pit, shut valve after clean and pumped 20bbls fresh water through lines into pit.
24	Drop Top Plug	9/1/2021	08:54:06	8.19	0.00	4.00	19.20	Dropped by HES supervisor, witnessed by company man.

25	Pump Displacement	9/1/2021	08:54:09	8.20	0.00	4.00	19.20	Pumped 393bbls fresh water at 10bpm, with 15gal MMCR in first 30bbls, 3#s BE-3 and 10gal Cla-Web throughout.
26	Bump Plug	9/1/2021	09:50:21	8.28	0.00	3531.00	404.30	Slowed down at 370bbls away to 4bpm, final circulating pressure-2975psi. Bump pressure-3550psi.
27	Other	9/1/2021	09:56:03	8.22	0.00	5.00	404.30	Released pressure and got 5bbls back. Floats held.
28	End Job	9/1/2021	09:56:20	8.22	0.00	5.00	0.00	Got 28bbls spacer to surface. Estimated TOC-3500'.
29	Pre-Rig Down Safety Meeting	9/1/2021	10:00:00	8.22	0.00	4.00	0.00	Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
30	Rig Down Lines	9/1/2021	10:10:00	3.41	5.00	84.00	10.00	Begin rig down
31	Pre-Convoy Safety Meeting	9/1/2021	11:15:00					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
32	Rig-Down Completed	9/1/2021	11:15:00					Rig down complete with no injuries, spills or damage to equipment.
33	Depart Location for Service Center or Other Site	9/1/2021	11:30:00					Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Job Chart

