

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Tuesday, October 03, 2017

Leonard 4N Production

Job Date: Monday, September 18, 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 **Leonard 4N 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 40 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 [Fort Lupton]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 389404	Ship To #: 3809723	Quote #:	Sales Order #: 0904306952
Customer: EXTRACTION OIL & GAS		Customer Rep: Jose Torres	
Well Name: LEONARD	Well #: 4N	API/UWI #: 05-123-45046-00	
Field: WATTENBERG	City (SAP): FIRESTONE	County/Parish: WELD	State: COLORADO
Legal Description: NW SW-21-2N-87W-1880FSL-494FWL			
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 37	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Aaron Smith	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	12177ft	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			0	1569	0	0
Casing		5.5	4.778	20			0	12150	0	0
Open Hole Section			8.5				1569	12177	0	0

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	12150	Bottom Plug	5.5		HES
Float Collar	5.5	1	KLX	12145	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 ft ³ /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	
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	ELASTICEM (TM) SYSTEM	1950	sack	13.19	1.574		6	7.53

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Cementing Job Summary

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/mi n	Total Mix Fluid Gal
3	Displacement	Displacement	270	bbl	8.33			8	
Cement Left In Pipe	Amount	5 ft			Reason	Shoe Joint			
Comment 40 bbls cement to surface									

2.0 Real-Time Job Summary

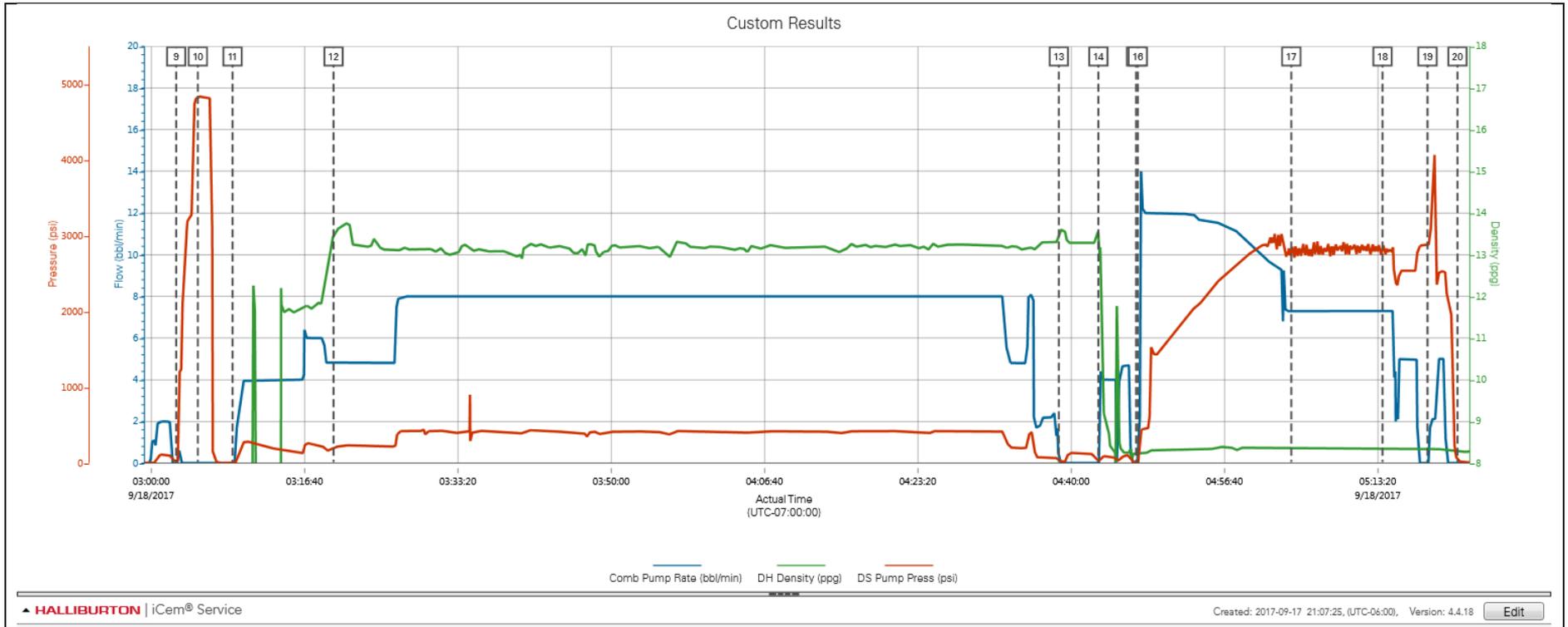
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	9/17/2017	20:00:00	USER				For on location @ midnight
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/17/2017	23:00:00	USER				Journey management meeting prior to departure.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	9/17/2017	23:15:00	USER				Journey called into dispatch
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	9/17/2017	23:45:00	USER				With all equipment and materials.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/17/2017	23:50:00	USER				JSA to discuss the hazards of rig-up.
Event	6	Rig-Up Equipment	Rig-Up Equipment	9/17/2017	23:55:00	USER				Rig-up all surface lines and equipment.
Event	7	Rig-Up Completed	Rig-Up Completed	9/18/2017	00:45:00	USER				With no incidents or injuries.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/18/2017	02:00:00	USER				With all essential personnel to discuss the job and hazards of the job.
Event	9	Start Job	Start Job	9/18/2017	03:02:43	COM5	0.00	0.00	25.00	With water supplied from uprights. Water tested good to mix cement, PH 7, CL 52 PPM, Temp 68.
Event	10	Test Lines	Test Lines	9/18/2017	03:05:04	COM5	0.00	0.00	4837.00	@5000 psi, pressure test was good.
Event	11	Pump Spacer 1	Pump Spacer 1	9/18/2017	03:08:50	COM5	0.00	0.00	-1.00	50 bbls tuned spacer @11.5 ppg, 3.73 ft3/sk, 23.4 gal/sk, verified with pressurized scales. 4 bpm, 140 psi.
Event	12	Pump Lead Cement	Pump Lead Cement	9/18/2017	03:19:49	COM5	4.80	13.47	198.00	1950 sks (545.25 bbls) Elasticem @ 13.2 ppg, 1.57 ft3/sk, 7.53 gal/sk. Verified with pressurized scales, 450 psi.
Event	13	Shutdown	Shutdown	9/18/2017	04:38:40	COM5	0.00	13.59	43.00	To blow lines down.
Event	14	Clean Lines	Clean Lines	9/18/2017	04:42:58	COM5	0.00	13.57	15.00	Wash pumps and lines to the pit.
Event	15	Drop Top Plug	Drop Top Plug	9/18/2017	04:47:04	COM5	0.00	8.22	4.00	KLX hand loaded top plug in plug container, verified by customer rep.

