

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America

Mickey 5

Production

Job Date: Saturday, December 10, 2016

Sincerely,
Derek Trier

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Mickey 5** 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, all spacer and 55bbl of cement 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]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3766617	Quote #:	Sales Order #: 0903708925							
Customer: EXTRACTION OIL & GAS		Customer Rep: Kalyn Holgate								
Well Name: MICKEY	Well #: 5	API/UWI #: 05-123-43855-00								
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO							
Legal Description: SW NE-5-6N-67W-2420FNL-1828FEL										
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 346								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199		Srv Supervisor: Vaughn Oteri								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	17600ft	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	1557		1557
Casing		5.5	4.778	20			0	17585	0	7130
Open Hole Section			7.875				1557	17600	1557	7130
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			17585		Bottom Plug	5.5			
Float Collar	5.5			17583		SSR plug set	5.5			
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5			
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	3.74		4		
Stage/Plug #: 2										
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	
2	ElastiCemW/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		8	7.48	

last updated on 12/29/2016 11:23:34 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/min	Total Mix Fluid Gal
3	ElastiCem W/ Super CBL	ELASTICEM (TM) SYSTEM	2095	sack	13.2	1.57		8	7.49
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	390	bbl	8.33			8	
Cement Left In Pipe		Amount	2 ft		Reason			Shoe Joint	
Comment 55bbl of cement back to surface									

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)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	12/10/2016	13:00:00	USER					Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	12/10/2016	21:00:00	USER					Arrived on location met with company rep to discuss job process and concerns
Event	3	Other	Other	12/10/2016	21:10:00	USER					TD-17600 TP-17585 FC-17583 OH-7 7/8 Surf-1557 Mud9.5 Casing 5.5 20#
Event	4	Start Job	Start Job	12/11/2016	04:44:30	COM4					Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	12/11/2016	05:11:07	COM4	197.00	8.54	0.00	1.0	Pressure tested pumps and lines with fresh water, found single swing was leaking replace and retested found no leaks and pressure held good 4650psi
Event	6	Pump Spacer 1	Pump Spacer 1	12/11/2016	05:20:05	COM4	253.00	8.91	0.80	2.4	Mixed 50bbl of 11.5ppg Tuned spacer III at 4.0bpm 422psi
Event	7	Pump Cement	Pump Cement	12/11/2016	05:35:50	COM4	230.00	13.16	3.90	48.6	Mixed 2245sks or 627bbl of 13.2ppg Y-1.57 G/sk7.48 Elasticem at 8.0bpm 420psi
Event	8	Check Weight	Check weight	12/11/2016	05:37:36	COM4	772.00	13.29	8.10	13.2	Confirmed weight on scales of 13.2ppg
Event	9	Shutdown	Shutdown	12/11/2016	07:02:04	COM4	30.00	13.77	0.00	667.9	
Event	10	Clean Lines	Clean Lines	12/11/2016	07:02:09	COM4	18.00	14.22	0.00	667.9	Washed pumps and lines with fresh water
Event	11	Drop Top Plug	Drop Top Plug	12/11/2016	07:02:13	COM4	12.00	14.29	0.00	667.9	KLX tool hand released plug witnessed by company rep and HES supervisor
Event	12	Pump Displacement	Pump Displacement	12/11/2016	07:10:30	COM4	-6.00	8.26	0.00	0.0	Pumped 390bbl of fresh water to displace

				6						cement	
Event	13	Bump Plug	Bump Plug	12/11/2016	07:57:35	USER	3641.00	8.33	1.60	383.1	Bumped plug 500psi over final pressure
Event	14	Other	Other	12/11/2016	08:00:22	COM4	1944.00	8.26	0.00	388.6	Released pressure back to pump truck to check floats- floats held good 3.0bbl back
Event	15	End Job	End Job	12/11/2016	08:10:50	COM4	27.00	8.27	3.30	405.1	55bbl of cement back to surface

3.0 Attachments

3.1 Case 1-Custom Results.png

