

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Coyote Trails 33S-20-3N 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 33S-20-3N** 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

Sold To #: 369404		Ship To #: 3843096		Quote #:		Sales Order #: 0905500917				
Customer: EXTRACTION OIL & GAS-EBUS				Customer Rep: Hans Cary						
Well Name: COYOTE TRAILS			Well #: 33S-20-3N			API/UWI #: 05-123-45988-00				
Field: WATTENBERG		City (SAP): ERIE		County/Parish: WELD		State: COLORADO				
Legal Description: SW SE-28-1N-68W-1148FSL-2265FEL										
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 147						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Nicholas Roles						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type					BHST					
Job depth MD		17867ft			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			0	1593	0	1593
Casing	0	5.5	4.892	17			0	17867	0	7937
Open Hole Section			8.5				1593	17877	1593	7937
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			17867		Top Plug	5.5	1		
Float Shoe	5.5					Bottom Plug	5.5	1		
WS Sub	5.5			17853		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	12.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	12.5	2.73		6		
2	ElastiCem	ELASTICEM (TM) SYSTEM	584	sack	13.2	1.57		8	7.66	
3	GasStop	ELASTICEM (TM) SYSTEM	615	sack	13.2	1.6		8	7.72	
4	13.2# ElastiCem	ELASTICEM (TM) SYSTEM	1701	sack	13.2	1.57		8	7.66	
5	MMCR Displacement	MMCR Displacement	20	bbl	8.33			6		
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)								
6	Displacement	Displacement	394	bbl	8.33			6		
Cement Left In Pipe										
Amount		0 ft			Reason			Wet Shoe		
Mix Water:		pH 07	Mix Water Chloride:			100 ppm		Mix Water Temperature:		65 °F °C
Cement Temperature:		69 °F °C	Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		65 °F °C
Plug Bumped?		Yes	Bump Pressure:			2450 psi MPa		Floats Held?		Yes
Cement Returns:		50bbl	Returns Density:			## lb/gal kg/m3		Returns Temperature:		## °F °C
Comment Est TOT-6715', TOL-2426' Got 50bbbls cap cement to surface.										

2.0 Real-Time Job Summary

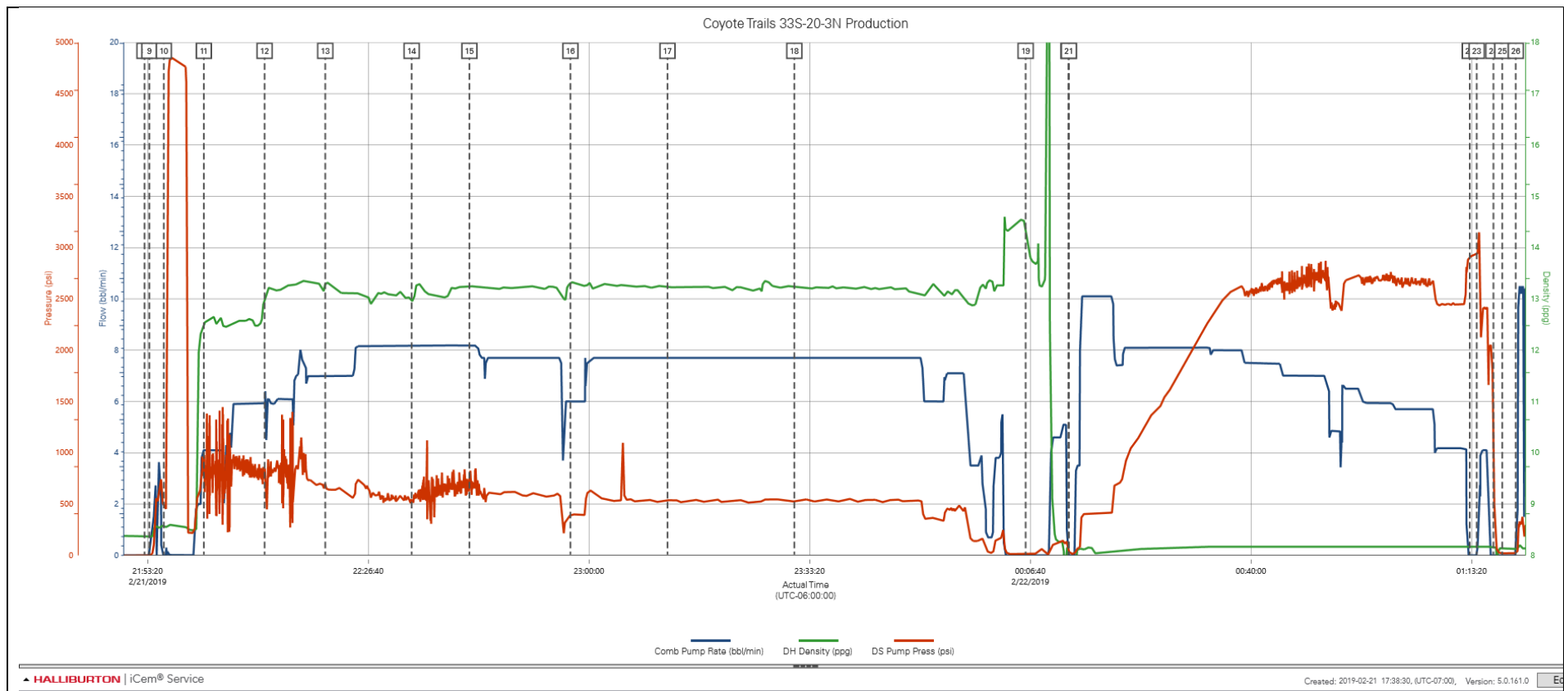
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Check Floats	Call Out	2/21/2019	11:00:00	USER				Called out by Service Coordinator for O/L at 1600
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/21/2019	14:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	2/21/2019	15:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	2/21/2019	15:30:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/21/2019	15:45:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	2/21/2019	17:00:00	USER				Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/21/2019	21:25:00	USER	0.00	8.45	0.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	2/21/2019	21:52:52	COM4	0.00	8.37	-2.00	TD-17877', OH-8.5", TP-17867' 5.5" 17#, TVD-7937', SURF-1593' 9.625" 36#, MUD-10.5#. Company man wanted to cement through choke due to pressures and gas returns. Rig completed bottoms up at 7bpm 1000psi.
Event	9	Drop Bottom Plug	Drop Bottom Plug	2/21/2019	21:53:36	COM4	0.00	8.37	-2.00	Dropped by HES Supervisor, witnessed by company man.
Event	10	Test Lines	Test Lines	2/21/2019	21:55:47	COM4	0.00	8.56	474.00	Pumped 5bbls fresh water to fill lines at 3bpm 320psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1400psi, proceeded to bring pressure to 4500psi, Pressure stabilized and held with no leaks.
Event	11	Pump Spacer 1	Pump Spacer 1	2/21/2019	22:01:49	COM4	4.10	12.49	819.00	Pumped 50bbls of 12.5# 2.73y 16.6g/s FDP Spacer with 10g D-air at 6bpm 120psi.

