

HALLIBURTON

iCem[®] Service

BILL BARRETT CORPORATION E-BILL

Anschutz-Williams 5-61-27-3225B Intermediate

Job Date: Tuesday, December 19, 2017

Sincerely,
Ryan Keeran

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 Job Chart 9

 3.1 Job Chart.....9

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Anschutz Williams 5-61-27-3225B** 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.

11 bbls of cement 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 #: 343492		Ship To #: 3833826		Quote #:		Sales Order #: 0904511889					
Customer: BILL BARRETT CORPORATION E-BILL						Customer Rep: Curtis					
Well Name: ANSCHUTZ-WILLIAMS				Well #: 5-61-27-3225B		API/UWI #: 05-123-45715-00					
Field: WATTENBERG		City (SAP): ROGGEN		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-27-5N-61W-2378FSL-270FWL											
Contractor: CADE DRLG				Rig/Platform Name/Num: CADE 24							
Job BOM: 7522 7522											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Steven Markovich							
Job											
Formation Name											
Formation Depth (MD)		Top				Bottom					
Form Type						BHST					
Job depth MD		6435ft				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	
Casing		9.625	8.921	36		J-55	0	842	0	842	
Casing		7	6.366	26		HCP110	0	6435	0	0	
Open Hole Section			8.75				842	6450	842	6435	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	7			6435		Top Plug	7		HES		
Float Shoe	7					Bottom Plug	7		HES		
Float Collar	7					SSR plug set	7		HES		
Insert Float	7					Plug Container	7		HES		
Stage Tool	7					Centralizers	7		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	Water Spacer	Water Spacer			20	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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	20	bbl	11.5	3.76			
36.20 gal/bbl		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	ElastiCem	ELASTICEM (TM) SYSTEM	700	sack	13.2	1.57		5	7.53
7.53 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
4	Displacement	Displacement	251	bbl	8.33				
Cement Left In Pipe		Amount	47.62 ft			Reason			Shoe Joint
Comment Spacer to surface at 220bbbls away cement to surface at 239bbbls away bringing 11bbbls of cement to surface. Final lift pressure was 1741psi. While doing 2000psi casing test for 10 mins pressure went from 2000psi to 2173psi.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	12/18/2017	23:20:00	USER				Job called out with an on location time of 05:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/19/2017	03:45:00	USER				JSA with HES crew on driving safety and route to rig.
Event	3	Arrive At Loc	Arrive At Loc	12/19/2017	04:30:00	USER				Arrived on location, rig still running casing. 5000' to run.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/19/2017	04:45:00	USER				JSA and Hazard hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	12/19/2017	08:00:00	USER				Rigged up HES lines and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/19/2017	09:10:00	USER	0.00	1.00	0.00	JSA with HES and rig crew on job procedure and safety.
Event	7	Start Job	Start Job	12/19/2017	09:28:37	COM4	8.59	1.00	0.00	TD 6450' TP 6433.5' FC 6385.88' 7" 23# Intermediate casing, 8 3/4" open hole, 9 5/8" 36# surface casing at 842'
Event	8	Test Lines	Test Lines	12/19/2017	09:32:53	COM4	8.75	1450.00	0.00	Set kick outs to 500psi and test kick outs then bring pressure up to 4000psi and hold.
Event	9	Pump Spacer 1	Pump Spacer 1	12/19/2017	09:41:36	COM4	8.70	166.00	1.50	Pump 20bbs of H2O
Event	10	Pump Spacer 2	Pump Spacer 2	12/19/2017	09:55:01	COM4	8.70	168.00	0.00	Pump 20bbls of 11.5ppg 3.76yied Tuned Spacer.

Event	11	Check Weight	Check weight	12/19/2017	09:56:24	COM4	11.42	161.00	0.00	Weight verified by pressurized scales
Event	12	Pump Cement	Pump Cement	12/19/2017	10:05:41	COM4	12.72	355.00	2.20	Pump 195bbls (700sks) of 13.2ppg 1.57yield Cement. Pumped at 7bbl/min 827psi.
Event	13	Check Weight	Check weight	12/19/2017	10:07:10	COM4	13.25	752.00	6.40	Weight verified by pressurized scales
Event	14	Check Weight	Check weight	12/19/2017	10:10:11	COM4	13.33	1024.00	8.00	Weight verified by pressurized scales
Event	15	Shutdown	Shutdown	12/19/2017	10:30:49	COM4	14.09	51.00	0.90	Shutdown.
Event	16	Drop Top Plug	Drop Top Plug	12/19/2017	10:38:55	COM4	14.77	1.00	0.00	Plug loaded into HES head. Plug loaded and dropped in front of company rep.
Event	17	Pump Displacement	Pump Displacement	12/19/2017	10:41:45	COM4	12.86	15.00	0.00	Pump 251bbs of H2O. Pumped at 8bbl/min and sowed down with pressure increase. Spacer to surface at 220bbls away, cement to surface at 239bbls away bringing 11bbls of cement to surface.
Event	18	Bump Plug	Bump Plug	12/19/2017	11:22:46	COM4	8.37	1733.00	3.00	Bumped plug at 251 away, final lifting pressure was 174psi. Took pressure 500psi over and held. Before checking floats pressure was 2422psi. After 2bbls back floats held.
Event	19	Test Lines	Test Lines	12/19/2017	11:28:00	COM4	8.40	2059.00	0.00	Kick pumps in to bring pressure up to 2000psi for a 10 min casing test. After 10 mins pressure was 2173psi.
Event	20	End Job	End Job	12/19/2017	11:40:41	USER	8.27	12.00	0.00	Thank you Steve Markovich and crew.

3.0 Job Chart

3.1 Job Chart

