

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Tuesday, July 11, 2017

### **Beebe 14N-26B-M Production**

Job Date: Wednesday, July 05, 2017

Sincerely,

**Julia Nichols**

## 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 **Beebe 14N-26B-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 25 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 #: 359915		Ship To #: 3798719		Quote #:		Sales Order #: 0904144927					
Customer: SYNERGY RESOURCES CORPORATION				Customer Rep: Steve							
Well Name: BEEBE			Well #: 14N-26B-M			API/UWI #: 05-123-44720-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD			State: COLORADO				
Legal Description: NE NW-34-6N-66W-382FNL-2275FWL											
Contractor: Synergy					Rig/Platform Name/Num: Precision 462						
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HB41307					Srvc Supervisor: Nathaniel Moore						
<b>Job</b>											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		14285ft			Job Depth TVD						
Water Depth											
Wk Ht Above Floor											
Perforation Depth (MD)		From			To						
<b>Well Data</b>											
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	1784	0	1784	
Casing		5.5	4.778	20		P-110	0	14485	0	7204	
Open Hole Section			8.5				1784	14285	1784	7204	
<b>Tools and Accessories</b>											
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			14272		Bottom Plug	5.5		HES		
Float Collar	5.5					SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5		HES		
Stage Tool	5.5					Centralizers	5.5		HES		
<b>Fluid Data</b>											
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	
35.10 gal/bbl		FRESH WATER									
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003685)									
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									
147.42 lbm/bbl		BARITE, BULK (100003681)									

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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/mi n	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM™ SYSTEM	1029	sack	13.2	1.57		6	7.52
7.52 Gal		FRESH WATER							
3	NeoCem	NeoCem™ TM	891	sack	13.2	2.09		4	10.08
10.08 Gal		FRESH WATER							
0.35 %		SCR-100 (100003749)							
4	MMCR Displacement	MMCR Displacement	40	bbl	8.34				
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
5	Cla Web Displacement	Cla Web Displacement	315	bbl	8.33				
0.057190 gal/bbl		CLA-WEB – TOTE (101985045)							
Cement Left In Pipe		Amount	105 ft	Reason				Shoe Joint	
40 bbl spacer and 25 bbl cement to surface									

