|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NN** | **NE** | **EE** | **ND** | **ED** | **DD** | **Year** | **Mo** | **Day** | **Hr** | **min** | **Sec** | **Quality** |
| 1.91E-01 | -1.22E-01 | -8.47E-02 | 1.94E-01 | 2.39E-02 | 4.51E-02 | 2014 | 9 | 29 | 9 | 57 | 54.158 | excellent |
| 5.00E-02 | -1.93E-01 | -1.24E-01 | 1.75E-01 | 2.48E-02 | 3.99E-02 | 2014 | 9 | 29 | 18 | 3 | 37.66 | excellent |
| -2.62E-03 | -3.15E-02 | 2.95E-01 | -1.53E-01 | -1.21E-01 | 9.10E-02 | 2014 | 9 | 30 | 6 | 45 | 0.821 | moderate |
| 6.49E-02 | -9.50E-02 | -2.84E-01 | 6.74E-02 | 1.45E-01 | -3.58E-02 | 2014 | 9 | 30 | 9 | 23 | 48.626 | good |
| -2.67E-01 | 1.32E-01 | -6.40E-02 | 6.06E-02 | 1.03E-01 | 7.79E-02 | 2014 | 9 | 30 | 21 | 30 | 43.503 | excellent |
| -1.78E-01 | -1.05E-01 | -1.51E-01 | 7.11E-02 | 1.06E-01 | 1.06E-01 | 2014 | 10 | 1 | 1 | 3 | 14.495 | excellent |
| 1.48E-01 | -1.18E-01 | -1.49E-01 | 1.58E-01 | -3.13E-02 | 9.55E-02 | 2014 | 10 | 1 | 8 | 8 | 57.998 | excellent |
| 7.94E-02 | 1.61E-01 | -4.69E-02 | 1.56E-01 | 1.14E-01 | 1.20E-02 | 2014 | 10 | 1 | 8 | 49 | 42.74 | poor |
| -3.26E-02 | 2.22E-01 | -3.37E-01 | 1.64E-02 | 7.16E-02 | 9.88E-03 | 2014 | 10 | 1 | 10 | 50 | 55.107 | excellent |
| 2.00E-01 | -1.41E-01 | -1.46E-01 | 1.40E-01 | -8.71E-03 | 7.41E-02 | 2014 | 10 | 1 | 12 | 3 | 31.644 | good |
| 1.58E-01 | 3.47E-02 | 6.67E-02 | 2.48E-01 | 6.32E-02 | 8.34E-02 | 2014 | 10 | 1 | 14 | 53 | 20.145 | excellent |
| -1.04E-01 | 1.46E-01 | -2.54E-01 | 1.25E-01 | -1.33E-02 | 7.34E-02 | 2014 | 10 | 1 | 15 | 1 | 54.95 | excellent |
| -2.21E-01 | -8.13E-02 | -2.19E-02 | -1.52E-01 | 3.52E-02 | 2.20E-01 | 2014 | 10 | 1 | 16 | 56 | 11.343 | good |
| 2.17E-01 | -3.67E-02 | -6.42E-02 | 2.35E-01 | 7.20E-02 | 3.18E-02 | 2014 | 10 | 1 | 19 | 5 | 32.705 | excellent |
| 3.03E-02 | -1.92E-01 | -9.50E-02 | 1.99E-01 | 1.07E-02 | 7.11E-02 | 2014 | 10 | 1 | 20 | 47 | 39.521 | excellent |
| -9.49E-02 | 8.22E-02 | -5.35E-02 | -2.24E-01 | 4.96E-02 | -1.40E-01 | 2014 | 10 | 1 | 21 | 29 | 35.768 | good |
| 1.28E-01 | 1.27E-01 | -6.92E-02 | 8.79E-02 | 1.45E-01 | -8.42E-02 | 2014 | 10 | 1 | 22 | 13 | 54.151 | good |
| 1.62E-01 | 4.20E-02 | -2.04E-01 | 2.16E-01 | -2.04E-02 | 7.76E-02 | 2014 | 10 | 2 | 6 | 39 | 2.998 | excellent |
| -1.46E-02 | 9.64E-02 | -3.98E-01 | 2.60E-02 | 1.69E-01 | -4.69E-03 | 2014 | 10 | 2 | 6 | 48 | 7.652 | excellent |
