

HALLIBURTON

iCem[®] Service

SRC ENERGY INC-EBUS

Date: Thursday, June 14, 2018

Harvesters State 32N-16C-M Production

Job Date: Wednesday, May 30, 2018

Sincerely,

Julia Nichols

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

Cementing Job SummaryError! Bookmark not defined.

 Executive SummaryError! Bookmark not defined.

Real-Time Job SummaryError! Bookmark not defined.

 Job Event Log.....Error! Bookmark not defined.

Attachments..... 10

 Harvesters tStae 32N-16C-M-Custom Results (1).pngError! Bookmark not defined.

 Harvesters State 32N-16C-M-Custom Results.pngError! Bookmark not defined.

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Harvesters State 32N-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 18 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 [Fort Lupton]

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 359915	Ship To #: 3858944	Quote #:	Sales Order #: 0904884670							
Customer: SRC ENERGY INC-EBUS		Customer Rep: Tony Parshall								
Well Name: HARVESTERS STATE	Well #: 32N-16C-M	API/UWI #: 05-123-46360-00								
Field: WATTENBERG	City (SAP): LUCERNE	County/Parish: WELD	State: COLORADO							
Legal Description: SW NE-15-8N-86W-1813FNL-2335FEL										
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307		Srvc Supervisor: Adam Covington								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	15008ft	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	38	LTC	J-55	0	1832		0
Casing		5.5	4.778	20	BTC	P-110	0	15008	0	0
Open Hole Section			8.5				1832	15020	0	7108
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5				Top Plug	5.5	1			
Float Shoe	5.5			15008	Bottom Plug	5.5	1			
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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.8		6		
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)								

HALLIBURTON

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
2	ElastiCem LEAD	ELASTICEM (TM) SYSTEM	1045	sack	13.2	1.57		6	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	988	sack	13.2	2.04		4	9.77
9.71 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	330	bbl	8.33				

