

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

**For: LARRY SCHNEIDER**

Date: Monday, July 25, 2016

**FAGERBERG 6N-7C-M**

Job Date: Sunday, July 24, 2016

Sincerely,

**CHRIS PICKELL**

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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 6N-7C-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.

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]**

#### Job Times

	Date	Time	Time Zone
Requested Time On Location:	7/24/16	0600	MTN
Called Out Time:	7/24/16	0000	MTN
Arrived On Location At:	7/24/16	0430	MTN
Job Started At:	7/24/16	0809	MTN
Job Completed At:	7/24/16	1121	MTN
Departed Location At:	7/24/16	1230	MTN

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*Cementing Job Summary*

*The Road to Excellence Starts with Safety*

Sold To #: 359915		Ship To #: 3741131		Quote #:		Sales Order #: 0903422258					
Customer: SYNERGY RESOURCES CORPORATION				Customer Rep: LARRY							
Well Name: FAGERBERG			Well #: 6N-7C-M			API/UWI #: 05-123-43182-00					
Field: WATTENBERG		City (SAP): EATON		County/Parish: WELD		State: COLORADO					
Legal Description: SW SW-12-6N-66W-1331FSL-235FWL											
Contractor: PRECISION DRLG				Rig/Platform Name/Num: PRECISION 462							
Job BOM: 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199					Srvc Supervisor: Christopher Pickell						
<b>Job</b>											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		14991ft			Job Depth TVD		7154ft				
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		9.625	8.921	36		J-55	0	1750	0	1750	
Casing		5.5	4.892	17		P-110	0	14966	0	7154	
Open Hole Section			8.75				1750	7154	1745	7154	
Open Hole Section			8.5				7154	14991		0	
<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	1	DL			
Float Shoe	5.5	1		14966	Bottom Plug	5.5	1	DL			
Float Collar	5.5	1		14920	SSR plug set	5.5					
Insert Float	5.5				Plug Container	5.5	1	HES			
Stage Tool	5.5				Centralizers	5.5					
<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	Tuned Spacer III	Tuned Spacer III			40	bbl	11.5	3.76	24.2	5.7	
Stage/Plug #: 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
2	ElastiCem	ELASTICEM (TM) SYSTEM			1148	sack	13.2	1.57	7.49	8	

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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/mi n	Total Mix Fluid Gal	
3	NeoCem	NeoCem TM	1077	sack	13.2	2.08	10.04	8		
4	Displacement	Displacement	329.7	bbl	8.33			8-6		
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint		
Comment RETURNED ALL 40 BBL OF SPACER AND 53 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 <i>(ppg)</i>	Combined Pump Rate <i>(bbl/min)</i>	Pass-Side Pump Pressure <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	7/24/2016	00:00:00	USER				Crew called out at 00:00 to be on location at 06:00. Crew was Chris Pickell, Brad Hinkle, Nick Roles, Mike Loughran, Tony Wells.
Event	2	Depart Home for Location	Depart Home for Location	7/24/2016	03:30:00	USER				Safety meeting held for journey. Equipment double checked. Left the yard for location.
Event	3	Arrive At Loc	Arrive At Location	7/24/2016	04:30:00	USER				Arrive on location 1.5 hours early. Rig had 15 joints of casing left to run.
Event	4	Other	Well Data	7/24/2016	04:35:00	USER				TD 14991'. TP 14966' 5 1/2" 20#. FC 14920'. SURFACE 1750' 9 5/8" 36#. 8 3/4" OH 1751'-7154'. 8 1/2" OH 7154'-14991'. TVD 7154'. WF 10.1 PPG WBM.
Event	5	Rig-Up Equipment	Rig-Up Equipment	7/24/2016	04:40:00	USER				Safety meeting held for rig up. Hazar hunt performed. Rig up planned and excuted.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/24/2016	07:50:00	USER				Safety meeting held with rig crew to discuss job safety and procedure.
Event	7	Start Job	Start Job	7/24/2016	08:09:37	COM6				
Event	8	Test Lines	Test Lines	7/24/2016	08:15:36	COM6	8.40		4839.00	Pressure tested lines to 5000 psi. Checked for visible leaks and pressure loss.
Event	9	Pump Spacer 1	Pump Spacer 1	7/24/2016	08:19:20	COM6	11.50	5.50	500.00	Pump 40 bbl of Tuned Spacer 11.5# 3.76 yield 24.2 gal/sk. Spacer scaled at 11.4 ppg.
Event	10	Pump Lead Cement	Pump Lead Cement	7/24/2016	08:32:21	COM6	13.20	0.00	41.00	Pump 1148 sks 321 bbl of Elasticem cement 13.2 ppg 1.57 yield 7.49 gal/sk. First tub scaled at 13.2 ppg.
Event	11	Check Weight	Check weight	7/24/2016	08:38:46	COM6	13.30	8.10	741.00	Cement scaled 13.3 ppg
Event	12	Check Weight	Check weight	7/24/2016	08:46:09	COM6	13.30	8.10	478.00	Cement scaled 13.3 ppg
Event	13	Check Weight	Check weight	7/24/2016	09:07:54	COM6	13.30	8.10	445.00	Cement scaled 13.3 ppg
Event	14	Pump Tail Cement	Pump Tail Cement	7/24/2016	09:14:11	COM6	13.18	8.10	396.00	Pump 1077 sks 399 bbl of Neocem Cement 13.2 ppg 2.08

