

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Tuesday, October 03, 2017

Leonard 7N Production

Job Date: Wednesday, September 27, 2017

Sincerely,
Bryce Hinsch

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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 Attachments..... 10

 3.1 Extraction Leonard 7N Production Job Chart10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Leonard 7N** 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 51 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 #: 3809578		Quote #:		Sales Order #: 0904325491					
Customer: EXTRACTION OIL & GAS				Customer Rep: Hans Cary							
Well Name: LEONARD			Well #: 7N		API/UWI #: 05-123-45052-00						
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-21-2N-67W-1796FSL-494FWL											
Contractor: CYCLONE				Rig/Platform Name/Num: CYCLONE 37							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Bradley Hinkle							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		12180ft		Job Depth TVD		7518ft					
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	0	9.625	8.921	36			0	1590	0	1580	
Casing	0	5.5	4.778	20			0	12180	0	7518	
Open Hole Section			8.5				1590	12184	1580	7518	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	KLX		
Float Shoe	5.5	1	KLX	12180		Bottom Plug	5.5		HES		
Float Collar	5.5	2	KLX	12175		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	Spacer	Tuned Spacer III			50	bbl	11.5	3.73		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	ElastiCem	ELASTICEM (TM) SYSTEM	2000	sack	13.2	1.57		8	7.53
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	Displacement	Fresh Water	269	bbl	8.33			9	
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe by Design	
Mix Water:	pH 6	Mix Water Chloride:	0 ppm			Mix Water Temperature:	58 °F		
Cement Temperature:	67 °F	Plug Displaced by:	## lb/gal kg/m3 XXXX			Disp. Temperature:	## °F °C		
Plug Bumped?	Yes	Bump Pressure:	2300 psi			Floats Held?	Yes		
Cement Returns:	51 bbl	Returns Density:	## lb/gal kg/m3			Returns Temperature:	## °F °C		
Comment 50 bbls Tuned Spacer and 51 bbls cement to surface.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	9/26/2017	23:00:00	USER				Crew called for an on location of 0330 on 9/27/2017. Crew was Bradley Hinkle, James Bunnell, Alaa Almallallah and Sarmad Aljabur.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/27/2017	01:00:00	USER				Pre-journey safety meeting.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	9/27/2017	01:30:00	USER				Sign in, perform a site assessment and pre rig-up safety meeting. Approximately 6000 feet of casing to run.
Event	4	Other	Job Numbers	9/27/2017	01:45:00	USER				TD: 12184. TP: 12180. FC: 12175. TVD: 7518. 5.5" 20# casing inside of a 8.5" OH. 9.625" 36# surface casing set at 1580. Mud weight at 9.7 ppg.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	9/27/2017	05:45:00	USER	8.49	0.00	1.00	Pre-job safety meeting with all personnel on location.
Event	6	Start Job	Start Job	9/27/2017	06:19:27	COM4	8.49	0.00	1.00	
Event	7	Test Lines	Test Lines	9/27/2017	06:34:34	COM4	8.52	0.00	39.00	Pressure test lines with a 500 PSI electronic kick-out test.
Event	8	Pump Spacer 1	Pump Spacer 1	9/27/2017	06:39:52	COM4	8.51	0.00	2.00	Pump 50 bbls Tuned Spacer mixed at 11.5 ppg with surfactants added throughout. Density verified

										by pressurized scales.
Event	9	Pump Cement	Pump Cement	9/27/2017	06:56:18	COM4	12.73	5.70	181.00	Pump 559 bbls (2000 sack) ElastiCem mixed at 13.2 ppg. Density verified by pressurized scales.
Event	10	Check Weight	Check Weight	9/27/2017	07:55:43	COM4				Cement weighed at 13.2 ppg.
Event	11	Shutdown	Shutdown	9/27/2017	08:15:19	COM4	13.68	0.00	32.00	
Event	12	Clean Lines	Clean Lines	9/27/2017	08:17:38	COM4	21.24	0.00	-3.00	Blow down lines from rig to tank and then wash pumps and lines until clean.
Event	13	Drop Top Plug	Drop Top Plug	9/27/2017	08:25:01	COM4				Top plug loaded directly through cement head. Witnessed by customer and KLX tool hand.
Event	14	Pump Displacement	Pump Displacement	9/27/2017	08:25:05	COM4				Pump 269 bbls fresh water. Good returns throughout. 50 bbls Tuned Spacer and 51 bbls cement to surface.
Event	15	Comment	Comment	9/27/2017	08:28:36	USER	8.29	0.00	62.00	Cement head leaking. Shutdown, bled off pressure and tightened back up.
Event	16	Bump Plug	Bump Plug	9/27/2017	08:59:33	USER	8.38	4.90	2409.00	Bump plug at 2300 PSI and increased to 2800 PSI. Held for a minute.
Event	17	Comment	Comment	9/27/2017	09:01:36	USER	8.51	2.20	2414.00	Pressure up to burst plug at 2 bbls/ minute. Plug burst at 3743 PSI and pump 5 bbls fresh water for a wet shoe at 5 bbls/ minute.
Event	18	Check Floats	Check Floats	9/27/2017	09:02:40	USER	8.38	4.70	2387.00	Floats held. 2 bbls back.
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/27/2017	09:04:00	USER	8.33	0.00	21.00	Pre-rig down safety meeting.
Event	20	End Job	End Job	9/27/2017	09:04:10	COM4	8.33	0.00	11.00	

Event	21	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/27/2017	10:30:00	USER	Pre-journey safety meeting.
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3.0 Attachments

3.1 Extraction Leonard 7N Production Job Chart

