

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Monday, July 02, 2018

VT-LDS C2-16-18 Production

Job Date: Wednesday, June 27, 2018

Sincerely,

Julia Nichols

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **VT-LDS C2-16-18** 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.

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 #: 369404		Ship To #: 3788958		Quote #:		Sales Order #: 0904948984				
Customer: EXTRACTION OIL & GAS				Customer Rep: Jose Torres						
Well Name: VT-LDS			Well #: C2-16-18		API/UWI #: 05-123-44422-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO				
Legal Description: SW NW-15-5N-65W-1888FNL-828FWL										
Contractor:				Rig/Platform Name/Num: Patterson 901						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199				Srvc Supervisor: Nicholas Roles						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type										
BHST										
Job depth MD		20575ft			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		J-55	0	1557	0	1557
Casing	0	5.5	4.778	20	BTC	P-110	0	20575	0	0
Open Hole Section			8.375				1557	8890	1577	7026
Open Hole Section			8.5				8890	20580		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			20575		Top Plug	5.5	1	KLX	
Float Shoe	5.5					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 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		5		
0.50 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)								
149.34 lbm/bbl		BARITE, BULK (100003681)								
35 gal/bbl		FRESH WATER								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

last updated on 7/2/2018 2:57:37 PM

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Cementing Job Summary

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
2	ElastiCem	ELASTICEM (TM) SYSTEM	3280	sack	13.2	1.57		8	7.53
0.45 %		SCR-100 (100003749)							
7.50 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	456	bbl	8.33			10	
Cement Left In Pipe		Amount	D ft		Reason			Wet Shoe	
Mix Water:		pH 08	Mix Water Chloride:		00ppm		Mix Water Temperature:		85 °F
Cement Temperature:		88 °F	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		85 °F
Plug Bumped?		Yes	Bump Pressure:		psi		Floats Held?		Yes
Cement Returns:		bbl	Returns Density:		## lb/gal kg/m3		Returns Temperature:		## °F °C
Comment Got 40bbbls Cement to surface.									