2.0 Real-Time Job Summary

2.1 Job Event Log

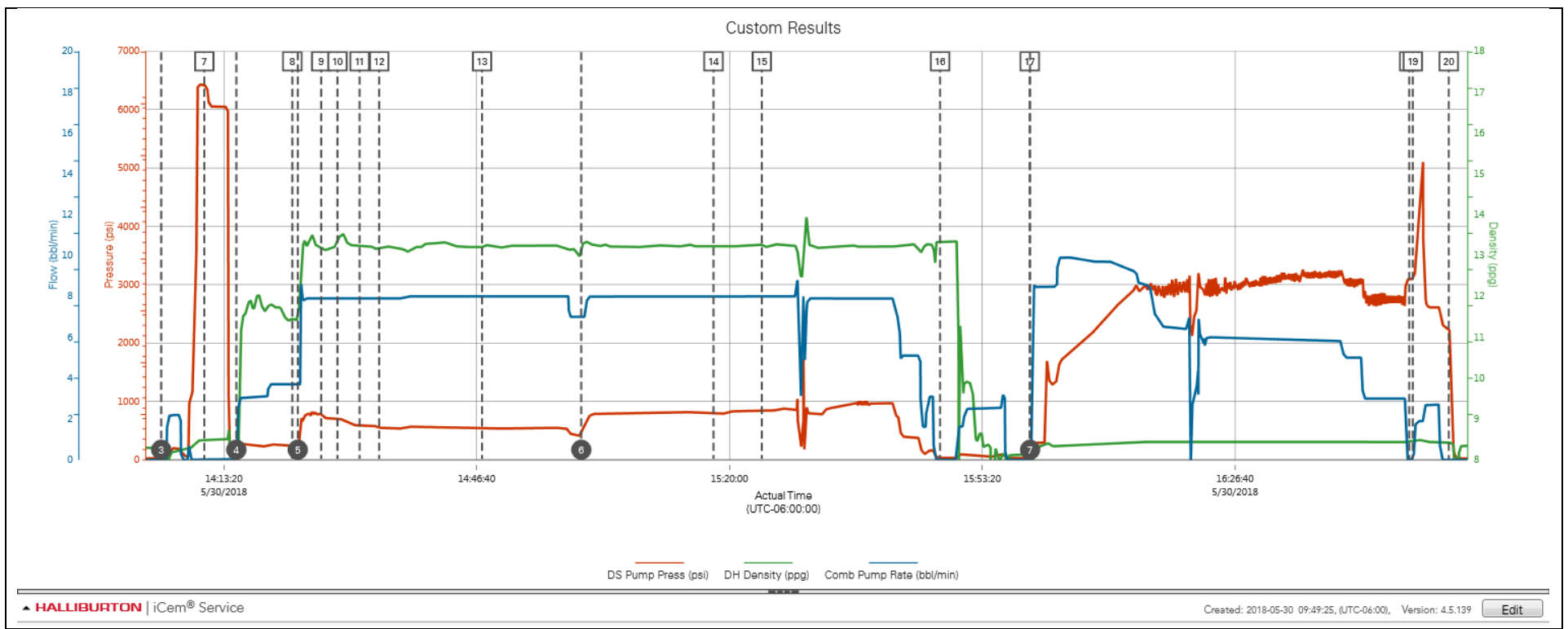
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	5/30/2018	03:30:00	USER				CALLED OUT BY SERVICE COORDINATOR FOR O/L AT 0930
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/30/2018	07:20:00	USER				HELD MEETING WITH ALL HES EMPLOYEES IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	3	Depart Shop for Location	Depart Shop for Location	5/30/2018	07:30:00	USER				JOURNEY MANAGEMENT PRIOR TO DEPARTURE
Event	4	Arrive At Loc	Arrive At Loc	5/30/2018	08:30:00	USER				UPON ARRIVAL MET WITH COMPANY MAN TO DISCUSS JOB DETAILS AND CALCULATIONS, PERFORMED HAZARD HUNT AND SITE ASSESSMENT.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/30/2018	09:40:00	USER				HELD SAFETY MEETING WITH ALL JOB ASSOCIATED PERSONNEL TO DISCUSS JOB PROCEDURE, HAZARDS AND STOP WORK AUTHORITY. Water test- PH-6, Chlor-0, Temp- 65. Cement temp-70.
Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	5/30/2018	13:30:00	USER	19.00	8.31	0.00	DISCUSSED RIGGING UP HAZARDS AND PROCEDURE ACCORDING TO HMS.
Stage	2	Start Job	Start Job	5/30/2018	13:58:53	COM4	21.00	8.30	0.00	FILLED LINES WITH 4 BBLs OF FRESH WATER. 2 BPM, 180 PSI.
Stage	3	Start Job	Start Job	5/30/2018	14:05:03	COM4	23.00	8.29	0.00	
Event	7	Test Lines	Test Lines	5/30/2018	14:10:45	COM4	6414.00	8.50	0.00	PERFORMED A 6,000 PSI PRESSURE TEST, AFTER PERFORMING A 500 KICK OUT TEST (684 PSI) AND A 5TH GEAR STALL (1870 PSI). THEN TOOK TO 6,000 PSI. HELD FOR A FEW MINUTES. NO LEAKS. BLED OFF.
Stage	4	Pump Spacer 1	Pump Spacer 1	5/30/2018	14:14:58	COM4	48.00	8.31	0.00	PUMPED 11.5#, 3.8y, 23.8wr TUNED SPACER III AT 3 BPM 290 PSI. SPACER HAD 20 GALLONS OF MUSOL A, 20 GALLONS OF DUAL SPACER AND 10 GALLONS OF D-AIR.
Event	8	Drop Bottom Plug	Drop Bottom Plug	5/30/2018	14:22:21	USER	231.00	11.46	3.70	ADAM COVINGTON DROPPED NON HALLIBURTON 5.5" BOTTOM PLUG. CO. MAN WITNESSED.

