

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Wednesday, March 14, 2018

Coyote Trails 34S-20-12N PRODUCTION

Job Date: Wednesday, February 28, 2018

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 **Coyote Trails 34S-20-12N** 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 47 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 #: 3843192	Quote #:	Sales Order #: 0904669690							
Customer: EXTRACTION OIL & GAS		Customer Rep: Jose Torres								
Well Name: COYOTE TRAILS	Well #: 34S-20-12N	API/UWI #: 05-123-45983-00								
Field: WATTENBERG	City (SAP): ERIE	County/Parish: WELD	State: COLORADO							
Legal Description: SW SE-28-1N-68W-1146FSL-2103FEL										
Contractor:		Rig/Platform Name/Num: Patterson 901								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srcv Supervisor: Nicholas Peterson								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST	230 degF							
Job depth MD	18,594'	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	38		J-55	0	1620	0	0
Casing	0	5.5	4.778	20		P-110	0	18594	0	0
Open Hole Section			8.5				1620	18605	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5	1	KLX	18,594		Top Plug	5.5	1	KLX	
Float Shoe	5.5	1	KLX	18,590		Bottom Plug				
Float Collar						SSR plug set				
Insert Float						Plug Container	5.5	1	HES	
Stage Tool						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	23.4	4	1,170	
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	2,920	sack	13.2	1.57	7.53	8	21,988	

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Cementing Job Summary

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
3	Displacement	Displacement	413	bbl	8.34			10	
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Mix Water:		pH 6.8	Mix Water Chloride:		0 ppm		Mix Water Temperature: 72 °F		
Cement Temperature:		## °F	Plug Displaced by:		8.33 lb/gal		Disp. Temperature: 72 °F		
Plug Bumped?		Yes	Bump Pressure:		2,653 psi		Floats Held? Yes		
Cement Returns:		47 bbl	Returns Density:		13.2 lb/gal		Returns Temperature: ## °F		
Comment: Pumped 50 bbls Tuned spacer, 817 bbls Cement, Drop plug pumped 412 bbls Fresh water displacement. Cement to surface @ 365 bbls into displacement, 47 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	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbi)	Comments
Event	1	Call Out	Call Out	2/28/2018	04:00:00	USER					CREW CALLED OUT AT 04:00, REQUESTED ON LOCATION 10:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 11633848, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/28/2018	09:00:00	USER					DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	2/28/2018	09:30:00	USER					STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location	2/28/2018	10:00:00	USER					END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,620', 5.5" CASING: 20 LB/FT TOTAL 18,594', 8.5" HOLE, TD 18,605', SHOE TRAC- 5', TVD- 7,780'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 11:15 02/28/2018. RIG CIRCULATED BOTTOMS UP.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/28/2018	10:15:00	USER					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	2/28/2018	10:30:00	USER					CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Rig-Up Completed	Rig-Up Completed	2/28/2018	11:30:00	USER					
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	2/28/2018	12:00:00	USER					MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	2/28/2018	12:18:58	COM5					BEGIN RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	2/28/2018	12:21:39	COM5	8.44	0.00	48.00		PRESSURE TESTED IRON TO 4,800 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 300 PSI, 5TH GEAR STALL OUT @ 1,700 PSI.
Event	11	Pump Spacer 1	Pump Spacer 1	2/28/2018	12:38:20	COM5	11.541	4.00	138.00	49.90	PUMP 50 BBLS OF TUNED SPACER @ 11.5 LB/GAL, 10 GALLONS D-AIR, 25 GALS DUAL SPACER B, 25 GALS MUSOL A. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 4 BBLS/MIN @ 170 PSI.

Event	12	Pump Cement	Pump Cement	2/28/2018	12:54:04	COM5	13.20	8.00	805.00	817.00	PUMPED 2,920 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.53 GAL/SK. 816.48 BBLS. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. CEMENT CALCULATED TO SURFACE 46 BBLS. PUMP RATE 8 BBLS/MIN 770 PSI.
Event	13	Drop Top Plug	Drop Top Plug	2/28/2018	14:45:04	COM5					PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	14	Pump Displacement	Pump Displacement	2/28/2018	14:47:52	COM5	8.34	9.90	2962.00	412.20	BEGIN CALCULATED DISPLACEMENT OF 412 BBLS WITH FRESH WATER. CEMENT TO SURFACE 365 BBLS AWAY, 47 BBLS CEMENT TO SURFACE. PUMP RATE 6 BBLS/MIN @ 2,900 PSI.
Event	15	Bump Plug	Bump Plug	2/28/2018	15:43:07	USER	8.36	4.00	2631.00	412.40	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,563 PSI PRESSURED 500 PSI OVER BUMP.
Event	16	Shift Tool - Lower	Shift Tool Circulate Wet Shoe	2/28/2018	15:45:27	USER	8.35	2.00	3843.00	5.00	SHIFTED TOOL TO PUMP 5 BBL WET SHOE. TOOL SHIFTED @ 3,950 PSI.
Event	17	Check Floats	Check Floats	2/28/2018	15:47:58	USER					RELEASED PRESSURE, FLOATS HELD, 2.5 BBLS BACK.
Event	18	End Job	End Job	2/28/2018	15:51:06	COM5					STOP RECORDING JOB DATA.

Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/28/2018	16:00:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	20	Rig-Down Equipment	Rig-Down Equipment	2/28/2018	16:15:00	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	21	Rig-Down Completed	Rig-Down Completed	2/28/2018	17:30:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	22	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/28/2018	17:45:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	23	Depart Location	Depart Location	2/28/2018	18:00:00	USER	THANK YOU FOR USING HALLIBURTON - NICK PETERSON AND CREW.

3.0 Attachments

3.1 CUSTOM RESULTS – JOB CHART WITH EVENTS