2.0 Real-Time Job Summary

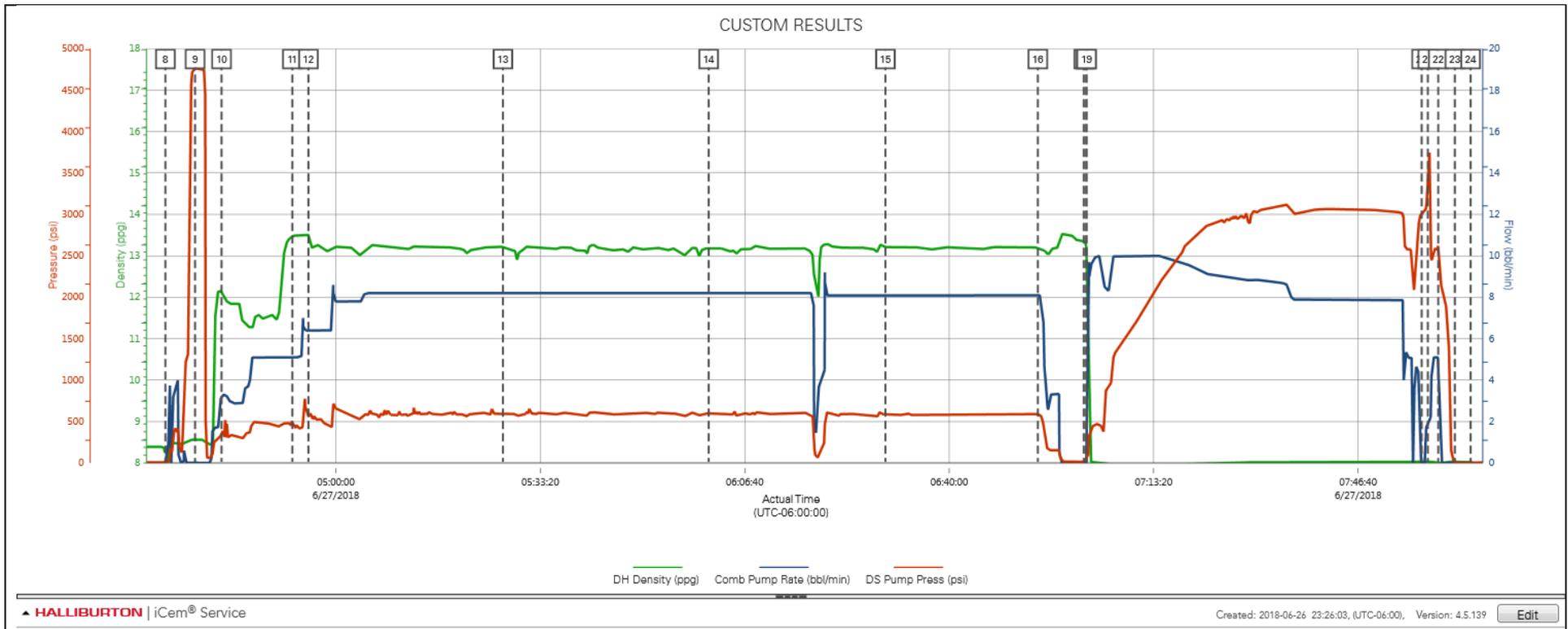
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	6/26/2018	16:30:00	USER				Called out by Service Coordinator for O/L at 2230
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	6/26/2018	19:45:00	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	6/26/2018	20:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/26/2018	21:00:00	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	6/26/2018	21:15:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	6/26/2018	22:00:00	USER				Water test- PH-6, Chlor-0, Temp-65.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/27/2018	03:30:00	USER	8.39	0.00	6.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	6/27/2018	04:32:12	COM4	8.40	0.00	5.00	TD-20580', 8.75" 1557-8890, 8.5" 8890-20580' TP-20575' 5.5" 20#, FC-20570', TVD-7026', SURF-1557' 9.625" 36#, MUD 10#
Event	9	Test Lines	Test Lines	6/27/2018	04:37:03	COM4	8.56	0.00	4769.00	Pumped 5bbls fresh water to fill lines at 4bpm 420psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1453psi, proceeded to bring pressure to 4500psi, held well and no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	6/27/2018	04:41:22	COM4	12.13	3.30	382.00	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 5bpm 350psi.
Event	11	Pump Cement	Pump Cement	6/27/2018	04:52:54	COM4	13.49	5.10	466.00	Pumped 3280sks or 917bbls of 13.2# 1.57y 7.53g/s Elasticem at 8bpm 530psi.
Event	12	Check Weight	Check Weight	6/27/2018	04:55:31	COM4	13.51	6.40	546.00	Weight verified with pressurized mud scales.
Event	13	Check Weight	Check Weight	6/27/2018	05:27:14	COM4	13.21	8.20	601.00	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check Weight	6/27/2018	06:00:47	USER	13.17	8.20	589.00	Weight verified with pressurized mud scales.

Event	15	Check Weight	Check Weight	6/27/2018	06:29:36	COM4	13.21	8.10	578.00	Weight verified with pressurized mud scales.
Event	16	Check Weight	Check Weight	6/27/2018	06:54:27	COM4	13.19	8.10	579.00	Weight verified with pressurized mud scales.
Event	17	Shutdown	Shutdown	6/27/2018	07:01:56	COM4	13.35	0.00	13.00	
Event	18	Drop Top Plug	Drop Top Plug	6/27/2018	07:02:20	COM4	13.23	0.00	32.00	Dropped by KLX tool hand, witnessed by company man and HES supervisor.
Event	19	Pump Displacement	Pump Displacement	6/27/2018	07:02:24	COM4	12.66	0.00	43.00	Pumped 456bbls fresh water at 10bpm.
Event	20	Bump Plug	Bump Plug	6/27/2018	07:57:01	COM4	8.02	0.00	3019.00	Slowed down at 430bbls away to 5bpm, final circulating pressure-2590psi. Bump pressure-3100psi.
Event	21	Pressure Up Well	Pressure Up Well	6/27/2018	07:58:02	COM4	8.03	2.00	3399.00	Pressured up to burst plug at 3765psi, continued to pump 5bbls at 5bpm 2570psi.
Event	22	Check Floats	Check Floats	6/27/2018	07:59:44	USER	8.01	5.10	2583.00	Released pressure and got 3.5bbls back. Floats held.
Event	23	End Job	End Job	6/27/2018	08:02:26	COM4	8.02	0.00	5.00	Got 40bbls Cement to surface.
Event	24	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	6/27/2018	08:05:00	USER	8.02	0.00	3.00	All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	25	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/27/2018	09:15:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/27/2018	09:30:00	USER				Pre journey management prior to departure.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

