HALLIBURTON

iCem® Service

EXTRACTION OIL & GAS

Date: Tuesday, December 26, 2017

Trott 8E-10-17N Surface

Job Date: Friday, December 08, 2017

Sincerely,

Bryce Hinsch

Legal Notice

Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

Table of Contents

1.0 Cementing Job Summary 4
1.1 Executive Summary 4
2.0 Real-Time Job Summary 7
2.1 Job Event Log 7
3.0 Attachments 10
3.1 Extraction Trott 8E-10-17N Surface Job Chart 10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Trott 8E-10-17N** cement **surface** 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 26 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 #:** 3833931	**Quote #:**	**Sales Order #:** 0904492136
Customer: EXTRACTION OIL & GAS -		**Customer Rep:** Shawn McIntyre	
Well Name: TROTT	**Well #:** 8E-10-17N		**API/UWI #:** 05-123-45728-00
Field: WATTENBERG	**City (SAP):** MEAD	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NE SE-7-4N-68W-1550FSL-1092FEL			
Contractor:		**Rig/Platform Name/Num:** Cartel 41	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		**Srvc Supervisor:** Bryan Kraft	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	1533ft		**Job Depth TVD**	1533ft
Water Depth			**Wk Ht Above Floor**	4ft
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	8 RD	J-55	0	1533	0	1533
Open Hole Section			13.5				0	1533	0	1533

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					**Top Plug**	9.625	1	HES
Float Shoe	9.625	1	HES	1533	**Bottom Plug**			
Float Collar	9.625	1	HES	1494	**SSR plug set**			
Insert Float					**Plug Container**	9.625	1	HES
Stage Tool					**Centralizers**		0	

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	Spacer	FRESH WATER	10	bbl	8.33			3	420

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	Spacer	RED DYED FRESH WATER	10	bbl	8.33			5	420

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	Cement	SWIFTCEM (TM) SYSTEM	525	sack	13.5	1.74	9.2	8	4830
9.20 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
4	Displacement	FRESH WATER	116	bbl	8.33			8	4872

Cement Left In Pipe	**Amount**	39 ft	Reason	**Shoe Joint**	
Mix Water:	pH 6.0	**Mix Water Chloride:**	< 300 ppm	Mix Water Temperature:	**50 °F**
Cement Temperature:	N/A	**Plug Displaced by:**	8.3 lb/gal Fresh Water	Disp. Temperature:	**50 °F**
Plug Bumped?	Yes	**Bump Pressure:**	420 psi	Floats Held?	**Yes**
Cement Returns:	26 bbl	**Returns Density:**	N/A	Returns Temperature:	**N/A**

Comment The plug bumped @ calculated displacement @ 420 PSI. Shutdown for 1 minute @ 1000 PSI. The floats held and received 1 BBL back to the truck. Cement returned to surface @ 90 BBLS into displacement. Total of 26 BBL of 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)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	12/7/2017	20:00:00	USER				CREW CALLED OUT AT 20:00 12/7/2017, REQUESTED ON LOCATION 2:00 12/8/2017. CREW PICKED UP CEMENT, TOP PLUG, RED DYE, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON,CO. BULK 660: 12113644/10867531, BULK 660: 11027125/10867098, PUMP RED TIGER: 12645760.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/7/2017	21:50:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	12/7/2017	22:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	12/7/2017	23:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625” J-55 @ 1533', 39' SHOE JOINT, 13.5" OPEN HOLE, 8.4 PPG WELL FLUID, FRESH WATER DISPLACEMENT
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/8/2017	05:00:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.

Event	6	Rig-Up Equipment	Rig-Up Equipment	12/8/2017	05:15:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/8/2017	05:45:00	USER	0.05	0.00	0.00	MEETING WITH HALLIBURTON PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	12/8/2017	05:52:54	COM5	8.55	0.00	-3.00	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	12/8/2017	05:54:52	COM5	8.45	0.00	843.00	PRESSURE TESTED IRON TO 2500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 600 PSI, 5TH GEAR STALL OUT @ 2130 PSI.
Event	10	Pump Spacer 1	Pump Fresh Water Spacer	12/8/2017	05:59:06	COM5	8.42	3.00	42.00	PUMP 10 BBLS FRESH WATER SPACER.
Event	11	Pump Spacer 2	Pump Red Dyed Spacer	12/8/2017	06:02:23	COM5	8.42	5.00	114.00	PUMP 10 BBLS OF RED DYED FRESH WATER SPACER.
Event	12	Pump Cement	Pump Cement @ 13.5 ppg	12/8/2017	06:07:18	COM5	13.45	6.40	235.00	PUMP 525 SKS OF SWIFTCEM @ 13.5 LB/GAL, 1.74 YIELD, 9.2 GAL/SK, 163 BBLS, TOL @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	12/8/2017	06:32:12	COM5	14.22	0.00	94.00	SHUTDOWN TO DROP TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	12/8/2017	06:32:48	COM5	3.67	0.00	-2.00	PLUG LEFT CONTAINER.
Event	15	Pump Displacement	Pump Fresh Water Displacement	12/8/2017	06:33:20	COM5	-0.09	0.00	28.00	BEGIN CALCULATED DISPACEMENT OF 116 BBLS WITH FRESH WATER.
Event	16	Cement Returns to Surface	Cement Returns to Surface	12/8/2017	06:47:16	USER	8.34	8.10	482.00	CEMENT TO SURFACE @ 90 BBLS INTO DISPLACEMENT,

											TOTAL AMOUNT OF 26 BBL LEAD TO SURFACE.
Event	17	Bump Plug	Bump Plug	12/8/2017	06:51:57	COM5	8.33	3.00	418.00		PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 580 PSI OVER FINAL CIRCULATING PRESSURE OF 420 PSI.
Event	18	Shutdown	Shutdown	12/8/2017	06:52:08	USER	8.36	0.00	1002.00		SHUTDOWN FOR 1 MINUTE @ 1000 PSI
Event	19	Check Floats	Check Floats	12/8/2017	06:53:18	USER	8.36	0.00	1121.00		RELEASED PRESSURE, FLOATS HELD, 1 BBL BACK.
Event	20	End Job	End Job	12/8/2017	06:54:21	COM5					STOP RECORDING JOB DATA.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/8/2017	07:00:00	USER	0.70	3.10	3.00		DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Completed	Rig-Down Completed	12/8/2017	07:45:00	USER					ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/8/2017	07:55:00	USER					DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	24	Crew Leave Location	Crew Leave Location	12/8/2017	08:00:00	USER					THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Extraction Trott 8E-10-17N Surface Job Chart