

# CNX WFN 12 Well Pad Drilling Fluid Additives

| Ingredients                                                                                | Chemical Abstract Service Number (CAS #) | Weight %  | Gallons Used | % of Total Usage |
|--------------------------------------------------------------------------------------------|------------------------------------------|-----------|--------------|------------------|
| <b>Water</b>                                                                               | 7732-18-5                                | 100       | 1306626      | 84.71%           |
| <b>Foamer(s)</b>                                                                           |                                          |           | 2396         | 0.16%            |
| Ammonium C6-10-alkyl polyoxyethylene sulfate                                               | 68037-05-8                               | 10 - < 20 |              |                  |
| Diethylene Glycol Monobutyl Ether                                                          | 112-34-5                                 | 10 - < 20 |              |                  |
| Poly(oxy-1,2-ethanediyl), -alpha.-sulfo-.omega.-(hexyloxy)-, ammonium salt                 | 63428-86-4                               | 10 - < 20 |              |                  |
| Ammonium Cumene Sulfonate                                                                  | 37475-88-0                               | 3 - < 5   |              |                  |
| Sulfonic Acids, C14-16- Alkane Hydroxy and C14-16-Alkene, Sodium Salts                     | 68439-57-6                               | 1 - < 3   |              |                  |
| 2-Butoxyethanol                                                                            | 111-76-2                                 | 5-10      |              |                  |
| Ammonium Laureth Sulfate                                                                   | 32612-48-9                               | 90-95%    |              |                  |
| Sodium Lauryl Sulfate                                                                      | 151-21-3                                 |           |              |                  |
| Alpha Olefin Sulfonate                                                                     | 68439-57-6                               |           |              |                  |
| <b>Defoamer</b>                                                                            |                                          |           | 1293         | 0.08%            |
| Hydrophobic Silica                                                                         | 67762-90-7                               | <10       |              |                  |
| Distillates (petroleum) Hydrotreated Light Napthenic                                       | 64742-53-6                               | 60-80     |              |                  |
| <b>Corrosion Inhibitor</b>                                                                 |                                          |           | 0            | 0.00%            |
| Polyphosphoric acid, triethanolamine ester, sodium salt                                    | 68131-72-6                               | 1-5       |              |                  |
| Tripotassium Phosphate                                                                     | 7778-53-2                                | 1-5       |              |                  |
| <b>Base Synthetic Oil</b>                                                                  |                                          |           | 184584       | 11.97%           |
| Distillates (petroleum), hydrotreated light                                                | 64742-47-8                               | 100       |              |                  |
| <b>Barite</b>                                                                              |                                          |           | 25495        | 1.65%            |
| Barium sulfate                                                                             | 7727-43-7                                | 84-98     |              |                  |
| Silica, quartz                                                                             | 14808-60-7                               | 1-5       |              |                  |
| Calcium carbonate                                                                          | 471-34-1                                 | 1-5       |              |                  |
| Clay                                                                                       | 1332-58-7                                | .1-6      |              |                  |
| <b>Organophilic Clay</b>                                                                   |                                          |           | 18           | 0.00%            |
| Quaternary Ammonium Compd.,benzylbis(hydrogenated Tallow Alkyl)methyl, Salt With Bentonite | 68153-30-0                               | 97 - 100  |              |                  |
| Quartz                                                                                     | 14808-60-7                               | < 3       |              |                  |
| <b>Lime</b>                                                                                |                                          |           | 1341         | 0.09%            |
| Calcium hydroxide                                                                          | 1305-62-0                                | >85       |              |                  |
| Silica, quartz                                                                             | 14808-60-7                               | <0.1      |              |                  |
| <b>Emulsifier</b>                                                                          |                                          |           | 8587         | 0.56%            |
| Mixture of Fatty acids, tall oil                                                           | 61790-12-3                               | 10-50     |              |                  |
| Distillates (petroleum), hydrotreated light                                                | 64742-47-8                               | 10-50     |              |                  |
| Fatty Amine                                                                                | 61791-26-2                               | 2-3       |              |                  |
| Blend of chemically modified tall oil derivative                                           | 68154,94-9                               | 2-3       |              |                  |
| Diethanolamine                                                                             | 111-42-2                                 | .25-.75   |              |                  |
| <b>Calcium Chloride</b>                                                                    |                                          |           | 437          | 0.03%            |
| Calcium Chloride                                                                           | 10043-52-4                               | 94-97     |              |                  |
| Potassium Chloride                                                                         | 7447-40-7                                | 2-3       |              |                  |
| Sodium Chloride                                                                            | 7647-14-5                                | 1-2       |              |                  |
| <b>Wetting Agent</b>                                                                       |                                          |           | 11320        | 0.73%            |
| Distillates (petroleum), hydrotreated middle                                               | 64742-46-7                               | 30 - 60   |              |                  |
| <b>Fluid Loss Control</b>                                                                  |                                          |           | 398          | 0.03%            |
| Gilsonite                                                                                  | 012002-43-6                              | 100       |              |                  |