

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Wednesday, May 16, 2018

### **Coyote Trails 33S-20-7N Production**

Job Date: Tuesday, April 17, 2018

Sincerely,

**Bryce Hinsch**

## 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 33S-20-7N** 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 5 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 #: 3843098		Quote #:		Sales Order #: 0904784170				
Customer: EXTRACTION OIL & GAS				Customer Rep: LARRY SIEGEL						
Well Name: COYOTE TRAILS			Well #: 33S-20-7N		API/UWI #: 05-123-45989-00					
Field: WATTENBERG		City (SAP): ERIE		County/Parish: WELD		State: COLORADO				
Legal Description: SW SE-28-1N-68W-1147FSL-2193FEL										
Contractor:				Rig/Platform Name/Num: Patterson 901						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Bryce Muir						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		18212ft		Job Depth TVD		8194 FT				
Water Depth				Wk Ht Above Floor		3 FT				
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	1604	0	1604
Casing	0	5.5	4.778	20	BTC	P-110	0	18212	0	0
Open Hole Section			8.5				1604	18227	0	8194
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	KLX	
Float Shoe	5.5	1	KLX	18212		Bottom Plug	5.5			
Float Collar	5.5	1	KLX	18207		SSR plug set	5.5			
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		KLX	
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	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 (100003665)							
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	2950	sack	13.2	1.57		5	7.53
0.65 %		SCR-100 (100003749)							
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	404	bbl	8.34				
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Comment: WE ARRIVED ON LOCATION AND SPOTTED IN EQUIPMENT AND BEGAN TO RIG UP OUR IRON. RIG CREW WAS RUNNING CASING. AFTER ALL CASING WAS RAN THEY CIRCULATED THROUGH THE CRT. AFTER THE RIG FINISHED CIRCULATING WE HELD A SAFETY MEETING AND THEN STARTED OUR CEMENT JOB. WE PUMPED THE MATERIALS AND QUANTITIES STATED IN THE ABOVE TABLE. AFTER LANDING THE PLUG AND PUMPING A 7 BBL WET SHOE. WE SHUTDOWN TO CHECK FLOATS. THE FLOATS HELD AND WE GOT 5 BBLS BACK TO THE RCM. WE HELD A SAFETY MEETING AND RIGGED DOWN OUR EQUIPMENT. JOB WAS COMPLETELY SAFELY BY BRYCE MUIR AND CREW. WE GOT 50 BBLS OF TUNED SPACER TO SURFACE FOLLOWED BY 5 BBLS OF CEMENT.									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	4/16/2018	20:30:00	USER				CREW CALLED OUT TO PERFORM PRODUCTION JOB FOR EXTRACTION OIL AND GAS.
Event	2	Other	Other	4/16/2018	21:30:00	USER				LOAD UP ALL REQUIRED MATERIALS NEEDED TO COMPLETE THE JOB. DOWNLOAD ALL NECESSARY PAPERWORK NEEDED FOR CUSTOMER.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/17/2018	00:15:00	USER				DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS BACK TO THE SERVICE CENTER. DISCUSS SAFEST ROUTE OF TRAVEL, CONVOY ORDER, AND PLACES TO STOP IF NEED.
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/17/2018	00:30:00	USER				
Event	5	Arrive at Location from Service Center	Arrive at Location from Service Center	4/17/2018	01:15:00	USER				
Event	6	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/17/2018	01:20:00	USER				ASSESS LOCATION TO IDENTIFY POTENTIAL HAZARDS. DISCUSS THE BEST WAY TO SPOT IN PUMPING EQUIPMENT. SPOT IN.
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/17/2018	01:30:00	USER				DISCUSS HAZARDS ASSOCIATED WITH RIGGING UP AND PACKING IRON ON

LOCATION. DISCUSS  
WALKING SURFACES, LINES  
OF FIRES, AND PINCH  
POINTS.

Event	8	Rig-Up Equipment	Rig-Up Equipment	4/17/2018	01:45:00	USER				
Event	9	Other	Other	4/17/2018	02:30:00	USER				RIG RUNNING CASING. RIG ON BOTTOM WITH CASING AT 0515 AND STARTED TO CIRCULATE THE WELL. THE RIG ADJUSTED THEIR RATE TO MAINTAIN WELL CIRCULATION. RIG CIRCULATED AT 6BPM @ 400 PSI.
Event	10	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/17/2018	07:30:00	USER	3.00	8.41	0.00	DISCUSS HES SAFETY AND JOB PROCEDURES WITH RIG CREW AND COMPANY MAN. IDENTIFY CLOSEST HOSPITALS, MUSTER AREAS, AND FIRST AID LOCATIONS. DISCUSSED IN DETAIL THE JOB PROCEDURES AND ORDER OF OPERATION.
Event	11	Start Job	Start Job	4/17/2018	07:40:50	COM6	3.00	8.41	0.00	
Event	12	Rig-Up Equipment	Rig-Up Equipment	4/17/2018	08:00:00	USER	2.00	0.00	0.00	RIG UP PLUG CONTAINER, MANIFOLD, AND PUMPING LINES ON THE RIG FLOOR. GET READY TO CEMENT.
Event	13	Other	Other	4/17/2018	08:05:00	USER	2.00	0.00	0.00	PUMP 5 BBLS FRESH WATER AHEAD TO FILL PUMPS AND LINES.
Event	14	Test Lines	Test Lines	4/17/2018	08:09:43	COM6	45.00	8.68	0.00	CONDUCTED A LOW PRESSURE TEST TO 500 PSI TO TEST RCM PRESSURE KICKOUTS. THEN WE CONDUCTED A HIGH PRESSURE TEST TO 5000 PSI



