

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Monday, October 02, 2017

Leonard 4N SURFACE

Job Date: Wednesday, August 30, 2017

Sincerely,
Julia Nichols

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Leonard 4N** cement **Surface** 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 30 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 [Fort Lupton]

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*Cementing Job Summary**The Road to Excellence Starts with Safety*

| | | | | | | | | | | |
|---|-----------------------|-------------------------------------|---------------------------|---------------|------------------------|----------------|---------------|--------------|---------------------|---------------|
| Sold To #: 389404 | Ship To #: 3809809 | Quote #: | Sales Order #: 0904262241 | | | | | | | |
| Customer: EXTRACTION OIL & GAS - | | Customer Rep: Shawn McIntyre | | | | | | | | |
| Well Name: LEONARD | Well #: 4N | API/UWI #: 05-123-45048-00 | | | | | | | | |
| Field: WATTENBERG | City (SAP): FIRESTONE | County/Parish: WELD | State: COLORADO | | | | | | | |
| Legal Description: NW SW-21-2N-87W-1852FSL-494FWL | | | | | | | | | | |
| Contractor: UNKNOWN | | Rig/Platform Name/Num: WORKOVER RIG | | | | | | | | |
| Job BOM: 7521 7521 | | | | | | | | | | |
| Well Type: HORIZONTAL OIL | | | | | | | | | | |
| Sales Person: HALAMERICA\HX38199 | | Srvc Supervisor: Bradley Hinkle | | | | | | | | |
| Job | | | | | | | | | | |
| Formation Name | | | | | | | | | | |
| Formation Depth (MD) | Top | Bottom | | | | | | | | |
| Form Type | BHST | | | | | | | | | |
| Job depth MD | 1558ft | Job Depth TVD | 1558ft | | | | | | | |
| 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 | 0 | 9.625 | 8.921 | 36 | 8 RD | J-55 | 0 | 1558 | 0 | 0 |
| Open Hole Section | | | 13.5 | | | | 0 | 1557 | 0 | 0 |
| Tools and Accessories | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | |
| Guide Shoe | 9.625 | | | | | Top Plug | 9.625 | 1 | HES | |
| Float Shoe | 9.625 | 1 | | 1558 | | Bottom Plug | 9.625 | | HES | |
| Float Collar | 9.625 | 1 | | 1513 | | SSR plug set | 9.625 | | HES | |
| Insert Float | 9.625 | | | | | Plug Container | 9.625 | 1 | HES | |
| Stage Tool | 9.625 | | | | | Centralizers | 9.625 | | 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 | Spacer | Red Dye Water | 10 | bbl | 8.33 | | | 5 | | |
| Stage/Plug #: 2 | | | | | | | | | | |
| 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 | Primary Cement | SWIFCEM | 550 | sack | 13.5 | 1.74 | | 6 | 9.2 | |

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Cementing Job Summary

| 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 | Displacement | Fresh Water | 117 | bbl | 8.33 | | | 7 | |
| | | | | | | | | | |
| Cement Left In Pipe | | Amount | 43 ft | | Reason | | | Shoe Joint | |
| Mix Water: | | pH 6 | Mix Water Chloride: | | 0 ppm | | Mix Water Temperature: | | |
| Cement Temperature: | | ## °F °C | Plug Displaced by: | | ## lb/gal kg/m3 XXXX | | Disp. Temperature: | | |
| Plug Bumped? | | Yes/No | Bump Pressure: | | #### psi MPa | | Floats Held? | | |
| Cement Returns: | | ## bbl m3 | Returns Density: | | ## lb/gal kg/m3 | | Returns Temperature: | | |
| Comment 30 bbls cement to surface. | | | | | | | | | |

