

HALLIBURTON

iCem® Service

BONANZA CREEK ENERGY-EBUS

State Antelope W-C-3HN Production

Job Date: Friday, November 04, 2022

Sincerely,

Meghan Van Zyl

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **State Antelope W-C-3HN** 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 42 bbls 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 Fort Lupton

| | | | | | | | | | | |
|--|---------------------------|-------------------------------|------------------------|---|-------------------------------|----------------------------------|------------------------|---------------------|----------------------------|----------------------|
| Sold To #: 324725 | | Ship To #: 324725 | | Quote #: | | Sales Order #: 0908220525 | | | | |
| Customer: BONANZA CREEK ENERGY-EBUS | | | | Customer Rep: Josh Johnson | | | | | | |
| Well Name: State Antelope | | | Well #: W-C-3HN | | | API/UWI #: 05-123-51726 | | | | |
| Field: | | City (SAP): GILL | | County/Parish: WELD | | | State: COLORADO | | | |
| Legal Description: | | | | | | | | | | |
| Contractor: PATTERSON-UTI ENERGY | | | | Rig/Platform Name/Num: PATTERSON 345 | | | | | | |
| Job BOM: 7523 7523 | | | | | | | | | | |
| Well Type: OIL & GAS WELL | | | | | | | | | | |
| Sales Person: HALAMERICA\HX41066 | | | | Srvc Supervisor: Steven Markovich | | | | | | |
| Job | | | | | | | | | | |
| Formation Name | | | | | | | | | | |
| Formation Depth (MD) | | Top | | | | Bottom | | | | |
| Form Type | | | | BHST | | | | | | |
| Job depth MD | | 11347ft | | Job Depth TVD | | | | | | |
| 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 | | | 0 | 1646 | 0 | 0 |
| Casing | 0 | 5.5 | 4.778 | 20 | | | 0 | 11347 | 0 | 0 |
| Open Hole Section | | | 8.5 | | | | 1646 | 11351 | 0 | 0 |
| Tools and Accessories | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | |
| Guide Shoe | 5.5 | | | 11347 | | Top Plug | 5.5 | | HES | |
| Float Shoe | 5.5 | | | | | Bottom Plug | 5.5 | | HES | |
| Float Collar | 5.5 | | | | | SSR plug set | 5.5 | | HES | |
| Insert Float | 5.5 | | | | | Plug Container | 5.5 | | HES | |
| Stage Tool | 5.5 | | | | | Centralizers | 5.5 | | HES | |
| 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 Prime Cement Spacer | TUNED PRIME CEMENT SPACER SYS | 50 | bbl | 11.5 | 3.74 | 23.65 | 6 | 1775 | |

| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal |
|---|----------------------|---------------------------|-----|---------|---------------------------|--------------------------------|------------------|-----------------|------------------------|
| 2 | ElastiCem | SBM CEM ELASTICEM™ SYS | 555 | sack | 13 | 1.66 | 8.3 | 8 | 4606 |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal |
| 3 | IsoBond(tm) | SBM CEM FDP-C1371 SYS | 550 | sack | 13 | 1.55 | 7.14 | 8 | 3927 |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal |
| 4 | ElastiCem | SBM CEM ELASTICEM™ SYS | 735 | sack | 13.2 | 1.59 | 7.78 | 8 | 5718 |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal |
| 5 | MMCR Displacement | MMCR Displacement | 252 | bbl | 8.33 | | | 8.99 | 10584 |
| | | | | | | | | | |
| | | | | | | | | | |
| Comment 634bbbls mix water total used. | | | | | | | | | |

2.0 Real-Time Job Summary

2.1 Job Event Log

| Seq No. | Activity | Date | Time | Dwnhole Density (ppg) | Cmb Pump Rate (bbl/min) | Pump A Pressure (psi) | Cmb Stg Total (bbl) | Comments |
|------------|--|-----------|----------|-----------------------------|----------------------------------|-----------------------------|---------------------------|---|
| 1 | Check Floats | 11/4/2022 | 09:00:00 | | | | | Job called out with an on location time of 1500. |
| 2 | Pre-Convoy Safety Meeting | 11/4/2022 | 13:00:00 | | | | | JSA with HES crew on driving safety and route to rig. |
| 3 | Arrive at Location from Service Center | 11/4/2022 | 15:00:00 | | | | | Arrived on location, rig running casing. Approx 1600' to run. |
| 4 | Pre-Rig Up Safety Meeting | 11/4/2022 | 15:10:00 | | | | | JSA and hazard hunt with HES crew. |
| 5 | Rig-Up Equipment | 11/4/2022 | 15:30:00 | | | | | Rig up HES lines and equipment. |
| 6 | Pre-Job Safety Meeting | 11/4/2022 | 17:15:00 | 7.98 | 0.00 | 4.59 | 4.30 | JSA with HES and rig crew on job safety and procedure. |
| 7 | Check Weight | 11/4/2022 | 17:32:06 | 7.97 | 0.00 | 0.13 | 0.00 | Weight verified by pressurized scales. |
| 8 | Start Job | 11/4/2022 | 17:32:43 | 7.97 | 0.00 | -0.13 | 0.00 | TD 11351' TP 11347' FC 11342' 5 1/2" 20# Production Casing, 9 5/8" 36# Surface Casing set at 1646', 8.5" Open Hole, TVD 6275', Mud# 9.2ppg, Estimated Top of Tail Cement 6248', Estimated Top of Lead Cement 2715'. |
| 9 | Drop Bottom Plug | 11/4/2022 | 17:42:29 | 7.96 | 0.00 | -0.49 | 0.00 | Plug loaded in HES head. Plug loaded and dropped in front of company rep. |
| 10 | Test Lines | 11/4/2022 | 17:47:33 | 8.31 | 0.00 | 109.29 | 4.46 | Set kick outs to 500psi and check low pressure kick outs. Then bring pressure up to 6500psi and hold. |
| 11 | Pump Spacer 1 | 11/4/2022 | 17:52:58 | 8.23 | 0.00 | 77.52 | 0.00 | Pump 50bbbls of 11.5ppg 3.74yield Tuned Prime Spacer. Pumped at 6.5bbl/min 500psi. |

