

# HALLIBURTON

iCem<sup>®</sup> Service

## **SRC ENERGY INC-EBUS**

Date: Monday, February 19, 2018

### **Falken 30N-14B-S Production**

Job Date: Wednesday, January 10, 2018

Sincerely,

**Justin Lansdale**

## 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 **Falken 30N-14B-S** 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 [Fort Lupton]**

*The Road to Excellence Starts with Safety*

|   |                     |                                      |                            |
|---|---------------------|--------------------------------------|----------------------------|
| Sold To #: 359915                                 | Ship To #: 3815824  | Quote #:                             | Sales Order #: 0904555462  |
| Customer: SYNERGY RESOURCES CORPORATION           |                     | Customer Rep: Caleb Ford             |                            |
| Well Name: FALKEN                                 |                     | Well #: 30N-14B-S                    | API/UWI #: 05-123-45111-00 |
| Field: WATTENBERG                                 | City (SAP): GREELEY | County/Parish: WELD                  | State: COLORADO            |
| Legal Description: NE SE-11-6N-66W-1724FSL-276FEL |                     |                                      |                            |
| Contractor: PRECISION DRLG                        |                     | Rig/Platform Name/Num: PRECISION 562 |                            |
| Job BOM: 7523 7523                                |                     |                                      |                            |
| Well Type: HORIZONTAL OIL                         |                     |                                      |                            |
| Sales Person: HALAMERICA\HB41307                  |                     | Srcv Supervisor: Luke Kosakewich     |                            |

**Job**

|                        |         |                   |        |
|------------------------|---------|-------------------|--------|
| Formation Name         |         |                   |        |
| Formation Depth (MD)   | Top     |                   | Bottom |
| Form Type              | BHST    |                   |        |
| Job depth MD           | 13410ft | Job Depth TVD     | 7100ft |
| Water Depth            |         | Wk Ht Above Floor |        |
| Perforation Depth (MD) | From    |                   | To     |

**Well Data**

| 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         | 1850         | 0          | 1850          |
| Casing            |            | 5.5     | 4.778 | 20            |        | P-110 | 0         | 13393        | 0          | 7100          |
| Open Hole Section |            |         | 8.5   |               |        |       | 1850      | 13410        | 1850       | 7100          |

**Tools and Accessories**

| Type         | Size in | Qty | Make | Depth ft | Type           | Size in | Qty | Make |
|--------------|---------|-----|------|----------|----------------|---------|-----|------|
| Guide Shoe   |         |     |      |          | Top Plug       | 5.5     | 1   | HES  |
| Float Shoe   | 5.5     |     |      | 13393    | Bottom Plug    | 5.5     | 1   | HES  |
| Float Collar | 5.5     |     |      | 13281    | SSR plug set   |         |     |      |
| Insert Float |         |     |      |          | Plug Container | 5.5     | 1   | HES  |
| Stage Tool   |         |     |      |          | Centralizers   |         |     |      |

**Fluid Data**

| Stage/Plug #: 1 |                  |                  |     |         |                        |                |               |              |                     |  |
|-----------------|------------------|------------------|-----|---------|------------------------|----------------|---------------|--------------|---------------------|--|
| 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 |  |
| 1               | Tuned Spacer III | Tuned Spacer III | 40  | bbl     | 11.5                   | 3.8            |               | 4            |                     |  |

| 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 |  |
|--|----------------------|-----------------------|-------|---------|------------------------|----------------|---------------|--------------|---------------------|--|
| 2  | ElastiCem Lead       | ELASTICEM (TM) SYSTEM | 1045  | sack    | 13.2                   | 1.57           |               | 8            | 7.54                |  |
| 3  | NeoCem               | NeoCem TM             | 776   | sack    | 13.2                   | 2.04           |               | 8            | 9.77                |  |
| 4  | MMCR Displacement    | MMCR Displacement     | 10    | bbl     | 8.34                   |                |               | 8            |                     |  |
| 5  | Cla Web Displacement | Cla Web Displacement  | 284.8 | bbl     | 8.33                   |                |               | 8            |                     |  |
| Cement Left In Pipe  |                      | Amount                | 0 ft  |         | Reason                 |                |               | Shoe Joint   |                     |  |
| <p><b>Comment</b> There were full returns throughout the job. Bumped the plug 500 psi. over 2,150 psi. at 3 bpm and held for 5 minutes. Finale pressure was 2,650 psi. Floats held. Got 2 bbls. of fluid back to the truck. Got 40 bbls. of spacer and 40 bbls. of cement to surface. Burst the plug at 4,560 psi. Pumped a 6 bbl. wet shoe. Estimated TOT is 5,859.</p> |                      |                       |       |         |                        |                |               |              |                     |  |

