

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Thursday, May 25, 2017

### **Hood 11N-22A-M Production**

Job Date: Tuesday, May 23, 2017

Sincerely,

**Bryce Hinsch**

## Legal Notice

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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 **Hood 11N-22A-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 21 bbls of cement was brought 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 #: 3786145		Quote #:		Sales Order #: 0904044030				
Customer: SYNERGY RESOURCES CORPORATION				Customer Rep: Kevin Brakovec						
Well Name: HOOD		Well #: 11N-22A-M		API/UWI #: 05-123-44378-00						
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-20-6N-66W-705FSL-1122FEL										
Contractor: Precision				Rig/Platform Name/Num: Precision562						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307				Srv Supervisor: Vaughn Oteri						
<b>Job</b>										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		15220ft		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	1762	0	1762
Casing		5.5	4.778	20		P-110	0	15203	0	6955
Open Hole Section			8.5				1762	15220	1762	6955
<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	Weatherford	
Float Shoe	5.5			15203		Bottom Plug	5.5	1	Weatherford	
Float Collar	5.5			15097		SSR plug set	5.5		H	
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	3.75		6		
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	ElastiCemLead	ELASTICEM (TM) SYSTEM	1000	sack	13.2	1.57		8	7.52	

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## 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 Tail	NeoCem TM	989	sack	13.2	2.09		8	10.08
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				
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	Cla Web Dispplcaement	Cla Web Dispplcaement	293	bbl	8.33				
Cement Left In Pipe		Amount	106 ft		Reason			Shoe Joint	
Comment 21bbl of cement back to surface									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	5/23/2017	10:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	5/23/2017	14:00:00	USER				Requested on location @1500 Arrived on location @1400 Met with company rep to discuss job process and concerns
Event	3	Other	Other	5/23/2017	14:01:01	USER				TD-15220 TP-15203 FC-15097 SURF-1761 MUD-10.2PPG TVD-6955 Casing 5.5 20# OH-8.5
Event	4	Start Job	Start Job	5/23/2017	20:02:39	COM4	7.00	8.40	0.00	Held pre-job safety meeting with all hands on location to discuss job process and concerns
Event	5	Test Lines	Test Lines	5/23/2017	20:34:03	COM4	73.00	8.29	0.00	Pressure tested pumps and lines with fresh water, found no leaks and pressure held good 4705psi
Event	6	Pump Spacer 1	Pump Spacer 1	5/23/2017	20:37:51	COM4	23.00	8.32	0.00	Mixed 40bbl of 11.5ppg Tuned spacer III at 6.0bpm 420psi
Event	7	Drop Bottom Plug	Drop Bottom Plug	5/23/2017	20:47:34	COM4	29.00	11.40	1.70	Released plug witnessed by company rep
Event	8	Pump Lead Cement	Pump Lead Cement	5/23/2017	20:52:38	COM4	35.00	13.36	0.90	Mixed 1000sks or 279bbl of 13.2ppg Y-1.57 G/sk-7.53 Elasticem at 8.0bpm 414psi
Event	9	Pump Tail Cement	Pump Tail Cement	5/23/2017	21:40:42	COM4	481.00	13.09	8.10	Mixed 989sks or 368bbl of 13.2ppg Y-2.09 G/sk10.08 Neocem at 8.0bpm 528psi

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(v. 4.4.18)

Created: Thursday, May 25, 2017

Event	10	Shutdown	Shutdown	5/23/2017	22:27:03	COM4	50.00	13.28	0.00	
Event	11	Clean Lines	Clean Lines	5/23/2017	22:27:08	COM4	34.00	13.26	0.00	Washed pumps and lines with fresh water
Event	12	Drop Top Plug	Drop Top Plug	5/23/2017	22:27:12	COM4	25.00	13.26	0.00	Released plug witnessed by company rep
Event	13	Pump Displacement	Pump Displacement	5/23/2017	22:34:48	COM4	12.00	8.32	0.00	Pumped 334bbl of fresh water to displace cement
Event	14	Bump Plug	Bump Plug	5/23/2017	23:20:30	COM4	2396.00	8.42	0.00	Bumped plug 500psi over final pump pressure
Event	15	Pressure Up Well	Pressure Up Well	5/23/2017	23:24:51	COM4	2565.00	8.41	0.00	Pressure up well to rupture disc and pumped 6bbl for wet shoe
Event	16	Other	Other	5/23/2017	23:30:21	COM4	1720.00	8.39	0.00	Released pressure back to pump truck to check floats, floats held good 2.0bbl back
Event	17	End Job	End Job	5/23/2017	23:32:04	COM4	15.00	8.04	0.00	21bbl of cement back to surface



## 3.0 Attachments

### 3.1 Synergy Hood 11N-22A-M Production Job Chart

