

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Thursday, April 14, 2016

### **Fagerberg 36N-7B-M**

Production

Job Date: Thursday, April 07, 2016

Sincerely,  
Lauren Roberts

## Legal Notice

---

### Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

### Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

Table of Contents

---

1.0    Cementing Job Summary ..... 4

    1.1    Executive Summary .....4

2.0    Real-Time Job Summary ..... 7

    2.1    Job Event Log .....7

3.0    Attachments..... 9

    3.1    Case 1-Custom Results.png.....9

## 1.0 Cementing Job Summary

---

### 1.1 Executive Summary

---

Halliburton appreciates the opportunity to perform the cementing services on the **Fagerberg 36N-7B-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.

**20 bbl. 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]**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 359915		<b>Ship To #:</b> 3730078		<b>Quote #:</b>		<b>Sales Order #:</b> 0903226205					
<b>Customer:</b> SYNERGY RESOURCES CORPORATION				<b>Customer Rep:</b> Sean Devereaux							
<b>Well Name:</b> Fagerberg			<b>Well #:</b> 36N 7B-M			<b>API/UWI #:</b>					
<b>Field:</b>		<b>City (SAP):</b> EATON		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b>											
<b>Contractor:</b> PRECISION DRLG				<b>Rig/Platform Name/Num:</b> PRECISION 462							
<b>Job BOM:</b> 7523											
<b>Well Type:</b> GAS											
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Vaughn Oteri							
<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>		15379ft				<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>					
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing		9.625	8.921	36	LTC	J-55	0	1740	0	1740	
Casing		5.5	4.892	17		P-110	0	15359			
Open Hole Section			8.5				1740	15379			
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
<b>Guide Shoe</b>	5.5					<b>Top Plug</b>	5.5	1	Weatherford		
<b>Float Shoe</b>	5.5			15359		<b>Bottom Plug</b>	5.5	1	Weatherford		
<b>Float Collar</b>	5.5			15262		<b>SSR plug set</b>	5.5				
<b>Insert Float</b>	5.5					<b>Plug Container</b>	5.5	1	HES		
<b>Stage Tool</b>	5.5					<b>Centralizers</b>	5.5				
<b>Fluid Data</b>											
<b>Stage/Plug #: 1</b>											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	Tuned Spacer III	Tuned Spacer III			40	bbl	11.5	3.86		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	Lead ElastiCem	ELASTICEM (TM) SYSTEM	1002	sack	13.2	1.57		6	7.51
7.51 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	Tail EconoCem	ECONOCEM (TM) SYSTEM	1300	sack	13.5	1.65		4	7.86
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	40	bbl	8.34				
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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	Water/ w clay web	Water/w clay web	314	bbl	8.33				
Cement Left In Pipe		Amount	93 ft		Reason			Shoe Joint	
Comment 20bbl of cement back to surface. Hotc-9308.19 Totc-6050.81									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	PS Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	4/6/2016	12:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	4/6/2016	20:30:00	USER				Requested on location @2100 Arrived on location @2030 met with company rep to discuss job process and concerns advised that they had one full rack of casing left to run
Event	3	Other	Well info	4/6/2016	20:31:00	USER				Casing 5.5 17# TD-15379 TP-15359 FC-15262 Surf 9.625 36# 1740 Mud 10.1 OH-8.5
Event	4	Other	Water info	4/6/2016	20:32:00	USER				Temp-56.3 PH-6 Cl-O
Event	5	Check Weight	Check weight	4/7/2016	03:43:46	COM4	1.00	8.56	0.00	Confirm weight on scales
Event	6	Test Lines	Test Lines	4/7/2016	03:54:24	COM4	74.00	8.30	0.00	Pressure tested pumps and lines found no leaks and pressure held good
Event	7	Pump Spacer 1	Pump Spacer 1	4/7/2016	03:56:29	COM4	35.00	8.28	0.00	Pumped 10bbl of fresh water with red tracer dye at 3bpm 359psi
Event	8	Pump Spacer 2	Pump Spacer 2	4/7/2016	04:00:45	COM4	370.00	8.58	3.00	Mixed 40bbl of 11.5ppg Tuned Spacer III at 6.0bpm 500psi
Event	9	Pump Lead Cement	Pump Lead Cement	4/7/2016	04:06:37	COM4	417.00	12.88	6.00	Mixed 1002sks or 280bbl of 13.2ppg Y-1.57 G/SK-7.51 ElastiCem at 8.0bpm 500psi
Event	10	Check Weight	Check weight	4/7/2016	04:10:30	COM4	578.00	13.52	8.00	Confirm weight on scales
Event	11	Pump Tail Cement	Pump Tail Cement	4/7/2016	04:44:34	COM4	244.00	13.33	6.00	Mixed 1300sks or 382bbl of 13.5ppg Y-1.65 G/SK-7.86 ElastiCem at 8.0bpm 330psi
Event	12	Check Weight	Check weight	4/7/2016	04:45:40	COM4	392.00	13.41	8.00	Confirm weight on scales
Event	13	Shutdown	Shutdown	4/7/2016	05:36:43	COM4	83.00	1.76	0.00	
Event	14	Clean Lines	Clean Lines	4/7/2016	05:36:51	COM4	45.00	0.34	0.00	Washed pumps and lines with fresh water
Event	15	Drop Bottom Plug	Drop Bottom Plug	4/7/2016	05:44:37	COM4	8.00	-0.14	0.00	Released top plug witnessed by company rep
Event	16	Pump Displacement	Pump Displacement	4/7/2016	05:45:01	COM4	4.00	2.53	0.00	Pumped 354bbl of fresh water at 8.0bpm to displace cement

Event	17	Displ Reached Cmnt	Displ Reached Cmnt	4/7/2016	05:48:59	COM4	694.00	8.08	12.00	Caught cement
Event	18	Bump Plug	Bump Plug	4/7/2016	06:33:17	COM4	2901.00	8.45	0.00	Bumped plug 500psi over final pump pressure
Event	19	Pressure Up Well	Pressure Up Well	4/7/2016	06:35:23	COM4	2968.00	8.44	0.00	Pressure up well for 15min
Event	20	Other	Other	4/7/2016	06:46:09	COM4	3188.00	8.42	0.00	Release pressure back to pump truck to check floats, 4bbl back floats held good
Event	21	End Job	End Job	4/7/2016	06:50:36	COM4				20bbl of cement back to surface



3.0 Attachments

3.1 Case 1-Custom Results.png