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

| Type  | Seq. No. | Activity                               | Graph Label                            | Date      | Time     | Source | Comments   |
|-------|----------|--|--|-----------|----------|--------|--|
| Event | 1        | Call Out                               | Call Out                               | 1/9/2018  | 21:00:00 | USER   | Crew was called out at 21:00 for an on location time of 02:00.   |
| Event | 2        | Depart Location Safety Meeting         | Depart Location Safety Meeting         | 1/10/2018 | 00:15:00 | USER   | Crew held a pre journey safety meeting and JSA.  |
| Event | 3        | Depart Shop for Location               | Depart Shop for Location               | 1/10/2018 | 00:30:00 | USER   | Started journey management with dispatch and left location.  |
| Event | 4        | Arrive at Location from Service Center | Arrive at Location from Service Center | 1/10/2018 | 01:30:00 | USER   | Crew performed a site assessment and hazard hunt on location. Checked in with the customer and discussed the job procedures, rig up and well bore schematics to calculate the job. The rig was running casing. |
| Event | 5        | Other                                  | Other                                  | 1/10/2018 | 01:40:00 | USER   |  |
| Event | 6        | Pre-Rig Up Safety Meeting              | Pre-Rig Up Safety Meeting              | 1/10/2018 | 01:45:00 | USER   | The crew held a pre rig up safety meeting and JSA.   |
| Event | 7        | Rig-Up Equipment                       | Rig-Up Equipment                       | 1/10/2018 | 01:50:00 | USER   | The crew rigged up all lines, hoses and equipment for the job.   |
| Event | 8        | Safety Meeting                         | Safety Meeting                         | 1/10/2018 | 04:30:00 | USER   | All personnel on location held a pre cement job safety meeting and JSA.  |
| Event | 9        | Start Job                              | Start Job                              | 1/10/2018 | 04:46:07 | COM4   | Pumped 3 bbls. of fresh water to fill lines and establish circulation.   |
| Event | 10       | Test Lines                             | Test Lines                             | 1/10/2018 | 04:53:36 | COM4   | Pressure tested lines to 6,000 psi. with a 500 psi. electronic kick out test.  |
| Event | 11       | Pump Spacer 1                          | Pump Spacer 1                          | 1/10/2018 | 05:16:13 | COM4   | Pumped 40 bbls. of Tuned Spacer III with surfactants mixed at 11.5 ppg., Yield: 3.8ft3/sks, 23.8 gal/sks. Density was verified by pressurized scales.  |
| Event | 12       | Shutdown                               | Shutdown                               | 1/10/2018 | 05:28:41 | USER   | Shutdown the drop the bottom plug, batch,  |

|       |    |                   |                   |           |          |      |   |
|-------|----|-------------------|-------------------|-----------|----------|------|---|
|       |    |                   |                   |           |          |      | and weigh up cement.  |
| Event | 13 | Drop Top Plug     | Drop Top Plug     | 1/10/2018 | 05:32:22 | USER | Dropped the top plug witnessed by the customer.   |
| Event | 14 | Pump Lead Cement  | Pump Lead Cement  | 1/10/2018 | 05:34:32 | COM4 | Pumped 292 bbls. (1045 sks.) of Elasticem mixed at 13.2 ppg., Yield: 1.57 ft3/sks, 7.54 gal/sks. Density was verified by pressurized scales.  |
| Event | 15 | Check Weight      | Check weight      | 1/10/2018 | 05:38:23 | COM4 | Cement weighed up at 13.2 ppg.  |
| Event | 16 | Pump Tail Cement  | Pump Tail Cement  | 1/10/2018 | 06:18:02 | COM4 | Pumped 282 bbls. (776 sks.) of Neocem mixed at 13.2 ppg. Yield: 2.04 ft3/sks, 9.77 gal/sks. Density was verified by pressurized scales.   |
| Event | 17 | Check Weight      | Check weight      | 1/10/2018 | 06:29:43 | COM4 | Cement weighed up at 13.2 ppg.  |
| Event | 18 | Shutdown          | Shutdown          | 1/10/2018 | 06:59:59 | COM4 | Finished mixing cement.   |
| Event | 19 | Clean Lines       | Clean Lines       | 1/10/2018 | 07:01:28 | COM4 | Washed pumps and lines until clean.   |
| Event | 20 | Drop Top Plug     | Drop Top Plug     | 1/10/2018 | 07:11:14 | COM4 | Dropped the top plug which was witnessed by the customer.   |
| Event | 21 | Pump Displacement | Pump Displacement | 1/10/2018 | 07:12:23 | COM4 | Pumped 294.8 bbls. of fresh water with MMCR in the first 10 bbls. and Biocide throughout the rest of displacement.  |
| Event | 22 | Bump Plug         | Bump Plug         | 1/10/2018 | 07:48:55 | COM4 | Bumped the plug 500 psi. over 2,150 psi. at 3 bpm. Finale pressure was 2,650 psi. Held pressure for 5 minutes. Pressure held. Got 40 bbls. of spacer and 40 bbls. of cement to surface. Estimated TOT 5,859'. |
| Event | 23 | Pressure Up Well  | Pressure Up Well  | 1/10/2018 | 07:50:03 | USER | Pressured up the well to 4,560 psi. to burst the plug. Pumped 6 bbls. for a wet shoe.   |

|       |    |  |  |           |          |      |   |
|-------|----|--|--|-----------|----------|------|---|
| Event | 24 | Check Floats                                     | Check Floats                                     | 1/10/2018 | 07:52:43 | USER | Bled off pressure to check floats. Floats held. Got 2 bbls. of fluid back to the truck. |
| Event | 25 | End Job  | End Job  | 1/10/2018 | 07:53:45 | COM4 | Washed pumps and lines until clean.   |
| Event | 26 | Pre-Rig Down Safety Meeting                      | Pre-Rig Down Safety Meeting                      | 1/10/2018 | 08:00:00 | USER | Halliburton cement crew held a pre rig down safety meeting and JSA.                     |
| Event | 27 | Rig-Down Equipment                               | Rig-Down Equipment                               | 1/10/2018 | 08:10:00 | USER | Held a pre journey safety meeting with the crew.  |
| Event | 28 | Depart Location Safety Meeting                   | Depart Location Safety Meeting                   | 1/10/2018 | 09:45:00 | USER | Started journey management with dispatch and left location.                             |
| Event | 29 | Depart Location for Service Center or Other Site | Depart Location for Service Center or Other Site | 1/10/2018 | 10:00:00 | USER | Washed pumps and lines until clean.   |

3.0 Attachments

3.1 Job Chart



