

HALLIBURTON

iCem[®] Service

ADVANCED EXTRACTION TECHNOLOGIES

Date: Wednesday, December 30, 2015

Janssen 5

Production

Job Date: Saturday, December 26, 2015

Sincerely,
Lauren Roberts

Legal Notice

Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

Table of Contents

1.0	Cementing Job Summary	4
1.1	Executive Summary	4
2.0	Real-Time Job Summary	7
2.1	Job Event Log	7
3.0	Attachments.....	9
3.1	Case 1-Custom Results.png.....	9

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Janssen 5** 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.

65 bbls of cement 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]

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3701568			Quote #: 0022140631			Sales Order #: 0903007267		
Customer: EXTRACTION OIL & GAS					Customer Rep: Hugh McGraw					
Well Name: JANSSEN				Well #: 5		API/UWI #: 05-123-42362-00				
Field: WATTENBERG		City (SAP): EATON		County/Parish: WELD			State: COLORADO			
Legal Description: SE NW-8-6N-65W-2231FNL-2397FWL										
Contractor: PATTERSON-UTI ENERGY					Rig/Platform Name/Num: PATTERSON 346					
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199					Srcv Supervisor: Vaughn Oteri					
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type					BHST					
Job depth MD		11642ft			Job Depth TVD					
Water Depth					Wk Ht Above Floor			3'		
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			0	1592		
Casing		5.5	4.892	17			0	11642		7154
Open Hole Section			7.875				1592	11652		7154
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	3 rd Party	
Float Shoe	5.5	1		11642'		Bottom Plug	5.5		HES	
Float Collar	5.5	1		11599'		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	7.17		6		

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	ElastiCem WO Super CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.602		6	7.69
7.69 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
3	ElastiCem with CBL	ELASTICEM (TM) SYSTEM	1550	sack	13.2	1.603		8	7.7
7.70 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	MMCR Displacement	MMCR Displacement	10	bbl	8.33			8	
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 1 GAL PAIL (100003780)							
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
5	Displacement	Displacement	246	bbl	8.33			8	
Cement Left In Pipe		Amount	ft	Reason			Shoe Joint		
Comment: 50 bbls Spacer and 65 bbls Cement to Surface									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	PS Pump Rate (bbl/min)	Comments
Event	1	Safety Meeting - Service Center or other Site	Safety Meeting - Service Center or other Site	12/26/2015	17:30:00	USER				Journey Management Meeting with HES Crew Prior to Departing Yard
Event	2	Arrive At Loc	Arrive At Loc	12/26/2015	18:30:00	USER				Arrive on Location @ 1830, Requested @ 1900.
Event	3	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	12/26/2015	19:30:00	USER				Safety Meeting with HES Crew prior to rigging-up.
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/26/2015	21:15:00	USER				Safety Meeting with HES Crew and all 3rd Party Employees
Event	5	Other	Other	12/26/2015	21:15:01	USER				TD-11652', TP-11642', Float Collar @ 11599', 9 5/8" Surface Casing set @ 1592', 9 lb/gal OBM.
Event	6	Start Job	Start Job	12/26/2015	21:48:36	COM4	83.00	9.09	0.00	Water Provided by Rig, Tested as follows: PH-7.5, Chlorides-0, Sulfates-<200, 65 Deg.
Event	7	Test Lines	Test Lines	12/26/2015	21:49:31	COM4	4066.00	9.15	0.00	Pressure Test Lines to 4066 PSI, Monitor for Leaks
Event	8	Pump Spacer	Pump Tuned Spacer	12/26/2015	21:54:04	USER	264.00	11.63	5.00	Mix and Pump 50 bbls Tuned Spacer III @ 11.5 lb/gal (15 Gals of Musol A, 15 Gals Dual Surfactant B, and 10 gals D-Air 3000L added on Batch Mixer) Density Verified By Pressurized Scales
Event	9	Pump Lead Cement	Pump Lead Cement	12/26/2015	22:13:18	COM4	418.00	13.43	8.00	Mix and Pump 42 bbls (150 sks) ElastiCem Cement @ 13.2 lb/gal (Density Verified by Pressurized Scales)
Event	10	Pump Tail Cement	Pump Tail Cement	12/26/2015	22:13:51	USER	435.00	13.37	8.00	Mix and Pump 441 bbls (1550 sks) ElastiCem Cement @ 13.2 lb/gal (Density Verified by Pressurized Scales)
Event	11	Shutdown	Shutdown	12/26/2015	23:18:05	COM4	65.00	1.26	0.00	Shut-Down, Prepare to Drop Plug
Event	12	Drop Top Plug	Drop Top Plug	12/26/2015	23:25:53	COM4	21.00	0.00	0.00	Drop wiper dart by Hand (Witnessed by Tool Rep.) (Provided by KLX Energy Services)
Event	13	Clean Lines	Clean Lines	12/26/2015	23:27:19	COM4	43.00	9.37	2.10	Wash pumps and lines to wash-up Tank.
Event	14	Pump Displacement	Pump Displacement	12/26/2015	23:30:06	COM4	23.00	-0.06	0.00	Pump Water Displacement (10 gals. MMCR in first 10 bbls)

Event	15	Spacer Returns to Surface	Spacer Returns to Surface	12/26/2015	23:47:22	USER	2688.00	8.17	7.40	Tuned Spacer Returns to Surface @ 147 bbls away. (50 bbls Returned to Pit)
Event	16	Cement Returns to Surface	Cement Returns to Surface	12/26/2015	23:54:55	USER	2900.00	8.15	6.30	Cement Returns to Surface @ 197 bbls away. (65 bbls Returned to Pit)
Event	17	Shutdown	Shutdown	12/27/2015	00:09:30	USER	2267.00	8.13	0.00	Shutdown @ 259 bbls away, Plug did not Bump. Discuss with Customer Rep. and Tool Rep. Customer and Tool Rep. made decision to pump an additional 3 bbls. Plug did not bump after pumping additional fluid. End Displacement
Event	18	Other	Other	12/27/2015	00:13:35	COM4	168.00	8.13	0.00	Check Floats, Floats Holding, Returned 2 bbls back to pump truck.
Event	19	End Job	End Job	12/27/2015	00:25:30	COM4	32.00	1.13	1.20	Samples of Spacer Left on Location, and returned to service center.
Event	20	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	12/27/2015	00:34:38	USER				Safety Meeting with HES Crew Prior to rigging-down.
Event	21	Safety Meeting - Departing Location	Safety Meeting - Departing Location	12/27/2015	00:34:45	USER				Journey Management Meeting with HES Crew Prior to Departing Location.

3.0 Attachments

3.1 Case 1-Custom Results.png