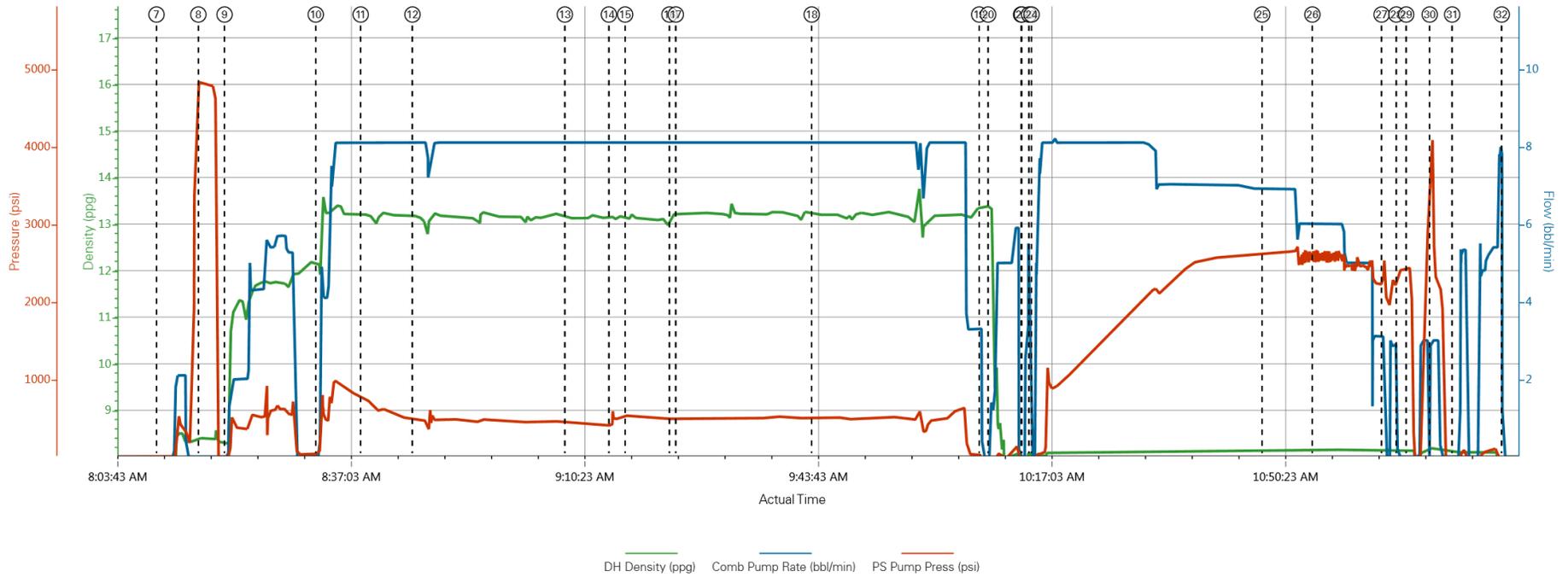
yield 10.04 gal/sk.

