

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Wednesday, March 14, 2018

## **Trott 8E-10-5N PRODUCTION**

Job Date: Monday, January 1, 2018

Sincerely,  
**Julia Nichols**

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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 **Trott 8E-10-5N 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 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 #: 3833887		Quote #:		Sales Order #: 0904542762				
Customer: EXTRACTION OIL & GAS				Customer Rep: SHANE						
Well Name: TROTT		Well #: 8E-10-5N		API/UWI #: 05-123-45714-00						
Field: WATTENBERG	City (SAP): MEAD	County/Parish: WELD		State: COLORADO						
Legal Description: NE SE-7-4N-88W-1550FSL-1074FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 348						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Jordan Larue						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type				BHST						
Job depth MD		10380ft		Job Depth TVD		8200'				
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	1555	0	1555
Casing	0	5.5	4.778	20		P-110	0	10354	0	6200
Open Hole Section			8.5				1565	10360	1565	6200
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5	1	TLX	10354		Top Plug	5.5		HES	
Float Shoe	5.5					Bottom Plug	5.5	1	TLX	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5	1	TLX	10349		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 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		40	bbl	11.5	3.73	23.4	8	
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)								

last updated on 3/14/2018 9:17:47 AM

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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/mi n	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	1730	sack	13.2	1.57	7.53	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/mi n	Total Mix Fluid Gal
3	Displacement	Displacement	230	bbl	8.34			10	
Cement Left In Pipe		Amount	0 ft		Reason			WET Shoe Joint	
Mix Water:		pH #7	Mix Water Chloride:		400 ppm		Mix Water Temperature:		58 °F
Cement Temperature:		NA	Plug Displaced by:		8.33 H2O		Disp. Temperature:		NA
Plug Bumped?		Yes	Bump Pressure:		2650 psi		Floats Held?		Yes 1BBL BACK
Cement Returns:		50 bbl	Returns Density:		13.2# lb/gal		Returns Temperature:		NA
Comment									

## 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	1/1/2018	12:00:00	USER				ON LOCATION TIME 1900
Event	2	Arrive At Loc	Arrive at location	1/2/2018	18:00:00	USER				RIG RUNNING CASING
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	1/2/2018	18:05:00	USER				TALK TO TOOL HAND AND CO REP
Event	4	Other	Well Info	1/2/2018	18:10:00	USER				TD 10360, TP 10354, FC@10349, TVD 6200', WF 9#OBM, PC 9.625" 36# J55 1555', OH 8.5"
Event	5	Other	Water Test	1/2/2018	18:20:00	USER				ph 7, cl <400, temp 68°F, TANN PASS...
Event	6	Pre-Rig Up Safety Meeting	PRE RIG UP SAFETY MEETING	1/2/2018	18:30:00	USER				JSA COMPLETED... HANDS SIGN JSA ON CEMENTING PROGRAM
Event	7	Rig-Up Equipment	RIG UP EQUIPMENT	1/2/2018	18:40:00	USER				NO ACCIDENTS OR INJURIES
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/2/2018	21:00:00	USER	-7.00	8.31	0.00	JSA COMPLETED: ALL PERSONNEL SIGNED SIGN UP SHEET. REVIEW PUMP SCHEDULE AND WASH UP.
Event	9	Start Job	Start Job	1/2/2018	21:04:50	COM10				
Event	10	Test Lines	Test Lines	1/2/2018	21:09:57	COM10				4500 PSI TEST GOOD
Event	11	Pump Spacer 1	Pump Spacer 1	1/2/2018	21:11:30	COM10				40 BBLS TS3 SCALED @ 11.5#
Event	12	Pump Cement	Pump Cement	1/2/2018	21:25:30	COM10				1730 SKS SCALED @ 13.2#
Event	13	Clean Lines	Clean Lines	1/2/2018	22:35:39	COM10	2.00	-0.04	0.00	
Event	14	Drop Bottom Plug	Drop Bottom Plug	1/2/2018	22:46:59	COM10	10.00	0.15	0.00	
Event	15	Pump Displacement	Pump Displacement	1/2/2018	22:47:06	COM10	8.00	0.14	0.00	PUMPED CALC DISPLACEMENT 230 BBLS... 40BBLS SPACER TO SURFACE AND 50BBLS CMT TO SURFACE... FINAL LIFT PSI 2050 PSI
Event	16	Bump Plug	Bump Plug	1/2/2018	23:11:40	COM10	2687.00	8.22	0.00	BUMPED PLUG TO 2650 PSI

Event	17	Other	Other	1/2/2018	23:12:43	COM10	1803.00	8.23	3.10	BURST PLUG @ 3450 PSI/ PYUMPED 5BBLs WET SHOE
Event	18	Other	Other	1/2/2018	23:13:46	COM10	1771.00	8.21	0.00	CHECK FLOATS 1BBL BACK FLOATS HELD
Event	19	End Job	End Job	1/2/2018	23:15:07	COM10				
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/2/2018	23:30:00	USER				DISCUSS HAZARDS
Event	21	Rig-Down Equipment	Rig-Down Equipment	1/2/2018	23:45:00	USER				NO ACCIDENTS OR INJURIES
Event	22	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/2/2018	01:30:00	USER				REVIEW DIRECTIONS
Event	23	Crew Leave Location	Crew Leave Location	1/2/2018	02:00:00	USER				BULK HEADING BACK TO YARD AND PUMP CREW SLEEPING ON LOC



3.0 Attachments

3.1 CUSTOM RESULTS – JOB CHART WITH EVENTS

