

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Monday, July 03, 2017

CS-Bittersweet 3-1-13 Production

Job Date: Thursday, June 29, 2017

Sincerely,

Julia Nichols

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **CS-Bittersweet 3-1-13** 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 45 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 #: 3727498	Quote #:	Sales Order #: 0904124569							
Customer: EXTRACTION OIL & GAS		Customer Rep: Kalyn Holgate								
Well Name: CS-BITTERSWEET	Well #: 3-1-13	API/UWI #: 05-123-42937-00								
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO							
Legal Description: SW SE-36-6N-66W-341FSL-2083FEL										
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 341								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Vaughn Oteri								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	21030ft	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	1587	0	1587
Casing		5.5	4.67	23			0	21012	0	7135
Open Hole Section			8.5				1587	21030	1590	7135
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			21012		Bottom Plug	5.5			
Float Collar	5.5			21007		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	3.78		5		
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	ElastiCem	ELASTICEM (TM) SYSTEM	3250	sack	13.2	1.57		5	7.53	

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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	Displacement	Displacement	444	bbl	8.33			8	
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Comment 45bbl of cement back to surface									

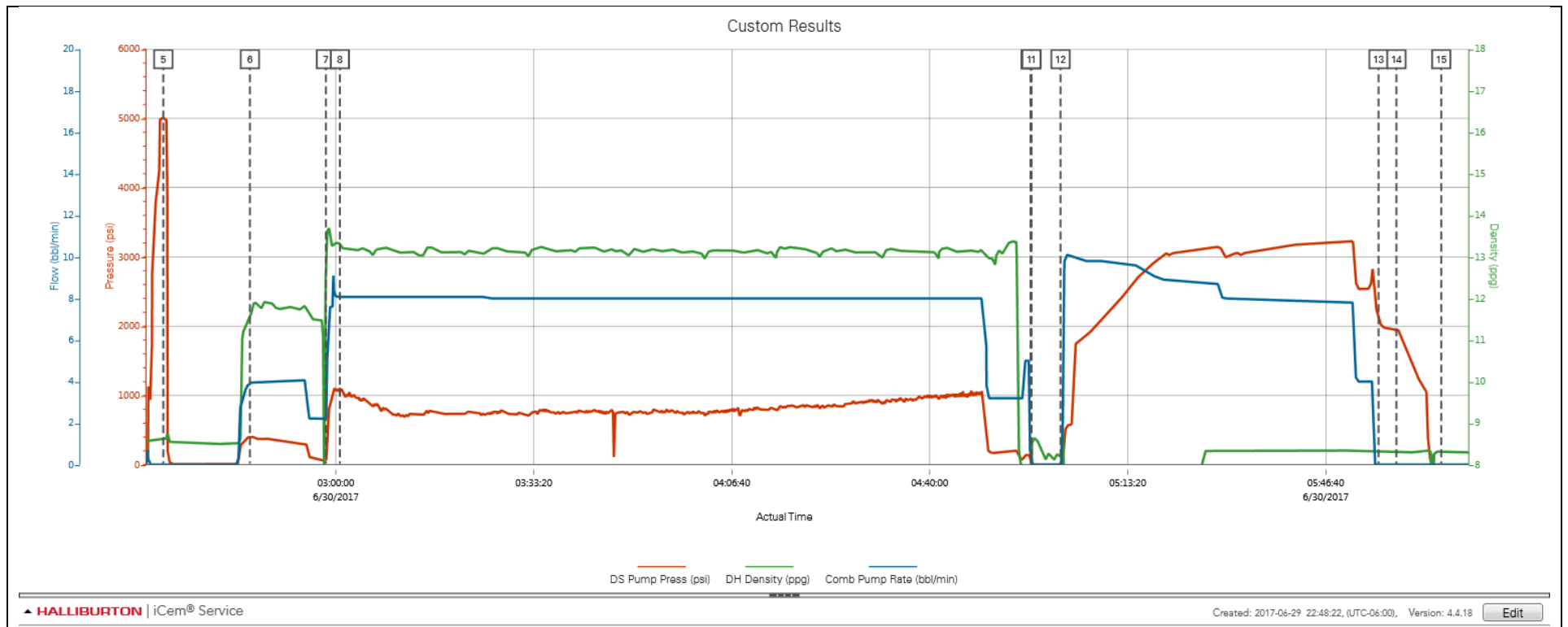
2.0 Real-Time Job Summary

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)	Comments
Event	1	Call Out	Call Out	6/29/2017	14:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	6/29/2017	21:00:00	USER				Arrived on location met with company rep to discuss job process and concerns
Event	3	Other	Other	6/29/2017	21:10:10	USER				TD-21030 TP-21012 FC-21007 Surf-1587 Mud-9.9ppg Casing 5.5 20#
Event	4	Start Job	Start Job	6/30/2017	02:22:40	COM4	0.00	8.49	0.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	6/30/2017	02:30:57	COM4	5004.00	8.63	0.00	Pressure tested pumps and lines with fresh water 5010psi, pressure held good no leaks found
Event	6	Pump Spacer 1	Pump Spacer 1	6/30/2017	02:45:32	COM4	396.00	11.57	3.90	Mixed 50bbl of 11.5ppg Tuned spacer III at 4.0bpm 401psi
Event	7	Pump Cement	Pump Cement	6/30/2017	02:58:20	COM4	59.00	12.69	2.20	Mixed 3250sks or 908bbl of 13.2ppg Y-1.57 G/sk 7.53 Elasticem at 8.0bpm 786psi
Event	8	Check Weight	Check weight	6/30/2017	03:00:41	COM4	1114.00	13.25	8.10	Confirmed weight on scales of 13.2ppg
Event	9	Shutdown	Shutdown	6/30/2017	04:56:58	COM4	57.00	3.16	0.00	
Event	10	Clean Lines	Clean Lines	6/30/2017	04:57:02	COM4	34.00	0.77	0.00	Washed pumps and lines with fresh water
Event	11	Drop Top Plug	Drop Top Plug	6/30/2017	04:57:07	COM4	16.00	6.71	0.00	KLX tool hand released plug witnessed by company rep and HES supervisor
Event	12	Pump Displacement	Pump Displacement	6/30/2017	05:02:01	COM4	-5.00	8.20	0.00	Pumped 444bbl of fresh water to displace cement
Event	13	Bump Plug	Bump Plug	6/30/2017	05:55:33	COM4	2096.00	8.32	0.00	Bumped plug 500 psi over final pump pressure
Event	14	Other	Other	6/30/2017	05:58:34	COM4	1949.00	8.31	0.00	Released pressure back to pump truck to check floats , floats held good 8.0bbl back
Event	15	End Job	End Job	6/30/2017	06:06:07	COM4	-10.00	8.31	0.00	45bbl of cement back to surface

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