| -1.17E-01 | 1.71E-01 | -1.99E-01 | 1.39E-01 | -2.43E-02 | 1.64E-02 | 2014 | 10 | 2 | 7 | 7 | 19.637 | excellent |
| 3.77E-01 | -1.27E-02 | -1.42E-01 | 1.29E-01 | 8.11E-02 | 3.59E-02 | 2014 | 10 | 2 | 7 | 22 | 3.575 | good |
| 5.18E-02 | -1.72E-01 | -2.48E-02 | 2.09E-01 | -2.97E-02 | 1.02E-01 | 2014 | 10 | 2 | 9 | 4 | 8.647 | good |
| 2.41E-01 | -7.30E-02 | -9.79E-02 | 1.73E-01 | 4.30E-02 | 8.35E-02 | 2014 | 10 | 2 | 11 | 1 | 58.257 | excellent |
| -6.57E-02 | -1.85E-01 | -1.14E-01 | 1.69E-01 | 4.18E-02 | 2.83E-02 | 2014 | 10 | 2 | 12 | 39 | 24.317 | good |
| -2.17E-01 | -2.31E-01 | 4.01E-02 | 5.04E-02 | 7.21E-02 | 3.58E-02 | 2014 | 10 | 2 | 16 | 12 | 35.315 | weak |
| 2.31E-03 | -1.80E-01 | -9.21E-02 | 2.20E-01 | -4.35E-03 | 9.59E-02 | 2014 | 10 | 2 | 18 | 54 | 3.152 | good |
| 1.42E-01 | -1.37E-01 | -1.64E-01 | 1.72E-01 | 1.08E-02 | 5.38E-02 | 2014 | 10 | 2 | 20 | 37 | 6.043 | good |
| 6.07E-03 | -2.23E-01 | -9.16E-02 | 1.94E-01 | 3.37E-02 | -6.18E-04 | 2014 | 10 | 3 | 6 | 6 | 37.324 | excellent |
| 2.45E-01 | -8.11E-02 | -1.97E-01 | 1.74E-01 | 1.62E-02 | 1.51E-02 | 2014 | 10 | 3 | 15 | 27 | 57.661 | good |
| -5.77E-02 | -1.66E-01 | -1.43E-01 | 1.46E-01 | 7.81E-02 | -1.95E-02 | 2014 | 10 | 3 | 18 | 55 | 9.929 | fair |
| 1.68E-01 | -3.35E-02 | -9.83E-03 | 2.95E-01 | 3.54E-02 | 9.35E-02 | 2014 | 10 | 4 | 5 | 29 | 8.258 | fair |
| -1.03E-01 | 1.33E-01 | -1.19E-01 | 1.48E-01 | 5.51E-02 | 1.07E-01 | 2014 | 10 | 4 | 17 | 33 | 7.355 | excellent |
| 8.71E-02 | 1.26E-01 | -4.19E-02 | 1.81E-01 | 8.43E-02 | 8.72E-02 | 2014 | 10 | 4 | 18 | 51 | 27.825 | excellent |
| -4.16E-01 | -1.86E-04 | 4.65E-02 | 1.89E-01 | -7.14E-02 | 1.64E-02 | 2014 | 10 | 4 | 21 | 29 | 47.537 | moderate |
| -1.37E-01 | -1.84E-01 | -5.91E-02 | 1.61E-01 | -1.12E-02 | 9.22E-02 | 2014 | 10 | 5 | 2 | 6 | 16.967 | excellent |
| -2.45E-02 | -1.88E-01 | -1.23E-01 | 1.69E-01 | 9.68E-03 | 1.19E-01 | 2014 | 10 | 5 | 2 | 14 | 37.168 | excellent |
| 5.30E-02 | 6.78E-02 | -1.18E-01 | 1.62E-01 | 7.51E-02 | 2.21E-01 | 2014 | 10 | 5 | 4 | 7 | 30.276 | excellent |
| -2.29E-01 | 1.61E-01 | -7.21E-02 | -9.28E-02 | 8.01E-02 | -3.22E-02 | 2014 | 10 | 5 | 15 | 55 | 21.007 | good |
| 2.87E-01 | -3.71E-02 | -1.79E-01 | 9.26E-02 | 1.26E-01 | 2.27E-02 | 2014 | 10 | 5 | 16 | 7 | 32.777 | excellent |
