

# HALLIBURTON

iCem<sup>®</sup> Service

## **SYNERGY RESOURCES CORPORATION**

Date: Sunday, May 28, 2017

### **Hood 23N-22B-M Production**

Job Date: Thursday, April 27, 2017

Sincerely,

**Julia Nichols**

## 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 23N-22B-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 40 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 #: 3786336  | Quote #:                             | Sales Order #: 0903991407 |               |                        |                             |               |              |                     |               |
| Customer: SYNERGY RESOURCES CORPORATION           |                     | Customer Rep: Kevin Brakovec         |                           |               |                        |                             |               |              |                     |               |
| Well Name: HOOD                                   | Well #: 23N-22B-M   | API/UWI #: 05-123-44371-00           |                           |               |                        |                             |               |              |                     |               |
| Field: WATTENBERG                                 | City (SAP): GREELEY | County/Parish: WELD                  | State: COLORADO           |               |                        |                             |               |              |                     |               |
| Legal Description: SE SE-20-8N-86W-565FSL-1122FEL |                     |                                      |                           |               |                        |                             |               |              |                     |               |
| Contractor: Precision                             |                     | Rig/Platform Name/Num: Precision 562 |                           |               |                        |                             |               |              |                     |               |
| 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                                      | 15230ft             | 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             | 15213        | 0                   | 7007          |
| Open Hole Section                                 |                     |                                      | 8.5                       |               |                        |                             | 1762          | 15230        | 1762                | 7007          |
| <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                 |                                      |                           | 15213         |                        | Bottom Plug                 | 5.5           | 1            | Weatherford         |               |
| Float Collar                                      | 5.5                 |                                      |                           | 15166         |                        | 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                   | 3.75                        |               | 5            |                     |               |
| 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 Lead      | ELASTICEM (TM) SYSTEM                | 1004                      | 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<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
|-----------------------------------------|----------------------|----------------------------|-------|---------|---------------------------|-------------------|------------------|---------------------|---------------------------|
| 3                                       | NeoCem Tail          | NeoCem TM                  | 988   | sack    | 13.17                     | 2.093             |                  | 8                   | 10.08                     |
| Fluid #                                 | Stage Type           | Fluid Name                 | Qty   | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 4                                       | MMCR Displacement    | MMCR Displacement          | 20    | bbl     | 8.34                      |                   |                  | 8                   |                           |
| Fluid #                                 | Stage Type           | Fluid Name                 | Qty   | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 5                                       | Cla Web Displacement | Cla Web Displacement       | 315   | bbl     | 8.33                      |                   |                  | 8                   |                           |
| 0.0571 gal/bbl                          |                      | CLA-WEB - BULK (101985043) |       |         |                           |                   |                  |                     |                           |
|                                         |                      |                            |       |         |                           |                   |                  |                     |                           |
| Cement Left In Pipe                     |                      | Amount                     | 42 ft |         | Reason                    |                   |                  | Shoe Joint          |                           |
|                                         |                      |                            |       |         |                           |                   |                  |                     |                           |
| Comment 40bbl of cement back to surface |                      |                            |       |         |                           |                   |                  |                     |                           |

