

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Tuesday, April 10, 2018

## **COYOTE TRAILS 34W-20-16N PRODUCTION**

Job Date: Monday, March 26, 2018

Sincerely,

**Julia Nichols**

## 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-20-16N** 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.

**Returns were lost during displacement with no spacer or cement 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 #: 3843209	Quote #:	Sales Order #: 0904727958							
Customer: EXTRACTION OIL & GAS		Customer Rep: Jose Torres								
Well Name: COYOTE TRAILS	Well #: 34S-20-16N	API/UWI #: 05-123-45990-00								
Field: WATTENBERG	City (SAP): ERIE	County/Parish: WELD	State: COLORADO							
Legal Description: SW SE-28-1N-68W-1144FSL-2031FEL										
Contractor:		Rig/Platform Name/Num: Patterson 901								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Steven Markovich								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST	230 degF							
Job depth MD	19297ft	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	36		J-55	0	1615	0	0
Casing	0	5.5	4.778	20	BTC	P-110	0	19297	0	0
Open Hole Section			8.5				1615	19307	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			19297		Top Plug	5.5		HES	
Float Shoe	5.5					Bottom Plug	5.5		HES	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5		HES	
Stage Tool	5.5					Centralizers	5.5		HES	
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /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		6		
149.34 lbm/bbl		BARITE, BULK (100003681)								
35 gal/bbl		FRESH WATER								
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003685)								

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*Cementing Job Summary*

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	3075	sack	13.2	1.57		5	7.53
7.53 Gal		FRESH WATER							
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	426.4	bbl	8.34				
Mix Water: pH 7      Mix Water Chloride: 0ppm      Mix Water Temperature: 51 °F Comment Pump 426.3bbls of H2O. Pumped the first 150bbls at 8bbls/min. At 150 bbls away slowed rate to 3bbls/min. Lost returns at 262bbls away and slowed rate to 2bbls/min. Pumped calculated displacement and then shutdown. Kicked in pumps to pump wet shoe. While pumping wet shoe we landed the plug. Brought pressure up to burst plug. Plug sheered at 3728psi and pumped a 5bbl wet shoe. Estimated Top of Cement 4696' 1:.....									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

