

HALLIBURTON

iCem[®] Service

SRC ENERGY INC-EBUS

Date: Sunday, June 03, 2018

HARVESTERS STATE 5N-16C-M Production

Job Date: Tuesday, May 22, 2018

Sincerely,
Tyler Hill

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 **Harvesters State 5N-16C-M** 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 20 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 Ft. Lupton

The Road to Excellence Starts with Safety

Sold To #: 359915	Ship To #: 3858750	Quote #:	Sales Order #: 0904868355
Customer: SRC ENERGY INC-EBUS		Customer Rep: Lovel Young	
Well Name: HARVESTERS STATE		Well #: 5N-16C-M	API/UWI #: 05-123-46376-00
Field: WATTENBERG	City (SAP): LUCERNE	County/Parish: WELD	State: COLORADO
Legal Description: SW NE-15-6N-66W-1753FNL-2334FEL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		Srvc Supervisor: Nicholas Roles	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	15033ft		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	LTC	J-55	0	1802		1802
Casing		5.5	4.778	20	BTC	P-110	0	15033	0	7126
Open Hole Section			8.5				1802	15045	1802	7126

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			15033	Top Plug	5.5	1	WTHFRD
Float Shoe	5.5				Bottom Plug	5.5	1	WTHFRD
WS SUB	5.5			14926		5.5		
	5.5				Plug Container	5.5	1	HES
	5.5				Centralizers	5.5		

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	Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.8		5		
	147.42 lbm/bbl	BARITE, BULK (100003681)								
	35.10 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 LEAD	ELASTICEM (TM) SYSTEM	1037	sack	13.2	1.57		8	7.54
0.15 %		FE-2 (100001615)							
0.30 %		SCR-100 (100003749)							
7.54 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	NeoCem	NeoCem TM	986	sack	13.2	2.04		8	9.77
9.77 Gal		FRESH WATER							
0.08 %		SCR-100 (100003749)							
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	Water	Water	331	bbl	8.33			10	
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe	
Mix Water:	pH 6	Mix Water Chloride:	500 ppm		Mix Water Temperature:			60 °F °C	
Cement Temperature:	65 °F °C	Plug Displaced by:	8.33 lb/gal kg/m3		Disp. Temperature:			60 °F °C	
Plug Bumped?	Yes	Bump Pressure:	3270 psi MPa		Floats Held?			Yes	
Cement Returns:	20 bbl	Returns Density:	## lb/gal kg/m3		Returns Temperature:			## °F °C	
Comment Got 20bbls cement to surface. Estimated TOT-6170'									

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>	Comments
Event	1	Call Out	Call Out	5/21/2018	21:00:00	USER				Called out by Service Coordinator for O/L at 0200
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/21/2018	23:45:00	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	5/22/2018	00:00:00	USER				Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/22/2018	01:00:00	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	5/22/2018	01:15:00	USER				Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	5/22/2018	01:45:00	USER				Water test- PH-6, Chlor-0, Temp-85.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/22/2018	04:00:00	USER	8.54	0.00	0.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	5/22/2018	04:38:30	COM4	8.53	0.00	0.00	TD-15045', TP-15033' 5.5" 20#, WS Sub-14926', TVD-7126', OH-8.5", SURF-1802' 9.625" 36#, MUD-9.5#
Event	9	Test Lines	Test Lines	5/22/2018	04:41:30	COM4	8.44	0.00	52.00	Pumped 5bbls fresh water

										to fill lines, closed manifold and performed 500psi k/o function test, proceeded to perform 5th gear stall at 1452psi, continued to bring pressure up to 6000psi.
Event	10	Standby - Other - see comments	Standby - Other - see comments	5/22/2018	04:51:16	USER	8.41	0.00	2.00	During pressure test we noticed pressure bleeding off beyond standards. Solved problem by switching out a 1" lo-torc on pump. Pressure stabilized and held with no leaks
Event	11	Pump Spacer 1	Pump Spacer 1	5/22/2018	04:55:49	COM4	8.45	1.40	105.00	Pumped 40bbls 11.5# 3.8y 23.8g/s Tuned Spacer III with 20g Musol A, 20g Dual Spacer B and 10g D-Air at 5bpm 305psi.
Event	12	Drop Bottom Plug	Drop Bottom Plug	5/22/2018	05:04:29	COM4	12.46	6.00	398.00	Dropped by HES supervisor, witnessed by company man.
Event	13	Pump Lead Cement	Pump Lead Cement	5/22/2018	05:04:31	COM4	12.52	5.90	403.00	Pumped 1037sks or 290bbls 13.2# 1.57y 7.54g/s Elasticem at 8bpm 400psi.
Event	14	Check Weight	Check Weight	5/22/2018	05:06:09	COM4	13.38	5.90	408.00	Weight verified with pressurized mud scales.
Event	15	Check Weight	Check Weight	5/22/2018	05:34:58	COM4	13.23	8.00	411.00	Weight verified with pressurized mud scales.
Event	16	Pump Tail Cement	Pump Tail Cement	5/22/2018	05:43:52	COM4	13.00	8.00	381.00	Pumped 986sks or 358bbls 13.2# 2.04y 9.77g/s Neocem at 8bpm 475psi.
Event	17	Check Weight	Check Weight	5/22/2018	05:46:15	COM4	13.17	8.00	604.00	Weight verified with pressurized mud scales.
Event	18	Check Weight	Check Weight	5/22/2018	06:27:56	COM4	13.19	8.30	726.00	Weight verified with pressurized mud scales.
Event	19	Shutdown	Shutdown	5/22/2018	06:32:39	COM4	13.14	0.00	33.00	Pumped 5bbls fresh water

										to clean through pumps and lines.
Event	20	Drop Top Plug	Drop Top Plug	5/22/2018	06:41:48	COM4	8.17	0.00	-6.00	Dropped by HES supervisor, witnessed by company man.
Event	21	Pump Displacement	Pump Displacement	5/22/2018	06:41:50	COM4	8.17	0.00	-6.00	Pumped 331bbbls fresh water with 5g MMCR in first 10bbbls, 15g MMCR in the last 70bbbls, 20g clayweb and 3# biocide throughout.
Event	22	Bump Plug	Bump Plug	5/22/2018	07:29:16	COM4	8.37	0.00	3255.00	Slowed down to 4bpm at 310bbbls away, final circulating pressure-2750psi, bump pressure-3270psi.
Event	23	Pressure Up Well	Pressure Up Well	5/22/2018	07:30:01	COM4	8.37	0.00	3265.00	Pumped fresh water to sheer at 5100psi, continued to pump 6bbbls fresh water at 4bpm 2730psi.
Event	24	Check Floats	Check Floats	5/22/2018	07:33:53	USER	8.35	0.00	2226.00	Released pressure and got 2.5bbbls back to pump. Floats held.
Event	25	End Job	End Job	5/22/2018	07:35:39	COM4	8.33	0.00	1.00	Got 20bbbls cement to surface. Estimated TOT-6170'
Event	26	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	5/22/2018	07:40:00	USER	8.32	0.00	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	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/22/2018	09:00:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	28	Depart Location for	Depart Location for	5/22/2018	09:15:00	USER				Pre journey management

Service Center or Other
Site

Service Center or Other
Site

prior to departure.

3.0 Attachments

3.1 HARVESTERS STATE 5N-16C-M Production.png