Event	12	Pump Lead Cement	Pump Lead Cement	2/21/2019	22:11:00	COM4	5.90	12.97	846.00	Pumped 584sks or 163bbbls of 13.2# 1.57y 7.66g/s Elasticem at 8bpm 510psi.
Event	13	Check Weight	Check Weight	2/21/2019	22:20:10	COM4	7.00	13.31	669.00	Weight verified with pressurized mud scales.
Event	14	Pump Cement	Pump Cement	2/21/2019	22:33:13	COM4	8.10	12.96	574.00	Pumped 615sks or 175bbbls of 13.2# 1.6y 7.72g/s GasStop with 1538g FDP Latex and 62g D-air at 8bpm.
Event	15	Check Weight	Check Weight	2/21/2019	22:41:56	COM4	8.10	13.23	694.00	Weight verified with pressurized mud scales.
Event	16	Pump Tail Cement	Pump Tail Cement	2/21/2019	22:57:12	COM4	6.00	13.33	391.00	Pumped 1701sks or 475.6bbbls of 13.2# 1.57y 7.66g/s Elasticem at 8bpm 488psi.
Event	17	Check Weight	Check Weight	2/21/2019	23:11:52	COM4	7.70	13.25	529.00	Weight verified with pressurized mud scales.
Event	18	Check Weight	Check Weight	2/21/2019	23:31:01	COM4	7.70	13.22	521.00	Weight verified with pressurized mud scales.
Event	19	Shutdown	Shutdown	2/22/2019	00:05:58	COM4	0.00	14.39	12.00	Rig blew down iron, followed with 10bbbls fresh water through pumps and lines.
Event	20	Drop Top Plug	Drop Top Plug	2/22/2019	00:12:26	COM4	0.00	-0.01	45.00	Dropped by HES Supervisor, witnessed by company man.
Event	21	Pump Displacement	Pump Displacement	2/22/2019	00:12:30	COM4	0.00	-0.06	36.00	Pumped 414bbbls fresh water at 8bpm, slowed rate to keep pressure under 2700psi. Gas came up to 8000units during displacement.
Event	22	Bump Plug	Bump Plug	2/22/2019	01:13:03	COM4				Slowed down at 390bbbls away to 4bpm, final circulating pressure-2450psi. Bump pressure-2950psi.
Event	23	Pressure Up Well	Pressure Up Well	2/22/2019	01:14:06	COM4	0.00	8.17	2933.00	Pressured up to burst plug at 3180psi, continued to pump 5bbls at 4bpm 2400psi.
Event	24	Check Floats	Check Floats	2/22/2019	01:16:38	USER	0.00	8.16	1344.00	Released pressure and got 3bbls back. Floats held.
Event	25	End Job	End Job	2/22/2019	01:17:58	COM4	0.00	8.14	20.00	Est TOT-6715', TOL-2426' Got 50bbbls cap cement to surface.
Event	26	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/22/2019	01:20:00	USER	0.00	8.12	23.00	Discussed rigging down hazards and procedure according to HMS with all HES personnel
Event	27	Safety Meeting - Departing Location	Safety Meeting - Departing Location	2/22/2019	02:45:00	USER				Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	28	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/22/2019	03:00:00	USER				Pre journey management prior to departure.

3.0 Attachments

3.1 Coyote Trails 33S-20-3N Production – Job Chart with Events



3.2 Coyote Trails 33S-20-3N Production – Job Chart without Events

