HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS

Date: Monday, May 20, 2019

AD FED LIBRARY 20W-25-18 Surface

Job Date: Saturday, April 27, 2019

Sincerely,

Bryce Hinsch

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **AD FED Library 20W-25-18** 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 16 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 #:** 3809178	**Quote #:**	**Sales Order #:** 0905639513
Customer: EXTRACTION OIL & GAS -		**Customer Rep:** JUSTIN HUMPHRIES	
Well Name: AD FED LIBRARY	**Well #:** 20W-25-18		**API/UWI #:** 05-123-45037-00
Field: WATTENBERG	**City (SAP):** GREELEY	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NW SW-21-5N-65W-1828FSL-367FWL			
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	1619ft		**Job Depth TVD**	1619
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				0	1620		
Casing		9.625	8.921	36			0	1619		

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	1619		**Bottom Plug**	9.625		HES
Float Collar	9.625	1	HES	1576		**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	515	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	122	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	4/26/2019	19:30:00	USER					REQUESTED ON LOC TIME 22:00, RIG PULLING DRILL PIPE UPON ARRIVAL
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/26/2019	19:45:00	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	4/26/2019	21:30:00	USER					DISCUSS HAZARDS ASSOCIATED WITH TASK
Event	4	Rig-Up Equipment	Rig-Up Equipment	4/26/2019	21:45:00	USER					RIG UP ALL EQUIPMENT
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/27/2019	02:30:00	USER	0.10	8.33	-7.00	21.50	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	4/27/2019	02:56:38	COM4	0.10	8.44	0.00	2.00	FILLED LINES, TESTED KICKOUTS TO 500 PSI, TESTED LINES TO 2500 PSI
Event	7	Pump Spacer 1	Pump Spacer 1	4/27/2019	02:58:27	COM4	0.80	8.40	3.00	0.00	10 BBL RED DYE H20, 2 BPM, 20 PSI, 8.33 PPG
Event	8	Pump Cement	Pump Cement	4/27/2019	03:04:05	COM4	5.90	13.94	142.00	12.70	160 BBL SWIFTCEM, 8 BPM, 245 PSI, 13.5 PPG
Event	9	Drop Top Plug	Drop Top Plug	4/27/2019	03:27:15	COM4	0.00	17.96	-4.00	161.10	HES TOP PLUG
Event	10	Pump Displacement	Pump Displacement	4/27/2019	03:27:24	COM4	0.00	17.96	-4.00	0.00	122 BBL H20, 8 BPM, 485

											PSI, 8.33 PPG, 16 BBL CEMENT TO SURFACE
Event	11	Bump Plug	Bump Plug	4/27/2019	03:48:55	COM4	0.10	8.41	1010.00	124.20	BUMP PLUG AT 500 PSI, TOOK TO 1131 PSI
Event	12	Other	Other	4/27/2019	03:50:37	COM4	0.10	8.44	1134.00	124.40	1 BBL BACK
Event	13	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	4/27/2019	04:00:00	USER					DISCUSS HAZARDS INVOLVED AND IF ANYTHING IS STAYING ON LOCATION
Event	14	Rig-Down Equipment	Rig-Down Equipment	4/27/2019	04:15:00	USER					RIG DOWN ALL EQUIPMENT
Event	15	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/27/2019	04:45:00	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	4/27/2019	05:00:00	USER					EVERYONE LEAVES LOCATION

3.0 Attachments

3.1 Extraction AD FED LIBRARY 20W-25-18 Surface Chart