

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America, COLORADO

Date: Monday, July 09, 2018

VT-Glenmere 3-16-18 Production

Job Date: Saturday, June 16, 2018

Sincerely,

Bryce Hinsch

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-Glenmere 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 40 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 #: 3786919		Quote #:		Sales Order #: 0904923492				
Customer: EXTRACTION OIL & GAS				Customer Rep: Larry Siegel						
Well Name: VT-GLENMERE			Well #: 3-16-18		API/UWI #: 05-123-44423-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO				
Legal Description: SW NW-15-5N-65W-1879FNL-673FWL										
Contractor:				Rig/Platform Name/Num: Patterson 901						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Thomas Haas						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		20545ft		Job Depth TVD		6850'				
Water Depth				Wk Ht Above Floor		5'				
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	1556	0	1556
Casing	0	5.5	4.778	20	BTC	P-110	0	20545	0	6850
Open Hole Section			8.75				1556	8905	1556	6850
Open Hole Section			8.5				8905	20560	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		20545		Bottom Plug	5.5			
Float Collar	5.5	1		20540		SSR plug set	5.5			
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5			
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	23.4	6	1755	

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)								

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	3290	sack	13.2	1.57	7.53	8	24773

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/min	Total Mix Fluid Gal
3	Displacement	Displacement	455	bbl	8.33				

Cement Left In Pipe	Amount	ft	Reason WET SHOE				Shoe Joint		
Mix Water:	pH 7		Mix Water Chloride:	<300pm		Mix Water Temperature:	72 °F		
Cement Temperature:	N/A		Plug Displaced by:	8.33 lb/gal F.W.		Disp. Temperature:	72 °F °C		
Plug Bumped?	No		Bump Pressure:	###N/A# psi		Floats Held?	Yes		
Cement Returns:	40 bbl		Returns Density:	N/A		Returns Temperature:	N/A		
Comment Pumped calculated displacement, plug DID NOT bump, pumped 5 bbl wet shoe, 40 bbl cement back to surface, checked floats, floats held. 2 bbls back to the truck.									

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	6/15/2018	20:00:00	USER				CREW CALLED OUT AT 22:00 6/15/2018, REQUESTED ON LOCATION 2:30 6/16/2018. CREW PICKED UP CEMENT, CHEMICALS (25 GAL MUSOL, 25 GAL DUAL SPACER B, 10 GAL D-AIR, 10 GAL MMCR), 100 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON, CO. BULK 660: 11027125/10867096 Bulk 660: 10897881/11764052 PUMP ELITE: 12663023/11368474
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/16/2018	01:15:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	6/16/2018	01:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	6/16/2018	02:30:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1556', CASING: 5.5" 20# @ 20545', 5' SHOE JOINT, 8.75" OPEN HOLE TO 8905, 8.5" OPEN HOLE TO TD, TVD @ 6850', 9.1 PPG WELL FLUID, FRESH WATER DISPLACEMENT.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/16/2018	02:45:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	6/16/2018	03:00:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/16/2018	07:15:00	USER	8.31	0.00	2.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	6/16/2018	08:55:48	COM4	8.50	0.00	1.00	BEGIN JOB DATA RECORDING.
Event	9	Test Lines	Test Lines	6/16/2018	09:01:01	COM4	8.51	0.00	117.00	PRESSURE TESTED IRON TO 4700 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 800 PSI, 5TH GEAR STALL OUT @ 2000 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	6/16/2018	09:05:53	COM4	8.50	0.00	21.00	PUMP 50 BBLS OF TUNED SPACER @ 11.5 LB/GAL, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. ADDED 25 GAL MUSOL, 25 GAL DUAL SPACER B, AND 10 GAL D-AIR TO SPACER.
Event	11	Pump Cement	Pump Cement	6/16/2018	09:23:31	COM4	13.15	5.00	389.00	PUMP 3290 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 706 BBLS, TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. 8BBL/MIN 650 PSI.
Event	12	Shutdown	Shutdown	6/16/2018	11:39:45	COM4	0.43	0.00	44.00	SHUTDOWN TO DROP

										PLUG.
Event	13	Drop Top Plug	Drop Top Plug	6/16/2018	11:39:53	COM4	0.43	0.00	43.00	PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	14	Pump Displacement	Pump Displacement	6/16/2018	11:40:23	COM4	0.42	0.00	43.00	BEGIN CALCULATED DISPLACEMENT OF 455 BBL FRESH WATER.
Event	15	Cement Returns to Surface	Cement Returns to Surface	6/16/2018	12:28:28	USER	8.64	8.00	2972.00	CEMENT TO SURFACE 415 BBL INTO DISPLACEMENT, 40 BBL CEMENT TO SURFACE.
Event	16	Other	End of Calculated Displacement	6/16/2018	12:38:34	USER	8.60	0.00	2030.00	PLUG DID NOT BUMP. PUMPED CALCULATED DISPLACEMENT. PUMP SURGED 70 BBL INTO DISPLACEMENT.
Event	17	Other	Wet Shoe	6/16/2018	12:39:20	USER	8.61	4.90	2112.00	PUMPED A 5 BBL WET SHOE, 5 BB/MIN 2450 PSI.
Event	18	Check Floats	Check Floats	6/16/2018	12:40:28	USER	8.61	4.90	2436.00	RELEASE PRESSURE BACK TO TRUCK, 4 BBL BACK, FLOATS LEAKING, SHUT IN GAINED 70 PSI IN 1 MIN.
Event	19	Other	Pump Back In	6/16/2018	12:48:34	USER	8.55	2.00	142.00	PUMPED THE 4BBL BACK INTO FLOATS, SURGED FLOATS, FLOATS HELD 2 BBL BACK.
Event	20	End Job	End Job	6/16/2018	12:58:23	COM4	8.54	0.00	27.00	STOP JOB DATA RECORDING.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/16/2018	13:30:00	USER	0.78	3.60	39.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Completed	Rig-Down Completed	6/16/2018	15:00:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR

							TRAVEL.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/16/2018	15:20:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	24	Crew Leave Location	Crew Leave Location	6/16/2018	15:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Extraction VT-Glenmere 3-16-18 Production Job Chart

