

**HALLIBURTON**

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**NOBLE ENERGY INC E-BUSINESS**

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**Lorenz L 30-14  
WATTEBERG  
Weld County , Colorado**

**Recement Service**  
**25-Jan-2013**

**Job Site Documents**

# HALLIBURTON

## Cementing Job Summary

*The Road to Excellence Starts with Safety*

|   |  |                                 |                          |
|---|--|---------------------------------|--------------------------|
| Sold To #: 345242                                   | Ship To #: 2977104                                       | Quote #:                        | Sales Order #: 900169542 |
| Customer: NOBLE ENERGY INC E-BUSINESS               |  | Customer Rep: Hohenstein, Chris |                          |
| Well Name: Lorenz                                   | Well #: L 30-14  | API/UWI #: 05-123-16827         |                          |
| Field: WATTEBERG                                    | City (SAP): PLATTEVILLE                                  | County/Parish: Weld             | State: Colorado          |
| Lat: N 40.19 deg. OR N 40 deg. 11 min. 22.945 secs. | Long: W 104.822 deg. OR W -105 deg. 10 min. 39.756 secs. |                                 |                          |
| Job Purpose: Recement Service                       |  |                                 |                          |
| Well Type: Development Well                         | Job Type: Recement Service                               |                                 |                          |
| Sales Person: AARON, WESLEY                         | Srv Supervisor: VIGIL, NICHOLAS                          | MBU ID Emp #: 443481            |                          |

### Job Personnel

| HES Emp Name           | Exp Hrs | Emp #  | HES Emp Name     | Exp Hrs | Emp #  | HES Emp Name          | Exp Hrs | Emp #  |
|------------------------|---------|--------|------------------|---------|--------|-----------------------|---------|--------|
| DEY, JERRY A           | 5       | 505015 | MULLER, MICHEL B | 5       | 529830 | OTERI, VAUGHN Steeves | 5       | 443828 |
| VIGIL, NICHOLAS Joseph | 5       | 443481 |                  |         |        |                       |         |        |

### Equipment

| HES Unit # | Distance-1 way | HES Unit # | Distance-1 way | HES Unit # | Distance-1 way | HES Unit # | Distance-1 way |
|------------|----------------|------------|----------------|------------|----------------|------------|----------------|
| 10025030   | 11 mile        | 11398490   | 11 mile        | 11645063   | 11 mile        | 11808819C  | 11 mile        |
| 11923776C  | 11 mile        | 12010168   | 11 mile        |            |                |            |                |

### Job Hours

| Date      | On Location Hours | Operating Hours | Date                                       | On Location Hours | Operating Hours | Date | On Location Hours | Operating Hours |
|-----------|-------------------|-----------------|--|-------------------|-----------------|------|-------------------|-----------------|
| 1/26/2013 | 5                 | 3               |  |                   |                 |      |                   |                 |
| TOTAL     |                   |                 | Total is the sum of each column separately |                   |                 |      |                   |                 |

### Job

| Formation Name         | Formation Depth (MD) | Top | Bottom            | Called Out    | Date            | Time  | Time Zone |
|------------------------|----------------------|-----|-------------------|---------------|-----------------|-------|-----------|
| Form Type              |                      |     | BHST              | On Location   | 25 - Jan - 2013 | 07:20 | MST       |
| Job depth MD           | 4800. ft             |     | Job Depth TVD     | Job Started   | 25 - Jan - 2013 | 09:03 | MST       |
| Water Depth            |                      |     | Wk Ht Above Floor | Job Completed | 25 - Jan - 2013 | 11:52 | MST       |
| Perforation Depth (MD) | From                 |     | To                | Departed Loc  | 25 - Jan - 2013 | 12:45 | MST       |