| | | | | | | | | |
|----|------------------|-----------|----------|-------|------|--------|--------|--|
| 12 | Check Weight | 11/4/2022 | 18:00:23 | 11.68 | 4.03 | 195.93 | 31.94 | Weight verified by pressurized scales. |
| 13 | Check Weight | 11/4/2022 | 18:06:18 | 14.38 | 0.00 | -0.53 | 5.16 | Weight verified by pressurized scales. |
| 14 | Pump Cap Cement | 11/4/2022 | 18:07:06 | 14.39 | 0.00 | -0.85 | 5.16 | Pump 164.08bbls (555sks) of 13ppg 1.66yield Cap Cement. Pumped at 9bbl/min 575psi. |
| 15 | Check Weight | 11/4/2022 | 18:11:46 | 13.08 | 7.99 | 524.28 | 36.39 | Weight verified by pressurized scales. |
| 16 | Check Weight | 11/4/2022 | 18:13:22 | 13.17 | 8.52 | 644.80 | 49.92 | Weight verified by pressurized scales. |
| 17 | Check Weight | 11/4/2022 | 18:14:22 | 12.92 | 8.51 | 577.42 | 58.43 | Weight verified by pressurized scales. |
| 18 | Pump Lead Cement | 11/4/2022 | 18:26:34 | 12.86 | 4.93 | 231.97 | 0.08 | Pump 151.8bbls (550sks) of 13ppg 1.55yield Lead Cement. Pumped at 9bbl/min 700psi. |
| 19 | Check Weight | 11/4/2022 | 18:29:32 | 12.78 | 8.94 | 906.27 | 25.44 | Weight verified by pressurized scales. |
| 20 | Check Weight | 11/4/2022 | 18:30:44 | 12.96 | 9.07 | 886.51 | 36.19 | Weight verified by pressurized scales. |
| 21 | Pump Tail Cement | 11/4/2022 | 18:44:40 | 12.81 | 4.62 | 282.84 | 0.08 | Pump 208.1bbls (735sks) of 13.2ppg 1.59yield Tail Cement. Pumped at 9bbl/min 830psi. |
| 22 | Check Weight | 11/4/2022 | 18:45:57 | 13.17 | 8.89 | 728.09 | 9.83 | Weight verified by pressurized scales. |
| 23 | Check Weight | 11/4/2022 | 18:46:42 | 13.38 | 8.85 | 709.86 | 16.64 | Weight verified by pressurized scales. |
| 24 | Check Weight | 11/4/2022 | 18:48:08 | 13.26 | 8.91 | 680.18 | 29.37 | Weight verified by pressurized scales. |
| 25 | Check Weight | 11/4/2022 | 18:49:14 | 13.26 | 8.89 | 611.86 | 39.14 | Weight verified by pressurized scales. |
| 26 | Check Weight | 11/4/2022 | 18:57:28 | 13.28 | 8.86 | 662.01 | 112.25 | Weight verified by pressurized scales. |
| 27 | Check Weight | 11/4/2022 | 18:58:28 | 13.29 | 8.87 | 666.30 | 120.98 | Weight verified by pressurized scales. |
| 28 | Shutdown | 11/4/2022 | 19:12:54 | 13.12 | 0.00 | 110.59 | 228.02 | Shutdown and clean pumps and lines. |
| 29 | Drop Top Plug | 11/4/2022 | 19:23:28 | 7.71 | 0.00 | -12.20 | 14.91 | Plug loaded into HES head. Plug loaded and dropped in front of company rep. |

| | | | | | | | | |
|----|---------------------|-----------|----------|------|------|---------|--------|---|
| 30 | Pump Displacement | 11/4/2022 | 19:23:30 | 7.71 | 0.00 | -11.81 | 14.91 | Pump 251.8bbls of H2O. First 20bbls with MMCR. Pumped at 10bbl/min slowed rate with pressure increase. Spacer to surface at 160bbls away, Cement to surface at 210bbls away bringing 42bbls of cement to surface. |
| 31 | Bump Plug | 11/4/2022 | 19:52:55 | 8.36 | 3.96 | 2190.90 | 255.30 | Bumped plug at calculated displacement. Final lift pressure was 2190psi. Took pressure 500psi over and held. |
| 32 | Check Floats | 11/4/2022 | 19:54:59 | 8.43 | 0.00 | 3089.89 | 256.00 | Pressure was 3089psi when checking floats. After 2 3/4bbls back floats held. |
| 33 | End Job | 11/4/2022 | 19:56:12 | 8.26 | 0.00 | -14.91 | 0.00 | Thank you, Steven Markovich and crew. |
| 34 | Safety Meeting | 11/4/2022 | 20:15:00 | | | | | Pre-rig down JSA |
| 35 | Rig-Down Equipment | 11/4/2022 | 20:30:00 | | | | | Rig down HES lines and equipment. |
| 36 | Crew Leave Location | 11/4/2022 | 21:45:00 | | | | | |

3.0 Attachments

3.1 Real Time iCem Job Chart

