

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Tuesday, October 03, 2017

LEONARD 3N PRODUCTION

Job Date: Friday, September 15, 2017

Sincerely,

Julia Nichols

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. Accordingly, HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

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	Custom Results – Job Chart with Events	9
3.2	Custom Results – Job Chart without Events.....	10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Leonard 3N 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 54 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]

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 389404		Ship To #: 3809542		Quote #:		Sales Order #: 0904299978					
Customer: EXTRACTION OIL & GAS				Customer Rep: Jose Torres							
Well Name: LEONARD			Well #: 3N		API/UWI #: 05-123-45049-00						
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO					
Legal Description: NW SW-21-2N-87W-1908FSL-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			12120ft		Job Depth TVD		7100				
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	1580	0	0	
Casing		5.5	4.778	20			0	12120	0	0	
Open Hole Section			8.5				1580	12120	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	12103		Bottom Plug	5.5		HES		
Float Collar	5.5	1	KLX	12098		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			2000	sack	13.2	1.57		6	7.52

last updated on 10/3/2017 12:19:05 PM

Page 1 of 2

HALLIBURTON

Cementing Job Summary

7.52 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	268.6	bbl	8.33			8		
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint		
Comment 54 Bbls cement back to surface.										

2.0 Real-Time Job Summary

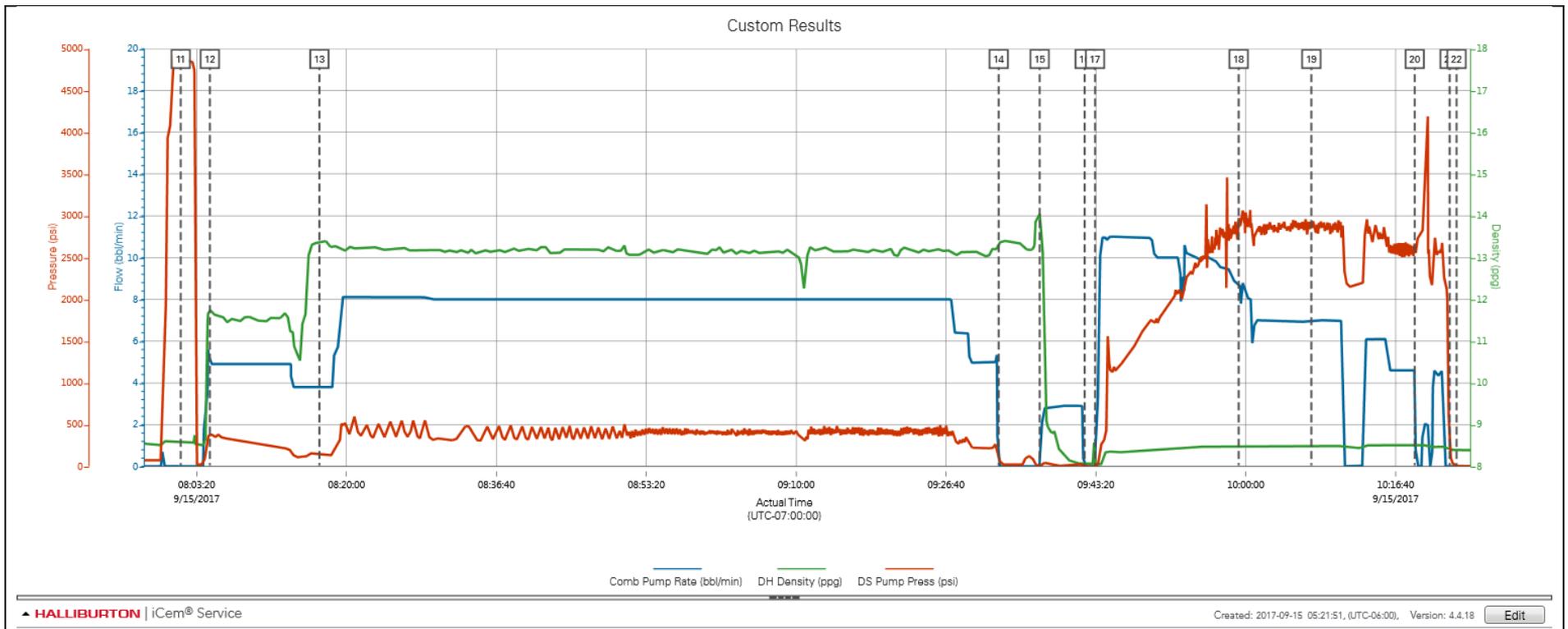
2.1 Job Event Log

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	9/14/2017	22:00:00	USER				Crew of Aaron Smith, Thomas Haas, Thomas Sirk, Lance Villanueva, and Andrew Kent, called out for on location @ 0500.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/15/2017	03:45:00	USER				Journey management meeting held prior to departure.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	9/15/2017	04:00:00	USER				Journey called into dispatch
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	9/15/2017	04:30:00	USER				With all equipment and materials, rig still running casing.
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	9/15/2017	04:45:00	USER				Hazard hunt and water test performed.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/15/2017	05:30:00	USER				JSA with HES crew to discuss the hazards of rig-up.