### Well Data

| Description | New / Used | Max pressure psig | Size in | ID in | Weight lbm/ft | Thread | Grade | Top MD ft | Bottom MD ft | Top TVD ft | Bottom TVD ft |
|-------------|------------|-------------------|---------|-------|---------------|--------|-------|-----------|--------------|------------|---------------|
| Open Hole   |            |                   |         | 9.    |               |        |       | 630.      | 4350.        |            |               |
| Open hole   |            |                   |         | 12.   |               |        |       | 403.      | 630.         |            |               |
| Casing      | Unknown    |                   | 8.625   | 8.097 | 24.           |        |       | .         | 403.         |            |               |
| Casing      | Unknown    |                   | 2.875   | 3.826 | 6.5           |        |       | .         | 4750.        |            |               |

### Tools and Accessories

| Type         | Size | Qty | Make | Depth | Type        | Size | Qty | Make | Depth | Type           | Size | Qty | Make |
|--------------|------|-----|------|-------|-------------|------|-----|------|-------|----------------|------|-----|------|
| Guide Shoe   |      |     |      |       | Packer      |      |     |      |       | Top Plug       |      |     |      |
| Float Shoe   |      |     |      |       | Bridge Plug |      |     |      |       | Bottom Plug    |      |     |      |
| Float Collar |      |     |      |       | Retainer    |      |     |      |       | SSR plug set   |      |     |      |
| Insert Float |      |     |      |       |             |      |     |      |       | Plug Container |      |     |      |
| Stage Tool   |      |     |      |       |             |      |     |      |       | Centralizers   |      |     |      |

### Miscellaneous Materials

| Gelling Agt   | Conc | Surfactant | Conc | Acid Type | Qty  | Conc | %   |
|---------------|------|------------|------|-----------|------|------|-----|
| Treatment Fld | Conc | Inhibitor  | Conc | Sand Type | Size |      | Qty |

### Fluid Data

| Stage/Plug #: 1 | Fluid # | Stage Type | Fluid Name | Qty | Qty uom | Mixing Density lbm/gal | Yield ft <sup>3</sup> /sk | Mix Fluid Gal/sk | Rate bbl/min | Total Mix Fluid Gal/sk |
|-----------------|---------|------------|------------|-----|---------|------------------------|---------------------------|------------------|--------------|------------------------|
|-----------------|---------|------------|------------|-----|---------|------------------------|---------------------------|------------------|--------------|------------------------|

**HALLIBURTON****Cementing Job Summary**

|  |              |                              |                  |                                   |                |                     |          |           |      |
|--|--------------|------------------------------|------------------|-----------------------------------|----------------|---------------------|----------|-----------|------|
| 1  | 15.8# Cement | HALCEM (TM) SYSTEM (452986)  | 330.0            | sacks                             | 15.8           | 1.15                | 5.0      |           | 5.0  |
|  | 5 Gal        | FRESH WATER                  |                  |                                   |                |                     |          |           |      |
| 2  | FracCem B2   | FRACCEM (TM) SYSTEM (452963) | 300.0            | sacks                             | 13.5           | 1.48                | 7.07     |           | 7.07 |
|  | 7.07 Gal     | FRESH WATER                  |                  |                                   |                |                     |          |           |      |
| <b>Calculated Values</b>                 |              |                              | <b>Pressures</b> |                                   | <b>Volumes</b> |                     |          |           |      |
| Displacement                             |              | Shut In: Instant             |                  | Lost Returns                      | no             | Cement Slurry       |          | Pad       |      |
| Top Of Cement                            | Surface      | 5 Min                        |                  | Cement Returns                    | 2 bbl          | Actual Displacement |          | Treatment |      |
| Frac Gradient                            |              | 15 Min                       |                  | Spacers                           |                | Load and Breakdown  |          | Total Job |      |
| <b>Rates</b>                             |              |                              |                  |                                   |                |                     |          |           |      |
| Circulating                              |              | Mixing                       |                  | 1.5                               | Displacement   |                     | Avg. Job |           | 1.5  |
| Cement Left In Pipe                      | Amount       | 0 ft                         | Reason           | Shoe Joint                        |                |                     |          |           |      |
| Frac Ring # 1 @                          | ID           | Frac ring # 2 @              | ID               | Frac Ring # 3 @                   | ID             | Frac Ring # 4 @     | ID       |           |      |
| The Information Stated Herein Is Correct |              |                              |                  | Customer Representative Signature |                |                     |          |           |      |