

# HALLIBURTON

iCem<sup>®</sup> Service

**SRC ENERGY CORPORATION**

**Harvesters State 32N-16A-M Production**

Sincerely,  
**Meghan Jacobs**

## 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 **Harvesters State 32N-16A-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 60bbbls 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]**

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## Cementing Job Summary

*The Road to Excellence Starts with Safety*

Sold To #: 359915	Ship To #: 3858748	Quote #:	Sales Order #: 0904895975							
Customer: SRC ENERGY INC-EBUS		Customer Rep: Buddy Davis								
Well Name: HARVESTERS STATE	Well #: 32N-16A-M	API/UWI #: 05-123-46374-00								
Field: WATTENBERG	City (SAP): LUCERNE	County/Parish: WELD	State: COLORADO							
Legal Description: SW NE-15-6N-66W-1793FNL-2334FEL										
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307		Srv Supervisor: Kendall Broom - H194727								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	14543ft	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	1826		1826
Casing		5.5	4.778	20	BTC	P-110	0	14543	0	
Open Hole Section			8.5				1826	14543	1826	
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			14543		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	Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.8		6		
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	1016	sack	13.2	1.57		6	7.54	

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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	NeoCem	NeoCem TM	989	sack	13.2	2.04		4	9.77
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	322	bbl	8.33				
Cement Left In Pipe		Amount	90 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:0 ppm			Mix Water Temperature:		70 °F °C	
Plug Bumped?		Yes			Floats Held?		Yes		
Cement Returns:		60 bbl							
Comment Got 60 bbls cement back to surface. Burst sub at 5490 psi. pumped 6 bbl wet shoe. Floats held.									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