Event	15	Check Weight	Check weight	7/24/2016	09:16:30	COM6	13.11	8.10	529.00	Cement scaled at 13.3 ppg.
Event	16	Check Weight	Check weight	7/24/2016	09:22:50	COM6	13.20	8.10	499.00	Cement scaled at 13.3 ppg.
Event	17	Check Weight	Check weight	7/24/2016	09:23:44	COM6	13.22	8.10	500.00	Cement scaled at 13.2 ppg.
Event	18	Check Weight	Check weight	7/24/2016	09:43:08	COM6	13.20	8.10	505.00	Cement scaled at 13.2 ppg.
Event	19	Shutdown	Shutdown	7/24/2016	10:07:02	COM6				
Event	20	Clean Lines	Clean Lines	7/24/2016	10:08:18	COM6				Wash pumps and lines to the pit.
Event	21	Drop Top Plug	Drop Bottom Plug	7/24/2016	10:13:01	COM6				Davis Lynch bottom plug preloaded. Drop witnessed by tool hand.
Event	22	Pump Displacement	Pump Displacement	7/24/2016	10:13:07	COM6	8.33	7.00	800.00	Pump 3 bbl of water with mmcr.
Event	23	Drop Top Plug	Drop Top Plug	7/24/2016	10:14:09	COM6				Davis Lynch top plug preloaded. Drop witnessed by tool hand.
Event	24	Shutdown	Shutdown	7/24/2016	10:14:30	USER				Shutdown to drop top plug.
Event	25	Other	Spacer Returns to Surface	7/24/2016	10:47:25	COM6				Spacer returns to surface with 230 bbl away.
Event	26	Other	Cement Returns to Surface	7/24/2016	10:54:35	COM6				Cement returns to surface with 277 bbl away.
Event	27	Other	Land Bottom Plug	7/24/2016	11:04:28	COM6	8.14	0.00	2543.00	Bottom plug landed with 2543 psi
Event	28	Bump Plug	Bump Plug	7/24/2016	11:06:34	COM6	8.14	0.00	2397.00	Pump 3 more bbl and land the top plug with 2397 psi.
Event	29	Check Floats	Check Floats	7/24/2016	11:07:58	USER				Pressure was held for 1 minute then released. Floats held. 3 bbl back to tanks.
Event	30	Other	Burst Plugs	7/24/2016	11:11:19	COM6	8.19	3.00	4072.00	Burst the plugs with 4094 psi and pumped 3 bbl for wet shoe.
Event	31	Rig Down Lines	Rig Down Lines	7/24/2016	11:14:32	USER				Safety meeting held for rig down. Washed up and blew down lines. Rigged down all equipment.
Event	32	End Job	End Job	7/24/2016	11:21:36	COM6				Returned all 40 bbl of spacer and 53 bbl of cement to surface.
Event	33	Depart Location	Depart Location	7/24/2016	12:30:00	USER				Safety meeting held for journey. Left location for the yard.

3.0 Real-Time Job Charts

3.1 Job Chart

SYNERGY FAGERBERG 6N-7C-M PRODUCTION



Legend		
Green Line	Blue Line	Red Line
DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)
① Call Out n/a,n/a,n/a	⑥ Safety Meeting - Pre Job 8.45,0,-8	⑪ Check weight 13.21,8.1,741
② Depart Home for Location n/a,n/a,n/a	⑦ Start Job 0.07,0,-3	⑫ Check weight 13.18,8.1,478
③ Arrive At Location n/a,n/a,n/a	⑧ Test Lines 8.4,0,4839	⑬ Check weight 13.14,8.1,445
④ Well Data n/a,n/a,n/a	⑨ Pump Spacer 1 8.31,0,-5	⑭ Pump Tail Cement 13.18,8.1,396
⑤ Rig-Up Equipment n/a,n/a,n/a	⑩ Pump Lead Cement 12.14,0,41	⑮ Check weight 13.11,8.1,529
		⑯ Check weight 13.2,8.1,499
		⑰ Check weight 13.22,8.1,500
		⑱ Check weight 13.2,8.1,505
		⑲ Shutdown 13.35,0.4,10
		⑳ Clean Lines 13.36,0,-96
		㉑ Drop Bottom Plug -0.18,0,-95
		㉒ Pump Displacement -0.28,0,-96
		㉓ Drop Top Plug 2.35,0,-60
		㉔ Shutdown 8.07,0,-97
		㉕ Spacer Returns to Surface 8.14,6.9,2618
		㉖ Cement Returns to Surface 8.15,6,2656.22
		㉗ Land Bottom Plug 8.14,0,2527
		㉘ Bump Plug 8.14,0,2397
		㉙ Check Floats 8.15,0,2441
		㉚ Burst Plugs 8.19,3,4072
		㉛ Rig Down Lines 8.11,0,-87
		㉜ End Job -0.22,0,-83.71
		㉝ Depart Location n/a,n/a,n/a