

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

| | | | | | | | | | | |
|--|---------------------------------------|-----------------------|------------------|----------------------------------|----------------------------|---------------------------|---------------|--------------|---------------------|---------------|
| Sold To #: 345242 | | Ship To #: 3783320 | | Quote #: | | Sales Order #: 0904171133 | | | | |
| Customer: NOBLE ENERGY INC - EBUS | | | | Customer Rep: | | | | | | |
| Well Name: WELLS RANCH | | | Well #: AF07-659 | | API/UWI #: 05-123-44246-00 | | | | | |
| Field: WATTENBERG | | City (SAP): KERSEY | | County/Parish: WELD | | State: COLORADO | | | | |
| Legal Description: SE NE-8-5N-62W-2313FNL-175FEL | | | | | | | | | | |
| Contractor: H & P DRLG | | | | Rig/Platform Name/Num: H & P 517 | | | | | | |
| Job BOM: 7523 7523 | | | | | | | | | | |
| Well Type: HORIZONTAL OIL | | | | | | | | | | |
| Sales Person: HALAMERICA\HB70026 | | | | Srcv Supervisor: | | | | | | |
| Job | | | | | | | | | | |
| Formation Name | | | | | | | | | | |
| Formation Depth (MD) | | Top | | Bottom | | | | | | |
| Form Type | | | | BHST | | | | | | |
| Job depth MD | | 16445ft | | Job Depth TVD | | 6500ft | | | | |
| 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 | | J-55 | 0 | 1930 | 0 | 1930 |
| Casing | 0 | 5.5 | 4.778 | 20 | BUTTRESS | P-110 | 0 | 16435 | 0 | 6500 |
| Open Hole Section | | | 8.5 | | | | 1930 | 6535 | 0 | 6500 |
| Open Hole Section | | | 8.5 | | | | 6535 | 16445 | 0 | 6500 |
| 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 | 11.5 lb/gal Tuned Spacer III w/ Chems | Tuned Spacer III | 80 | bbl | 11.5 | 3.78 | | 5 | | |
| 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 | ELASTICEM | 150 | sack | 13.2 | 1.57 | | 6 | 7.53 | |
| 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 | ElastiCem w/ SCBL | ELASTICEM (TM) SYSTEM | 500 | sack | 13.2 | 1.6 | | 8 | 7.69 | |
| 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 | |

iCem® Service

(v. 4.4.18)

Created: Monday, July 24, 2017

HALLIBURTON

Cementing Job Summary

| | | | | | | | | | |
|--|--------------|--------------|-------|---------|---------------------------|-------------------|------------------|-----------------|---------------------------|
| 4 | NeoCem NT1 | NeoCem TM | 1140 | sack | 13.2 | 2.04 | | 8 | 9.75 |
| 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 | Displacement | Displacement | 363.9 | bbl | 8.33 | | | 10 | |
| | | | | | | | | | |
| Cement Left In Pipe | | Amount | 44ft | | Reason | | | Shoe Joint | |
| | | | | | | | | | |
| Comment Full returns throughout the job. Got 1 bbl of interphase back. Esitmatied Top of tail 6,331', Top of Lead #2 2,839', Top of Lead #1 1,828'. Top of Spacer 158'. Floats held, got 4.5bbls. back to the truck. | | | | | | | | | |