Stage	5	Pump Lead Cement	Pump Lead Cement	5/30/2018	14:23:04	COM4	231.00	11.46	3.70	PUMPED 292.9 BBLS (1045 SKS) OF 13.2#, 1.57y, 7.54wr. ELASTICEM CEMENT. AT 8 BPM, 800 PSI. FULL RETURNS.
Event	9	Check Weight	Check Weight	5/30/2018	14:26:09	COM4	747.00	13.21	7.90	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Event	10	Check Weight	Check Weight	5/30/2018	14:28:18	COM4	674.00	13.40	7.90	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Event	11	Check Weight	Check Weight	5/30/2018	14:31:13	COM4	576.00	13.22	7.90	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Event	12	Check Weight	Check Weight	5/30/2018	14:33:48	COM4	540.00	13.19	7.90	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Event	13	Check Weight	Check Weight	5/30/2018	14:47:22	COM4	562.00	13.20	8.00	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Stage	6	Pump Tail Cement	Pump Tail Cement	5/30/2018	15:00:27	COM4	457.00	13.21	7.00	PUMPED 358.9 BBLS (988 SKS) OF 13.2#, 2.04y, 9.75wr, NEOCEM CEMENT. AT 8 BPM, 811 PSI. FULL RETURNS.
Event	14	Check Weight	Check Weight	5/30/2018	15:17:53	COM4	815.00	13.23	8.00	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Event	15	Check Weight	Check Weight	5/30/2018	15:24:16	COM4	813.00	13.26	8.00	CHECKED WEIGHT USING PRESSURIZED MUD SCALES. WEIGHED UP AT 13.2#
Event	16	Shutdown	Shutdown	5/30/2018	15:47:46	COM4	35.00	13.31	0.00	SHUTDOWN TO WASH PUMPS AND LINES AND GET READY TO DROP PLUG.
Event	17	Drop Top Plug	Drop Top Plug	5/30/2018	15:59:36	COM4	28.00	8.12	0.00	ADAM COVINGTON DROPPED NON HALLIBURTON 5.5" TOP PLUG. CO. MAN TONY WITNESSED.
Stage	7	Pump Displacement	Pump Displacement	5/30/2018	15:59:38	COM4	28.00	8.12	0.00	PUMPED 330 BBLS OF WATER DISPLACEMENT. THE FIRST 20 BBLS HAD 10 GALLONS OF MMCR MIXED IN. THE LAST 70 BBLS ALSO HAD 20 GALLONS OF MMCR MIXED INTO THE WATER. THE OTHER 240 BBLS OF WATER HAD 20 GALLONS OF CLAWEB AND 3 LBS OF BE-3S MIXED INTO IT.
Event	18	Bump Plug	Bump Plug	5/30/2018	16:49:38	COM4	3099.00	8.45	0.00	BUMPED NON HALLIBURTON 5.5" TOP PLUG. CO. MAN WITNESSED. FCP-2850 PSI WENT TO 3200 PSI. THEN STARTED TO PRESSURE UP.
Event	19	Other	Other	5/30/2018	16:50:06	COM4	3098.00	8.45	0.00	PRESSURED UP ON PLUG. PLUG BURST AT 5110 PSI GOING 2 BPM. THEN WE PUMPED A 6 BBL WET SHOE AT 3 BPM, 2800 PSI.

Event	20	Check Floats	Check Floats	5/30/2018	16:54:51	USER	2253.00	8.43	0.00	HELD FOR A MINUTE. BLED PRESSURE OFF AT TRUCK. GOT 2.5 BBLS OF WATER BACK TO THE TRUCK. FLOATS HELD.
Stage	8	End Job	End Job	5/30/2018	17:03:16	COM4	23.00	8.36	0.00	TOTC-6,268 FT. OH- 8.5", 15,020FT. TP-15,008 FT 5.5", 20# FLOAT COLLAR-14960, WET SHOE SUB-14901. TVD 7108'. SURFACE CASING AT 1832' 9 5/8 36# MUD 9.8#. WATER. 75 DEGREES, CHLORIDS 0, PH-7, SULFATES 0. 18 BBLS OF CEMENT BACK TO SURFACE.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/30/2018	17:15:00	USER	123.00	8.32	3.60	DISCUSSED RIGGING DOWN HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	22	Depart Location Safety Meeting	Depart Location Safety Meeting	5/30/2018	19:00:00	USER				MET WITH CREW. DISCUSSED DIRECTIONS, WEATHER AND SPEED LIMITS.
Event	23	Depart Location	Depart Location	5/30/2018	19:15:00	USER				PRE JOURNEY MANAGEMENT PRIOR TO DEPARTURE.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart with Events

