

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America

Extraction Mickey 12

Production

Job Date: Saturday, January 07, 2017

Sincerely,

Derek Trier

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Table of Contents

1.0 Cementing Job Summary 4

 1.1 Executive Summary4

2.0 Real-Time Job Summary 7

 2.1 Job Event Log7

3.0 Attachments..... 9

 3.1 Case 1-Custom Results (3).png9

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Mickey 12** 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 bbl spacer and 60 bbl cement back. Bumped 15 bbl early.

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]

Sold To #: 369404		Ship To #: 3766594		Quote #:		Sales Order #: 0903760471				
Customer: EXTRACTION OIL & GAS				Customer Rep:						
Well Name: MICKEY			Well #: 12		API/UWI #: 05-123-43845-00					
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO				
Legal Description: SW NE-5-6N-67W-2422FNL-1933FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Nathaniel Moore						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		17365ft		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		9.625	8.921	36			0	1550		1550
Casing		5.5	4.778	20			0	17345	0	7600
Open Hole Section			7.875				1550	17365	1550	7600
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5		HES	
Float Shoe	5.5			17345		Bottom Plug	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	3.74		6		
149.34 lbm/bbl		BARITE, BULK (100003681)								
35.40 gal/bbl		FRESH WATER								
0.30 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.30 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	ElastiCemW/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		5	7.48
7.48 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	ElastiCem W/ Super CBL	ELASTICEM (TM) SYSTEM	2070	sack	13.2	1.57		5	7.49
7.49 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	Displacement	370	bbl	8.33				
Cement Left In Pipe		Amount	0 ft		Reason			Shoe Joint	

50 bbl spacer and 60 bbl cement back. Bumped 15 bbl early.

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	1/7/2017	20:00:00	USER					Assessed location and determed that extra iron would be required for rig up. OL time 0600. Return to yard to gather equipment and materials
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	1/7/2017	02:00:00	USER					
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	1/7/2017	03:00:00	USER					Spot in and begin rigging up equipment.
Event	4	Other	Meet with customer rep	1/7/2017	07:00:00	USER					Rig up complete. Rig still running casing. TD 17365' 7.875" open hole. TP 17345' 5.5" 17# P-110. Shoe 42'. Surface 1553' 9.625" 36# J-55. MW 9.1 ppg. Water temp 60 degrees PH 7 Chlorides <50 Sulfates <200.
Event	5	Start Job	Start Job	1/7/2017	13:08:23	COM1	-9.00	8.67	0.00	117.20	Fill lines 3 bbl water
Event	6	Test Lines	Test Lines	1/7/2017	13:13:34	COM1	4955.00	8.73	0.00	120.20	500 psi kickout test and 4700 psi pressure test
Event	7	Pump Spacer 1	Pump Spacer 1	1/7/2017	13:27:58	COM1	289.00	11.60	3.00	0.00	50 bbl tuned spacer with surfactant 11.5 ppg 3.74 ft3/sk 23.7 gal/sk
Event	8	Pump Lead Cement	Pump Lead Cement	1/7/2017	13:39:35	COM1	408.00	12.31	5.10	46.80	150 sks without CBL and 2070 sks with CBL 13.2 ppg 1.57 ft3/sk 7.48 gal/sk
Event	9	Check Weight	Check weight	1/7/2017	13:40:36	COM1	701.00	13.45	6.00	5.80	13.2 ppg verified with pressurized scales
Event	10	Check Weight	Check weight	1/7/2017	14:46:12	COM1	639.00	13.29	6.10	333.50	13.2 ppg
Event	11	Shutdown	Shutdown	1/7/2017	15:41:04	COM1	13.00	13.93	0.00	661.10	Wash pumps and lines, blow down iron with rig air.
Event	12	Drop Top Plug	Drop Top Plug	1/7/2017	15:51:28	COM1	3.00	-0.18	0.00	675.70	KLX rupture disc top plug.

Event	13	Pump Displacement	Pump Displacement	1/7/2017	15:51:36	COM1	3.00	-0.11	0.00	675.70	370 bbl water displacement. Calculated was 383.7 bbl.
Event	14	Other	Spacer to surface	1/7/2017	16:26:50	COM1	3134.00	8.27	6.00	274.80	260 bbl into displacement. 15 bbl early
Event	15	Other	Cement to surface	1/7/2017	16:38:03	COM1	3314.00	8.27	6.00	342.70	Cement to surface 310 bbl into displacement. 15 bbl early
Event	16	Bump Plug	Bump Plug	1/7/2017	16:47:00	COM1	2183.00	8.23	0.00	381.30	Bumped plug 15 bbl early, filling high sucking low on displacement tank count. BBL counter was right on. Witnessed plug rupture but it went at 3400 psi instead of the usual 4000. Final circulating pressure was 2900 psi at 4 bpm. Pressured up to 3400 and ruptured disk when bumping plug. Pressure immediately bled off to 2200. Pumped 5 bbl wet shoe and shutdown.
Event	17	Other	Check floats	1/7/2017	16:56:20	COM1	19.00	8.18	0.00	386.90	2.5 bbl back. Floats held
Event	18	End Job	End Job	1/8/2017	17:05:53	COM1	36.00	8.14	0.00	386.90	
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/8/2017	17:10:00	USER	45.00	8.13	0.00	393.20	

3.0 Attachments

3.1 Case 1-Custom Results (3).png