Event	16	Pump Displacement	Pump Displacement	9/18/2017	04:47:15	COM5	0.00	8.20	3.00	270 bbls fresh water.
Event	17	Other	Spacer Returns to Surface	9/18/2017	05:03:56	COM5	7.30	8.34	2742.00	@180 bbls displacement, 50 bbls to surface.
Event	18	Other	Cement Returns to surface	9/18/2017	05:13:51	COM5	7.30	8.34	2776.00	@230 bbls displacement, 40 bbls to surface.
Event	19	Bump Plug	Bump Plug	9/18/2017	05:18:44	COM5	0.00	8.32	2884.00	@500 over final circulating pressure 2570 psi.
Event	20	End Job	End Job	9/18/2017	05:22:00	COM5				End recording data.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/18/2017	05:30:00	USER	2.80	8.33	75.00	JSA to discuss the hazards of rig-down
Event	22	Rig-Down Equipment	Rig-Down Equipment	9/18/2017	05:35:00	USER				Rig-down all equipment and surface lines
Event	23	Rig-Down Completed	Rig-Down Completed	9/18/2017	06:00:00	USER				With no incidents or injuries.
Event	24	Depart Location Safety Meeting	Depart Location Safety Meeting	9/18/2017	06:15:00	USER				Journey management meeting held prior to departure.
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/18/2017	06:30:00	USER				Thanks for choosing Halliburton Cementing, Aaron Smith and Crew.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

