

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Tuesday, October 03, 2017

Leonard 9C Production

Job Date: Saturday, September 30, 2017

Sincerely,
Bryce Hinsch

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Leonard 9C** 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 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 #: 3809651		Quote #:		Sales Order #: 0904330296					
Customer: EXTRACTION OIL & GAS				Customer Rep: Hanz Cary							
Well Name: LEONARD			Well #: 9C		API/UWI #: 05-123-45044-00						
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-21-2N-67W-1740FSL-494FWL											
Contractor: CYCLONE				Rig/Platform Name/Num: CYCLONE 37							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Nicholas Roles							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		12318ft		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	0	9.625	8.921	36			0	1582	0	1582	
Casing	0	5.5	4.778	20			0	12318	0	7625	
Open Hole Section			8.5				1582	12330	1582	7625	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5		HES		
Float Shoe	5.5			12318		Bottom Plug	5.5		HES		
Float Collar	5.5					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	3.73		6	
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									
149.34 lbm/bbl		BARITE, BULK (100003681)									

35 gal/bbl		FRESH WATER							
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
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	2050	sack	13.2	1.57		8	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
3	Displacement	Displacement	273	bbl	8.33			10	
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe	
Comment Got 50bbbs 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	9/29/2017	16:00:00	USER				Called out by Service Coordinator for O/L at 2000
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/29/2017	18:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	9/29/2017	19:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	9/29/2017	19:30:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/29/2017	19:45:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	9/29/2017	20:00:00	USER				Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/30/2017	03:00:00	USER	8.33	0.00	-8.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	9/30/2017	03:17:58	COM4	0.55	0.00	-16.00	T
Event	9	Test Lines	Test Lines	9/30/2017	03:20:10	COM4	8.41	0.00	5.00	Pumped 5bbls fresh water to fill lines at 2bpm 110psi, shut manifold, and performed 500psi k/o

										function test, followed with 5th gear stall at 1819psi, proceeded to bring pressure to 5000psi, held well and no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	9/30/2017	03:31:18	COM4	8.36	0.00	-5.00	Pumped 50bbls of 11.5# 3.78y 23.8g/s Tuned Spacer III with 25g Musol A, 25g Dual Spacer B and 10g D-air at 6bpm 410psi.
Event	11	Check Weight	Check weight	9/30/2017	03:33:39	COM4	11.47	3.90	105.00	Weight verified with pressurized mud scales.
Event	12	Pump Cement	Pump Cement	9/30/2017	03:41:40	COM4	12.77	7.10	514.00	Pumped 2050sks or 573bbls of 13.2# 1.57y 7.53g/s Elasticem at 8bpm 637psi.
Event	13	Check Weight	Check weight	9/30/2017	03:44:25	COM4	13.25	8.00	706.00	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check weight	9/30/2017	03:50:29	COM4	13.13	8.00	584.00	Weight verified with pressurized mud scales.
Event	15	Check Weight	Check weight	9/30/2017	03:57:56	COM4	13.23	8.00	610.00	Weight verified with pressurized mud scales.
Event	16	Check Weight	Check weight	9/30/2017	04:13:14	COM4	13.13	8.00	630.00	Weight verified with pressurized mud scales.
Event	17	Check Weight	Check weight	9/30/2017	04:31:36	COM4	13.21	8.00	605.00	Weight verified with pressurized mud scales.
Event	18	Drop Top Plug	Drop Top Plug	9/30/2017	05:17:01	COM4	8.34	0.00	-7.00	Dropped by KLX tool hand, witnessed by company man and HES supervisor.
Event	19	Pump Displacement	Pump Displacement	9/30/2017	05:18:14	COM4	8.28	3.90	56.00	Pumped 273bbls fresh water at 10bpm-2500psi.
Event	20	Bump Plug	Bump Plug	9/30/2017	05:49:46	COM4	8.31	0.00	2681.00	Slowed down at 250bbls away to 5bpm, final circulating pressure- 2480psi. Bump pressure-

										2780psi.
Event	21	Pressure Up Well	Pressure Up Well	9/30/2017	05:50:30	USER	8.32	1.90	2752.00	Pumped fresh water to burst at 4160psi, continued to pump 5bbls fresh water at 5bpm 2485psi for wet shoe.
Event	22	Check Floats	Check Floats	9/30/2017	05:53:00	USER	8.30	0.00	1974.00	Released pressure and got 2bbls back. Floats held.
Event	23	End Job	End Job	9/30/2017	05:54:13	COM4	8.26	0.00	-3.00	Got 50bbls cement to surface.
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/30/2017	06:00:00	USER	8.26	0.00	-4.00	Discussed rigging down hazards and procedure according to HMS.
Event	25	Depart Location Safety Meeting	Depart Location Safety Meeting	9/30/2017	07:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/30/2017	08:00:00	USER				Pre journey management prior to departure.

3.0 Attachments

3.1 Extraction Leonard 9C Production Job Chart

