

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Friday, July 08, 2016

## **FAGERBERG 15N-7A-M Production**

Job Date: Saturday, June 25, 2016

Sincerely,  
**Julia Nichols**

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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 **Fagerberg 15N-7A-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 50 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 #: 3741130	Quote #:	Sales Order #: 0903377378							
Customer: SYNERGY RESOURCES CORPORATION		Customer Rep: LARRY SCHNEIDER								
Well Name: FAGERBERG	Well #: 15N-7A-M	API/UWI #: 05-123-43181-00								
Field: WATTENBERG	City (SAP): EATON	County/Parish: WELD	State: COLORADO							
Legal Description: SW SW-12-6N-66W-1271FSL-235FWL										
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srv Supervisor: Christopher Pickell								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	15130ft	Job Depth TVD	6962ft							
Water Depth		Wk Ht Above Floor	4ft							
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		J-55	0	1755		1755
Casing		5.5	4.892	17		P-110	0	15118	0	6962
Open Hole Section			8.5				1755	15130		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5				Top Plug	5.5	1	DHT		
Float Shoe	5.5	1		15118	Bottom Plug	5.5	1	DHT		
Float Collar	5.5	1		15069.33	SSR plug set	5.5				
Insert Float	5.5				Plug Container	5.5	1	HES		
Stage Tool	5.5				Centralizers	5.5				
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.76	24.7	6		
Fluid #										
2	ElastiCem	ELASTICEM (TM) SYSTEM	1068	sack	13.2	1.57	7.49	2-5		

last updated on 6/26/2016 12:38:32 AM

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*Cementing Job Summary*

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	EconoCem	ECONOCER (TM) SYSTEM	1431	sack	13.5	1.65	7.87	8	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	MMCR Displacement	MMCR Displacement	10	bbl	8.33			2	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Water Displacement	Water Displacement	339.6	bbl	8.33			8-5	

Cement Left In Pipe	Amount	46 ft	Reason	Shoe Joint
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Comment
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## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pass-Side Pump Pressure (psi)	Comments
Event	1	Call Out	Call Out	6/25/2016	03:30:00	USER				Crew called out at 03:30 to be on location at 08:00. Job was pushed back to 12:00 then to 18:00. Crew was Chris Pickell, Nick Roles, Prince Perez, Dan Keitner, Ken Hulse.
Event	2	Safety Meeting - Service Center or other Site	Safety Meeting - Service Center or other Site	6/25/2016	16:00:00	USER				Safety meeting held for journey, equipment double checked. Left the yard for location.
Event	3	Arrive At Loc	Arrive At Location	6/25/2016	17:00:00	USER				Arrive on location 1 hour early. Rig was on bottom at 16:00 and circulating.
Event	4	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	6/25/2016	17:05:00	USER				Safety meeting held for rig up. Hazard hunt performed. Rig up planned and executed.
Event	5	Other	Other	6/25/2016	17:15:00	USER				Install plug container with burst plug for rig to pump down to bottom and circulate.
Event	6	Other	Well Data	6/25/2016	17:45:00	USER				TD 15130'. 8 3/4" OH FROM 1755' TO 7541'. 8 1/2" OH FROM 7541' TO 15130'. TP 15118' 5 1/2" 17#. FC 15069.33'. SURF 1755' 9 5/8" 36#. TVD 6962'. WF 10.2 PPG WBM 9 VISC.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/25/2016	18:45:00	USER				Safety meeting held with rig crew to discuss job safety and procedure.
Event	8	Start Job	Start Job	6/25/2016	18:57:31	COM6				
Event	9	Check Weight	Check weight	6/25/2016	19:09:17	COM6				Tuned spacer premixed and scaled at 11.5 ppg
Event	10	Test Lines	Test Lines	6/25/2016	19:20:46	COM6	8.42	0.00	5010.00	Pressure test pumps and lines to 5000 psi. Checked for visible leaks and pressure loss.
Event	11	Pump Spacer 1	Pump Spacer 1	6/25/2016	19:25:10	COM6	11.45	0.00	279.00	Pump 40 bbl of Tuned Spacer 11.5 ppg 3.76 yield 24.2 gal/sk
Event	12	Shutdown	Shutdown	6/25/2016	19:33:40	USER				Shutdown to mix up and scale first tub of cement. First tub scaled at 13.3 ppg