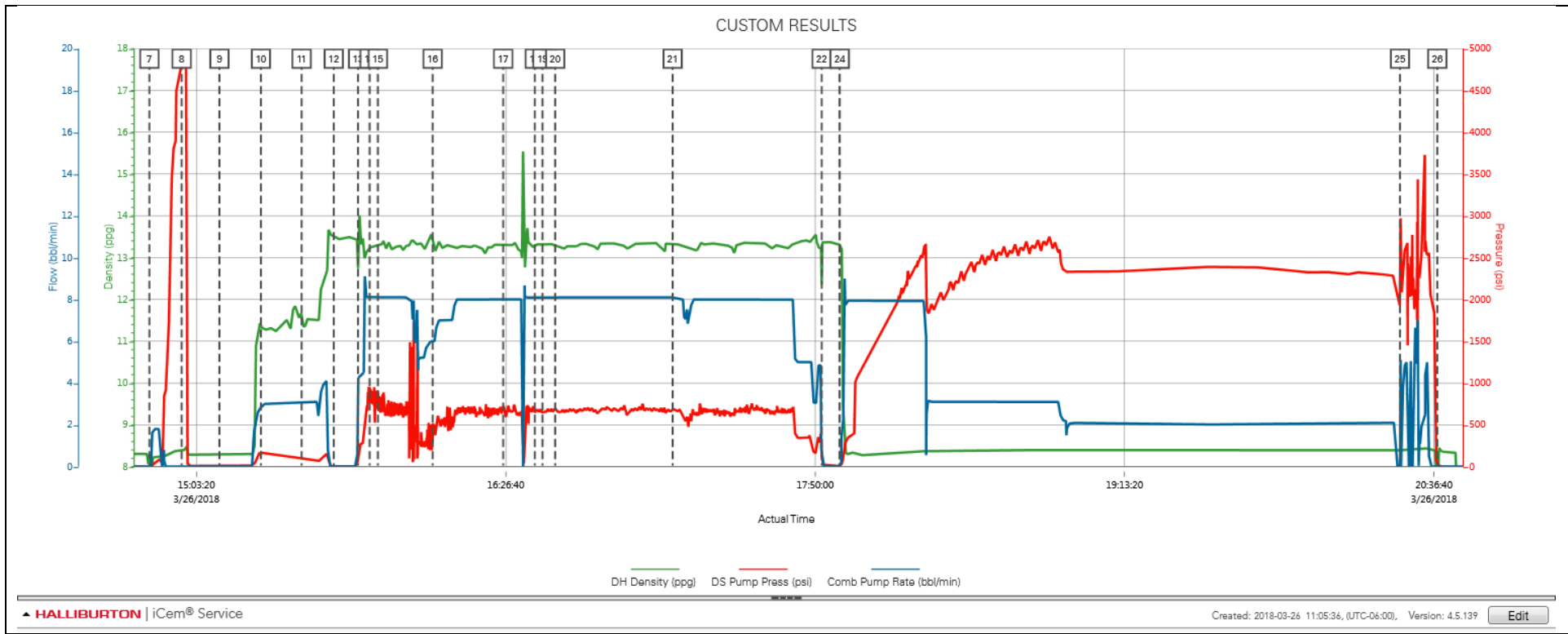
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	3/26/2018	02:00:00	USER				Job called out with an on location time of 09:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/26/2018	07:30:00	USER				JSA with HES crew on driving safety and route to rig.
Event	3	Arrive At Loc	Arrive At Loc	3/26/2018	08:00:00	USER				Arrived on location, rig still running casing. 10,000' left to run.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	3/26/2018	08:10:00	USER				JSA and Hazard hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	3/26/2018	08:30:00	USER				Rigged up HES line and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	3/26/2018	14:00:00	USER	8.31	4.00	0.00	JSA with HES and rig crew on job safety and procedure.
Event	7	Start Job	Start Job	3/26/2018	14:50:39	COM4	8.29	-4.00	0.00	TD 19307' TP 19297' FC 19292' 5 1/2" 20# Production Casing, 8 3/4" Open hole from 1615' - 10245' 8 1/2" Open hole from 10245' to 19307' 9 5/8" 36# Surface Casing at 1615'
Event	8	Test Lines	Test Lines	3/26/2018	14:59:21	COM4	8.40	4804.00	0.00	Set kick outs to 500psi and check kick outs, then bring pressure u to 4800psi and hold.
Event	9	Check Weight	Check weight	3/26/2018	15:09:32	COM4	8.30	11.00	0.00	Weight verified by pressurized scales.
Event	10	Pump Spacer 1	Pump Spacer 1	3/26/2018	15:20:42	COM4	11.35	169.00	2.80	Pump 50bbs of 11.5ppg 3.73yield Tuned Spacer. Added 25 gallons of Musol A and Dual Spacaer B on the fly. Pumped at 3bbl/min 180psi.
Event	11	Check Weight	Check weight	3/26/2018	15:31:39	COM4	11.60	96.00	3.10	Weight verified by pressurized scales.
Event	12	Pump Cement	Pump Cement	3/26/2018	15:40:19	COM4	13.53	1.00	0.00	Pump 860bbls (3075sks) of 13.2ppg 1.57yield Cement. Pumped at 8bbl/min 723psi.
Event	13	Check Weight	Check weight	3/26/2018	15:46:52	COM4	12.72	122.00	4.30	Weight verified by pressurized scales.
Event	14	Check Weight	Check weight	3/26/2018	15:50:00	COM4	13.24	949.00	8.10	Weight verified by pressurized scales.

Event	15	Check Weight	Check weight	3/26/2018	15:52:11	COM4	13.34	690.00	8.10	Weight verified by pressurized scales.
Event	16	Check Weight	Check weight	3/26/2018	16:06:57	COM4	13.40	300.00	6.00	Weight verified by pressurized scales.
Event	17	Check Weight	Check weight	3/26/2018	16:25:58	COM4	13.36	700.00	8.00	Weight verified by pressurized scales.
Event	18	Check Weight	Check weight	3/26/2018	16:34:28	COM4	13.26	674.00	8.10	Weight verified by pressurized scales.
Event	19	Check Weight	Check weight	3/26/2018	16:36:33	COM4	13.32	645.00	8.10	Weight verified by pressurized scales.
Event	20	Check Weight	Check weight	3/26/2018	16:39:57	COM4	13.32	691.00	8.10	Weight verified by pressurized scales.
Event	21	Check Weight	Check weight	3/26/2018	17:11:35	COM4	13.37	722.00	8.10	Weight verified by pressurized scales.
Event	22	Shutdown	Shutdown	3/26/2018	17:51:44	COM4	12.38	134.00	0.00	Shutdown.
Event	23	Drop Top Plug	Drop Top Plug	3/26/2018	17:56:30	COM4	13.31	9.00	0.00	Plug loaded and dropped in front of comany rep and tool hand.
Event	24	Pump Displacement	Pump Displacement	3/26/2018	17:56:38	COM4	13.31	9.00	0.00	Pump 426.3bbls of H2O. Pumped the first 150bbls at 8bbls/min. At 150 bbls away slowed rate to 3bbls/min. Lost returns at 262bbls away and slowed rate to 2bbls/min. Pumped calculated displacement and then shutdown.
Event	25	Other	Other	3/26/2018	20:27:30	USER	8.39	1920.00	0.00	Kicked in pumps to pump wet shoe. While puming wet shoe we landed the plug. Brought pressure up to burst plug. Plug sheered at 3728psi and pumped a 5bbl wet shoe.
Event	26	End Job	End Job	3/26/2018	20:37:34	COM4				Thank you Steve Markovich and crew.



3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

