

HALLIBURTON

iCem® Service

AXIS EXPLORATION

Ft. Lupton District, COLORADO

For: COLBY HANSEN

Date: Wednesday, June 26, 2019

JAMASO 4-65 5-6-12 905795702 SURFACE

Job Date: Wednesday, June 26, 2019

Sincerely,

SHAYNE BITTON

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..... 9

 3.1 Extraction Livingston S19-25-11C Surface Chart9

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Jamaso 4-65 5-6-12** 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 12 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 #: 369404		Ship To #: 3891820		Quote #:		Sales Order #: 0905795702					
Customer: AXIS EXPLORATION				Customer Rep: COLBY HANSEN							
Well Name: JAMASO 4-65			Well #: 5-6-12		API/UWI #: 05-005-07374-00						
Field: WILDCAT		City (SAP): AURORA		County/Parish: ARAPAHOE		State: COLORADO					
Legal Description: SW NW-4-4S-65W-2449FNL-1256FWL											
Contractor:				Rig/Platform Name/Num: CARTEL 15							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Shayne Bitton							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type					BHST						
Job depth MD		2750ft			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	
Open Hole Section			13.5				0	2717		0	
Casing		9.625	8.921	36			0	2717		0	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			2717		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	Red Dye Spacer	Red Dye Spacer			10	bbl	8.33				
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	SwiftCem	SWIFTCCEM (TM) SYSTEM	865	sack	13.5	1.74		5	9.2
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	Fresh Water	Fresh Water	120	bbl	8.33				
Cement Left In Pipe		Amount	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

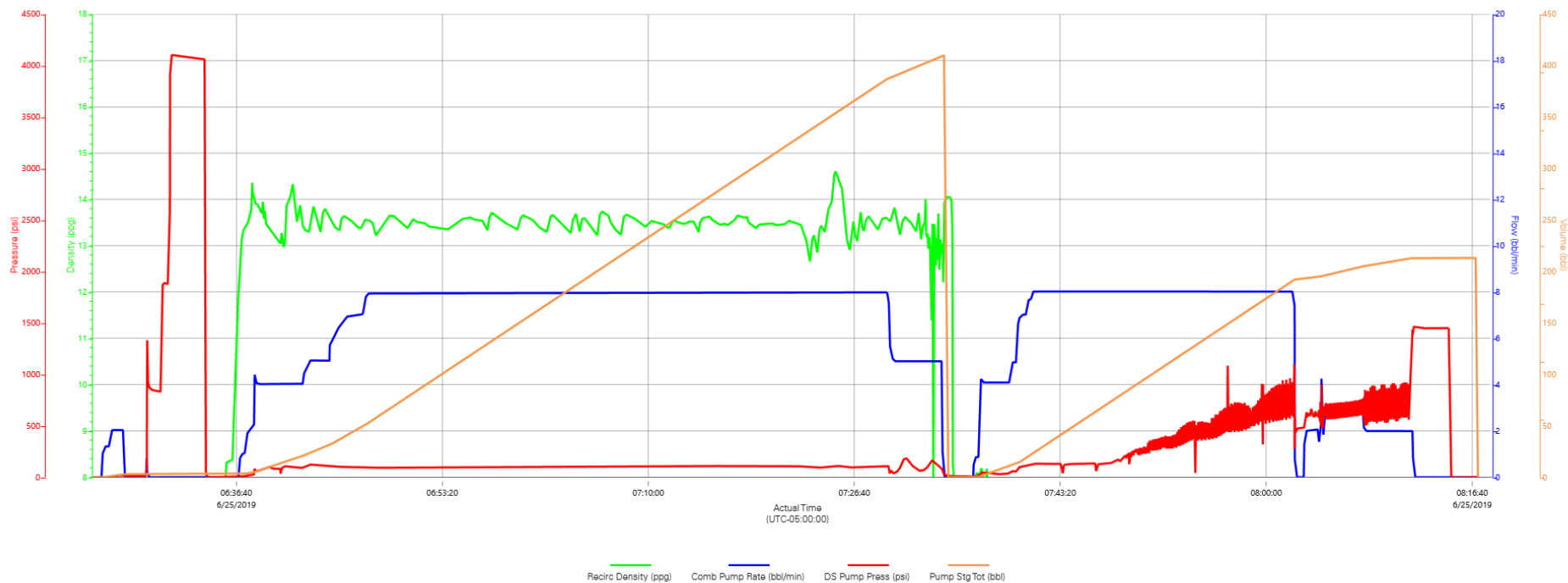
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Recirc Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	6/25/2019	00:01:00	USER				CREW CALLED OUT.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/25/2019	06:00:00	USER				1 P/U, 1 PUMP, AND 3 BULK TRUCKS DEPART FROM SERVICE CENTER.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/25/2019	07:15:00	USER				1 P/U, 1 PUMP, AND 3 BULK TRUCKS ARRIVE ON LOCATION. RIG DRILLING TO TD.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/25/2019	08:45:00	USER				ALL HES PERSONNEL.
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/25/2019	09:00:00	USER				ALL HES PERSONNEL.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/26/2019	04:00:00	USER				HES RIGGED UP HARD LINE, BULK AND WATER LINES.
		Comment	Comment	6/26/2019						H2O TEST: PH- 7, CHLORIDES- <500 , TEMP: 59, SULFATES- 0.
		Comment	Comment	6/26/2019						OH- 13.5", TD- 2717', TVD- 2717', TP- 2715', PG- 9.625" 36# J55, ST- 24', MUD- 8.7# WBM, CENT- 2, TOB- 04:00, CIRC RTE- 10 BPM, PRES- 150, VOL- 500, LOSS- 0, GAS- 0 UNITS.
		Pre Job Safety Meeting	Pre Job Safety Meeting	6/26/2019	06:00:00					ALL LOCATION PERSONNEL.
Event	7	Start Job	Start Job	6/26/2019	06:23:01	USER				START JOB/FILL LINES WITH 3 BBLS OF FW AHEAD.
Event	8	Pressure Test	Pressure Test	6/26/2019	06:31:39	USER				PRESSURE TEST TO 3500 PSI. PRESSURE TEST WAS CONDUCTED IN ACCORDANCE WITH HMS.
Event	9	Pump Spacer	Pump Spacer	6/26/2019	06:36:37	USER				PUMPED 10 BBLS OF FW SPACER WITH 2 LBS OF DYE.
Event	10	Pump Cement	Pump Cement	6/26/2019	06:38:50	USER				PUMPED 865 SKS (268 BBL) OF SWIFTCEM AT 13.5 PPG, 1.74 FT^3/SK AND 9.2 GAL/SK. DENSITY WAS VERIFIED WITH PRESSURIZED MUD SCALES IN ACCORDANCE WITH HMS.

