

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Saturday, July 09, 2016

### **Fagerberg 11N-7A-M Production**

Job Date: Sunday, July 03, 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 11N-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 29 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]**

## HALLIBURTON

## Cementing Job Summary

## The Road to Excellence Starts with Safety

Sold To #: 359915	Ship To #: 3741160	Quote #:	Sales Order #: 0903397306							
Customer: SYNERGY RESOURCES CORPORATION		Customer Rep: Sean Devereaux/Buddy Davis								
Well Name: FAGERBERG	Well #: 11N-7A-M	API/UWI #: 05-123-43183-00								
Field: WATTENBERG	City (SAP): EATON	County/Parish: WELD	State: COLORADO							
Legal Description: SW SW-12-6N-66W-1291FSL-235FWL										
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srv Supervisor: Vaughn Oteri								
<b>Job</b>										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	15024ft	Job Depth TVD								
Water Depth		Wk Ht Above Floor								
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	LTC	J-55	0	1767		1767
Casing		5.5	4.892	17		P-110	0	15003	0	0
Open Hole Section			8.5				1767	15024	1767	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	Summit	
Float Shoe	5.5			15003		Bottom Plug	5.5	1	Summit	
Float Collar	5.5			14953		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		6		
7.49 Gal										
FRESH WATER										
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	982	sack	13.2	1.57		6	7.49	

last updated on 7/5/2016 1:33:59 PM

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## HALLIBURTON

*Cementing Job Summary*

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	411	bbl	13.2			4	
10.04 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
4	MMCR Displacement	MMCR Displacement	20	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	Water/Bio-cide	326	bbl	8.33				
Cement Left In Pipe		Amount	42 ft		Reason			Shoe Joint	
Comment 29bbl of cement back surface									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

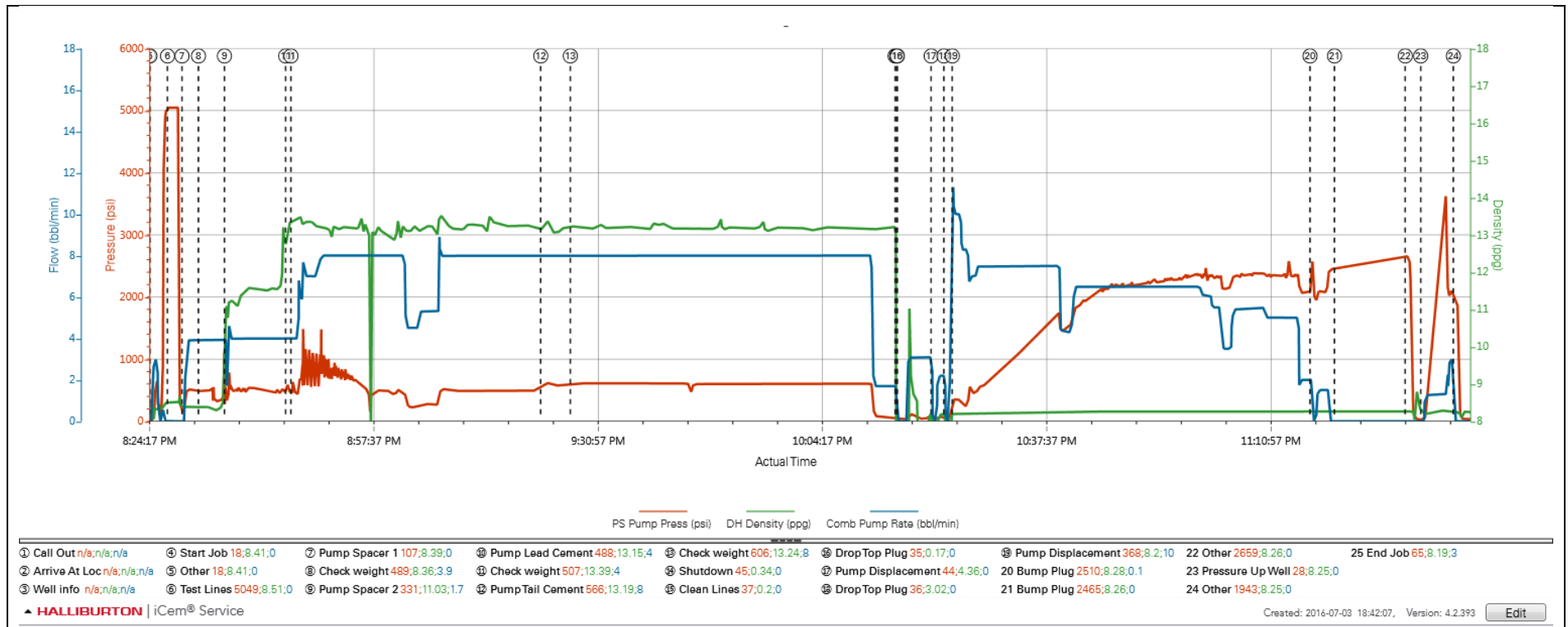
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	7/3/2016	08:00:00	USER				Cal out from Arc hub
Event	2	Arrive At Location	Arrive At Location	7/3/2016	12:00:00	USER				Requested on location @1400 - During Transport the rig called to push time to 1700. Arrived on location @1200 met with company rep to discuss job process and concerns and rep advised that we were early and rig still had a lot of casing still to run
Event	3	Other	Well info	7/3/2016	12:00:07	USER				TD-15024 TP-15003 FC-14953 Casing-5.5 17# OH-8.5 Surf-1767 9.65 36#
Event	4	Start Job	Start Job	7/3/2016	20:24:29	COM4				Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Other	Other	7/3/2016	20:24:42	COM4				Prime pumps and lines with fresh water
Event	6	Test Lines	Test Lines	7/3/2016	20:27:19	COM4	5049.00	8.51	0.00	Pressure tested pumps and lines with fresh water
Event	7	Pump Spacer 1	Pump Spacer 1	7/3/2016	20:29:28	COM4	107.00	8.39	0.00	Pumped 20bbl of fresh water with Red Tracer Dye 4.0bpm 530psi
Event	8	Check Weight	Check weight	7/3/2016	20:31:55	COM4				Mixed up tuned spacer and confirmed weight of 11.5ppg on pressurized mud scales
Event	9	Pump Spacer 2	Pump Spacer 2	7/3/2016	20:35:47	COM4	331.00	11.03	1.70	Pumped 40bbl of 11.5ppg Tuned Spacer III at 4.0bpm 469psi
Event	10	Pump Lead Cement	Pump Lead Cement	7/3/2016	20:44:53	COM4	488.00	13.15	4.00	Mixed 982sks or 287bbl of 13.2ppg Y-1.57 g/sk-24.2 ElastiCem 8.0bpm 575psi
Event	11	Check Weight	Check weight	7/3/2016	20:45:39	COM4				Mixed up tail NeoCem and confirmed weight of 13.2ppg on scales
Event	12	Pump Tail Cement	Pump Tail Cement	7/3/2016	21:22:47	COM4	566.00	13.19	8.00	Pumped 411bbl of 13.2ppg NeoCem at 8.0bpm 499psi
Event	13	Check Weight	Check weight	7/3/2016	21:27:11	COM4				Confirm weight of 13.2ppg on scales
Event	14	Shutdown	Shutdown	7/3/2016	22:15:27	COM4				