| -1.87E-01 | 9.00E-02 | -9.47E-02 | -1.45E-01 | -2.49E-02 | 1.99E-01 | 2014 | 10 | 5 | 23 | 22 | 16.499 | good |
| -8.06E-02 | -9.30E-02 | -2.67E-01 | 6.01E-02 | 1.63E-01 | -2.04E-02 | 2014 | 10 | 6 | 4 | 2 | 55.789 | good |
| -3.56E-01 | 1.59E-01 | 1.19E-01 | 5.15E-02 | 2.88E-02 | 4.70E-02 | 2014 | 10 | 6 | 6 | 13 | 48.626 | excellent |
| 1.32E-01 | 1.00E-01 | -3.87E-01 | 3.12E-02 | 9.89E-02 | 1.91E-02 | 2014 | 10 | 7 | 6 | 12 | 8.593 | good |
| 2.45E-01 | -1.19E-01 | -1.14E-01 | 1.67E-01 | -1.16E-02 | 4.69E-02 | 2014 | 10 | 7 | 7 | 26 | 23.18 | good |
| 4.38E-02 | 2.44E-01 | -1.80E-01 | 4.37E-02 | 9.99E-02 | -2.18E-05 | 2014 | 10 | 7 | 10 | 47 | 20.916 | good |
| 2.55E-02 | 1.51E-01 | -2.81E-01 | 1.69E-02 | 1.79E-01 | -4.14E-04 | 2014 | 10 | 8 | 7 | 5 | 5.941 | weak |
| -7.82E-03 | 2.19E-01 | -2.87E-01 | 2.80E-02 | 1.01E-01 | -8.51E-03 | 2014 | 10 | 8 | 19 | 8 | 20.619 | excellent |
| -1.75E-01 | -2.00E-01 | -6.44E-02 | 1.28E-01 | -1.70E-02 | 6.96E-02 | 2014 | 10 | 8 | 21 | 16 | 58.2 | good |
| 2.44E-02 | 7.10E-02 | -2.43E-02 | -8.64E-02 | -1.62E-01 | 3.13E-01 | 2014 | 10 | 9 | 6 | 24 | 33.418 | excellent |
| 7.44E-02 | 8.69E-02 | -6.60E-02 | -1.45E-01 | -9.86E-02 | 1.98E-01 | 2014 | 10 | 9 | 10 | 16 | 9.945 | moderate |
| 6.24E-02 | 7.90E-02 | 1.39E-01 | 1.64E-01 | 1.16E-01 | 8.12E-02 | 2014 | 10 | 10 | 6 | 54 | 56.708 | good |
| -7.19E-02 | 1.81E-01 | -1.77E-01 | 8.89E-02 | -9.17E-02 | 2.76E-02 | 2014 | 10 | 10 | 8 | 4 | 29.986 | good |
| -1.43E-01 | -1.36E-01 | 3.35E-03 | 1.56E-01 | -5.83E-02 | 1.55E-01 | 2014 | 10 | 11 | 3 | 29 | 5.667 | good |
| 3.71E-03 | 3.87E-02 | -3.57E-01 | 5.61E-02 | 2.09E-01 | 2.16E-02 | 2014 | 10 | 11 | 10 | 53 | 26.502 | good |
| -1.35E-01 | -1.17E-01 | -4.10E-02 | 2.00E-01 | -5.35E-02 | 8.30E-02 | 2014 | 10 | 12 | 10 | 12 | 29.632 | good |
| -4.88E-01 | -1.02E-01 | 5.62E-02 | 5.97E-02 | -1.84E-03 | 1.29E-01 | 2014 | 10 | 12 | 16 | 37 | 43.287 | excellent |
| 4.02E-02 | -1.23E-01 | -2.57E-01 | 1.61E-01 | 1.97E-02 | 9.60E-02 | 2014 | 10 | 12 | 16 | 47 | 1.137 | excellent |
| 2.03E-01 | -2.42E-02 | -3.05E-01 | 1.71E-01 | -4.33E-02 | 1.58E-02 | 2014 | 10 | 12 | 18 | 33 | 4.693 | moderate |
| -2.21E-01 | 1.54E-01 | 4.96E-02 | 9.04E-02 | 8.19E-02 | 7.60E-02 | 2014 | 10 | 12 | 21 | 10 | 23.311 | good |
| 3.23E-02 | 2.19E-01 | -1.53E-01 | 1.15E-01 | 4.44E-02 | 5.91E-02 | 2014 | 10 | 12 | 21 | 10 | 23.33 | excellent |
