

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Sunday, March 10, 2019

Coyote Trails 33S-20-5C Production

Job Date: Thursday, February 28, 2019

Sincerely,
Tyler Hill

Legal Notice

Disclaimer:

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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** 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 74 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 #: 3843097	Quote #:	Sales Order #: 0905513130
Customer: EXTRACTION OIL & GAS-EBUS		Customer Rep:	
Well Name: COYOTE TRAILS		Well #: 33S-20-5C	API/UWI #: 05-123-45995-00
Field: WATTENBERG	City (SAP): ERIE	County/Parish: WELD	State: COLORADO
Legal Description: SW SE-28-1N-68W-1148FSL-2229FEL			
Contractor: ENSIGN DRLG		Rig/Platform Name/Num: ENSIGN 147	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Prince Perez	

Job

Formation Depth (MD)	Top	0'	Bottom	18,206'
Job depth MD	18,196'		Job Depth TVD	8,180'
			Wk Ht Above Floor	5'

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			0	1597	0	1597
Casing	0	5.5	4.892	17			0	18196	0	8180
Open Hole Section			8.5				1597	18206	1597	8180

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			18,196	Top Plug	5.5	1	NCS
Float Shoe	5.5				Bottom Plug	5.5	1	NCS
Float Collar	5.5			18,191	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Spacer	Tuned Spacer III	50	bbl	12.5	2.73	16.6	5	1,707
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	Cap	ELASTICEM (TM) SYSTEM	645	sack	13.2	1.57	7.66	8	4,941

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	Lead (GasStop)	ELASTICEM (TM) SYSTEM	615	sack	13.2	1.6	7.72	8	4,748
4	Tail	ELASTICEM (TM) SYSTEM	1,690	sack	13.2	1.57	7.66	8	12,945
5	Displacement	MMCR Displacement	20	bbl	8.33			8	
6	Displacement	Displacement	402	bbl	8.33			8	

Cement Left In Pipe	Amount	Reason	Wet Shoe
	0 ft		
Mix Water:	pH 7	Mix Water Chloride: <300 ppm	Mix Water Temperature: 71°F
Cement Temperature:	## °F	Plug Displaced by: 8.33 lb/gal	Disp. Temperature: 71 °F
Plug Bumped?	Yes	Bump Pressure: 2,792 psi	Floats Held? Yes
Cement Returns:	74 bbl	Returns Density: 13.2 lb/gal	Returns Temperature: ## °F

Comment

Pumped 50 bbls of Ecospacer with 25 gallons of D Air.

Pumped 180.35 bbls of Elasticem (Cap).

Pumped 175.25 bbls of Gasstop cement.

Pumped 472.55 bbls of Elasticem.

Pumped 422 bbls of Displacement with MMCR in the first 20 bbls.

Pumped a 5 bbl wet shoe.

3 bbls back on the floats.

74 bbls of 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 <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	2/28/2019	05:30:00	USER				CREW CALLED OUT AT 5:30, REQUESTED ON LOCATION 11:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660, 10784082, 10867531 AND PUMP 11189151.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/28/2019	13:50:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Shop	Crew Leave Shop	2/28/2019	14:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	2/28/2019	14:40:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9/58" 36 LB/FT @ 1,597', 5.5" CASING: 17 LB/FT TOTAL 18,196', 8 1/2" HOLE, TD 18,206', 5' SHOE TRAC, TVD- 8,180'. PUMP FRESH WATER DISPLACEMENT. CASING LANDED @ 01:45 02/28/19.
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	2/28/2019	14:50:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.