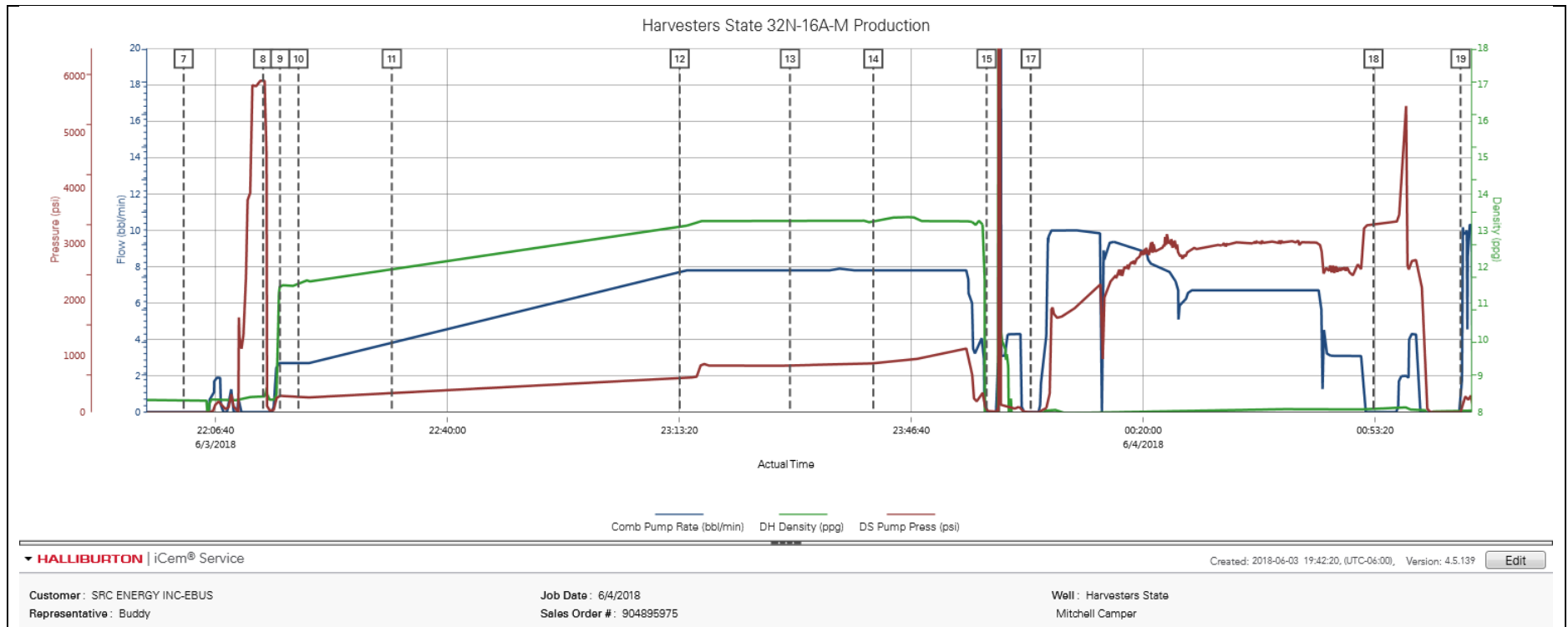
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	6/3/2018	13:30:00	USER				Called crew out to be on location at 1900
Event	2	Depart Shop for Location	Depart Shop for Location	6/3/2018	17:30:00	USER				Held a safety meeting before leaving for location
Event	3	Arrive At Loc	Arrive At Loc	6/3/2018	18:15:00	USER				Arrive at location and met with the company man
Event	4	Rig-up Lines	Rig-up Lines	6/3/2018	18:30:00	USER				Held a hazard hunt before spotting in trucks and rigging up
Event	5	Safety Meeting	Safety Meeting	6/3/2018	21:30:00	COM5	0.00	8.34	-7.00	
Event	6	Safety Meeting	Safety Meeting	6/3/2018	21:40:00	USER	0.00	8.34	-6.00	Held a safety meeting with the rig to discuss the operation and safety
Event	7	Start Job	Start Job	6/3/2018	22:02:06	COM5	0.00	8.34	-7.00	Filled lines with 3 bbls water
Event	8	Test Lines	Test Lines	6/3/2018	22:13:30	COM5	0.00	8.43	5925.00	Tested lines to 6000psi, with a 500psi kick out and 5th gear stall.
Event	9	Pump Spacer 1	Pump Spacer 1	6/3/2018	22:15:56	COM5	2.70	11.48	295.00	Pumped 40 bbls Tuned Spacer, 11.5#, 3.8 Yield 23.8 gal/sks. pumped 3bpm and 320 psi. Musol and dual spacer were added on the fly
Event	10	Check Weight	Check Weight	6/3/2018	22:18:35	COM5	2.70	11.52	260.00	Verified weight with the pressurized scale
Event	11	Pump Lead Cement	Pump Lead Cement	6/3/2018	22:32:00	USER				Pumped 284bbls Elasticem, 1016 sks, 13.2#, 1.57 Yield, 7.59 gal/sks. Pumped at 8 bpm and 268 psi. Weight was verified with the pressurized scale.
Event	12	Pump Tail Cement	Pump Tail Cement	6/3/2018	23:13:23	COM5				Pumped 359 bbls Neocem. 989 sks, 13.2#, 2.04 Yield, 9.77 gal/sks. Pumped at 8 bpm and 835 psi. Calculated TOTC is 5728.99
Event	13	Check Weight	Check Weight	6/3/2018	23:29:14	COM5	7.80	13.24	833.00	Verified weight with the pressurized scale
Event	14	Check Weight	Check Weight	6/3/2018	23:41:12	COM5	7.80	13.25	877.00	Verified weight with the pressurized scale

Event	15	Shutdown	Shutdown	6/3/2018	23:57:30	COM5	0.00	0.12	30.00	Shut down and washed up head and lines
Event	16	Drop Top Plug	Drop Top Plug	6/4/2018	00:03:49	COM5	0.00	-0.41	0.00	Dropped plug, preloaded and witnessed by the company man
Event	17	Pump Displacement	Pump Displacement	6/4/2018	00:03:51	COM5	0.00	-0.41	0.00	Pumped 322 bbls displacement. first 20 had MMCR and last 70 had MMCR. The balance had BE-3 and cla web. Got 60 bbl cement back to surface.
Event	18	Bump Plug	Bump Plug	6/4/2018	00:53:06	COM5	0.00	8.11	3358.00	Bumped plug at 322 bbls and 2630 psi final lift. Kicked out at 3100 psi and held it for 10 min. pressured up well and burst sub at 5490 psi. pumped a 6 bbl wet shoe. checked floats and got 2.5 bbls back on the truck. floats held.
Event	19	End Job	End Job	6/4/2018	01:05:37	COM5	1.50	8.01	-3.00	
Event	20	Rig Down Lines	Rig Down Lines	6/4/2018	01:15:00	USER	0.00	-0.41	-2.00	Held a safety meeting before rigging down lines
Event	21	Depart Location	Depart Location	6/4/2018	02:30:00	USER				Held a safety huddle before leaving location



## 3.0 Attachments

### 3.1 Harvesters State 32N-16A-M Production – Job Chart with Events



3.2 Harvesters State 32N-16A-M Production – Job Chart without Events