Event	15	Clean Lines	Clean Lines	7/3/2016	22:15:40	COM4				Wash pumps and lines with fresh water
Event	16	Drop Top Plug	Drop Top Plug	7/3/2016	22:15:47	COM4				Tool hand released top plug witnessed by company rep
Event	17	Pump Displacement	Pump Displacement	7/3/2016	22:20:49	COM4	44.00	4.36	0.00	Pumped 3bbl of MMCR water
Event	18	Drop Top Plug	Drop Top Plug	7/3/2016	22:22:42	COM4				Tool hand released 2nd top plug witnessed by company rep
Event	19	Pump Displacement	Pump Displacement	7/3/2016	22:23:57	USER	368.00	8.20	10.00	Pumped 346.9bbl of fresh water treated with Clay-web to displace cement
Event	20	Bump Plug	Bump Plug	7/3/2016	23:17:07	USER	2510.00	8.28	0.10	Bumped first plug
Event	21	Bump Plug	Bump Plug	7/3/2016	23:20:45	COM4	2465.00	8.26	0.00	Bumped plug 500psi over final pump pressure
Event	22	Other	Other	7/3/2016	23:31:16	COM4	2659.00	8.26	0.00	Released pressure back to pump truck to check floats, Floats held good -- 3.5bbl back
Event	23	Pressure Up Well	Pressure Up Well	7/3/2016	23:33:34	COM4				Pressure up well to blow 2nd disc in plug and pumped 3bbl for wet shoe per company rep and tool hand
Event	24	Other	Other	7/3/2016	23:38:25	COM4				Released pressure back to pump truck to check floats, Floats held good -- 3.5bbl back
Event	25	End Job	End Job	7/3/2016	23:50:41	COM4				29bbl of cement back to surface



## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

