

HALLIBURTON

iCem[®] Service

BILL BARRETT CORPORATION-EBUS

Date: Thursday, January 25, 2018

Anschutz Williams 5-61-27-4841B Intermediate

Job Date: Thursday, January 04, 2018

Sincerely,

Julia Nichols

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Anschutz Williams 5-61-27-4841B** cement **Intermediate** 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 10 barrels 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]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 343492		Ship To #: 3833782		Quote #:		Sales Order #: 0904548383					
Customer: BILL BARRETT CORPORATION E-BILL				Customer Rep: Curtis							
Well Name: ANSCHUTZ-WILLIAMS			Well #: 5-61-27-4841B			API/UWI #: 05-123-45706-00					
Field: WATTENBERG		City (SAP): ROGGEN		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-27-5N-61W-2348FSL-270FWL											
Contractor: CADE DRLG				Rig/Platform Name/Num: CADE 24							
Job BOM: 7522 7522											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Bryan Kraft							
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		6428ft			Job Depth TVD		6150ft				
Water Depth					Wk Ht Above Floor		3ft				
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		8.625	8.921	36		J-55	0	842	0	842	
Casing		7	6.368	26		HCP110	0	6428	0	6150	
Open Hole Section			8.75				842	6443	842	6150	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make			
Guide Shoe					Top Plug	7	1				
Float Shoe	7	1		6428	Bottom Plug						
Float Collar	7	1		6379	SSR plug set						
Insert Float					Plug Container	7	1	HES			
Stage Tool					Centralizers						
Fluid Data											
Stage/Plug #: 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	FRESH WATER			20	bbl	8.33			5	840
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	Spacer	TUNED SPACER III			20	bbl	11.5	3.76	24.2	5	723
149.34 lbm/bbl		BARITE, BULK (100003681)									
36.20 gal/bbl		FRESH WATER									

last updated on 1/25/2018 2:55:34 PM

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Cementing Job Summary

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	Cement	ELASTICEM (TM) SYSTEM	700	sack	13.2	1.57	7.53	8	5271	
7.53 Gal		FRESH WATER								
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	FRESH WATER	251	bbl	8.33			8	10542	
Cement Left In Pipe		Amount	49 ft		Reason			Shoe Joint		
Mix Water:		pH 7.0	Mix Water Chloride:		<300 ppm		Mix Water Temperature:			65 °F
Cement Temperature:		N/A	Plug Displaced by:		8.3 lb/gal Fresh Water		Disp. Temperature:			85 °F
Plug Bumped?		Yes	Bump Pressure:		2300 psi		Floats Held?			Yes
Cement Returns:		10 bbl	Returns Density:		N/A		Returns Temperature:			N/A
Comment The plug bumped @ calculated displacement @ 2300 PSI, shutdown for 2 minutes @ 2700 PSI. The floats held and received 3 BBLS back to the truck. Held a 2000 PSI for 10 minutes casing pressure test. Spacer returned to surface @ 221 BBS into displacement. Total of 20 BBLS spacer and 10 BBLS cement returned to surface.										

