

HALLIBURTON

iCem[®] Service

FIFTH CREEK ENERGY

Date: Friday, July 21, 2017

Critter Creek 278-1527H Production

Job Date: Sunday, July 16, 2017

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 **Critter Creek 278-1527H** cement **Production** 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 50 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 [Ft. Lupton]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 375970		Ship To #: 3798153		Quote #:		Sales Order #: 0904147708					
Customer: FIFTH CREEK ENERGY OPERATING				Customer Rep: Craig Jones							
Well Name: CRITTER CREEK			Well #: 278-1527H			API/UWI #: 05-123-44711-00					
Field: HEREFORD		City (SAP): HEREFORD		County/Parish: WELD		State: COLORADO					
Legal Description: SW SE-15-11N-83W-279FSL-1090FEL											
Contractor: CADE DRLG				Rig/Platform Name/Num: CADE 23							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199					Srvc Supervisor: Vaughn Oteri						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		17844ft			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	1525	0	1525	
Casing		5.5	4.892	17		HCP110	0	17837	0	7366	
Open Hole Section			8.5				1525	17844	1525	7366	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	Weatherford		
Float Shoe	5.5			17837		Bottom Plug	5.5				
Float Collar	5.5			17787		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5				
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.78		5			
Stage/Plug #: 2											
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	13.2# ElastiCem	ELASTICEM (TM) SYSTEM	1145	sack	13.2	1.57		8	7.54		

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Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	NeoCem	NeoCem TM	1450	sack	13.2	2.04		8	9.75
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	MMCR Displacement	MMCR Displacement	20	bbl	8.48				
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	Displacement		392	bbl	8.34				
Cement Left In Pipe									
Amount	87 ft			Reason				Shoe Joint	
Comment 50bbl of cement back to surface									

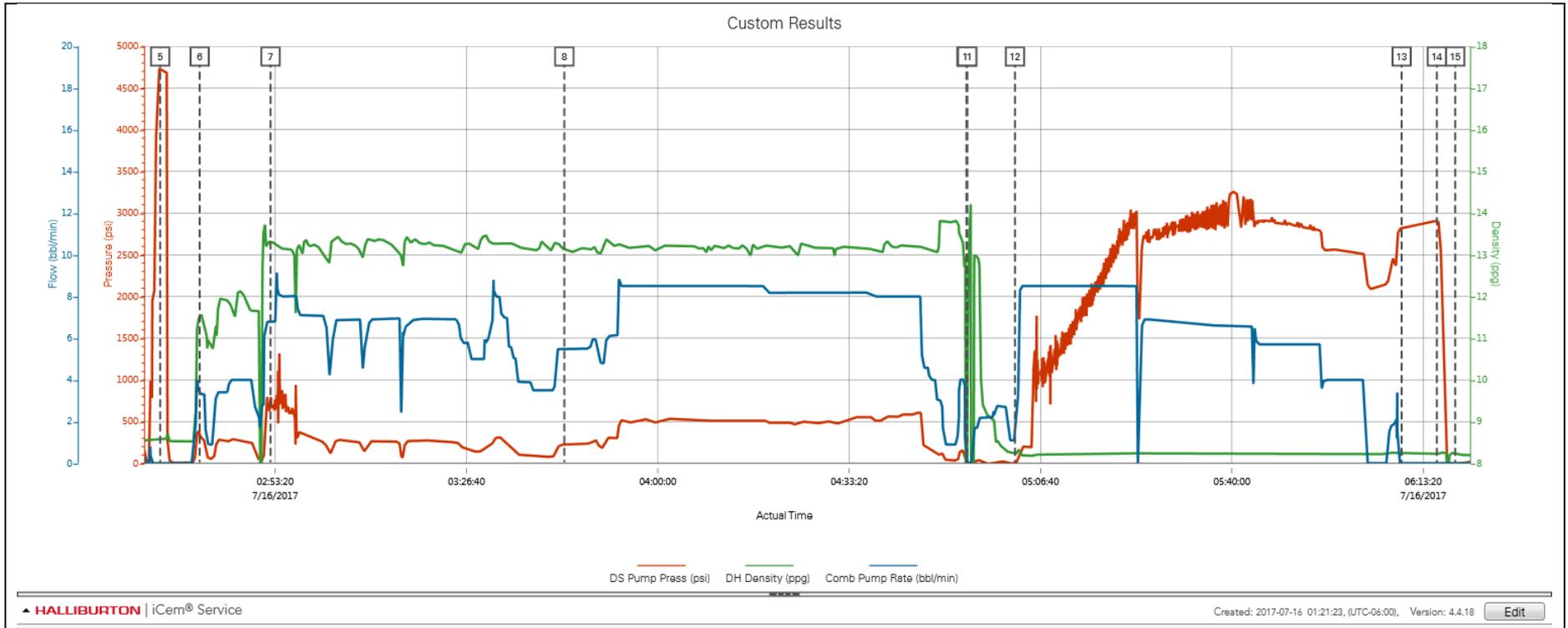
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	7/15/2017	18:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	7/15/2017	23:00:00	USER				Requested on location @0000 Arrived on location @2300 met with company rep to discuss job process and concerns
Event	3	Other	Other	7/15/2017	23:10:10	USER				TD-17844 TP-17837 FC-17787 Surf-1525 TVD-7367 KOP-6767 Casing 5.5 17#
Event	4	Start Job	Start Job	7/16/2017	02:24:33	COM4	-4.00	7.12	0.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	7/16/2017	02:33:18	COM4	4728.00	8.60	0.00	Pressure tested pumps and lines with fresh water 4819psi
Event	6	Pump Spacer 1	Pump Spacer 1	7/16/2017	02:40:11	COM4	337.00	11.54	3.40	Mixed 40bbl of 11.5ppg Tuned spacer III at 4.0bpm 259psi
Event	7	Pump Lead Cement	Pump Lead Cement	7/16/2017	02:52:32	COM4	669.00	13.34	6.80	Mixed 1145sks or 320bbl of 13.2ppg Y-1.57 G/sk 7.54 ElastiCem at 8.0bpm 670psi
Event	8	Pump Tail Cement	Pump Tail Cement	7/16/2017	03:43:42	COM4	223.00	13.12	5.50	Mixed 1450sks or 526bbl of 13.2ppg y-2.08 G/sk-975 NeoCem at 8.0bpm 260psi
Event	9	Shutdown	Shutdown	7/16/2017	04:53:44	COM4	26.00	5.36	0.00	
Event	10	Clean Lines	Clean Lines	7/16/2017	04:53:49	COM4	13.00	7.06	0.00	Washed pumps and lines with fresh water
Event	11	Drop Top Plug	Drop Top Plug	7/16/2017	04:53:54	COM4	5.00	9.47	0.00	Weatherford tool hand released plug witnessed by company rep
Event	12	Pump Displacement	Pump Displacement	7/16/2017	05:02:12	COM4	-2.00	8.24	1.10	Pump 412bbl of fresh water to displace cement
Event	13	Bump Plug	Bump Plug	7/16/2017	06:09:33	COM4	2829.00	8.24	0.00	Bump plug 500psi over final pump pressure
Event	14	Other	Other	7/16/2017	06:15:41	COM4	2909.00	8.22	0.00	Released pressure back to pump truck to check floats, floats held good 3.0bbl back
Event	15	End Job	End Job	7/16/2017	06:18:54	COM4	-10.00	8.23	0.00	50bbl of cement back to surface

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

