

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

United States of America

### **Hester Farms E-36HC**

Production

Job Date: Friday, December 09, 2016

Sincerely,

**Derek Trier**

## Legal Notice

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Hester Farms E-36HC** 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 51bbl 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]**

Sold To #: 369404		Ship To #: 3684140		Quote #:		Sales Order #: 0903710144	
Customer: EXTRACTION OIL & GAS				Customer Rep: Jose Torres			
Well Name: HESTER FARMS			Well #: E-36HC		API/UWI #: 05-123-41997-00		
Field: WATTENBERG		City (SAP): EATON		County/Parish: WELD		State: COLORADO	
Legal Description: 31-7N-66W-1649FNL-202FWL							
Contractor: CYCLONE				Rig/Platform Name/Num: CYCLONE 37			
Job BOM: 7523							
Well Type: HORIZONTAL OIL							
Sales Person: HALAMERICA\HX38199				Srcv Supervisor: Nicholas Roles			
<b>Job</b>							

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	12078ft		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	1565	0	1565
Casing		5.5	4.778	20			0	12078	0	7370
Open Hole Section			8.5				1565	12094	1565	7370

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			12078		Bottom Plug	5.5		HES
Float Collar	5.5			12073		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 ft/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		5		
	0.30 gal/bbl	<b>MUSOL A, 330 GAL TOTE - (790828)</b>								
	36.09 gal/bbl	<b>FRESH WATER</b>								
	0.30 gal/bbl	<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>								

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 W/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		7	7.48	
7.48 Gal		<b>FRESH WATER</b>								
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	ELASTICEM (TM) SYSTEM	1800	sack	13.2	1.573		8	7.49	
7.49 Gal		<b>FRESH WATER</b>								
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	266.8	bbl	8.33			8		
Cement Left In Pipe		Amount	0 ft		Reason			<b>WET SHOE</b>		
<b>Comment</b> Got 51bbls cement back										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	12/9/2016	05:30:00	USER					Crew call out for o/l at 1100
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/9/2016	09:45:00	USER					all crew aware of hazards and directions. all fit to drive.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	12/9/2016	10:00:00	USER					Met with company man to discuss job details and procedure. Performed hazard hunt and site assessment. Rig had 2000' left to run.
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/9/2016	10:15:00	USER					All hse present. Discussed bulk and iron placement and all red zone areas. Caution taped high pressure zones.
Event	5	Other	Other	12/9/2016	12:00:00	USER					Water Test- PH-5 Chlo-0 Temp-45. Rig had steam rigged up but boiler went down. Got working again and steam on tank.
Event	6	Start Job	Start Job	12/9/2016	14:33:43	COM2	0.00	8.26	6.00	0.00	TD-12094', TP-12078' 5.5" 20#, FC-12073', TVD-7370', SURF-1565' 9.625" 36#, OH-8.5", MUD-9.7#
Event	7	Prime Pumps	Prime Pumps	12/9/2016	14:33:52	COM2	0.00	8.26	6.00	0.00	
Event	8	Test Lines	Test Lines	12/9/2016	14:37:57	COM2	0.00	8.24	24.00	3.30	Filled lines with 5bbls fresh water, shutdown, closed 2" valves and performed 500psi k/o test. Continued to bring pressure up to 4800psi. Held good and no leaks.
Event	9	Pump Spacer 1	Pump Spacer 1	12/9/2016	14:49:08	COM2	1.50	10.48	101.00	0.90	Pumped 50bbls of 11.5ppg 3.74y 23.7g/s Tuned Spacer III at 5bpm 260psi. With 15G of Musol A and 15G of Dual Spacer B and 10G D-Air.
Event	10	Check Weight	Check Weight	12/9/2016	14:54:08	USER	5.00	11.47	218.00	24.40	Weight verified by pressurized mud scales.

Event	11	Pump Lead Cement	Pump Lead Cement	12/9/2016	14:59:20	COM2	5.00	13.03	189.00	0.00	Pumped 150sks or 42bbbls of 13.2ppg 1.57y 7.48g/s Elasticem w/o CBL at 7bpm 330psi.
Event	12	Check Weight	Check Weight	12/9/2016	15:00:20	USER	5.00	13.28	198.00	5.10	Weight verified by pressurized mud scales.
Event	13	Pump Tail Cement	Pump Tail Cement	12/9/2016	15:08:20	COM2	7.00	13.37	323.00	56.60	Pumped 1800sks or 503 bbls of 13.2ppg 1.57y 7.49g/s Elasticem w/CBL at 8bpm 500psi.
Event	14	Check Weight	Check Weight	12/9/2016	15:11:47	USER	7.00	13.33	315.00	24.00	Weight verified by pressurized mud scales.
Event	15	Check Weight	Check Weight	12/9/2016	15:21:02	USER	7.00	13.32	317.00	88.40	Weight verified by pressurized mud scales.
Event	16	Check Weight	Check Weight	12/9/2016	15:33:01	USER	7.50	13.27	344.00	170.70	Weight verified by pressurized mud scales.
Event	17	Standby - Other - see comments	Standby - Other - see comments	12/9/2016	15:49:01	USER					Flecs was accidentally turned off so we shutdown pumps. Restarted Flecs and continued to pump. had close to 300bbbls gone at the time.
Event	18	Start Job	Start Job	12/9/2016	15:50:56	COM2	1.10	13.36	142.00	0.30	
Event	19	Check Weight	Check Weight	12/9/2016	16:16:02	USER	7.00	13.29	438.00	169.30	Weight verified by pressurized mud scales.
Event	20	Shutdown	Shutdown	12/9/2016	16:27:57	COM2	0.00	14.30	154.00	248.50	Shutdown pumps and rig blew air through cement lines and cleaned out with 5bbbls fresh water to pits.
Event	21	Drop Top Plug	Drop Top Plug	12/9/2016	16:34:18	COM2	0.00	7.99	110.00	0.00	Dropped by tool hand and witnessed by HSE supervisor and company man.
Event	22	Pump Displacement	Pump Displacement	12/9/2016	16:34:25	COM2	0.00	8.03	109.00	0.00	Pumped 266.8bbbls fresh water at 8bpm 2200psi.
Event	23	Bump Plug	Bump Plug	12/10/2016	17:14:05	COM2	0.00	8.39	2749.00	278.00	Slowed down to 5bpm 20bbbls out and bumped at calculated. Final circulating-2600psi Bump-2980psi. held for 3min.
Event	24	Standby - Other - see comments	Standby - Other - see comments	12/10/2016	17:15:18	USER	2.00	8.41	4212.00	279.40	Once pressure held, brought up to 4289psi to burst disc. pumped at 2bpm.
Event	25	Standby - Other - see comments	Standby - Other - see comments	12/10/2016	17:17:28	USER	0.00	8.37	2152.00	284.90	Check floats- released pressure and got 2bbbls back to truck.
Event	26	End Job	End Job	12/10/2016	17:19:42	COM2					Got spacer back at 180bbbls gone and cement back at 220bbbls gone. total of

										51bbls back with wet shoe calculated. f	
Event	27	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	12/10/2016	17:30:00	USER	0.00	8.36	1.00	0.00	All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	28	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/10/2016	19:30:00	USER					All HSE present and fit to drive. Aware of directions and hazards.
Event	29	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	12/10/2016	20:00:00	USER					Pre journey managment prior to departure.

## 3.0 Attachments

### 3.1 Cyclone 37 Hester Farms E-36HC -Custom Results.png



3.2 Cyclone 37 Hester Farms E-36HC -Custom Results (1).png

