

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Monday, June 20, 2016

**Fagerberg 15N-7A-M**

Surface

Job Date: Saturday, June 18, 2016

Sincerely,

**Lauren Roberts**

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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 **Surface** 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.

**16 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]**

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*Cementing Job Summary**The Road to Excellence Starts with Safety*

Sold To #: 359915		Ship To #: 3741130		Quote #:		Sales Order #: 0903377912				
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: 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB71271				Srv Supervisor: Christopher Pickell						
<b>Job</b>										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		1770ft		Job Depth TVD		1770ft				
Water Depth				Wk Ht Above Floor		4ft				
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		16	15.376	55			0	40	0	40
Casing		9.625	8.921	36			0	1755	0	1755
Open Hole Section			13.5				40	1770	40	1770
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625					Top Plug	9.625	1	HES	
Float Shoe	9.625	1		1755		Bottom Plug	9.625		HES	
Float Collar	9.625	1		1709.47		SSR plug set	9.625		HES	
Insert Float	9.625					Plug Container	9.625	1	HES	
Stage Tool	9.625					Centralizers	9.625	18		
<b>Fluid Data</b>										
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	Mud Flush III (Powder)	Mud Flush III	20	bbl	8.4			4		
<b>Fluid Data</b>										
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	
2	Fresh Water	Fresh Water w/Red Dye	10	bbl	8.33			4		

last updated on 6/19/2016 4:20:27 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	SwiftCem B2	SWIFTCM (TM) SYSTEM	535	sack	13.4	1.78	9.45	7	
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	Displacement	Displacement	132	bbl	8.33			8	
Cement Left In Pipe    Amount    45.53 ft    Reason    Shoe Joint									
Comment Returned all spacers and 16 bbl of cement to surface.									

## 2.0 Real-Time Job Summary

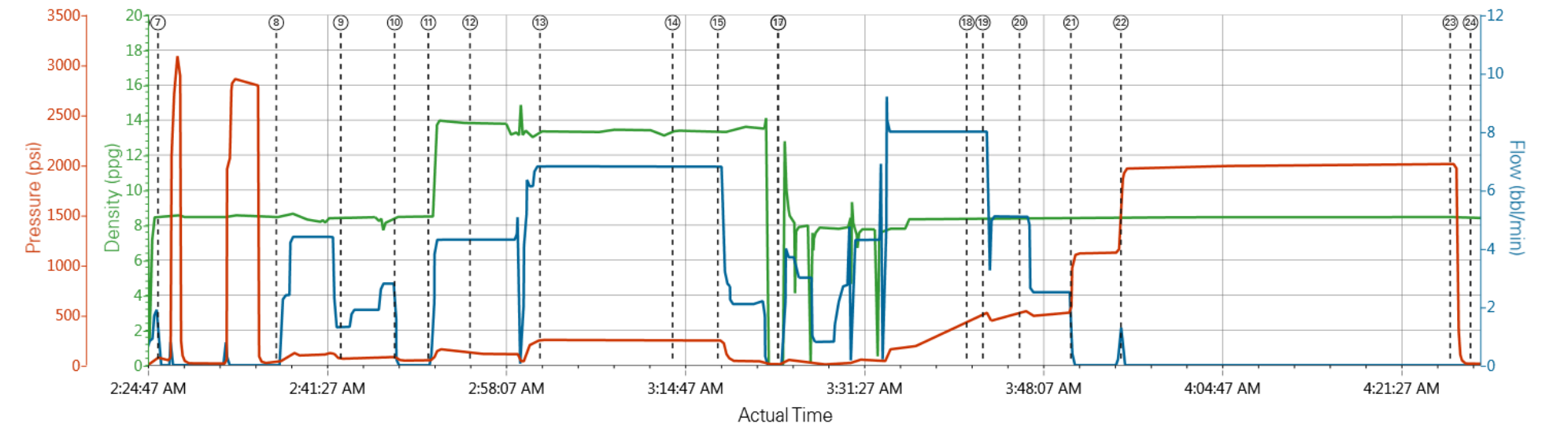
## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Driv-Side Pump Pressure (psi)	Comments
Event	1	Call Out	Call Out	6/18/2016	16:00:00	USER				Crew was called out at 16:00 to be on location at 22:00. Crew was Chris Pickell, Nick Roles, Alvaro Perez, Glenn Hemmert
Event	2	Safety Meeting - Service Center or other Site	Safety Meeting - Service Center or other Site	6/18/2016	19:30:00	USER				Safety meeting held for journey. Equipment double checked. Left the yard for location.
Event	3	Arrive At Loc	Arrive At Loc	6/18/2016	20:30:00	USER				Arrive on location 1.5 hours early. Rig was rigging up casing crew to run casing.
Event	4	Other	Well Data	6/18/2016	22:35:00	USER	8.38	0.00	8.00	TD 1770' 13 1/2" OH. TP 1755' 9 5/8" 36#. FC 1709.47'. WF 9.2 PPG WBM.
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	6/18/2016	22:45:00	USER	8.39	0.00	8.00	Safety meeting held for rig up. Hazard hunt performed. Rig up planned and executed.
Event	6	Start Job	Start Job	6/19/2016	02:24:26	COM6	8.49	0.00	12.00	
Event	7	Test Lines	Test Lines	6/19/2016	02:25:54	COM6	8.46	0.00	66.00	Pressure tested pumps and lines to 3000 psi. First test there was a gasket that had to be changed. Second test held good.
Event	8	Pump Spacer 1	Pump Spacer 1	6/19/2016	02:36:55	COM6	8.46	0.00	31.00	Pump 20 bbl of Mud Flush
Event	9	Pump Spacer 2	Pump Spacer 2	6/19/2016	02:42:55	COM6	8.41	1.30	66.00	Pump 10 bbl of red dye water
Event	10	Shutdown	Shutdown	6/19/2016	02:47:56	COM6	8.47	0.00	69.00	Shutdown to mix up and scale first tub of cement.
Event	11	Pump Cement	Pump Cement	6/19/2016	02:51:04	COM6	8.50	0.00	48.00	Pump 169.6 bbl 535 sks of SwiftCem cement 13.4 ppg 1.78 yield 9.48 gal/sk
Event	12	Check Weight	Check weight	6/19/2016	02:54:57	COM6	13.82	4.30	125.00	Cement scaled 13.15 ppg
Event	13	Check Weight	Check weight	6/19/2016	03:01:28	COM6	13.36	6.80	255.00	Cement scaled 13.35 ppg
Event	14	Check Weight	Check weight	6/19/2016	03:13:48	COM6	13.37	6.80	254.00	Cement scaled 13.35 ppg
Event	15	Shutdown	Shutdown	6/19/2016	03:18:01	USER	13.32	6.80	247.00	

