

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

Date: Saturday, April 14, 2018

### **Coyote Trails 34S-20-14C Production**

Job Date: Sunday, March 11, 2018

Sincerely,  
**Tyler Hill**

## 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 34S-20-14C** 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 0 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*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3843033		<b>Quote #:</b>		<b>Sales Order #:</b> 0904696758				
<b>Customer:</b> EXTRACTION OIL & GAS				<b>Customer Rep:</b> Jose Torres						
<b>Well Name:</b> COYOTE TRAILS			<b>Well #:</b> 34S-20-14C		<b>API/UWI #:</b> 05-123-45984-00					
<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-1145FSL-2067FEL										
<b>Contractor:</b>				<b>Rig/Platform Name/Num:</b> Patterson 901						
<b>Job BOM:</b> 7523 7523										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Luke Kosakewich						
<b>Job</b>										
<b>Formation Name</b>										
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>						
<b>Form Type</b>				<b>BHST</b>		230 degF				
<b>Job depth MD</b>		19064ft		<b>Job Depth TVD</b>		7900ft				
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>						
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>						
<b>Well Data</b>										
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>
Casing	0	9.625	8.921	36		J-55	0	1623	0	1625
Casing	0	5.5	4.778	20	BTC	P-110	0	19046	0	7900
Open Hole Section			8.5				1625	19064	1623	7900
<b>Tools and Accessories</b>										
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	
<b>Guide Shoe</b>						<b>Top Plug</b>	5.5	1	KLX	
<b>Float Shoe</b>	5.5			19046		<b>Bottom Plug</b>				
<b>Float Collar</b>	5.5			19041		<b>SSR plug set</b>				
<b>Insert Float</b>						<b>Plug Container</b>	5.5	1	HES	
<b>Stage Tool</b>						<b>Centralizers</b>				
<b>Fluid Data</b>										
<b>Stage/Plug #: 1</b>										
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III W Surfactants	50	bbl	11.5	3.73		6		

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		2990	sack	13.2	1.57		8	7.53
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		422.3	bbl	8.34				
Cement Left In Pipe		Amount	0 ft			Reason			Wet Shoe	
<b>Comment</b> There were returns throughout the job. Lost full returns 210 bbls. into displacement. Pumped calculated displacement plus 3 bbls. over and did not bump the plug. Checked floats and floats held. Got 3 bbls. of fluid back to the truck. Attempted to pump a 5 bbl. wet shoe and bumped the plug 3.5 bbls. away at 500 psi. over 2,200 psi. at 4.5 bpm. Held for a minute. Finale pressure was 2,800 psi. There was no spacer or cement to surface. Pressured up to 3,700 psi. to burst the plug. Pumped 2 more bbls. for a wet shoe. Floats held. Got 3 bbls. of fluid back to the truck.										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Recirc Density (ppg)	Comments
Event	1	Call Out	Call Out	3/11/2018	04:00:00	USER					Crew was called out at 04:00 for an on location time of 10:00.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	3/11/2018	08:40:00	USER					Crew held a pre journey safety meeting and JSA.
Event	3	Depart Shop for Location	Depart Shop for Location	3/11/2018	09:00:00	USER					Started journey management with dispatch and left location.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/11/2018	09:30:00	USER					Crew performed a site assessment and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics to calculate the job. The rig was running casing.
Event	5	Other	Other	3/11/2018	09:35:00	USER					Well bore: MD: 19,064', TP: 5.5" 20# set at 19,046', FC: 19,041', TVD: 7,900', SC: 9.625" 36# set at 1,635', OH: 8.5", Mud # 10.1. Water test: PH: 7, Chlorides: 0, Temp: 55 Degrees.
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/11/2018	09:40:00	USER					The crew held a pre rig up safety meeting and JSA.
Event	7	Rig-Up Equipment	Rig-Up Equipment	3/11/2018	09:45:00	USER					The crew rigged up all lines, hoses and equipment for the job.