| -5.87E-02 | -1.25E-01 | -2.80E-01 | 6.12E-02 | 1.41E-01 | 6.33E-03 | 2014 | 10 | 13 | 0 | 57 | 6.717 | good |
| 2.61E-02 | -1.18E-01 | -2.89E-01 | 8.03E-02 | 1.23E-01 | 4.15E-02 | 2014 | 10 | 13 | 4 | 12 | 29.126 | excellent |
| 6.35E-02 | 3.63E-02 | -1.12E-01 | 2.56E-01 | 9.89E-02 | -4.32E-02 | 2014 | 10 | 13 | 6 | 40 | 26.151 | weak |
| -1.16E-01 | -1.39E-01 | -1.17E-01 | 1.51E-01 | 5.54E-02 | 7.56E-02 | 2014 | 10 | 13 | 10 | 22 | 29.084 | excellent |
| -1.13E-01 | -2.73E-02 | -2.41E-01 | 5.66E-02 | 5.18E-02 | 3.75E-01 | 2014 | 10 | 14 | 5 | 46 | 13.914 | excellent |
| -1.27E-01 | -1.70E-01 | 3.34E-02 | 1.57E-01 | -5.42E-02 | 7.86E-02 | 2014 | 10 | 15 | 15 | 3 | 44.602 | excellent |
| -5.10E-02 | -1.76E-01 | -8.51E-02 | 1.95E-01 | 1.28E-03 | 1.20E-01 | 2014 | 10 | 15 | 15 | 37 | 25.945 | excellent |
| -4.01E-01 | -1.33E-01 | -3.89E-03 | 1.17E-01 | 1.60E-02 | 6.35E-02 | 2014 | 10 | 16 | 16 | 53 | 27.374 | good |
| -4.20E-02 | -1.46E-01 | -3.20E-01 | -5.38E-04 | 1.43E-01 | 5.83E-02 | 2014 | 10 | 18 | 23 | 57 | 3.695 | good |
| -1.86E-01 | 8.58E-02 | -2.76E-01 | 1.40E-01 | -1.35E-02 | 6.01E-02 | 2014 | 10 | 19 | 9 | 7 | 50.325 | good |
| 6.16E-03 | 1.50E-01 | -1.76E-01 | 1.99E-01 | 1.95E-03 | 1.17E-01 | 2014 | 10 | 19 | 20 | 4 | 10.756 | good |
| -1.40E-02 | -2.15E-01 | -6.15E-02 | 2.27E-01 | 1.12E-03 | 3.93E-02 | 2014 | 10 | 23 | 21 | 2 | 22.252 | good |
| 1.09E-01 | -1.25E-01 | -7.65E-02 | 2.14E-01 | 2.17E-02 | 9.47E-02 | 2014 | 10 | 26 | 7 | 29 | 26.068 | weak |
| 2.66E-01 | 1.18E-02 | -2.05E-01 | 1.72E-01 | -4.86E-02 | 6.51E-02 | 2014 | 10 | 26 | 7 | 37 | 35.648 | good |
| -2.13E-01 | 2.39E-02 | 8.73E-02 | -5.33E-02 | 1.63E-01 | 2.20E-01 | 2014 | 11 | 15 | 21 | 8 | 12.847 | good |
| -1.02E-01 | -9.09E-02 | -2.18E-01 | 8.29E-02 | -2.86E-02 | 2.76E-01 | 2014 | 11 | 15 | 22 | 40 | 3.616 | good |
| -1.13E-01 | -5.93E-02 | -1.91E-01 | 1.08E-01 | -4.33E-03 | 3.53E-01 | 2014 | 11 | 16 | 16 | 22 | 8.621 | excellent |
| -1.49E-01 | 8.76E-02 | 2.02E-01 | 7.87E-02 | -1.51E-01 | 1.52E-02 | 2014 | 11 | 16 | 16 | 44 | 39.138 | excellent |
| -8.10E-03 | 3.84E-02 | -4.69E-02 | 3.87E-02 | -1.26E-01 | 5.39E-01 | 2014 | 11 | 16 | 16 | 45 | 9.72 | excellent |
| -2.70E-01 | 1.51E-01 | -2.26E-02 | 7.18E-02 | 8.81E-02 | 8.50E-02 | 2014 | 11 | 16 | 18 | 52 | 9.588 | moderate |
