

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Monday, January 29, 2018

Cox 5 Production

Job Date: Saturday, January 27, 2018

Sincerely,

Bryce Hinsch

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Cox 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 70 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 #: 3681218	Quote #:	Sales Order #: 0904572839
Customer: EXTRACTION OIL & GAS		Customer Rep: Larry Siegel	
Well Name: COX	Well #: 5	API/UWI #: 05-123-41935-00	
Field: WILDCAT	City (SAP): KEOTA	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-22-12N-64W-882FNL-2233FWL			
Contractor:		Rig/Platform Name/Num: Patterson 901	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Nicholas Roles	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST 230 degF
Job depth MD	18988ft		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	0	9.625	8.921	36		J-55	0	1743	0	1743
Casing	0	5.5	4.778	20		P-110	0	18988	0	8050
Open Hole Section			8.5				1743	19008	1743	8050

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			18988	Bottom Plug	5.5		HES
Float Collar	5.5				SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5	1	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 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	3.73		5		
149.34 lbm/bbl		BARITE, BULK (100003681)								
35 gal/bbl		FRESH WATER								

0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.50 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	ELASTICEM (TM) SYSTEM	3100	sack	13.2	1.57		8	7.53	
0.55 %		SCR-100 (100003749)								
7.53 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	Displacement	Displacement	421	bbl	8.34			10		
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe		
Comment Got 70bbbls 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 <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	1/27/2018	06:00:00	USER					Called out by Service Coordinator for O/L at 1200
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	1/27/2018	08:45:00	USER					Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	1/27/2018	09:00:00	USER					Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	1/27/2018	11:00:00	USER					Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/27/2018	12:00:00	USER					Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	1/27/2018	12:30:00	USER					Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/27/2018	15:00:00	USER	9.06	0.00	-19.00	23.1	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	1/27/2018	15:39:37	COM4	7.60	0.00	-2.00	0.0	TD-19008', TP-18988' 5.5" 20#, FC-18983', TVD-8050', SURF-1743' 9.625" 36#, MUD 9.0.#
Event	9	Test Lines	Test Lines	1/27/2018	15:42:28	COM4	8.31	0.00	15.00	3.1	Pumped 5bbls fresh water

											to fill lines at 2bpm 110psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1543psi, proceeded to bring pressure to 5000psi, held well and no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	1/27/2018	15:48:48	COM4	8.25	0.00	15.00	0.0	Pumped 50bbbls of 11.5# 3.78y 23.8g/s Tuned Spacer III with 25g Musol A, 25g Dual Spacer B and 10g D-air at 5bpm 280psi.
Event	11	Pump Cement	Pump Cement	1/27/2018	16:01:17	COM4	12.08	1.40	7.00	0.0	Pumped 3100sks or 867bbbls of 13.2# 1.57y 7.53g/s Elasticem at 8bpm 450psi.
Event	12	Check Weight	Check weight	1/27/2018	16:03:45	COM4	13.25	8.00	388.00	18.5	Weight verified with pressurized mud scales.
Event	13	Check Weight	Check weight	1/27/2018	16:22:18	COM4	13.23	7.60	364.00	152.4	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check weight	1/27/2018	17:13:29	COM4	12.98	7.10	306.00	503.8	Weight verified with pressurized mud scales.
Event	15	Check Weight	Check weight	1/27/2018	17:45:17	COM4	13.13	7.70	359.00	733.7	Weight verified with pressurized mud scales.
Event	16	Shutdown	Shutdown	1/27/2018	18:13:41	COM4	14.30	0.00	15.00	917.4	Rig blew air through lines to pits, followed with 5bbbls fresh water through pumps.
Event	17	Drop Top Plug	Drop Top Plug	1/27/2018	18:22:37	COM4					Dropped by KLX tool hand, witnessed by company man and HES supervisor.
Event	18	Pump Displacement	Pump Displacement	1/27/2018	18:22:40	COM4					Pumped 421bbbls fresh water at 10bpm.
Event	19	Bump Plug	Bump Plug	1/27/2018	19:16:13	COM4					Slowed down at 390bbbls away to 5bpm, final circulating pressure-

												2650psi. Bump pressure-3000psi.
Event	20	Pressure Up Well	Pressure Up Well	1/27/2018	19:17:30	USER	8.43	0.00	3896.00	427.4		Pressured up @ 2bpm to burst plug at 3896psi, continued to pump 5bbls at 5bpm 2720psi.
Event	21	Check Floats	Check Floats	1/27/2018	19:19:43	USER	8.37	0.00	2126.00	432.7		Released pressure and got 3bbls back. Floats held.
Event	22	End Job	End Job	1/27/2018	19:22:02	COM4	8.32	0.00	4.00	0.0		Got 70bbls Cement to surface.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/27/2018	19:25:00	USER	8.32	0.00	4.00	0.0		Discussed rigging down hazards and procedure according to HMS.
Event	24	Depart Location Safety Meeting	Depart Location Safety Meeting	1/27/2018	20:45:00	USER						Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	1/27/2018	21:00:00	USER						Pre journey management prior to departure.

3.0 Attachments

3.1 Extraction Cox 5 Production Job Chart