Event	16	Drop Top Plug	Drop Top Plug	6/19/2016	03:23:37	COM6	-2.22	0.00	11.00	Plug preloaded. Drop witnessed by company man Larry. Pumps and lines washed on top of the plug.
Event	17	Pump Displacement	Pump Displacement	6/19/2016	03:23:39	COM6	-2.22	0.00	11.00	Pump 132 bbl of fresh water displacement
Event	18	Other	Mudflush Returns to Surface	6/19/2016	03:41:11	COM6	8.36	8.00	444.00	Mud Flush III returns to surface with 85 bbl away.
Event	19	Other	Red Dye Returns to Surface	6/19/2016	03:42:41	COM6	8.37	8.00	523.00	Red dye returns to surface with 98 bbl away.
Event	20	Other	Cement Returns to Surface	6/19/2016	03:46:06	COM6	8.38	5.10	528.00	Cement returns to surface with 116 bbl away
Event	21	Bump Plug	Bump Plug	6/19/2016	03:50:53	COM6				Plug landed with 525 psi shutting down with 1069 psi
Event	22	Other	Casing Test	6/19/2016	03:55:32	COM6				1800 psi 30 minute casing test.
Event	23	Other	Check Floats	6/19/2016	04:26:12	COM6	8.46	0.00	2010.00	Pressure was released after 30 minutes and climbing to 2010 psi. Floats held. 1 bbl back to tanks.
Event	24	End Job	End Job	6/19/2016	04:28:05	COM6	8.39	0.00	13.00	Returned all spacer and 16 bbl of cement to surface.
Event	25	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	6/19/2016	04:35:00	USER	8.41	9.60	273.00	Safety meeting held for rig down. Rigged down all equipment.
Event	26	Safety Meeting - Departing Location	Safety Meeting - Departing Location	6/19/2016	06:00:00	USER				Safety meeting held for journey. Left location for the yard.



SYNERGY FAGERBERG 15N-7A-M SURFACE



DH Density (ppg)			Comb Pump Rate (bbl/min)		DS Pump Press (psi)	
⑦ Test Lines 8.46;0.66	⑧ Pump Spacer 2 8.41;1.3.66	⑩ Pump Cement 8.5;0.48	⑫ Check weight 13.36;6.8;255	⑬ Shutdown 13.32;6.8;247	⑮ Pump Displacement -2.22;0.11	⑰ Red Dye Returns to Surface 8.37;8.523
⑨ Pump Spacer 1 8.46;0.31	⑪ Shutdown 8.47;0.69	⑬ Check weight 13.82;4.3;125	⑭ Check weight 13.37;6.8;254	⑯ Drop Top Plug -2.22;0.11	⑱ Mudflush Returns to Surface 8.36;8.444	⑲ Cement Returns to Surface 8.38;5.1;528
					21 Bump Plug 8.41;0.1063.89	
					22 Casing Test 8.44;0.188748	
					23 Check Floats 8.46	
					24 End Job 8.39;0.13	

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