

# HALLIBURTON

iCem® Service

**EXTRACTION OIL & GAS**

**Coyote Trails 33W-15-1N**

Sincerely,

**Alexandria Dionigi**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Coyote Trails 33W-15-1N** 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 50 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*

<b>Sold To #:</b> 369404	<b>Ship To #:</b> 3951536	<b>Quote #:</b>	<b>Sales Order #:</b> 0905647848
<b>Customer:</b> EXTRACTION OIL & GAS-EBUS		<b>Customer Rep:</b> Mike Torres	
<b>Well Name:</b> COYOTE TRAILS		<b>Well #:</b> 33W-15-1N	<b>API/UWI #:</b> 05-123-49911-00
<b>Field:</b> WATTENBERG	<b>City (SAP):</b> ERIE	<b>County/Parish:</b> WELD	<b>State:</b> COLORADO
<b>Legal Description:</b> SW SE-28-1N-68W-1201FSL-2427FEL			
<b>Contractor:</b> ENSIGN DRLG		<b>Rig/Platform Name/Num:</b> ENSIGN 147	
<b>Job BOM:</b> 7523 7523			
<b>Well Type:</b> HORIZONTAL OIL			
<b>Sales Person:</b> HALAMERICA\HX38199		<b>Srvc Supervisor:</b> Nicholas Kornafel	

**Job**

<b>Formation Name</b>	
<b>Formation Depth (MD)</b>	<b>Top</b> <b>Bottom</b>
<b>Form Type</b>	BHST
<b>Job depth MD</b>	15,477' <b>Job Depth TVD</b> 7,762'
<b>Water Depth</b>	<b>Wk Ht Above Floor</b> 5'
<b>Perforation Depth (MD)</b>	<b>From</b> <b>To</b>

**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	1578	0	1578
Casing	0	5.5	4.892	17			0	15461	0	0
Open Hole Section			8.5				1578	15477	1578	15477

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			15,461	Top Plug	5.5	1	
					Bottom Plug	5.5	1	
Float Collar	5.5			15,453	Plug Container	5.5	1	HES
					Centralizers	5.5		HES

**Fluid Data**

<b>Stage/Plug #: 1</b>										
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	Spacer	SBM FDP-C1337-18 CEMENT SPACER SYS	50	bbl	12.5	2.73		6	1,707	

  

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	Cap	ELASTICEM (TM) SYSTEM	585	sack	13.2	1.6	7.75	8	4,533

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	ELASTICEM (TM) SYSTEM	615	sack	13.2	1.6	7.7	8	4,735	
4	Tail	ELASTICEM (TM) SYSTEM	1270	sack	13.2	1.57	7.66	8	9,278	
5	MMCR Displacement	MMCR Displacement	20	bbl	8.33			8		
6	Displacement	Displacement	336	bbl	8.33			8		
<b>Cement Left In Pipe</b>		<b>Amount</b>	0 ft		<b>Reason</b>			Wet Shoe		
<b>Mix Water:</b>		pH 7	<b>Mix Water Chloride:</b>		0 ppm		<b>Mix Water Temperature:</b>			54 °F
<b>Cement Temperature:</b>		N/A	<b>Plug Displaced by:</b>		8.33 lb/gal		<b>Disp. Temperature:</b>			54 °F
<b>Plug Bumped?</b>		Yes	<b>Bump Pressure:</b>		2669 psi		<b>Floats Held?</b>			Yes
<b>Cement Returns:</b>		55 bbl	<b>Returns Density:</b>		N/A		<b>Returns Temperature:</b>			N/A
<b>Comment</b> Pumped 50 BBLs of FDP Spacer followed by 167 BBLs of Cap Cement followed by 175 BBLs of Lead Latex Cement followed by 355 BBLs of Tail Cement. Dropped the Top Plug and Displaced with 356 BBLs of fresh water displacement. Bumped the Plug and then pumped a 5 BBL Wet shoe, checked floats, Floats held got 2.5 BBLs back.										

## 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>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Callout	4/22/2019	16:00:00	USER				CREW CALLED OUT AT 16:00, REQUESTED ON LOCATION 19:30. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 11023106, BULK 660 10867439, SOFTSIDE 12051660 AND PUMP 11360070.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	4/22/2019	18:30:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Safety Meeting	Location Safety Meeting	4/22/2019	19:15:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	4	Arrive At Loc	Arrive At Location	4/22/2019	19:15:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,578, 5.5" CASING: 17 LB/FT TOTAL 15,461', 8.5" HOLE, TD 15,477', SHOE TRAC- 8', TVD- 7,762'. PUMP FRESH WATER DISPLACEMENT 359 BBLs. CASING LANDED @ 18:30 04/22/2019. RIG CIRCULATED BOTTOMS UP.
Event	5	Rig-Up Equipment	Rig-Up Equipment	4/22/2019	19:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/22/2019	21:00:00	USER				SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS.
Event	7	Start Job	Start Job	4/22/2019	21:31:01	COM5	8.52	0.00	-7.00	BEGIN RECORDING JOB DATA.
Event	8	Test Lines	Test Lines	4/22/2019	21:32:50	COM5	8.31	0.00	335.00	PRESSURE TESTED IRON TO 5,000 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 900 PSI, 5TH GEAR STALL OUT @ 2,100 PSI. MANIFOLD VALVES ON HEAD WERE LEAKING TESTED AGAINST 2' LO TORC ON GROUND MANIFOLD.
Event	9	Pump Spacer 1	Pump Spacer 1	4/22/2019	21:47:34	COM5	8.27	0.00	242.00	PUMP 50 BBLs OF FDP SPACER @ 12.5 LB/GAL, 2.73 FT3/SK, 16.6 GAL/SK 10 GALLONS D-AIR. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 5 BBLs/MIN @ 440 PSI.

