

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Coyote Trails 33W-15-8N Production

Sincerely,
Meghan Jacobs

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 **Coyote Trails 33W-15-8N** 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 10 bbls of spacer 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 #: 3912776		Quote #:		Sales Order #: 0905592456				
Customer: EXTRACTION OIL & GAS-EBUS				Customer Rep: Hans Cary						
Well Name: COYOTE TRAILS			Well #: 33W-15-8N		API/UWI #: 05-123-48250-00					
Field: WATTENBERG		City (SAP): ERIE		County/Parish: WELD		State: COLORADO				
Legal Description: SW SE-28-1N-68W-1198FSL-2283FEL										
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 147						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Thomas Haas						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type					BHST					
Job depth MD		16296ft			Job Depth TVD		8021			
Water Depth					Wk Ht Above Floor		6			
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			0	1620	0	1620
Casing	0	5.5	4.892	17			0	16296	0	8021
Open Hole Section			8.5				1620	16305	1620	8021
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
						Top Plug	5.5	1	NCS	
Float Shoe	5.5	1	NCS	16296		Bottom Plug	5.5	1	NCS	
Toe Sleeve	5.5	1	NCS	16288						
						Plug Container	5.5	1	HES	
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	FDP-C1337-18	SBM FDP-C1337-18 CEMENT SPACER SYS	50	bbl	20	2.73	16.6	8	1709
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	585	sack	13.2	1.57	7.66	8	4482
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	GasStop	ELASTICEM (TM) SYSTEM	615	sack	13.2	1.6	7.7	8	4736
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
4	13.2# ElastiCem	ELASTICEM (TM) SYSTEM	1400	sack	13.2	1.57	7.66	8	10724
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
5	MMCR Displacement	MMCR Displacement	20	bbl	8.33			8	
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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
6	Displacement	Displacement	358	bbl	8.33			8	
Cement Left In Pipe		Amount	N/A		Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	<300 ppm			Mix Water Temperature:	71 °F		
Cement Temperature:	N/A	Plug Displaced by:	8.33 lb/gal F.W.			Disp. Temperature:	52 °F		
Plug Bumped?	Yes	Bump Pressure:	1900 psi			Floats Held?	Yes		
Cement Returns:	N/A	Returns Density:	N/A			Returns Temperature:	N/A		
Comment Plug bumped at calculated displacement, final circulating pressure of 1900, wet shoe disk burst at 2800, floats held, 2.5 bbl back. Returns slowed during displacement to 1 bbl/min while pumping 5 bbl/min, approximately 10 bbl interface returned to surface.									

2.0 Real-Time Job Summary

2.1 Job Event Log

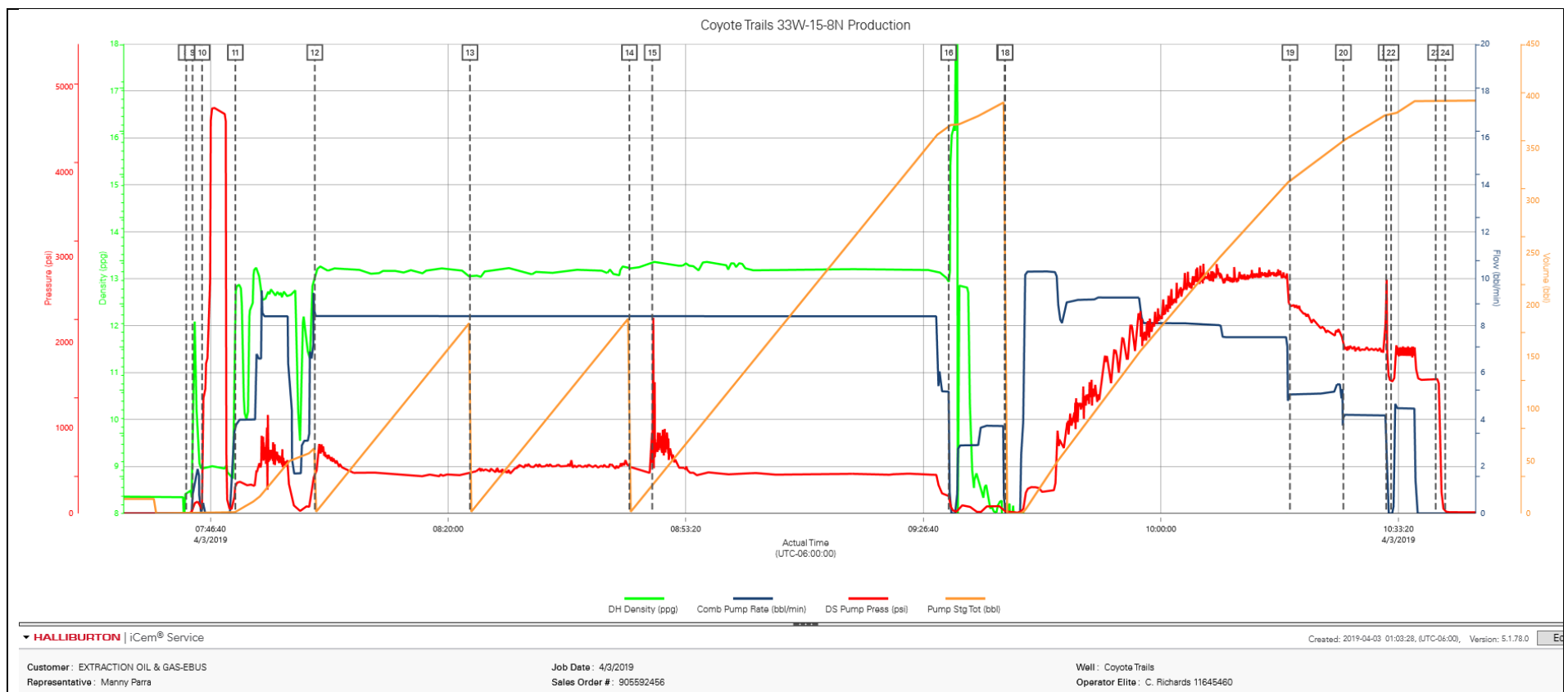
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	4/2/2019	19:00:00	USER				CREW CALLED OUT AT 19:00 4/2/2019, REQUESTED ON LOCATION 01:100 4/3/2019. CREW PICKED UP CEMENT, CHEMICALS (25 GAL D-AIR, 1538 GAL FDP LATEX, 10 GAL MMCR), 100 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON, CO. BULK 660: 12350112/11633848 Bulk 660: 11360541/10866497 SOFT SIDE: 11526488/12051660 PUMP ELITE: 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/2/2019	23:15:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	4/2/2019	23:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	4/3/2019	00:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1620, CASING: 5.5" 17# @ 16296', 8' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 8021', 910.2 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/3/2019	00:10:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	4/3/2019	00:20:00	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	4/3/2019	07:00:00	USER	8.37	0.00	0.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	4/3/2019	07:43:15	COM4	8.45	0.00	-2.00	START JOB DATA RECORDING.
Event	9	Drop Bottom Plug	Drop Bottom Plug	4/3/2019	07:44:08	USER	8.70	0.80	50.00	BOTTOM PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	10	Test Lines	Test Lines	4/3/2019	07:45:28	COM4	8.95	0.00	47.00	PRESSURE TESTED LINES TO 4700 PSI, 500 PSI KICK OUT AT 1300 PSI, 5TH GEAR STALL AT 1800 PSI.

