

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Sunday, January 08, 2017

Mickey #7 Production

Job Date: Saturday, December 24, 2016

Sincerely,

Julia Nichols

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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 #7** 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 [Ft. Lupton]

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*Cementing Job Summary**The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3786579		Quote #:		Sales Order #: 0903732627				
Customer: EXTRACTION OIL & GAS						Customer Rep: .				
Well Name: MICKEY			Well #: 7			API/UWI #: 05-123-43857-00				
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO				
Legal Description: SW NE-5-8N-87W-2420FNL-1858FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Nathaniel Moore						
Job										
Job depth MD		17605ft		Job Depth TVD						
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	1551		1551
Casing		5.5	4.778	20			0	17582	0	7200
Open Hole Section			7.875				1551	17605	1551	7200
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5			
Float Shoe	5.5			17582		Bottom Plug	5.5		HES	
Float Collar	5.5			17579		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5		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 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		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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	

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Cementing Job Summary

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	2075	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	390	bbl	8.33				
Cement Left In Pipe		Amount	2 ft		Reason			Shoe Joint	

50 bbl spacer and 50 bbl cement 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)	Comments
Event	1	Call Out	Call Out	12/24/2016	23:00:00	USER				Verify equipment and materials
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	12/24/2016	01:00:00	USER				Journey management with crew
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/24/2016	02:00:00	USER				Spot in and rig up equipment
Event	4	Other	Meet with customer rep	12/24/2016	02:30:00	USER				TD 17605' 7.875" open hole. TP 17582' 5.5" 17# P-110 casing. Float collar 17579'. Surface 1551' 9.625" 36# J-55. Water tested PH 7 Chlorides <50 Sulfates <200 Temp 70.
Event	5	Start Job	Start Job	12/24/2016	07:33:14	COM1	355.00	8.85	2.00	Fill lines 3 bbl water
Event	6	Test Lines	Test Lines	12/24/2016	07:36:33	COM1	3651.00	8.81	0.00	Pressure test to 5000 ps. Had to repeat test to isolate bad LoTorc valve. Removed valve and tested good.
Event	7	Pump Spacer 1	Pump Spacer 1	12/24/2016	08:13:48	COM1	330.00	11.43	2.10	50 bbl tuned spacer with surfactants. 11.5 ppg 3.74 ft3/sk 23.7 gal/sk
Event	8	Pump Lead Cement	Pump Lead Cement	12/24/2016	08:24:20	COM1	563.00	12.49	4.70	150 sks/42 bbl 13.2 ppg 1.57 ft3/sk 7.48 gal/sk
Event	9	Check Weight	Check weight	12/24/2016	08:31:07	COM1	417.00	13.25	4.90	Cement verified at 13.2 ppg with pressurized scales.
Event	10	Pump Tail Cement	Pump Tail Cement	12/24/2016	08:33:21	COM1	297.00	13.17	4.90	2075sks/580 bbl 13.2 ppg 1.57 ft3/sk 7.48 gal/sk
Event	11	Drop Top Plug	Drop Top Plug	12/24/2016	10:11:40	COM1	6.00	8.75	2.20	KLX rupture disk top plug. Witnessed by company rep and KLX rep.
Event	12	Pump Displacement	Pump Displacement	12/24/2016	10:15:07	COM1	2.00	5.88	0.00	390 bbl water displacement.
Event	13	Other	Spacer to surface	12/24/2016	10:50:56	COM1	3170.00	8.09	6.00	270 bbl into displacement. 50 bbl spacer back
Event	14	Other	Cement to surface	12/24/2016	11:04:26	COM1	3152.00	8.09	5.20	340 bbl into displacement. 50 bbl cement back.
Event	15	Bump Plug	Bump Plug	12/24/2016	11:14:41	COM1	3270.00	8.09	0.00	3050 psi final circulating pressure. Pressured up to 3500 psi.

Event	16	Other	Rupture Disk	12/24/2016	11:15:11	USER	3369.00	8.10	1.80	Ruptured at 4120 psi. Pump 5 bbl wet shoe
Event	17	Other	Check floats	12/24/2016	11:17:31	COM1	2298.00	8.05	0.00	4.5 bbl back. Floats held
Event	18	End Job	End Job	12/24/2016	11:20:50	COM1				
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/24/2016	11:25:00	USER				
Event	20	Depart Location Safety Meeting	Depart Location Safety Meeting	12/24/2016	13:00:00	USER				

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