Event	6	Rig-Up Equipment	Rig-Up Equipment	2/28/2019	15:00:00	USER				RIG UP BULK AND MIXING EQUIPMENT.
Event	7	Rig-Up Completed	Rig-Up Completed	2/28/2019	16:50:00	USER	8.33	0.00	0.00	
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/28/2019	17:00:00	USER	8.35	0.00	-2.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	2/28/2019	17:32:54	COM4	8.34	0.00	1.00	BEGIN RECORDING JOB DATA.
Event	10	Drop Bottom Plug	Drop Bottom Plug	2/28/2019	17:33:36	COM4	7.95	0.00	2.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	11	Test Lines	Test Lines	2/28/2019	17:38:51	COM4	8.65	0.00	4930.00	PRESSURE TESTED IRON TO 4,700 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 600 PSI, 5TH GEAR STALL OUT @ 2,000 PSI. 4,700 PRESSURE TEST KICKED OUT @ 4,200 PSI
Event	12	Pump Spacer	Pump Spacer	2/28/2019	17:43:06	USER	8.50	0.00	79.00	PUMP 50 BBLS OF ECOSPACER @ 12.5 LB/GAL, 2.73 CUFT/SK, 16.6 GALL/SK. 25 GALS D-AIR. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 4 BBLS/MIN @ 400 PSI.
Event	13	Pump Cap Cement	Pump Cap Cement	2/28/2019	17:59:13	COM4	13.50	0.00	19.00	PUMPED 645 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.66 GAL/SK. 180.35 BBLS. HOC CALCULATED @ 2,318.6'. 74.42 BBLS OF CEMENT CALCULATED TO RETURN TO SURFACE. DENSITY VERIFIED BY PRESSURIZED

										MUD SCALES. PUMP RATE 8 BBLs/MIN @ 730 PSI
Event	14	Pump Lead Cement	Pump Lead Cement	2/28/2019	18:28:07	COM4	13.25	8.30	351.00	PUMPED 615 SKS OF GASSTOP @ 13.2 LB/GAL, 1.6 FT3/SK, 7.72 GAL/SK. 175.25 BBLs, WITH 1,538 GALLONS OF FDP LATEX. HOL CALCULATED @ 4,295.3', TOL CALCULATED @ 2,318.6'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLs/MIN @ 350 PSI
Event	15	Pump Tail Cement	Pump Tail Cement	2/28/2019	19:03:15	COM4	13.43	7.80	426.00	PUMP 1690 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.66 GAL/SK, 472.55 BBLs. HOT CALCULATED @ 11,582.1', TOT CALCULATED @ 6,613.9'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLs/MIN @ 380 PSI.
Event	16	Shutdown	Shutdown	2/28/2019	20:57:19	COM4	-0.34	0.90	-3.00	SHUTDOWN TO WASH LINES.
Event	17	Drop Top Plug	Drop Top Plug	2/28/2019	20:57:24	COM4	-0.34	0.90	-1.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	18	Pump Displacement	Pump Displacement	2/28/2019	20:57:26	COM4	-0.34	0.90	-1.00	BEGIN CALCULATED DISPLACEMENT OF 422.03 BBLs WITH FRESH WATER. MMCR IN THE FIRST 20. PUMP RATE 5 BPM @ 2,560 PSI. CAUGHT CEMENT @ 45 BBLs INTO DISPLACEMENT. SPACER TO SURFACE @ 298 BBLs INTO DISPLACEMENT. 50 BBLs OF TUNED SPACER TO SURFACE. CEMENT TO SURFACE @ 348 BBLs INTO

										DISPLACEMENT. 74 BBLS OF CEMENT BACK TO SURFACE.
Event	19	Bump Plug	Bump Plug	2/28/2019	22:09:41	COM4	8.09	0.00	3292.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,792 PSI PRESSURED 500 PSI OVER BUMP.
Event	20	Shift Tool - Lower	Shift Tool - Lower	2/28/2019	22:11:46	USER	8.27	2.20	3588.00	SHEARED @ 3,588 PSI FOLLOWED BY A 5 BBL WET SHOE.
Event	21	Check Floats	Check Floats	2/28/2019	22:13:44	USER	8.08	0.00	1338.00	RELEASED PRESSURE, FLOATS HELD, 3 BBLS BACK.
Event	22	End Job	End Job	2/28/2019	22:17:38	COM4	8.07	0.00	12.00	STOP RECORDING JOB DATA.
Event	23	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	2/28/2019	22:20:00	USER	8.03	0.00	5.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	24	Rig-Down Equipment	Rig-Down Equipment	2/28/2019	22:30:00	USER				RIG DOWN BULK AND MIXING EQUIPMENT.
Event	25	Rig-Down Completed	Rig-Down Completed	2/28/2019	23:40:00	USER				
Event	26	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/28/2019	23:50:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	27	Crew Leave Location	Crew Leave Location	3/1/2019	00:00:00	USER				THANK YOU FOR USING HALLIBURTON – PRINCE PEREZ AND CREW.

3.0 Attachments

3.1 Coyote Trails 33S-20-5C Production.png