| 9.00E-02 | -3.23E-02 | -8.10E-02 | 2.10E-01 | 8.45E-02 | 1.75E-01 | 2014 | 11 | 16 | 23 | 2 | 40.34 | excellent |
| 2.19E-01 | 1.91E-02 | -6.36E-02 | 2.30E-01 | -5.18E-02 | 1.16E-01 | 2014 | 11 | 16 | 23 | 9 | 57.924 | excellent |
| -2.52E-01 | 1.28E-01 | -4.56E-02 | 1.39E-01 | -5.85E-02 | -5.26E-02 | 2014 | 11 | 17 | 3 | 34 | 37.422 | good |
| -8.58E-02 | 1.70E-01 | 1.80E-02 | 1.66E-01 | 4.79E-02 | 1.28E-01 | 2014 | 11 | 17 | 3 | 41 | 42.731 | excellent |
| -2.49E-01 | -8.81E-02 | -1.12E-01 | 3.18E-02 | -3.71E-02 | 3.26E-01 | 2014 | 11 | 17 | 4 | 41 | 52.962 | excellent |
| -9.76E-02 | 1.35E-01 | -1.60E-01 | 9.05E-02 | -1.08E-01 | -7.58E-02 | 2014 | 11 | 17 | 5 | 40 | 30.556 | weak |
| -6.71E-02 | 5.92E-02 | -2.61E-01 | -1.98E-02 | 1.39E-01 | 2.36E-01 | 2014 | 11 | 17 | 7 | 47 | 43.425 | excellent |
| 1.11E-01 | 1.13E-01 | -2.27E-01 | 1.51E-01 | -4.51E-02 | 4.24E-02 | 2014 | 11 | 17 | 7 | 48 | 23.805 | excellent |
| -1.09E-01 | -7.56E-02 | 2.84E-01 | 6.33E-02 | 1.56E-01 | 1.75E-02 | 2014 | 11 | 17 | 23 | 31 | 42.142 | good |
| -1.45E-03 | 1.66E-01 | 1.30E-01 | 6.64E-02 | 1.91E-01 | 2.16E-02 | 2014 | 11 | 19 | 7 | 51 | 31.118 | good |
| -8.25E-02 | -1.21E-01 | -2.77E-01 | 1.42E-01 | 4.11E-02 | 3.23E-02 | 2014 | 11 | 19 | 7 | 51 | 48.116 | good |
| 2.26E-01 | 5.21E-02 | -2.14E-01 | 1.54E-01 | -3.93E-02 | 6.90E-02 | 2014 | 11 | 19 | 15 | 3 | 58.695 | excellent |
| -1.52E-02 | 1.40E-01 | -2.13E-01 | 4.02E-02 | 1.97E-01 | 1.75E-02 | 2014 | 11 | 19 | 17 | 4 | 49.464 | good |
| -3.77E-01 | 1.34E-01 | -1.29E-01 | 7.08E-02 | -2.17E-02 | 4.15E-02 | 2014 | 11 | 21 | 9 | 57 | 35.096 | good |
| -2.18E-01 | -7.00E-02 | -2.67E-01 | 3.09E-02 | 1.28E-01 | 5.80E-02 | 2014 | 11 | 22 | 10 | 19 | 32.207 | weak |
| -2.86E-01 | 8.98E-02 | 7.58E-02 | 1.24E-01 | -7.16E-02 | 6.74E-02 | 2014 | 11 | 24 | 2 | 2 | 3.454 | good |
| 2.31E-02 | 1.84E-01 | -4.53E-01 | 5.48E-02 | 1.64E-02 | 1.30E-02 | 2014 | 11 | 30 | 15 | 31 | 42.837 | good |
| -4.91E-02 | -1.55E-02 | -2.55E-01 | 7.82E-02 | 1.82E-01 | 1.44E-01 | 2014 | 12 | 11 | 15 | 53 | 21.233 | moderate |
| -1.21E-02 | 3.37E-02 | -6.21E-02 | 7.25E-02 | 1.59E-01 | 3.95E-01 | 2014 | 12 | 14 | 8 | 41 | 11.396 | moderate |
| 1.03E-01 | 8.32E-02 | -2.25E-01 | 1.65E-01 | 6.43E-02 | 4.67E-02 | 2014 | 12 | 21 | 2 | 55 | 53.285 | good |

