

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Monday, January 29, 2018

Trott 8E-10-1N Production

Job Date: Monday, January 15, 2018

Sincerely,

Julia Nichols

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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-10-1N** 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 53 barrels 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]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 389404		Ship To #: 3833886		Quote #:		Sales Order #: 0904568150				
Customer: EXTRACTION OIL & GAS				Customer Rep: Todd Stephens						
Well Name: TROTT			Well #: 8E-10-1N			API/UWI #: 05-123-45716-00				
Field: WATTENBERG		City (SAP): MEAD		County/Parish: WELD		State: COLORADO				
Legal Description: NE SE-7-4N-68W-1549FSL-1038FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346						
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					
Job depth MD		10413ft			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	1550	0	1550
Casing	0	5.5	4.778	20		P-110	0	10413	0	0
Open Hole Section			8.5				1550	10424	0	6082
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			10413		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 ³ /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		
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 (100003865)								

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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	1750	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	230	bbl	8.34				
<p>Comment Bumped plug at 230bbls away, final lifting pressure was 2086psi. Burst the plug at 3607psi then pumped a 5bbl wet shoe. We got all spacer to surface and 53bbls of cement to surface.</p>									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	1/15/2018	10:00:00	USER				Job called out with an on location time of 17:00.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/15/2018	14:15:00	USER				JSA with HES crew on driving safety and route to rig.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	1/15/2018	15:30:00	USER				Arrived on location, rig still running casing. Approx 3500'
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	1/15/2018	15:45:00	USER				JSA and Hazard hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	1/15/2018	16:00:00	USER				Rigged up HES lines and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/15/2018	19:00:00	USER	0.00	71.00	0.00	JSA with HES and rig crew on job procedure and job safety.
Event	7	Start Job	Start Job	1/15/2018	19:33:37	COM4	8.53	555.00	9.70	TD 10424' TP 10413' FC 10408' 5 1/2" 20# production casing, 8 1/2" Open hole, 9 5/8" 36# surface casing at 1550' TVD 6082' Mud Weight 9.1.
Event	8	Test Lines	Test Lines	1/15/2018	19:42:25	COM4	8.79	4459.00	0.00	Set kick outs to 500psi and check kick outs then bring pressure up to 4500psi and hold.
Event	9	Pump Spacer 1	Pump Spacer 1	1/15/2018	19:50:08	COM4	12.11	256.00	3.20	Pump 50bbls of 11.5ppg 3.73yield Tuned Spacer. Added 25 gallons of Musol A and Dual Spacer B on the fly. Pumped at 3.5bbl/min 165psi.
Event	10	Check Weight	Check weight	1/15/2018	19:51:47	COM4	11.45	260.00	3.30	Weight verified by pressurized scales.
Event	11	Check Weight	Check weight	1/15/2018	20:05:59	COM4	13.40	817.00	8.00	Weight verified by pressurized scales.
Event	12	Check Weight	Check weight	1/15/2018	20:08:08	COM4	14.99	52.00	0.00	Weight verified by pressurized scales.
Event	13	Check Weight	Check weight	1/15/2018	20:09:28	COM4	14.81	48.00	0.00	Weight verified by pressurized scales.
Event	14	Pump Lead Cement	Pump Lead Cement	1/15/2018	20:11:17	COM4	13.12	601.00	8.00	Pump 490bbls of 13.2ppg 1.57yield Cement. Pumped at 8bbl/min 543psi, after cement pumped 2bbls of fresh water to clean lines.

Event	15	Check Weight	Check weight	1/15/2018	20:12:40	COM4	13.11	541.00	8.00	Weight verified by pressurized scales.
Event	16	Check Weight	Check weight	1/15/2018	20:46:26	COM4	13.15	564.00	8.00	Weight verified by pressurized scales.
Event	17	Shutdown	Shutdown	1/15/2018	21:14:48	COM4	8.78	145.00	0.00	Shutdown.
Event	18	Drop Plug	Drop Plug	1/15/2018	21:18:26	COM4	8.24	37.00	0.00	Plug loaded into HES head by KLX toolhand. Plug loaded and dropped in front of company rep.
Event	19	Pump Displacement	Pump Displacement	1/15/2018	21:18:40	COM4	8.21	37.00	0.00	Pump 230bbls of H2O. Pumped at 10bbl/min and slowed rate with pressure increase. Spacer to surface at 127bbls away, cement to surface at 177bbls away bringing 53bbls of cement to surface.
Event	20	Bump Plug	Bump Plug	1/15/2018	21:44:05	COM4	8.46	2081.00	5.00	Bumped plug at 230bbls away, final lifting pressure was 2086psi. Brought pressure 500psi over and held.
Event	21	Other	Other	1/15/2018	21:45:14	COM4	8.46	2704.00	0.00	After holding pressure came up to 2703psi. Kicked in pumps to burst the plug.
Event	22	Other	Other	1/15/2018	21:45:37	COM4	8.49	3512.00	2.10	Plug burst at 3607psi, then pumped a 5bbl wet shoe.
Event	23	End Job	End Job	1/15/2018	21:48:50	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

