

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Wednesday, July 18, 2018

VT-LDS 3-16-18 Production

Job Date: Sunday, July 08, 2018

Sincerely,
Tyler Hill

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 3-16-18** 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.

Approximately 44 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 Ft. Lupton

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3786957		Quote #:		Sales Order #: 0904976004				
Customer: EXTRACTION OIL & GAS				Customer Rep: Larry Seigle						
Well Name: VT-LDS			Well #: 3-16-18			API/UWI #: 05-123-44417-00				
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO				
Legal Description: SW NW-15-5N-65W-1892FNL-578FWL										
Contractor:				Rig/Platform Name/Num: Patterson 901						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Luke Kosakewich						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		20255ft		Job Depth TVD		6822				
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	1614	0	1614
Casing	0	5.5	4.778	20	BTC	P-110	0	20244	0	6822
Open Hole Section			8.5				8411	20255	6822	6822
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe						Top Plug	5.5	1	KLX	
Float Shoe	5.5			20244		Bottom Plug				
Float Collar	5.5			20238		SSR plug set				
Insert Float						Plug Container	5.5	1	HES	
Stage Tool						Centralizers				
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		

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	3250	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	Displacement	448.8	bbl	8.33			12	
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	0 ppm			Mix Water Temperature:	80°F		
Plug Bumped?	Yes	Bump Pressure:	2,600 psi			Floats Held?	Yes		
Comment There were full returns throughout the job. Got 50 bbls. of spacer and 44 bbls. of cement to surface. We bumped the plug at 2,600 psi. at 5 bpm. Final pressure was 3,100. Pressuered up the well to 3,650 psi. to burst the plug. Pumped a 5 bbl. wet shoe at 5 bpm. Check floats. Floats held. Got 3 bbls. of fluid back to the truck.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	7/8/2018	02:00:00	USER					Crew was called out at 02:00 for an on location time of 08:00.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/8/2018	06:15:00	USER					Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	7/8/2018	06:30:00	USER					Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	7/8/2018	07:30:00	USER					Crew performed a site assessment, safety meeting and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics. The rig was running casing.
Event	5	Other	Other	7/8/2018	07:35:00	USER					Well bore: MD: 20,255', TP: 5.5" 20# set at 20,244', FC: 20.238', TVD: 6,822', SC: 9.625" 36# set at 1,614', OH: 8.75" drilled to 8,411. OH: 8.5" from 8,411 to 20,255, Mud # 10 ppg. Water test: PH: 7, Chlorides: 0, Temp: 80 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/8/2018	07:40:00	USER					The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	7/8/2018	07:45:00	USER					The crew rigged up all lines, hoses and equipment for the job.

Event	8	Safety Meeting	Safety Meeting	7/8/2018	11:15:00	USER	-12.00	0.00	8.26	11.80	Halliburton cement crew held a pre cement job safety meeting and JSA with third party personnel and rig crew.
Event	9	Start Job	Start Job	7/8/2018	11:58:31	COM5	-29.00	0.00	8.26	11.80	Pumped 3 bbls. of fresh water at 3 bpm. to fill lines and establish circulation.
Event	10	Test Lines	Test Lines	7/8/2018	12:29:26	COM5	95.00	0.00	7.84	14.60	Pressure tested lines to 4,900 psi. with a 500 psi. electronic kick out test.
Event	11	Pump Spacer 1	Pump Spacer 1	7/8/2018	12:33:27	COM5	30.00	0.00	7.95	0.00	Pumped 50 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg.,Yield: 3.73 ft3/sks, 23.4gal/sks. Density was verified by pressurized scales.
Event	12	Pump Lead Cement	Pump Lead Cement	7/8/2018	12:49:44	COM5	677.00	6.10	13.03	49.00	Pumped 909 bbls. (3250 sks.) of Elasticem mixed at 13.2 ppg.,Yield: 1.57 ft3/sks, 7.53 gal/sks. Density was verified by pressurized scales.
Event	13	Shutdown	Shutdown	7/8/2018	14:51:58	COM5	114.00	0.00	13.45	936.60	Shutdown and loaded the top plug.
Event	14	Drop Top Plug	Drop Top Plug	7/8/2018	14:54:05	COM5	-46.00	0.00	13.82	936.60	Dropped the top plug, which was witnessed by the customer.
Event	15	Pump Displacement	Pump Displacement	7/8/2018	14:54:39	COM5	-19.00	1.10	13.48	936.60	Pumped 448.8 bbls. of fresh water for displacement.
Event	16	Bump Plug	Bump Plug	7/8/2018	15:47:43	COM5	2763.00	6.10	8.10	406.80	Bumped the plug 500 psi. over 2,600 psi. at 5 bpm. Finale pressure was 3,100 psi. We held pressure for a minute. Pressure held. Circulated 50 bbls. of Tuned Spacer III and 44 bbls. of

											cement to surface.
Event	17	Pressure Up Well	Pressure Up Well	7/8/2018	15:52:37	USER	3222.00	0.00	8.14	428.40	Pressured up the well to 3,650 psi. to burst the plug. Pumped 5 bbls. of fresh water at 5 bpm. for a wet shoe.
Event	18	Shutdown	Shutdown	7/8/2018	15:55:42	COM5	232.00	0.00	8.09	436.10	Bled off pressure to check floats. Floats held. Got 3 bbls. of fluid back to the truck.
Event	19	Pressure Up Well	Pressure Up Well	7/8/2018	16:04:23	USER	715.00	4.70	8.07	436.80	Pressured up the well to 2,000 psi. to recheck floats. Floats held. Got 2 bbls. back to the truck.
Event	20	Check Floats	Check Floats	7/8/2018	16:06:29	USER	2022.00	0.00	8.16	439.30	Bled off pressure to check floats. Floats held. Got 2 bbls. back to the truck.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/8/2018	16:10:00	USER	-9.00	0.00	8.19	439.30	Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	22	Rig-Down Equipment	Rig-Down Equipment	7/8/2018	16:20:00	USER	3.00	1.00	8.15	440.00	Rigged down all lines, hoses and equipment.
Event	23	Safety Meeting - Departing Location	Safety Meeting - Departing Location	7/8/2018	18:00:00	USER					Held a pre journey safety meeting with the crew.
Event	24	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/8/2018	18:30:00	USER					Started journey management with dispatch and left location.

3.0 Attachments

3.1 VT-LDS 3-16-18 Production.png