2.0 Real-Time Job Summary

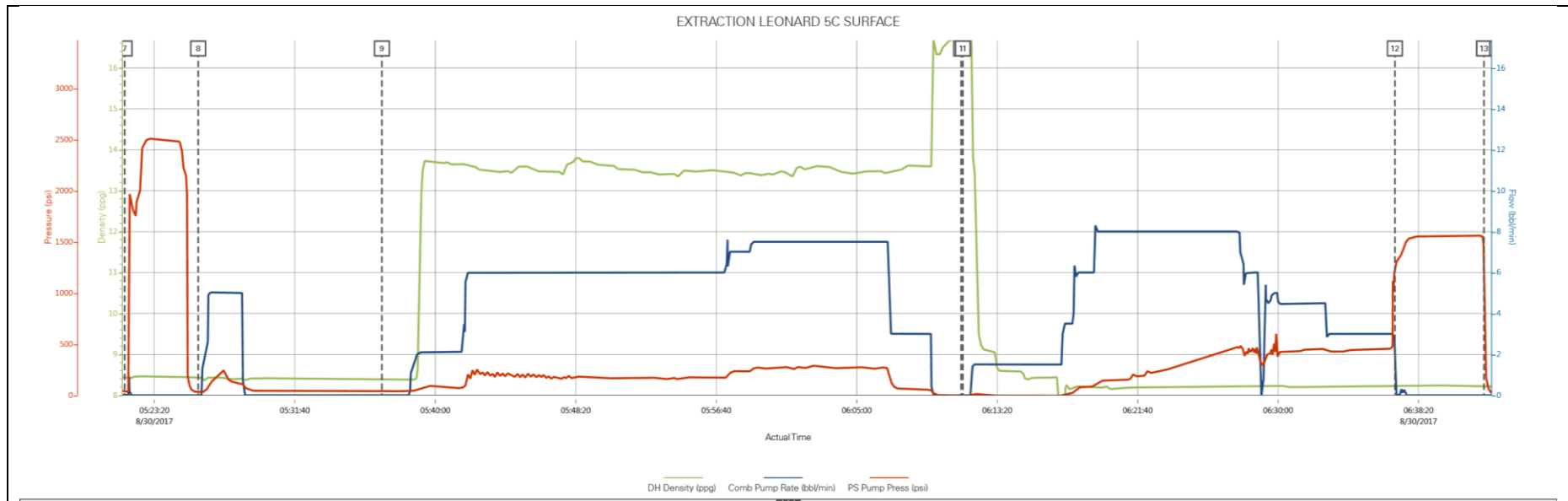
2.1 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | DH Density (ppg) | Comb Pump Rate (bbl/min) | PS Pump Press (psi) | Comments |
|-------|----------|--|--|-----------|----------|--------|---------------------|-----------------------------|------------------------|--|
| Event | 1 | Call Out | Call Out | 8/30/2017 | 00:00:01 | USER | | | | Crew called for an on location of 0600. Crew was Bradley Hinkle, Vitalijs Neverdasovs, Saiaiga Tauiliili and Jim Krichmar. |
| Event | 2 | Depart Yard Safety Meeting | Depart Yard Safety Meeting | 8/30/2017 | 02:00:00 | USER | | | | Pre-journey safety meeting. |
| Event | 3 | Arrive at Location from Service Center | Arrive at Location from Service Center | 8/30/2017 | 03:00:25 | USER | | | | Sign in, perform a site assessment and pre rig-up safety meeting. Starting to run casing. |
| Event | 4 | Other | Job Numbers | 8/30/2017 | 03:05:00 | USER | | | | TD: 1557 TP 1556 FC: 1513. 9.625" 36# casing inside a 13.5" OH. Well fluid weight at 8.4 ppg. |
| Event | 5 | Safety Meeting - Pre Job | Safety Meeting - Pre Job | 8/30/2017 | 05:00:00 | USER | 8.41 | 0.00 | 0.00 | Pre-job safety meeting. Rig crew did not participate. |
| Event | 6 | Start Job | Start Job | 8/30/2017 | 05:18:44 | COM4 | 6.64 | 0.00 | -3.00 | |
| Event | 7 | Test Lines | Test Lines | 8/30/2017 | 05:23:02 | COM4 | 8.46 | 0.00 | 2508.00 | Pressure test lines with a 500 PSI electronic kick-out test. |
| Event | 8 | Pump Spacer 1 | Pump Spacer 1 | 8/30/2017 | 05:25:56 | COM4 | 8.43 | 0.00 | 29.00 | Pump 10 bbls red dye water. |
| Event | 9 | Pump Cement | Pump Cement | 8/30/2017 | 05:39:26 | COM4 | 13.77 | 2.10 | 85.00 | Pump 170 bbls (550 sacks) SwiftCem mixed at 13.5 ppg. Density verified by pressurized scales. |
| Event | 10 | Drop Top Plug | Drop Top Plug | 8/30/2017 | 06:11:12 | COM4 | 16.82 | 0.00 | -5.00 | Top plug preloaded. Witnessed by customer. |
| Event | 11 | Pump Displacement | Pump Displacement | 8/30/2017 | 06:11:18 | COM4 | 16.86 | 0.00 | -4.00 | Pump 117 bbls fresh water. Good returns throughout. 30 bbls cement to surface. |
| Event | 12 | Bump Plug | Bump Plug | 8/30/2017 | 06:36:56 | COM4 | 8.22 | 0.10 | 1247.00 | Bump plug at 480 PSI and increase to 1500 PSI for a 5 minute casing test. |
| Event | 13 | Check Floats | Check Floats | 8/30/2017 | 06:42:13 | USER | 8.25 | 0.00 | 1221.00 | Check floats. 1 bbl back. |
| Event | 14 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 8/30/2017 | 06:43:00 | USER | 8.21 | 0.00 | 2.00 | Pre-rig down safety meeting. |

| | | | | | | | |
|-------|----|--|--|-----------|----------|------|---|
| Event | 15 | Depart Location for Service Center or Other Site | Depart Location for Service Center or Other Site | 8/30/2017 | 07:30:00 | USER | Bulk trucks headed back to yard to reload cement for next surface. Supervisor and pump remained on location. |
|-------|----|--|--|-----------|----------|------|---|

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