## 2.0 Real-Time Job Summary

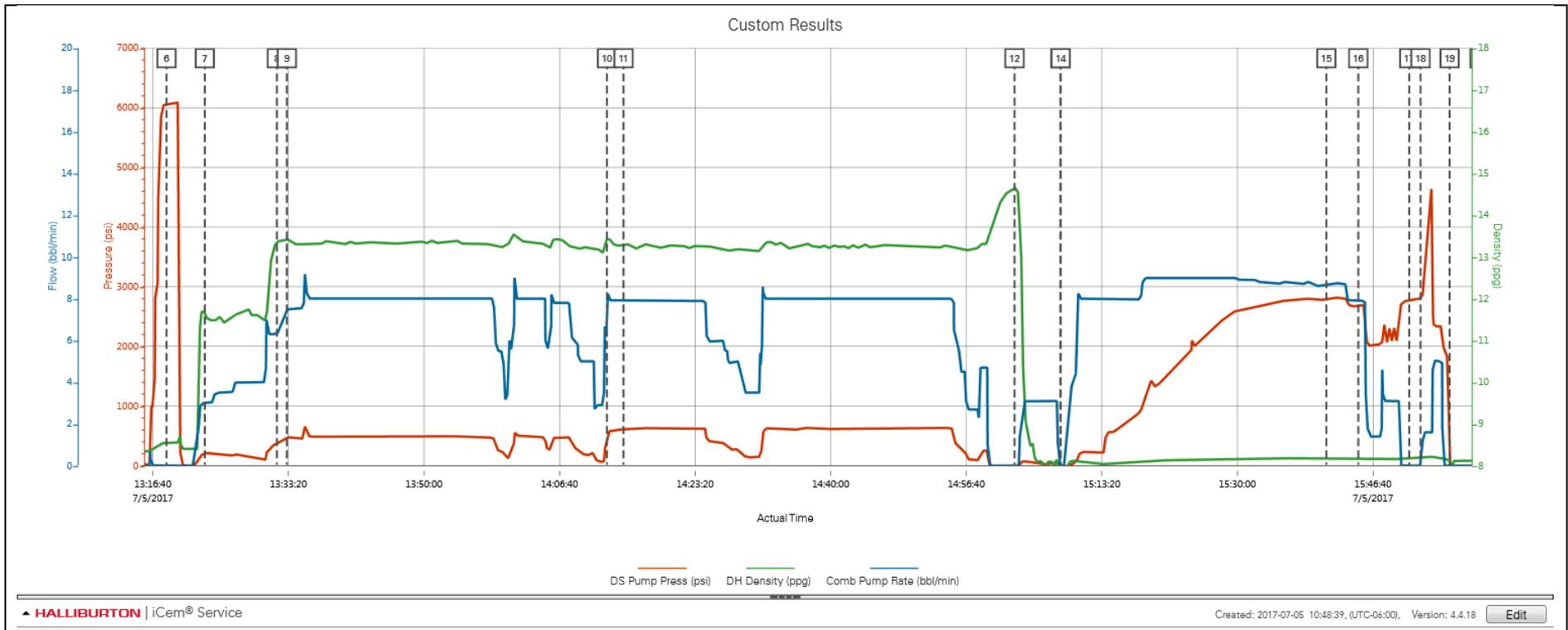
### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	7/5/2017	06:00:00	USER				Verify equipment and materials. OL time 1000
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	7/5/2017	10:00:00	USER				TD 14285' 8.5" hole. TP 14272' 5.5" 20# casing. FC 14224' TVD 7062'. Surface 1798' 9.625" 36#. MW 9.5 ppg Water tested PH 7 Chlorides <100 Sulfates <200 Temp 62 deg.
Event	3	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/5/2017	12:45:00	USER	26.00	8.48	0.00	Discuss job procedure with HES and rig crew
Event	4	Start Job	Start Job	7/5/2017	13:04:08	COM1	-7.00	8.48	0.00	
Event	5	Drop Bottom Plug	Drop Bottom Plug	7/5/2017	13:13:27	COM1	-25.00	8.23	0.00	Witnessed by company rep. Fill lines 3 bbl water
Event	6	Test Lines	Test Lines	7/5/2017	13:18:21	COM1	6068.00	8.55	0.00	500 psi kick out test and 6000 psi pressure test
Event	7	Pump Spacer 1	Pump Spacer 1	7/5/2017	13:23:03	COM1	223.00	11.65	3.00	40 bbl tuned spacer 11.5 ppg 3.8 ft <sup>3</sup> /sk 23.8 gal/sk with surfactants.
Event	8	Pump Lead Cement	Pump Lead Cement	7/5/2017	13:31:56	COM1	376.00	13.39	6.30	1029 sks /287 bbl 13.2 ppg ElastiCem 1.57 ft <sup>3</sup> /sk 7.52 gal/sk
Event	9	Check Weight	Check weight	7/5/2017	13:33:09	COM1	492.00	13.42	7.50	13.2 ppg verified with pressurized scales.
Event	10	Pump Tail Cement	Pump Tail Cement	7/5/2017	14:12:29	COM1	394.00	13.43	6.30	891 sks/331 bbl 13.2 ppg NeoCem. 2.09 ft <sup>3</sup> /sk 10.08 gal/sk . Approx top of tail 6159'.
Event	11	Check Weight	Check weight	7/5/2017	14:14:31	COM1	636.00	13.31	7.90	13.2 ppg
Event	12	Shutdown	Shutdown	7/5/2017	15:02:36	COM1	-20.00	14.65	0.00	Wash pumps and lines
Event	13	Drop Top Plug	Drop Top Plug	7/5/2017	15:08:14	COM1	-10.00	8.02	0.00	Witnessed by company rep.
Event	14	Pump Displacement	Pump Displacement	7/5/2017	15:08:17	COM1	-13.00	4.97	0.00	315 bbl water displacement with MMCR in first 10 bbl and Biocide throughout.
Event	15	Other	Spacer to surface	7/5/2017	15:40:56	COM1	2784.00	8.18	8.60	340 bbl into displacement. 40 bbl back.
Event	16	Other	Cement to surface	7/5/2017	15:44:51	COM1	2665.00	8.18	7.90	385 bbl into displacement. 25 bbl cement back.

Event	17	Bump Plug	Bump Plug	7/5/2017	15:51:07	COM1	2780.00	8.18	0.00	2200 psi final pump pressure. Pressured up to 2750 psi for 5 minutes.
Event	18	Pressure Up Well	Pressure Up Well	7/5/2017	15:52:31	COM1	2803.00	8.18	0.00	Shift wet shoe sub. 4640 psi. Pump 6 bbl wet shoe.
Event	19	Check Floats	Check Floats	7/5/2017	15:56:05	USER	96.00	8.11	0.00	2 bbl back. Floats held
Event	20	End Job	End Job	7/5/2017	15:59:46	COM1				
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/5/2017	16:00:00	USER	-18.00	8.13	0.00	
Event	22	Depart Location Safety Meeting	Depart Location Safety Meeting	7/5/2017	17:00:00	USER				

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