										TO TEST PUMPS AND LINES.
Event	15	Pump Spacer 1	Pump Spacer 1	4/17/2018	08:14:28	COM6	42.00	8.41	0.00	PUMPED 50 BBLS OF TUNED SPACER. 11.5 #/GAL 3.73 CUFT/SK 23.4 GAL/SK. WE PUMPED SPACER AT 5 BPM @ 320 PSI. WE ADDED THE MUSOL A AND DUAL SPACER B SURFACTANT ON THE FLY AS WE PUMPED DOWNHOLE.
Event	16	Pump Cement	Pump Cement	4/17/2018	08:31:33	COM6	10.00	11.55	0.00	PUMPED 825 BBLS OF PRIMARY CEMENT. 2950 SACKS @ 13.2 #/GAL 1.57 CUFT/SK 7.53 GAL/SK. WE PUMPED CEMENT AT 8 BPM @ 1000 PSI. WE HAD RETURNS, BUT THEY WERE NOT FULL RETURNS.
Event	17	Check Weight	Check Weight	4/17/2018	08:34:35	COM6	991.00	13.17	7.80	CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	18	Check Weight	Check Weight	4/17/2018	09:24:36	COM6	513.00	13.21	7.80	CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	19	Shutdown	Shutdown	4/17/2018	10:33:25	COM6	110.00	12.59	0.00	
Event	20	Drop Top Plug	Drop Top Plug	4/17/2018	10:35:42	COM6	20.00	13.82	0.00	DROP 5.5" TOP PLUG. WE BUSTED THE CAP AND LOADED THE PLUG. PLUG WAS DROPPED BY KLX HAND AND WITNESSED BY BRYCE MUIR AND THE COMPANY REP.
Event	21	Pump Displacement	Pump Displacement	4/17/2018	10:36:09	COM6	31.00	13.70	0.00	PUMPED 403 BBLS OF FRESH WATER DISPLACEMENT. WE PUMPED DISPLACEMENT AT 8 BPM @ 1300 PSI. THE

										PRESSURED INCREASED THE MORE DISPLACEMENT WE PUMPED. WE WATCHED RETURNS.
										WE REACHED THE PLUG AT 17 BBLS OF DISPLACEMENT PUMPED. RETURNS WERE STEADY BUT THEY WERE NOT FULL RETURNS. WE PUMPED THE FIRST 200 BBLS AT 8 BPM THEN WE SLOWED OUR RATE TO 5 BPM FOR THE REMAINING 203 BBLS OF DISPLACEMENT. WE GOT TUNED SPACER TO SURFACE AT 348 BBLS OF DISPLACEMENT. WE GOT CEMENT TO SURFACE AT 398 BBLS DISPLACEMENT PUMPED. WE HAD ROUGHLY HALF RETURNS THROUGHOUT DISPLACEMENT.
Event	22	Displ Reached Cement	Displ Reached Cement	4/17/2018	10:38:00	USER	385.00	8.17	4.60	
										LANDED PLUG AT 403 BBLS OF DISPLACEMENT PUMPED. WE LANDED THE PLUG AT 2682 PSI AND PRESSURED UP TO 3080 PSI. HELD FOR LESS THAN 1 MINUTE.
Event	23	Bump Plug	Bump Plug	4/17/2018	11:41:37	COM6	2682.00	8.19	4.00	
Event	24	Shutdown	Shutdown	4/17/2018	11:43:00	USER	2697.00	8.20	4.10	
										ENGAGED PUMPS TO RUPTURE DISC AND PUMPED A 7 BBL WET SHOE. WE PUMPED AT 2 BPM AND RUPTURED THE DISC AT 3972 PSI. WE INCREASED OUR RATE TO 5 BPM @ 2740 PSI TO PUMP
Event	25	Other	Other	4/17/2018	11:44:00	USER	3046.00	8.21	0.00	

7 BBL WET SHOE.

Event	26	Shutdown	Shutdown	4/17/2018	11:46:00	USER	2439.00	8.19	1.50	
Event	27	Check Floats	Check Floats	4/17/2018	11:47:00	USER	2819.00	8.20	5.30	FLOATS HELD. WE GOT 5 BBLs BACK TO THE RCM.
Event	28	End Job	End Job	4/17/2018	11:50:24	COM6	1.00	8.18	0.90	
Event	29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	4/17/2018	13:00:00	USER				DISCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN AND PACKING IRON ON LOCATION. DISCUSSED WALKING SURFACES, FATIGUE, AND LINE OF FIRES.
Event	30	Rig-Down Equipment	Rig-Down Equipment	4/17/2018	13:15:00	USER				
Event	31	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/17/2018	14:20:00	USER				DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS BACK TO THE SERVICE CENTER. DISCUSSED SAFEST ROUTE TRAVEL, CONVOY ORDER, AND DRIVER FATIGUE.
Event	32	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	4/17/2018	14:30:00	USER				JOB WAS COMPLETED SAFE BY BRYCE MUIR AND CREW. THANK YOU FOR USING HALLIBURTON ENERGY SERVICES. STAY SAFE OUT HERE.

## 3.0 Attachments

### 3.1 Extraction Coyote Trails 33S-20-7N Production Job Chart

