

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORP-EBUS**

Date: Wednesday, July 19, 2017

**Beebe 14C-26-M Production**

Job Date: Monday, July 10, 2017

Sincerely,

**Bryce Hinsch**

## 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 14C-26-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 21 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]**

Sold To #: 359915		Ship To #: 3798646		Quote #:		Sales Order #: 0904149496	
Customer: SYNERGY RESOURCES CORPORATION				Customer Rep: Buddy Davis			
Well Name: BEEBE			Well #: 14C-26-M		API/UWI #: 05-123-44724-00		
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO	
Legal Description: NE NW-34-6N-66W-402FNL-2275FWL							
Contractor: Synergy				Rig/Platform Name/Num: Precision 462			
Job BOM: 7523 7523							
Well Type: HORIZONTAL OIL							
Sales Person: HALAMERICA\HB41307				Srcv Supervisor: Steven Markovich			
<b>Job</b>							

<b>Formation Name</b>			
<b>Formation Depth (MD)</b>	<b>Top</b>		<b>Bottom</b>
<b>Form Type</b>			<b>BHST</b>
<b>Job depth MD</b>	14402ft		<b>Job Depth TVD</b>
<b>Water Depth</b>			<b>Wk Ht Above Floor</b>
<b>Perforation Depth (MD)</b>	<b>From</b>		<b>To</b>

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	1790	0	0
Casing		5.5	4.778	20		P-110	0	14402	0	0
Open Hole Section			8.5				1790	14412	0	0

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5			14402		Top Plug	5.5		HES
Float Shoe	5.5					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

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft/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		<b>FRESH WATER</b>								
0.50 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>								
0.50 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>								
147.42 lbm/bbl		<b>BARITE, BULK (100003681)</b>								

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	ELASTICEM (TM) SYSTEM	1051	sack	13.2	1.57		6	7.52
7.52 Gal		<b>FRESH WATER</b>							
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	892	sack	13.2	2.09		4	10.08
10.08 Gal		<b>FRESH WATER</b>							
0.35 %		<b>SCR-100 (100003749)</b>							
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	MMCR Displacement	MMCR Displacement	20	bbl	8.34				
0.50 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
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
5	Cla Web Displacement	Cla Web Displacement	297	bbl	8.33				
0.057190 gal/bbl		<b>CLA-WEB - TOTE (101985045)</b>							
<p><b>Comment</b> Spacer to surface at 256bbls away bringing all 40bbls of spacer to surface and 21bbls of cement to surface. Estimated top of Tail Cement 6142'. Pumped 6bbls wet shoe after plug burst at 4396psi.</p>									

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>	DS Pump Press <i>(psi)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	7/10/2017	09:00:00	USER				Job called out at 9am with an on location time of 2pm
Event	2	Arrive at Location from Service Center	Arrive at Location from Service Center	7/10/2017	14:05:00	USER				Arrived on location. Rig was ready for the cement head and manifold to circulate.
Event	3	Start Job	Start Job	7/10/2017	17:00:07	COM4	8.34	31.00	0.00	TD 14412' TP 14402' FC 14354' 5 1/2 20#csg 8 1/2 oph 9 5/8 36# surcsg TVD 7232' Water test PH 6.2 Hardness >70 Iron 0 Sulfates >200 Chlorides 0. Estimated top of Tail Cement 6142' estimated 22bbbls of Lead Cement to surface.
Event	4	Test Lines	Test Lines	7/10/2017	17:07:49	COM4	8.10	63.00	0.00	Preform 500psi kick out test, kick outs work. Re set kickouts to 4500 psi and hold.
Event	5	Pump Spacer 1	Pump Spacer 1	7/10/2017	17:22:07	COM4	8.22	32.00	0.00	Pump 40bbbls 11.5ppg 3.8yield Tuned Spacer. Add 20 gallons of Musol A and Dual spacer B on the fly. Pumped at 2bbl/min 174psi
Event	6	Check Weight	Check Weight	7/10/2017	17:23:57	USER	11.23	191.00	1.80	Weight verified by pressurized scales.
Event	7	Drop Bottom Plug	Drop Bottom Plug	7/10/2017	17:33:04	USER	11.62	92.00	2.60	Plug pre loaded into HES head and verified by Company rep. Plug dropped and witnessed by Company

Event	Order	Description	Material	Date	Time	Code	Rate	Volume	Pressure	Notes
										rep.
Event	8	Pump Cement	Pump Cement	7/10/2017	17:35:21	COM4	13.25	121.00	2.10	Pump 293.88bbls (1051sks) 13.2ppg 1.57yield Lead Cement. Pumped at 8bbl/min 550psi
Event	9	Check Weight	Check Weight	7/10/2017	17:36:30	COM4	14.40	31.00	0.10	Weight verified by pressurized scales.
Event	10	Pump Tail Cement	Pump Tail Cement	7/10/2017	18:16:54	COM4	13.16	620.00	8.10	Pump 332bbls (892sks) 13.2ppg 2.09yield Tail Cement. Pumped at 8bbl/min 600psi
Event	11	Check Weight	Check Weight	7/10/2017	18:28:45	COM4	13.19	691.00	8.10	Weight verified by pressurized scales.
Event	12	Shutdown	Shutdown	7/10/2017	19:04:30	COM4	13.57	60.00	0.00	Shutdown and clean pumps and lines
Event	13	Drop Top Plug	Drop Top Plug	7/10/2017	19:16:44	COM4	8.12	28.00	0.00	Plug pre loaded into HES head and verified by Company rep. Plug dropped and witnessed by Company rep.
Event	14	Pump Displacement	Pump Displacement	7/10/2017	19:16:50	COM4	8.12	29.00	0.00	Pump 317bbls of H2O. First 20bbls with MMCR and then 297bbls of clayweb and biocide water. Spacer to surface at 256 away bringing all 40 bbs of spacer to surface and 21bbls of cement to surface.
Event	15	Bump Plug	Bump Plug	7/10/2017	20:08:26	COM4	8.35	2410.00	1.30	Final lifting pressure 2410psi took 500psi over and held.
Event	16	Test Lines	Test Lines	7/10/2017	20:08:44	COM4	8.37	2733.00	0.00	Casing test for 10 mins. Pressure started at 2733psi and went to 3046psi in the 10 mins

Event	17	Pressure Up Well	Pressure Up Well	7/10/2017	20:18:51	COM4	8.38	3047.00	0.00	Kick in pumps to burst plug.
Event	18	Other	Other	7/10/2017	20:20:18	USER	8.44	4396.00	1.00	Pressured up to burst plug. Plug burst at 4396psi. Brought rate up to 5bbl/min to pump 6bbl wet shoe.
Event	19	End Job	End Job	7/10/2017	20:23:35	COM4				Thank you Steve Markovich and Crew.

3.0 Attachments

3.1 Synergy Beebe 14C-26-M Production Job Chart

