HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS

AD FED DOUBLE CLUTCH 20W-25-6 SURFACE

Sincerely,

Meghan Jacobs

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

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **AD FED Double Clutch 20W-25-6** 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 28 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 #:** 3809234	**Quote #:**	**Sales Order #:** 0905627331
Customer: EXTRACTION OIL & GAS -		**Customer Rep:** MIKE TORRES	
Well Name: AD FED DOUBLE CLUTCH	**Well #:** 20W-25-6		**API/UWI #:** 05-123-45040-00
Field: WATTENBERG	**City (SAP):** GREELEY	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NW SW-21-5N-65W-2116FSL-370FWL			
Contractor:		**Rig/Platform Name/Num:** Cartel 15	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		**Srvc Supervisor:** Jerald Watson	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	1570ft		**Job Depth TVD**	1570
Water Depth			**Wk Ht Above Floor**	0
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					1570		
Casing		9.625	8.921	36				1570		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625					**Top Plug**	9.625	1	HES
Float Shoe	9.625	1	HES	1570		**Bottom Plug**	9.625		HES
Float Collar	9.625	1	HES	1527		**SSR plug set**	9.625		HES
Insert Float	9.625					**Plug Container**	9.625	1	HES
Stage Tool	9.625					**Centralizers**	9.625	4	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			4	

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	SWIFTCEM (TM) SYSTEM	530	sack	13.5	1.74		8	9.2
9.20 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	Fresh Water	Fresh Water	118	bbl	8.33			8	

