

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

For: Extraction

Trott 8E-10-11N Production

Job Date: Friday, May 11, 2018

Sincerely,
Ryan Keeran

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 **Trott 8E-10-11N** 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.

55 bbls of cement were circulated 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 #: 3833830		Quote #:		Sales Order #: 0904847047					
Customer: EXTRACTION OIL & GAS				Customer Rep: Larry Siegel							
Well Name: TROTT			Well #: 8E-10-11N		API/UWI #: 05-123-45712-00						
Field: WATTENBERG		City (SAP): MEAD		County/Parish: WELD		State: COLORADO					
Legal Description: NE SE-7-4N-68W-1542FSL-768FEL											
Contractor:				Rig/Platform Name/Num: Patterson 901							
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		10439ft		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	1572	0	1572	
Casing	0	5.5	4.778	20	BTC	P-110	0	10439	0	6166	
Open Hole Section			8.5				1572	10450	1572	6166	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5			10439		Top Plug	5.5	1	KLX		
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	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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III			50	bbl	11.5	3.73		5	
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	1450	sack	13.2	1.57		8	7.53
0.45 %		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	231	bbl	8.33			10	
Cement Left In Pipe	Amount	0 ft			Reason			Wet Shoe	
Mix Water:	pH6	Mix Water Chloride:	1000 ppm			Mix Water Temperature:	60 °F °C		
Cement Temperature:	65 °F °C	Plug Displaced by:	8.33 lb/gal kg/m3			Disp. Temperature:	## °F °C		
Plug Bumped?	Yes	Bump Pressure:	2850 psi MPa			Floats Held?	Yes		
Cement Returns:	50 bbl	Returns Density:	## lb/gal kg/m3			Returns Temperature:	## °F °C		
Comment 55bbbls cement to surface.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	5/11/2018	07:00:00	USER				Called out by Service Coordinator for O/L at 1500
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/11/2018	12:45:00	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	5/11/2018	13:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/11/2018	14:00:00	USER				Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment. Rig had 2500' casing left to run.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/11/2018	14:15:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	5/11/2018	15:00:00	USER				Water test- PH-6, Chlor-1000ppm, Temp-65.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/11/2018	17:00:00	USER	8.34	0.00	4.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	5/11/2018	17:51:04	COM4	8.37	0.00	0.00	TD-10,450', OH-7.875", TP-10439' 5.5" 20#, FC-10434', TVD-6166', SURF-1572' 9.625" 36#, MUD 8.6#

Event	9	Test Lines	Test Lines	5/11/2018	17:53:31	COM4	8.25	0.00	55.00	Pumped 5bbls fresh water to fill lines at 3bpm 220psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1453psi, proceeded to bring pressure to 4500psi, pressure stabilized and held with no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	5/11/2018	18:01:12	COM4	9.26	3.80	33.00	Pumped 50bbls of 11.5# 3.78y 23.8g/s Tuned Spacer III with 25g Musol A, 25g Dual Spacer B and 10g D-air at 5bpm 280psi.
Event	11	Pump Lead Cement	Pump Lead Cement	5/11/2018	18:11:54	COM4	12.37	4.90	287.00	Pumped 1450skts or 405bbls of 13.2# 1.57y 7.53g/s Elasticem at 8bpm 498psi.
Event	12	Check Weight	Check Weight	5/11/2018	18:13:45	COM4	12.96	5.00	356.00	Weight verified with pressurized mud scales.
Event	13	Check Weight	Check Weight	5/11/2018	18:32:04	COM4	13.35	8.00	654.00	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check Weight	5/11/2018	18:46:36	COM4	13.09	8.00	899.00	Weight verified with pressurized mud scales.
Event	15	Check Weight	Check Weight	5/11/2018	18:51:17	COM4	13.14	8.00	875.00	
Event	16	Check Weight	Check Weight	5/11/2018	18:56:33	COM4	13.21	8.00	655.00	Weight verified with pressurized mud scales.
Event	17	Drop Top Plug	Drop Top Plug	5/11/2018	19:16:51	COM4	13.64	0.00	13.00	Dropped by KLX tool hand, witnessed by company man and HES supervisor.
Event	18	Pump Displacement	Pump Displacement	5/11/2018	19:16:53	COM4	13.64	0.00	13.00	Pumped 231bbls fresh water at 10bpm.
Event	19	Bump Plug	Bump Plug	5/11/2018	19:44:54	COM4	8.14	0.00	2882.00	Slowed down to 5bpm at 210bbls, final circulating pressure-2350psi. Bump

										pressure-2850psi.
Event	20	Pressure Up Well	Pressure Up Well	5/11/2018	19:45:41	USER	8.15	1.90	3078.00	Pressured up to sheer at 3499psi, continued to pump 5bbls at 5bpm 2375psi.
Event	21	Check Floats	Check Floats	5/11/2018	19:47:15	USER	8.13	5.10	2352.00	Released pressure and got 1.25bbls back. Floats held.
Event	22	End Job	End Job	5/11/2018	19:48:43	COM4	8.07	0.00	-1.00	Got 50bbls Cement to surface.
Event	23	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	5/11/2018	20:00:00	USER	-0.26	0.00	-2.00	All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/11/2018	21:45:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	5/11/2018	22:00:00	USER				Pre journey managment prior to departure.

3.0 Job Chart

3.1 Job Chart