Event	11	Pump Spacer 1	Pump Spacer 1	4/3/2019	07:50:09	COM4	12.60	3.80	328.00	PUMP 50 BBLs OF FDP SPACER @ 12.5 LB/GAL, ADDED 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Cap Cement	Pump Cap Cement	4/3/2019	08:01:17	COM4	13.04	8.40	493.00	PUMP 585 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.66 GAL/SK, 163.6 BBLs, CALCULATED TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Lead Cement	Pump Lead Cement	4/3/2019	08:23:03	COM4	13.04	8.40	479.00	PUMP 615 SKS OF GASSTOP @ 13.2 LB/GAL, 1.6 YIELD, 7.7 GAL/SK, 175 BBLs, CALCULATED TOL 2403', MIX WATER MIXED WITH 1538 GAL OF LATEX AND 20 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Pump Tail Cement	Pump Tail Cement	4/3/2019	08:45:26	COM4	13.22	8.40	537.00	PUMP 1400 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.66 GAL/SK, 391 BBLs, CALCULATED TOT @ 6700', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	15	Cement At Bottom	Cement At Bottom	4/3/2019	08:48:38	USER	13.34	8.40	827.00	BOTTOM PLUG RUPTURED AT 2100 PSI.
Event	16	Shutdown	Shutdown	4/3/2019	09:30:14	USER	12.93	5.20	208.00	SHUTDOWN TO CLEAN PUMPS/LINES AND DROP TOP PLUG.
Event	17	Drop Top Plug	Drop Top Plug	4/3/2019	09:38:04	COM4	0.47	0.00	27.00	PLUG LEFT PLUG CONTAINER VERIFIED BY COMPANY MAN.
Event	18	Pump Displacement	Pump Displacement	4/3/2019	09:38:09	COM4	-0.28	0.00	24.00	BEGIN PUMPING CALCULATED DISPLACEMENT OF 378 BBL FRESH WATER, 10 GAL OF MMCR ADDED TO THE FIRST 20 BBL.
Event	19	Other	Slow Rate	4/3/2019	10:18:07	USER	7.97	5.10	2414.00	SLOWED RATE TO 5 BBL/MIN DUE TO RETURNS TO SURFACE SLOWING DOWN, RETURNS REMAINED AT ABOUT 1 BBL/MIN.
Event	20	Other	Slow Rate	4/3/2019	10:25:36	USER	7.96	4.30	1956.00	SLOWED RATE TO 4 BBL/MIN, RETURNS TO SURFACE ABOUT 1/2 BBL MIN.
Event	21	Bump Plug	Bump Plug	4/3/2019	10:31:37	USER	7.97	4.20	2627.00	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 2000 PSI. KICKED OUT AT 2600 PSI AND TOP PLUG BURST IMMEDIATELY AFTER BUMP.
Event	22	Other	Wet Shoe	4/3/2019	10:32:18	USER	7.94	0.00	1545.00	PUMPED A 8 BBL WET SHOE.
Event	23	Check Floats	Check Floats	4/3/2019	10:38:33	USER	7.93	0.00	1579.00	RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, RECEIVED 2.5 BBL BACK.
Event	24	End Job	End Job	4/3/2019	10:39:53	COM4	7.90	0.00	24.00	END JOB DATA RECORDING.

Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	4/3/2019	14:00:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	26	Rig-Down Completed	Rig-Down Completed	4/3/2019	14:10:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/3/2019	14:20:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	28	Crew Leave Location	Crew Leave Location	4/3/2019	14:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Coyote Trails 33W-15-8N Production – Job Chart with Events



3.2 Coyote Trails 33W-15-8N Production – Job Chart without Events