Cement Left In Pipe	**Amount**	43 ft	Reason	**Shoe Joint**

2.0 Real-Time Job Summary

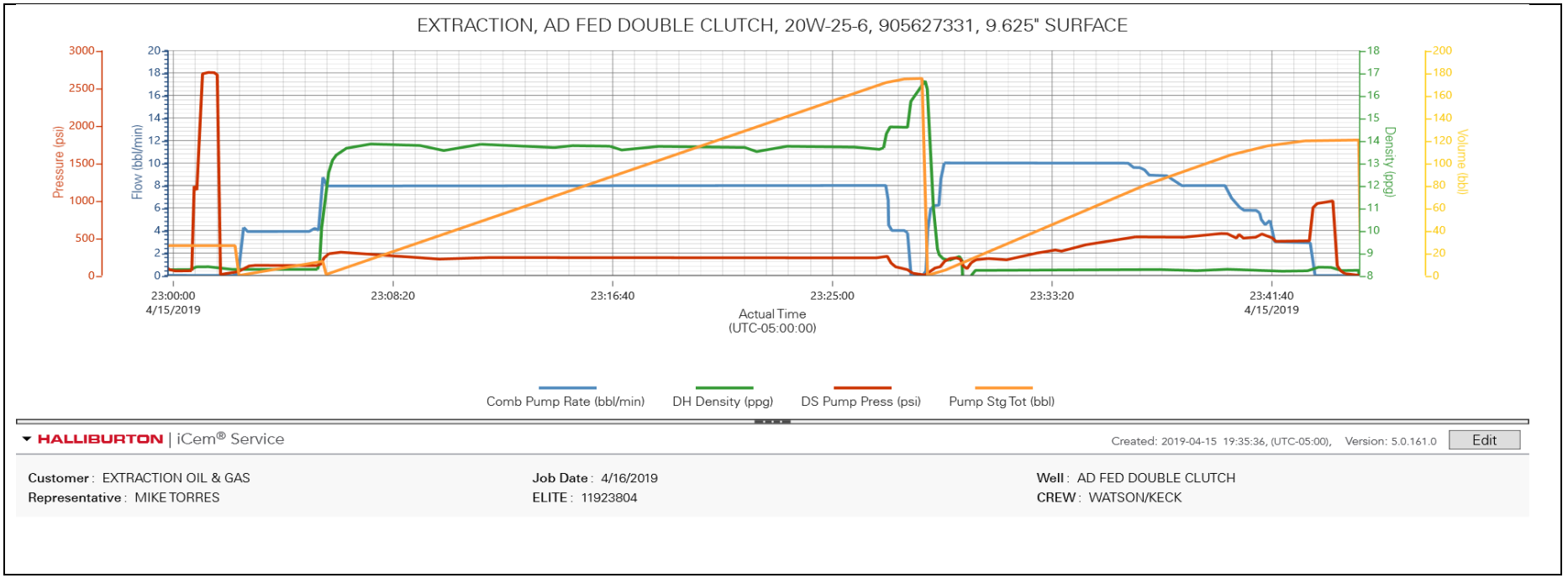
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Arrive at Location from Other Job or Site	Arrive at Location from Other Job or Site	4/15/2019	17:45:00	USER					REQUESTED O/L 2330, RIG PULLING DRILL PIPE UPON ARRIVAL
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/15/2019	18:00:00	USER					TEST WATER, CHECK MATERIALS, GET NUMBERS FROM THE COMPANY MAN AND TALK ABOUT SPOTTING EQUIPMENT.
Event	3	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	4/15/2019	21:00:00	USER					DISCUSS HAZARDS ASSOCIATED WITH TASK
Event	4	Rig-Up Equipment	Rig-Up Equipment	4/15/2019	21:15:00	USER					RIG UP ALL EQUIPMENT
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/15/2019	22:30:00	USER	0.30	8.01	-5.00	10.10	DISCUSS HAZARDS ASSOCIATED WITH THE JOB WITH EVERYONE INVOLVED WITH THE JOB AS WELL AS WHAT NEEDS TO BE DONE IN CASE OF EMERGENCY OR IF WE NEED TO EVACUATE LOCATION.
Event	6	Test Lines	Test Lines	4/15/2019	23:00:40	COM4	0.00	8.27	52.00	26.50	TEST LINES TO 2000 PSI
Event	7	Pump Spacer 1	Pump Spacer 1	4/15/2019	23:02:23	COM4	0.00	8.27	43.00	0.00	10 DYED H20, 4 BPM, 131 PSI, 8.33 PPG
Event	8	Pump Cement	Pump Cement	4/15/2019	23:05:41	COM4	8.80	10.35	229.00	12.80	164 CEMENT, 8 BPM, 275 PSI, 530 SKS, 13.5 PPG, 1.74 YIELD, 9.2 GAL/SK
Event	9	Drop Top Plug	Drop Top Plug	4/15/2019	23:27:58	COM4	0.00	15.63	45.00	175.10	HES PLUG

Event	10	Pump Displacement	Pump Displacement	4/15/2019	23:28:30	COM4	0.00	16.64	4.00	0.00	118 H20, 10 BPM, 225 PSI, 8.33 PPG, 28 BBL CEMENT TO SURFACE
Event	11	Bump Plug	Bump Plug	4/15/2019	23:43:31	COM4	0.00	8.37	979.00	120.40	BUMP AT 475 PSI, TOOK TO 975 PSI
Event	12	Check Floats	Check Floats	4/15/2019	23:44:00	USER	0.00	8.36	994.00	120.40	1 BBL BACK
Event	13	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	4/16/2019	00:00:00	USER					DISCUSS HAZARDS INVOLVED AND IF ANYTHING IS STAYING ON LOCATION
Event	14	Rig-Down Equipment	Rig-Down Equipment	4/16/2019	00:15:00	USER					RIG DOWN ALL EQUIPMENT
Event	15	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/16/2019	00:45:00	USER					CHECK WITH EVERYONE TO SEE IF THEY ARE FIT TO DRIVE AND LEGAL TO DRIVE AND SEE WHAT THEIR PLANS ARE AS WELL AS DISCUSS ANY OTHER JOB THAT MAY NEED TO BE COVERED AFTER LEAVING LOCATION.
Event	16	Crew Leave Location	Crew Leave Location	4/16/2019	01:00:00	USER					EVERYONE LEAVES LOCATION

3.0 Attachments

3.1 Case 1-Custom Results.png



4.0 Custom Graphs

4.1 Custom Graph