2.0 Real-Time Job Summary

2.1 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | Comb Pump Rate (bbl/min) | DS Pump Press (psi) | DH Density (ppg) | Comments |
|-------|----------|--|--|-----------|----------|--------|-----------------------------|------------------------|---------------------|---|
| Event | 1 | Call Out | Call Out | 7/20/2017 | 10:00:00 | USER | | | | Crew was called out at 10:00 for an on location time of 16:00. |
| Event | 2 | Safety Meeting - Departing Location | Safety Meeting - Departing Location | 7/20/2017 | 12:50:00 | USER | | | | Held a pre journey safety meeting and JSA. |
| Event | 3 | Depart from Service Center or Other Site | Depart from Service Center or Other Site | 7/20/2017 | 13:00:00 | USER | | | | Started journey management with dispatch and the crew left the yard. |
| Event | 4 | Arrive at Location from Service Center | Arrive at Location from Service Center | 7/20/2017 | 15:15:00 | USER | | | | Performed a hazard hunt and site assessment. Checked in with the customer and discussed numbers needed to calculate the job and rig up. Rig was running casing. Surface Casing: 9.625" 36# set at 1,930'. Production Casing: 5.5" 20# set at 16,435'. Float Collar: 16,391'. TVD: 6,500'. OH: 8.5" Mud#: 9.3ppg. Water test, Temp: 79 degrees F. PH: 7.5 Chlorids: 0 ppm. |
| Event | 5 | Safety Meeting - Pre Rig-Up | Safety Meeting - Pre Rig-Up | 7/20/2017 | 15:30:00 | USER | | | | Held pre rig up safety meeting and JSA. |
| Event | 6 | Rig-Up Equipment | Rig-Up Equipment | 7/20/2017 | 15:45:00 | USER | | | | Spotted trucks in and rigged up all iron and hoses for the job. |
| Event | 7 | Safety Meeting | Safety Meeting | 7/20/2017 | 18:45:00 | USER | | | | Held pre job safety meeting and JSA with all personnel on location. |
| Event | 8 | Start Job | Start Job | 7/20/2017 | 20:27:02 | COM4 | | | | Pumped 3 bbls of fresh water at 3 bpm. to fill lines. Circulating pressure was 225 psi. |
| Event | 9 | Test Lines | Test Lines | 7/20/2017 | 20:30:38 | COM4 | | 4333.00 | 8.49 | Pressure tested lines to 4,500 psi. with a 500 psi. electronic kick out test. |
| Event | 10 | Drop Bottom Plug | Drop Bottom Plug | 7/20/2017 | 20:35:41 | COM4 | | | | Dropped bottom plug witnessed by customer. |
| Event | 11 | Pump Spacer 1 | Pump Spacer 1 | 7/20/2017 | 20:38:42 | COM4 | 2.80 | 290.00 | 11.46 | Pumped 80 bbls. of Tuned Spacer mixed at 11.5 ppg. Density was verified by pressurized scales. |
| Event | 12 | Drop Bottom Plug | Drop Bottom Plug | 7/20/2017 | 21:02:40 | COM4 | | | | Dropped bottom plug witnessed by customer. |
| Event | 13 | Pump Lead Cement | Pump Lead Cement | 7/20/2017 | 21:05:46 | COM4 | 3.60 | 214.00 | 13.22 | Pumped 42 bbls (150 sks) of Elasticem Mixed at 13.2 ppg. Density |

was verified by pressurized scales.

| | | | | | | | | | | |
|-------|----|--|--|-----------|----------|------|-------|---------|-------|---|
| Event | 14 | Pump Lead Cement | Pump Lead Cement | 7/20/2017 | 21:13:29 | COM4 | 6.40 | 531.00 | 13.22 | Pumped 143 bbls (500 sks) of Elasticem Mixed at 13.2 ppg. Density was verified by pressurized scales. |
| Event | 15 | Pump Tail Cement | Pump Tail Cement | 7/20/2017 | 21:36:13 | COM4 | 5.00 | 343.00 | 13.04 | Pumped 414 bbls. (1140 sks) of Neocem mixed at 13.2 ppg. Density was verified by pressurized scales. |
| Event | 16 | Shutdown | Shutdown | 7/20/2017 | 22:29:45 | COM4 | | | | |
| Event | 17 | Clean Lines | Clean Lines | 7/20/2017 | 22:40:58 | COM4 | | | | Washed pumps and lines until clean. |
| Event | 18 | Drop Top Plug | Drop Top Plug | 7/20/2017 | 22:48:25 | COM4 | | | | Dropped top plug witnessed by customer. |
| Event | 19 | Pump Displacement | Pump Displacement | 7/20/2017 | 22:50:30 | COM4 | 10.10 | 526.00 | 7.87 | Pumped 363 bbls. of fresh water with MMCR in the first 20 bbls and Biocide throughout the rest of displacement. |
| Event | 20 | Rig-Down Equipment | Rig-Down Equipment | 7/20/2017 | 23:05:00 | USER | | | | Rigged down all lines, hoses, and equipment. |
| Event | 21 | Bump Plug | Bump Plug | 7/20/2017 | 23:31:50 | COM4 | 3.00 | 1870.00 | 7.94 | Bumped the plug at 3 bpm. Finale circulating pressure was 1,870 psi. Brought pressure up to 2,700 psi for five minutes. |
| Event | 22 | Check Floats | Check Floats | 7/20/2017 | 23:37:12 | USER | | | | Bled off pressure to check floats. Floats held and got 4.5 bbls of fluid back to the truck. |
| Event | 23 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 7/20/2017 | 23:50:00 | USER | | | | Held pre rig down safety meeting and JSA. |
| Event | 24 | Depart Location Safety Meeting | Depart Location Safety Meeting | 7/21/2017 | 01:00:00 | USER | | | | Held pre journey safety meeting and JSA |
| Event | 25 | Depart Location for Service Center or Other Site | Depart Location for Service Center or Other Site | 7/21/2017 | 01:10:00 | USER | | | | Started journey management with dispatch and the crew left location. |