

HALLIBURTON

iCem[®] Service

TRUE OIL LLC

Date: Monday, July 09, 2018

Thunder 5-64 15-16-1CHZ Production

Job Date: Monday, July 02, 2018

Sincerely,
Tyler Hill

Legal Notice

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Table of Contents

1.0 Cementing Job Summary 4

1.1 Executive Summary4

2.0 Real-Time Job Summary 8

2.1 Job Event Log8

3.0 Attachments..... 10

3.1 Thunder 5-64 15-16-1CHZ Production.png10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Thunder 5-64 15-16-1CHZ** 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 28 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 Ft. Lupton

The Road to Excellence Starts with Safety

Sold To #: 306116		Ship To #: 3863325		Quote #: 0022459317		Sales Order #: 0904952226				
Customer: TRUE OIL LLC				Customer Rep: MARK STONER						
Well Name: THUNDER			Well #: 5-64 15-16-1CHZ		API/UWI #: 05-005-07340-00					
Field: WILDCAT		City (SAP): AURORA		County/Parish: ARAPAHOE		State: COLORADO				
Legal Description: NE SE-15-5S-64W-2240FSL-440FEL										
Contractor: TRUE DRLG				Rig/Platform Name/Num: TRUE 33						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307				Srv Supervisor: Vitali Neverdasov						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		17983ft		Job Depth TVD		7815				
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		9.625	8.921	36	LTC	J-55	0	2141	0	2141
Casing	0	5.5	4.778	20	GB CD	P-110	0	17983	0	7815
Open Hole Section			8.5				2142	17991	2141	7815
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	N/A	17983		Bottom Plug	5.5	0	N/A	
Float Collar	5.5	1	N/A	17957		SSR plug set	5.5			
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5	195	N/A	
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	Tuned Spacer III	Tuned Spacer III	60	bbl	12	3.16		4		
0.60 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)								
0.1250 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)								
176.58 lbm/bbl		BARITE, BULK (100003681)								

35.35 gal/bbl		FRESH WATER							
0.60 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 (Cap)	ELASTICEM (TM) SYSTEM	370	sack	13.2	1.573		8	7.52
0.90 %		SCR-100 (100003749)							
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	ElastiCem (Super CBL)	ELASTICEM (TM) SYSTEM	730	sack	13.2	1.573		8	7.54
0.40 %		SCR-100 (100003749)							
0.25 lbm		POLY-E-FLAKE (101216940)							
0.10 %		SUPER CBL, 50 LB PAIL (100003668)							
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	NeoCem	NeoCem TM	1485	sack	13.2	2.036		8	9.71
0.08 %		SCR-100 (100003749)							
9.71 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
5	MMCR Displacement	MMCR Displacement	20	bbl	8.4			8	
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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
6	Displacement Fluid	Displacement Fluid	378	bbl	8.4			8	
0.25 gal/Mgal		CLA-WEB - BULK (101985043)							
0.15 lbm/Mgal		BE-6, 48 LB FIBER DRUM (100003800)							
Cement Left In Pipe	Amount	26 ft			Reason			Shoe Joint	

Comment : ESTIMATED TOP OF TAIL @ 4760'. TOP OF LEAD 2 @ 112'. CEMENT TO SURFACE 28 BBLS.
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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	Arrive at Location from Service Center	Arrive at Location from Service Center	7/2/2018	01:30:00	USER				47 MILES. Discussed numbers and job procedures with Customer. RIG IS RUNNING CASING. BROUGHT CEMENT HEAD AND MANIFOLD FOR RIG TO CIRCULATE THRU.
Event	2	Call Out	Call Out	7/2/2018	07:00:00	USER				CEMENT CREW @ 14:00
Event	3	Casing on Bottom	Casing on Bottom	7/2/2018	11:15:00	USER				CASING LANDED.
Event	4	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	7/2/2018	13:30:00	USER				JSA to discuss the hazards of rig-up
Event	5	Rig-Up Equipment	Rig-Up Equipment	7/2/2018	13:35:00	USER				Rig-up all surface lines and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/2/2018	15:15:00	USER	8.41	0.00	1.00	With all essential personnel, to discuss the hazards of pumping the job, and pump schedule.
Event	7	Start Job	Start Job	7/2/2018	15:38:55	COM4	8.43	0.00	2.00	
Event	8	Pump Spacer	Pump Spacer	7/2/2018	15:57:00	USER	11.92	3.20	139.00	BATCH/ WEIGH/PUMP 60 BBLS OF TUNED SPACER WITH SURFACTANS @ 12 PPG
Event	9	Check Weight	Check Weight	7/2/2018	16:07:21	COM4	11.95	4.00	79.00	
Event	10	Pump Cap Cement	Pump Cap Cement	7/2/2018	16:12:00	USER	13.23	5.90	193.00	BATCH/ WEIGHT PUMP 370 SKS (103.5 BBLS) OF ELASTICEM NO CBL @ 13.2 PPG

Event	11	Pump Lead Cement	Pump Lead Cement	7/2/2018	16:20:00	USER	13.04	6.00	186.00	BATCH/ WEIGHT/ PUMP 730 SKS (204.1 BBLS) OF ELASTICEM WITH CBL @ 13.2 PPG.
Event	12	Check Weight	Check Weight	7/2/2018	16:24:05	COM4	13.22	8.00	302.00	
Event	13	Pump Tail Cement	Pump Tail Cement	7/2/2018	16:58:00	USER	13.17	7.00	261.00	WEIGH/ PUMP 1485 SKS (539.5 BBLS) OF NEOCEM @ 13.2 PPG
Event	14	Shutdown	Shutdown	7/2/2018	18:11:00	USER	5.35	0.00	27.00	WASH/ PUMPS AND LINES
Event	15	Drop Top Plug	Drop Top Plug	7/2/2018	18:24:00	USER	8.31	0.00	18.00	loaded top plug in plug container.
Event	16	Pump Displacement	Pump Displacement - Start	7/2/2018	18:26:00	USER	8.29	8.00	131.00	399.2 bbls fresh water. FIRST 20 BBLS WITH 10 GAL MMCR. REST OF DISPLACEMENT WITH CLA WEB AND BE 3.
Event	17	Slow Rate	Slow Rate	7/2/2018	19:16:00	USER	8.51	7.90	2738.00	SLOW RATE TO 3 BPM
Event	18	Bump Plug	Bump Plug	7/2/2018	19:23:00	USER	8.50	0.00	3028.00	BUMP PLUG @ 3037 PSI. 500 psi over final circulating pressure.
Event	19	Check Floats	Check Floats	7/2/2018	19:28:00	USER	8.47	0.00	1.00	Floats held. 4.5 bbls back
Event	20	End Job	End Job	7/2/2018	19:28:16	COM4	8.47	0.00	1.00	
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/2/2018	19:35:00	USER	8.45	0.00	1.00	JSA to discuss the hazards of rig-down

3.0 Attachments

3.1 Thunder 5-64 15-16-1CHZ Production.png