Event	11	Shutdown	Shutdown	6/26/2019	07:33:44	USER	SHUTDOWN AFTER PUMPING CEMENT. DROP TOP PLUG – CM WITNESSED PLUG DROP.
Event	12	Pump Displacement	Pump Displacement	6/26/2019	07:36:39	USER	PUMPED 200 BBLS OF THE 207 BBLS OF CALCULATED DISPLACEMENT.
Event	13	Shutdown	Shutdown	6/26/2019	08:02:13	USER	S/D PUMPS HIT EKO
Event	14	Bump Plug	Bump Plug	6/26/2019	08:11:37	USER	BUMP PLUG. FCP WAS 720 PSI. TOOK PRESSURE UP TO 1200 AND S/D. CHECKED FLOATS FLOATS HELD AND GOT 1 BBL BACK.
Event	15	End Job	End Job	6/26/2019	08:17:16	USER	END JOB. GOT 12 BBLS OF CEMENT BACK TO SURFACE.
Event	16	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/26/2019	08:45:00	USER	ALL HES PERSONNEL. TOPICS DISCUSSED INCLUDED PINCH POINTS AND TRIPPING HAZARDS.
Event	17	Rig-Down Equipment	Rig-Down Equipment	6/26/2019	09:00:00	USER	ALL EQUIPMENT AND MATERIALS WERE STORED AND SECURED FOR TRAVEL.
Event	18	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/26/2019	10:00:00	USER	ALL HES PERSONNEL.
Event	19	Depart Location	Depart Location	6/26/2019	10:15:00	USER	CREW LEAVE LOCATION.
		Comment	Comment				HES USED THE FOLLOWING ON THE JOB: 2 LBS OF DYE AND TOP PLUG. NOTHING TO RETURN.
		Comment	Comment				THANK YOU FOR USING HALLIBURTON CEMENT. -SHAYNE BITTON.

3.0 Attachments

3.1 Extraction Livingston S19-25-11C Surface Chart

Jamaso 4-65 5-6-12 Surface



▼ HALLIBURTON | iCem® Service

Created: 2019-06-26 09:49:56, Version: 5.1.101.0

Edit

Customer: EXTRACTION OIL & GAS

Job Date: 6/26/2019

Well: EXTRACTION JAMASO 4-65 5-6-12
905795702 SURFACE

Representative: COLBY HANSEN

Sales Order #: 905795702