Event	8	Safety Meeting	Safety Meeting	3/11/2018	16:30:00	USER	-27.00	0.00	7.11	8.86	All personnel on location held a pre cement job safety meeting and JSA.
Event	9	Start Job	Start Job	3/11/2018	16:50:27	COM5	-9.00	0.00	8.35	11.39	Pumped 3 bbls. of fresh water at 3 bpm. to fill lines and establish circulation.
Event	10	Test Lines	Test Lines	3/11/2018	16:52:29	COM5	82.00	0.00	8.31	11.39	Pressure tested lines to 5,000 psi. with a 500 psi. Electronic kick out test.
Event	11	Pump Spacer 1	Pump Spacer 1	3/11/2018	16:57:28	COM5	24.00	0.00	8.33	11.39	Pumped 50 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg.,Yield: 3.73 ft3/sks, 23.4 gal/sks. Density was verified by pressurized scales.
Event	12	Pump Cement	Pump Cement	3/11/2018	17:06:59	COM5	563.00	6.00	11.90	13.04	Pumped 836 bbls. (2990 sks.) of Elasticem mixed at 13.2 ppg.,Yield: 1.57 ft3/sks, 7.53 gal/sks. Density was verified by pressurized scales.
Event	13	Check Weight	Check weight	3/11/2018	17:10:29	COM5	791.00	7.00	13.41	13.26	Cement weighed up at 13.15 ppg. Density was verified by pressurized scales.
Event	14	Check Weight	Check weight	3/11/2018	17:29:18	COM5	678.00	7.90	13.25	13.22	Cement weighed up at 13.15 ppg. Density was verified by pressurized scales.
Event	15	Check Weight	Check weight	3/11/2018	17:47:53	COM5	655.00	8.00	13.24	13.32	Cement weighed up at 13.2 ppg. Density was verified by pressurized scales.
Event	16	Check Weight	Check weight	3/11/2018	18:08:42	COM5	600.00	7.50	13.22	13.20	Cement weighed up at 13.2 ppg. Density was verified by pressurized scales.
Event	17	Shutdown	Shutdown	3/11/2018	18:49:16	COM5	49.00	0.00	14.31	13.28	Had a leak on the cement



											head. Shutdown and bled off pressure to tighten up the head. Fixed the leak.
Event	18	Shutdown	Shutdown	3/11/2018	19:12:01	COM5	106.00	0.00	13.56	9.31	Loaded the top plug which was witnessed by the customer.
Event	19	Drop Top Plug	Drop Top Plug	3/11/2018	19:15:37	COM5	33.00	0.00	13.58	8.10	Dropped the top plug which was also witnessed by the customer.
Event	20	Pump Displacement	Pump Displacement	3/11/2018	19:15:40	COM5	33.00	0.00	13.59	8.10	Pumped 422.3 bbls. of fresh water.
Event	21	Other	Other	3/11/2018	19:40:40	USER	2965.00	7.70	8.25	8.19	Started to lose returns 210 bbls. into displacement.
Event	22	Shutdown	Shutdown	3/11/2018	20:46:05	USER	2132.00	0.00	8.45	8.21	Reached calculated displacement and pumped 3 bbls. over.
Event	23	Check Floats	Check Floats	3/11/2018	20:47:45	USER	1879.00	0.00	8.44	8.21	Bled off pressure and checked floats. Floats held. Got 3 bbls. back to the truck.
Event	24	Bump Plug	Bump Plug	3/11/2018	20:51:53	COM5	2805.00	0.00	8.46	8.21	Attempted to pumped a 5 bbl. wet shoe and bumped the plug 3.5 bbls. away.
Event	25	Pressure Up Well	Pressure Up Well	3/11/2018	20:56:16	USER	2456.00	4.80	8.42	8.20	Pressured up the well to 3,700 psi. to burst the plug. Pumped an additional 2 bbls. of fresh water There was no spacer or cement to surface.
Event	26	Check Floats	Check Floats	3/11/2018	20:56:54	USER	1952.00	0.00	8.42	8.21	Bled off pressure to check floats. Floats held. Got 3 bbls. back to the truck.
Event	27	End Job	End Job	3/11/2018	20:59:07	COM5					Blew down and washed all pumps, lines, and hoses until dry and clean.

Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/11/2018	22:00:00	USER	Halliburton cement crew held a pre rig down safety meeting and JSA.
Event	29	Rig-Down Equipment	Rig-Down Equipment	3/11/2018	22:30:00	USER	Rigged down all lines, hoses and equipment.
Event	30	Depart Location Safety Meeting	Depart Location Safety Meeting	3/11/2018	23:00:00	USER	Held a pre journey safety meeting with the crew.
Event	31	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/11/2018	23:33:00	USER	Started journey management with dispatch and left location.

3.0 Attachments

3.1 Case 1-Custom Results.png