Event	7	Rig-Up Equipment	Rig-Up Equipment	9/15/2017	05:35:00	USER				Rig-up all surface lines and equipment.
Event	8	Rig-Up Completed	Rig-Up Completed	9/15/2017	06:00:00	USER				With no incidents or injuries.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/15/2017	07:30:00	USER	0.00	8.47	-6.00	With all essential personnel, to discuss the job procedure, and hazards of the job.
Event	10	Start Job	Start Job	9/15/2017	07:48:41	COM5	0.00	8.47	-5.00	Start Recording Data
Event	11	Test Lines	Test Lines	9/15/2017	08:01:34	COM5	0.00	8.59	4893.00	@5000 psi, pressure test was good.
Event	12	Pump Spacer 1	Pump Spacer 1	9/15/2017	08:04:49	COM5	4.90	11.76	398.00	50 bbls Tuned Spacer @ 11.5 ppg, 3.73 ft3/sk, 23.4 gal/sk. Verified with pressurized scales.
Event	13	Pump Cement	Pump Cement	9/15/2017	08:16:59	COM5	3.80	13.38	138.00	2000 sks (559.23 bbls) Elasticem @ 13.2 ppg, 1.57 ft3/sk, 7.52 gal/sk. Verified with pressurized scales.
Event	14	Shutdown	Shutdown	9/15/2017	09:32:31	COM5	0.00	13.32	108.00	To blow down lines, and drop top plug.

Event	15	Clean Lines	Clean Lines	9/15/2017	09:37:05	USER	0.00	14.06	-2.00	Wash pumps and lines to the wash-up tanks.
Event	16	Drop Top Plug	Drop Top Plug	9/15/2017	09:42:04	COM5	0.00	8.07	5.00	Removed cap, KLX tool hand hand-dropped KLX plug in plug container, verified by customer rep.
Event	17	Pump Displacement	Pump Displacement	9/15/2017	09:43:14	COM5	0.00	8.08	-4.00	268.58 bbls fresh water displacement.
Event	18	Other	Other	9/15/2017	09:59:12	COM5	8.70	8.47	2920.00	@165 bbls displacement, 50 bbls to surface. Spacer channed and came surface at around 130 bbls displacement.
Event	19	Other	Other	9/15/2017	10:07:17	COM5	7.00	8.48	2893.00	@215 bbls displacement, 54 bbls to surface.
Event	20	Bump Plug	Bump Plug	9/15/2017	10:18:47	USER	4.60	8.48	2686.00	@500 over, final circulating pressure 2350 psi.
Event	21	Check Floats	Check Floats	9/15/2017	10:22:40	USER	0.00	8.43	281.00	Floats good, 2 bbls back.
Event	22	End Job	End Job	9/15/2017	10:23:26	COM5	0.00	8.39	5.00	End recording data.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/15/2017	10:30:00	USER	0.00	8.38	21.00	JSA to discuss the hazards of rig-down.
Event	24	Rig-Down Equipment	Rig-Down Equipment	9/15/2017	10:35:00	USER	0.00	1.14	12.00	Rig-down all surface lines and equipment.
Event	25	Rig-Down Completed	Rig-Down Completed	9/15/2017	10:55:00	USER				With no incidents or injuries.
Event	26	Depart Location Safety Meeting	Depart Location Safety Meeting	9/15/2017	11:00:00	USER				Journey management meeting prior to departure.
Event	27	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	9/15/2017	11:15:00	USER				Thank you 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