Event	10	Check Weight	Check Weight	4/22/2019	21:49:22	COM5	12.25	2.90	550.00	WEIGHT CONFIRMED USING PRESSURIZED MUD SCALES.
Event	11	Pump Lead Cement	Pump Lead Cement	4/22/2019	22:06:56	COM5	10.68	0.00	83.00	PUMPED 585 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.6 FT3/SK, 7.75 GAL/SK. 166.7, HOL @ 2,477.97' TOL @ SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 5 BBLs/MIN @ 280 PSI.
Event	12	Check Weight	Check Weight	4/22/2019	22:13:51	COM5	13.24	4.90	394.00	WEIGHT CONFIRMED USING PRESSURIZED MUD SCALES.
Event	13	Check Weight	Check Weight	4/22/2019	22:20:45	COM5	13.18	5.20	239.00	WEIGHT CONFIRMED USING PRESSURIZED MUD SCALES.
Event	14	Check Weight	Check Weight	4/22/2019	22:36:26	COM5	13.30	8.00	455.00	WEIGHT CONFIRMED USING PRESSURIZED MUD SCALES.
Event	15	Pump Lead Cement	Pump Lead Cement	4/22/2019	22:50:42	COM5	13.16	6.90	422.00	PUMPED 615 SKS OF GASTOP @ 13.2 LB/GAL, 1.6 FT3/SK, 7.7 GAL/SK. 175.25, 1,538 GALS LATEX HOL @ 4,295,34', TOL @ 2,477.97'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 6 BBLs/MIN @ 340 PSI.
Event	16	Pump Tail Cement	Pump Tail Cement	4/22/2019	23:13:54	COM5	13.49	5.80	327.00	PUMP 1,270 SKS OF ELASTACEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.66 GAL/SK, 355.11 BBLs. HOT CALCULATED @ 8,703.67', TOT CALCULATED @ 6,773.32. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLs/MIN @ 250 PSI.
Event	17	Check Weight	Check Weight	4/22/2019	23:22:56	COM5	13.18	7.50	471.00	WEIGHT CONFIRMED USING PRESSURIZED MUD SCALES.
Event	18	Shutdown	Shutdown	4/23/2019	00:05:38	COM5	18.21	0.00	27.00	SHUTDOWN AFTER FINISHED PUMPING CEMENT. RIG BLEW DOWN IRON WITH AIR. WASHED UP PUMPS AND LINES WITH 10 BBLs OF FRESH WATER
Event	19	Drop Top Plug	Drop Top Plug	4/23/2019	00:12:08	COM5	-0.18	0.00	-11.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	20	Pump Displacement	Pump Displacement	4/23/2019	00:12:15	COM5	-0.20	0.00	-12.00	BEGIN CALCULATED DISPLACEMENT OF 356 BBLs WITH FRESH WATER. 306 BBLs INTO DISPLACEMENT CEMENT BACK TO SURFACE.
Event	21	Bump Plug	Bump Plug	4/23/2019	01:08:15	COM5	8.32	0.00	2618.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,669 PSI PRESSURED UP 500 PSI OVER FINAL CIRCULATING PRESSURE.
Event	22	Pressure Up Well	Pressure Up Well	4/23/2019	01:11:21	COM5	8.32	2.90	2226.00	PRESSURED UP TO 2930 PSI TO SHIFT THE WET SHOE SUB AND PUMPED A 5 BBL WET SHOE
Event	23	Other	Other	4/23/2019	01:11:24	COM5	8.32	2.90	2232.00	RELEASED PRESSURE, FLOATS HELD, 2.5 BBLs BACK.
Event	24	End Job	End Job	4/23/2019	01:13:48	COM5	8.28	0.00	-2.00	STOP RECORDING JOB DATA.

Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	4/23/2019	01:15:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	26	Rig-Down Equipment	Rig-Down Equipment	4/23/2019	01:30:00	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	27	Rig-Down Completed	Rig-Down Completed	4/23/2019	02:30:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	28	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/23/2019	03:15:00	USER	CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	29	Crew Leave Location	Crew Leave Location	4/23/2019	03:30:00	USER	THANK YOU FOR USING HALLIBURTON – NICK KORNAFEL AND CREW.

3.0 Attachments

3.1 Coyote Trails 33W-15-1N-Custom Results.png