2.0 Real-Time Job Summary

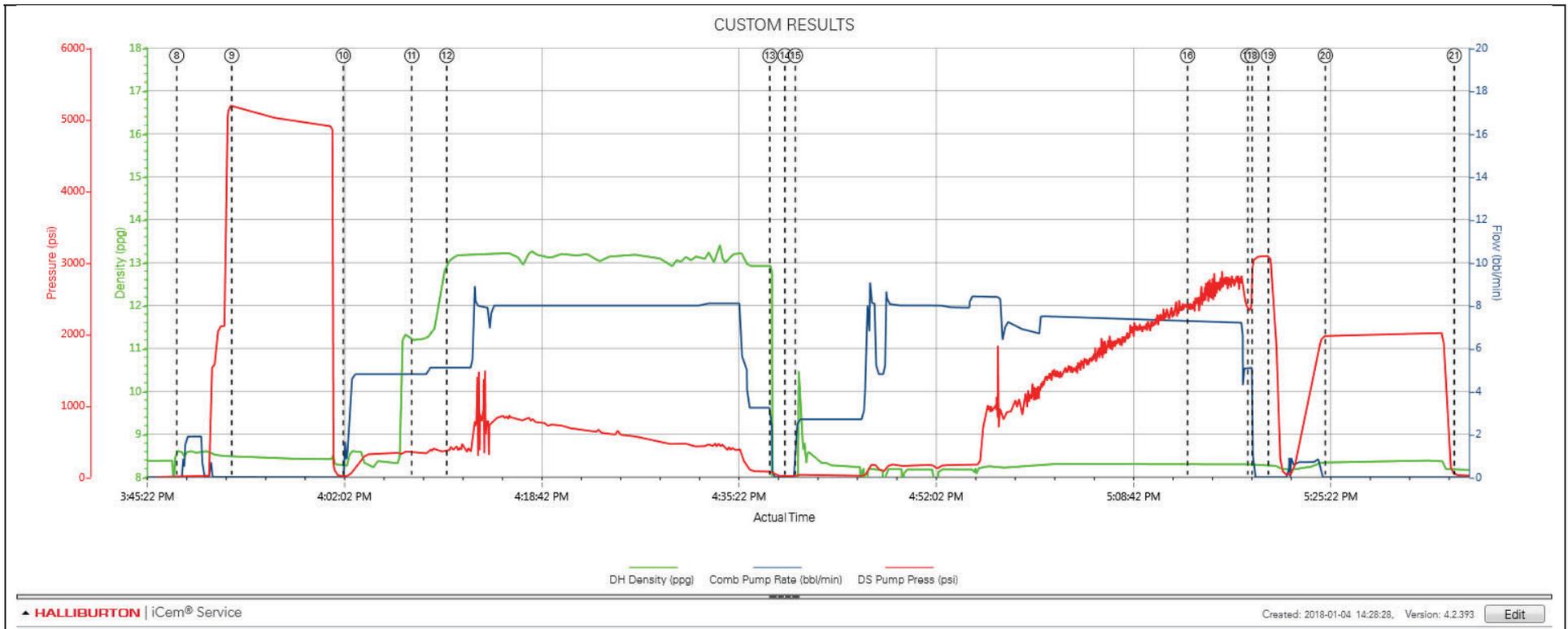
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density <i>(ppg)</i>	Combined Pump Rate <i>(bbl/min)</i>	Driv-Side Pump Pressure <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	1/4/2018	08:00:00	USER				CREW CALLED OUT AT 8:00 1/4/2018, REQUESTED ON LOCATION @ 14:00 1/4/2018. CREW PICKED UP CEMENT, CHEMICALS (5 GAL D-AIR), 100 LBS OF SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO BULK 660: 11005806/11527037, BULK 660: 11027125/10924982, BULK 660: 11526488/10867439, PUMP ELITE: 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/4/2018	12:15:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	1/4/2018	12:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	1/4/2018	14:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625 36# @ 842', 7" CASING: 23# @ 6428', 49' SHOE TRACK, 8.75" OPEN HOLE, TVD: 6150', FRESH WATER DISPLACEMENT,
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/4/2018	14:15:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	1/4/2018	14:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/4/2018	15:30:00	USER	8.38	0.00	307.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	1/4/2018	15:48:04	COM6	8.61	0.00	4.00	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	1/4/2018	15:52:43	COM6	8.50	0.00	5195.00	PRESSURE TESTED IRON TO 5000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 600 PSI, 5TH GEAR STALL @ 2120 PSI.
Event	10	Pump Spacer 1	Pump Fresh Water Spacer	1/4/2018	16:02:08	COM6	8.24	0.80	16.00	PUMP 20 BBLS OF FRESH WATER.
Event	11	Pump Spacer 2	Pump Tuned Spacer @ 11.5 ppg	1/4/2018	16:07:56	COM6	11.20	4.80	341.00	PUMP 20 BBLS OF TUNED SPACER @ 11.5 LB/GAL, ADDED 5 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

Event	12	Pump Cement	Pump Cement @ 13.2 ppg	1/4/2018	16:10:53	COM6	13.04	5.10	376.00	PUMP 700 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 196 BBLS, CALCULATED TOC @ SURFACE , DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	1/4/2018	16:38:11	USER	8.90	0.30	57.00	SHUTDOWN TO DROP TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	1/4/2018	16:39:27	COM6	0.00	0.00	16.00	PLUG LEFT CONTAINER, VERIFIED BY DRILLER.
Event	15	Pump Displacement	Pump Fresh Water Displacement	1/4/2018	16:40:21	COM6	7.18	2.70	28.00	BEGIN CALCULATED DISPLACEMENT OF 251 BBLS WITH FRESH WATER.
Event	16	Spacer Returns to Surface	Spacer Returns to Surface	1/4/2018	17:13:29	USER	8.31	7.30	2348.00	TUNED SPACER TO SURFACE @ 221 BBLS INTO DISPLACEMENT, 20 BBLS TUNED SPACER TO SURFACE AND 10 BBLS OF CEMENT TO SURFACE.
Event	17	Bump Plug	Bump Plug	1/4/2018	17:18:35	COM6	8.30	5.10	2300.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 700 PSI OVER FINAL CIRCULATING PRESSURE OF 2300 PSI.
Event	18	Shutdown	Shutdown	1/4/2018	17:18:56	USER	8.30	0.00	3051.00	SHUTDOWN FOR 2 MINUTES @ 3000 PSI
Event	19	Check Floats	Check Floats	1/4/2018	17:20:19	USER	8.27	0.00	3024.00	RELEASED PRESSURE, FLOATS HELD, 3 BBLS BACK
Event	20	Test Lines	Casing Pressure Test	1/4/2018	17:25:08	COM6	8.35	0.00	1983.00	PRESSURE TEST CASING TO 2000 PSI FOR 10 MINUTES.
Event	21	End Job	End Job	1/4/2018	17:36:01	COM6	8.17	0.00	34.00	STOP RECORDING JOB DATA.
Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/4/2018	17:40:00	USER	8.16	0.90	12.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	23	Rig-Down Completed	Rig-Down Completed	1/4/2018	18:30:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/4/2018	18:45:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	25	Crew Leave Location	Crew Leave Location	1/4/2018	19:00:00	USER				THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