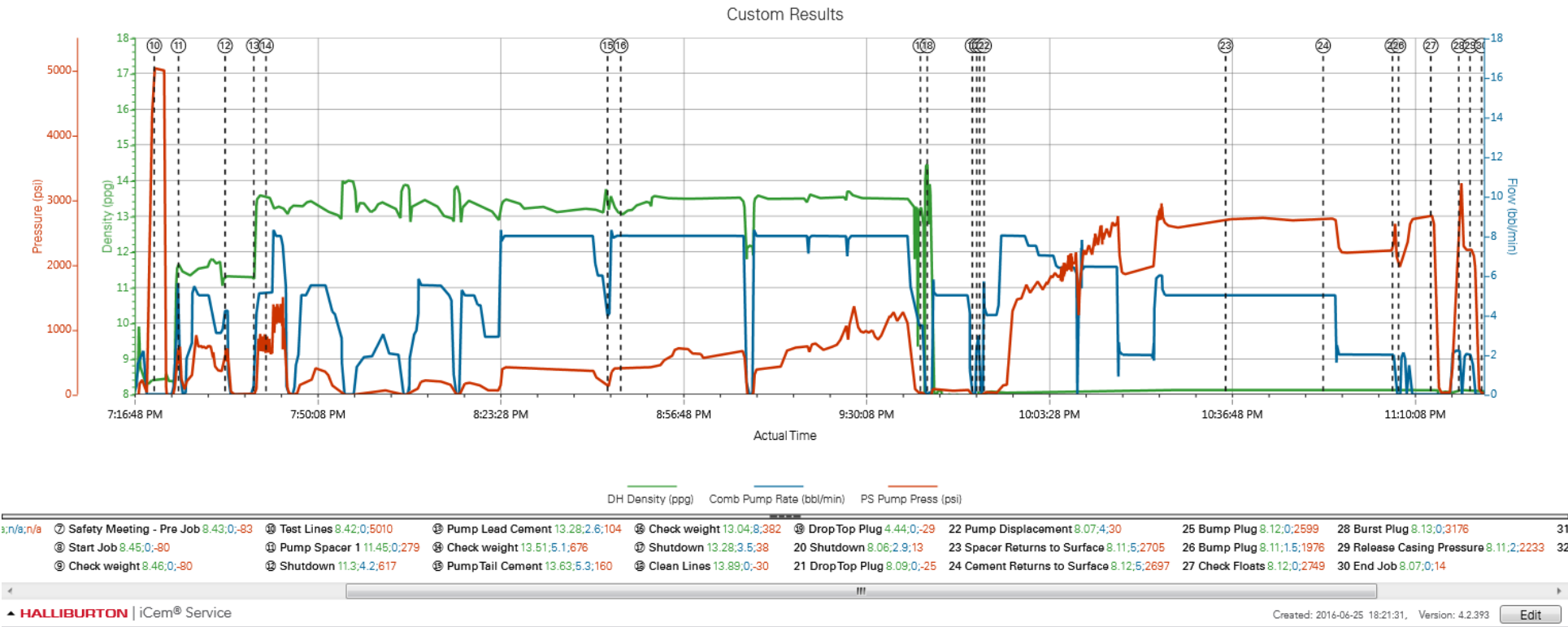
Event	13	Pump Lead Cement	Pump Lead Cement	6/25/2016	19:38:53	COM6	13.28	2.60	104.00	Pump 298.6 bbl 1068 sks of ElastiCem cement 13.2 ppg 1.57 yield 7.49 gal/sk. We had to shut down multiple times due to poor delivery from 660's.
Event	14	Check Weight	Check weight	6/25/2016	19:41:07	COM6				Cement was scaled 7 times. All within range.
Event	15	Pump Tail Cement	Pump Tail Cement	6/25/2016	20:43:23	COM6	13.63	5.30	160.00	Pump 420.5 bbl 1431 sks of EconoCem cement 13.5 ppg 1.65 yield 7.87 gal/sk
Event	16	Check Weight	Check weight	6/25/2016	20:45:46	COM6				Cement scaled 4 times. All within range.
Event	17	Shutdown	Shutdown	6/25/2016	21:40:23	USER				
Event	18	Clean Lines	Clean Lines	6/25/2016	21:41:39	COM6				Wash pumps and lines to the pit
Event	19	Drop Top Plug	Drop Top Plug	6/25/2016	21:49:52	COM6				Drop bottom rupture plug, then pump 2 bbl of MMCR water
Event	20	Shutdown	Shutdown	6/25/2016	21:50:41	USER				
Event	21	Drop Top Plug	Drop Top Plug	6/25/2016	21:51:13	USER				Drop top burst plug, followed by 7 bbl of MMCR water.
Event	22	Pump Displacement	Pump Displacement	6/25/2016	21:52:00	COM6	8.07	4.00	30.00	Pump a total of 349.6 bbl of displacement with MMCR and 20 gallons of clayweb
Event	23	Other	Spacer Returns to Surface	6/25/2016	22:36:01	COM6				Spacer returns to surface with 240 bbl away
Event	24	Other	Cement Returns to Surface	6/25/2016	22:53:48	COM6				Cement returns to surface with 300 bbl away
Event	25	Bump Plug	Bump Plug	6/25/2016	23:06:25	COM6	8.12	0.00	2599.00	Plug landed with 2211 psi shutting down with 2599 psi. Pressure fell off right away - indicating bottom rupture plug had ruptured.
Event	26	Bump Plug	Bump Plug	6/25/2016	23:07:32	USER	8.11	1.50	1976.00	Pump 2 bbl of water to land top rupture plug
Event	27	Check Floats	Check Floats	6/25/2016	23:13:25	USER	8.12	0.00	2749.00	Pressure was held for 3 minutes then released with 2749 psi. Floats held. 2.5 bbl back to tanks.
Event	28	Other	Burst Plug	6/25/2016	23:18:32	USER	8.13	0.00	3176.00	Burst top rupture plug with 3176 psi. Pump 3 bbl for wet shoe.
Event	29	Release Casing Pressure	Release Casing Pressure	6/25/2016	23:20:36	USER	8.11	2.00	2233.00	Release casing psi with 2233 psi.
Event	30	End Job	End Job	6/25/2016	23:22:42	COM6				Returned all spacer and 50 bbl of cement to surface.
Event	31	Safety Meeting - Pre	Safety Meeting - Pre Rig-	6/25/2016	23:25:01	USER				Safety meeting held for rig down. Washed pump to pit,



		Rig-Down	Down					blew down all lines, blew down bins. Rigged down all equipment.
Event	32	Safety Meeting - Departing Location	Safety Meeting - Departing Location	6/26/2016	01:00:00	USER		Safety meeting held for journey. Left location for the yard.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