STIM 1

#1: 64 MTs (2014,10,13,16,20,0) - (2014,09,26,00,00,0) to;% pre-diverter 1

#2: 1 MTs (2014,10,14,16,10,0) - (2014,10,13,16,20,0));% pre-diverter 2

#3: 1 MTs (2014,10,15,22,30,0) - (2014,10,14,16,10,0));% pre-shut-in

#4: 5 MTs (2014,10,23,9,30,0) - (2014,10,15,22,30,0));% pre-flowback

#5: 3 MTs (2014,11,11,9,30,0) - (2014,10,23,9,30,0));% after flowback

STIM 2

#1: 0 MTs (2014,11,15,16,0,0) - (2014,11,11,9,30,0));% before high pressure

#2: 15 MTs (2014,11,18,12,38,0) - (2014,11,15,16,0,0));% pre-diverter 1

#3: 2 MTs (2014,11,19,13,15,0) - (2014,11,18,12,38,0));% pre-diverter 2

#4: 2 MTs (2014,11,20,18,30,0) - (2014,11,19,13,15,0));% pre-shut-in

#5: 3 MTs (2014,11,24,10,10,0) - (2014,11,20,18,30,0));% pre-flowback

#6: 4 MTs (2014,11,24,10,10,0));% after-flowback



All MTs, 1st Stim



All MTs, 2nd Stim



Stim1 Period1



Stim1 Period 4



Stim1 Period 5



Stim 2 Period 2



Stim 2 Period 5



Stim2 Period 6 (after flowback)