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

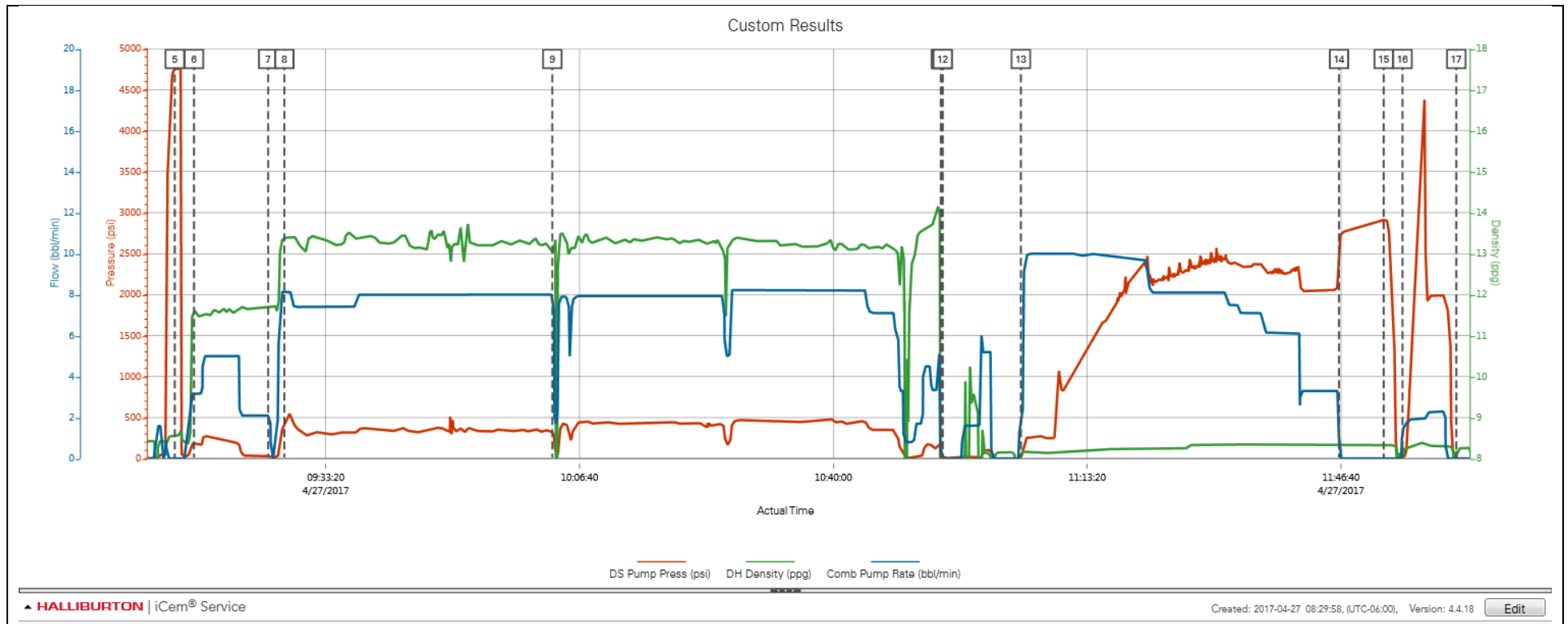
| Type  | Seq. No. | Activity          | Graph Label       | Date      | Time     | Source | DS Pump Press<br>(psi) | DH Density<br>(ppg) | Comb Pump Rate<br>(bbl/min) | Comments                                                                                  |
|-------|----------|-------------------|-------------------|-----------|----------|--------|------------------------|---------------------|-----------------------------|-------------------------------------------------------------------------------------------|
| Event | 1        | Call Out          | Call Out          | 4/27/2017 | 01:00:00 | USER   |                        |                     |                             | Call out from ARC Hub                                                                     |
| Event | 2        | Arrive At Loc     | Arrive At Loc     | 4/27/2017 | 05:00:00 | USER   |                        |                     |                             | Arrived on location met with Company rep to discuss job proces and concerns               |
| Event | 3        | Other             | Other             | 4/27/2017 | 05:10:10 | USER   |                        |                     |                             | TD-15230 TP-15213 FC-15166 SURF-1762 MUD-9.7PPG Casing -5.5 20# OH-8.5                    |
| Event | 4        | Start Job         | Start Job         | 4/27/2017 | 09:05:41 | COM4   | -3.00                  | 8.43                | 0.00                        | Held pre-job safety meeting with all hands on location to discuss job process and hazards |
| Event | 5        | Test Lines        | Test Lines        | 4/27/2017 | 09:13:30 | COM4   | 4759.00                | 8.57                | 0.00                        | Pressure tested pumps and lines with fresh water 4620psi                                  |
| Event | 6        | Pump Spacer 1     | Pump Spacer 1     | 4/27/2017 | 09:16:01 | COM4   | 177.00                 | 11.63               | 3.20                        | Mixed 40bbl of 11.5ppg Tuned spacer III at 5.0bpm 272psi                                  |
| Event | 7        | Drop Bottom Plug  | Drop Bottom Plug  | 4/27/2017 | 09:25:46 | COM4   | 26.00                  | 11.67               | 2.10                        | Released plug witnessed by company rep                                                    |
| Event | 8        | Pump Lead Cement  | Pump Lead Cement  | 4/27/2017 | 09:27:53 | COM4   | 387.00                 | 13.41               | 8.10                        | Mixed 1004sks or 280bbl of 13.2ppg Y-1.57 G/sk-7.52 Elasticem at 8.0bpm 613psi            |
| Event | 9        | Pump Tail Cement  | Pump Tail Cement  | 4/27/2017 | 10:03:05 | COM4   | 325.00                 | 13.02               | 8.00                        | Mixed 988sks or 367bbl of 13.2ppg Y-2.09 G/sk-10.08 Neocem at 8.0bpm 412psi               |
| Event | 10       | Shutdown          | Shutdown          | 4/27/2017 | 10:54:06 | COM4   | 73.00                  | 2.21                | 0.00                        |                                                                                           |
| Event | 11       | Clean Lines       | Clean Lines       | 4/27/2017 | 10:54:17 | COM4   | 29.00                  | 0.38                | 0.00                        | Washed pumps and lines with fresh water                                                   |
| Event | 12       | Drop Top Plug     | Drop Top Plug     | 4/27/2017 | 10:54:21 | COM4   | 22.00                  | 0.30                | 0.00                        | Released plug witnessed by company rep                                                    |
| Event | 13       | Pump Displacement | Pump Displacement | 4/27/2017 | 11:04:37 | COM4   | 35.00                  | 8.18                | 1.70                        | Pumped 335bbl of fresh water treated with MMCR and Clay-web                               |
| Event | 14       | Bump Plug         | Bump Plug         | 4/27/2017 | 11:46:24 | COM4   | 2650.00                | 8.34                | 0.00                        | Bump plug 500psi over final pump pressure                                                 |
| Event | 15       | Other             | Other             | 4/27/2017 | 11:52:16 | COM4   | 2911.00                | 8.34                | 0.00                        | Released pressure back to pump truck to check floats 3.0bbl back floats held good         |
| Event | 16       | Pressure Up Well  | Pressure Up Well  | 4/27/2017 | 11:54:44 | COM4   | 9.00                   | 8.15                | 1.30                        | Pressure up well to blow disc and pumped 6bbl for wet shoe                                |

|       |    |         |         |           |          |      |       |      |      |                                 |
|-------|----|---------|---------|-----------|----------|------|-------|------|------|---------------------------------|
| Event | 17 | End Job | End Job | 4/27/2017 | 12:01:48 | COM4 | -1.00 | 8.18 | 0.00 | 40bbl of cement back to surface |
|-------|----|---------|---------|-----------|----------|------|-------|------|------|---------------------------------|

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## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

