| October 2022 Interest Rates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | coc Fee | $\begin{gathered} 0.625 \\ 0.697 \end{gathered}$ | $\begin{aligned} & 1.000 \\ & 0.697 \end{aligned}$ | $\begin{aligned} & 0.625 \\ & 0.642 \\ & 0.6 \end{aligned}$ | $\begin{aligned} & 1.0000 \\ & 0.642 \end{aligned}$ | $\begin{aligned} & 0.625 \\ & 0.368 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & 0.368 \end{aligned}$ | $\begin{aligned} & 0.025 \\ & 0.3250 \\ & 0.0 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & 0.3205 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0.025 \\ & 0.4517 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & 0.4517 \end{aligned}$ | $\begin{aligned} & 0.625 \\ & 0.2475 \\ & 0.25 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & 0.2455 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0.625 \\ & 0.731 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & 0.731 \end{aligned}$ | $\begin{aligned} & 0.625 \\ & 0.682 \end{aligned}$ | $\begin{aligned} & 1.000 \\ & 0.682 \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & 1.000 \\ & 0.4855 \end{aligned}$ | $\begin{aligned} & 0.025 \\ & 0.2590 \end{aligned}$ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Jan 20 | 10,182 | 2.18 | ${ }^{2.26433}$ | 1.68 | 0.50 |  | 4.359 | N/A | 4.278 | 4.830 | 3.874 | 4.426 | 3.804 | 4.356 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.914 |  | N/A | N/A |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| July 20 | 18,005 | 0.81 | ${ }^{0.84288}$ | 0.29 | 0.52 |  | N/A | N/A | 2.878 | 3.437 | 2.470 | 3.029 | 2.400 | 2.958 | N/A |  |  | N/A | V/A | N/A | N/A | N/A | NA | N/A | 2.402 | N/A |  |  |  |  |
| Sept 20 | 39,162 | 0.70 | 0.72851 | 0.29 | 0.41 |  | 2.849 | N/A | 2.767 | 3.326 | 2.358 | 2.918 | 2.288 | 2.847 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.290 | N/A | N/A | N/A | N/A | N/A |
| Nov 20 | 10,988 | 0.65 | 0.67647 | 0.33 | 0.32 |  | N/A | N/A | 2.709 | 3.267 | 2.302 | 2.859 | 2.231 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.233 | 2.791 | N/A | N/A | N/A | N/A |
| Jan 21 | 4,135 | 0.67 | 0.69727 | 0.46 | 0.21 |  | N/A | N/A | 2.733 | N/A | 2.325 | 2.883 | 2.254 | N/A | 2.450 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.256 | N/A | N/A | N/A | N/A | N/A |
| Mar 21 | 9,478 | 0.91 | ${ }^{0.94684}$ | 0.79 | 0.12 |  | N/A | N/A | 2.983 | N/A | 2.575 | N/A | 2.504 | 3.063 | 2.700 | 3.258 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Na | n/A |  |
| May 21 | 12,001 | 0.84 | ${ }^{0.87394}$ | 0.79 |  |  | Na | Na | N/ | N/A | N/A | 3.056 | 2.428 | 2.985 | 2.623 | 3.180 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.67 |  | 去 | N/A |
|  | 9,501 | 0.82 | ${ }_{0} .85320$ | 0.74 | 0.08 |  | N/A | N/A | 2.887 | N/A | 2.880 | N/A | 2.409 | 2.967 | 2.604 | 3.162 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.656 |  | A | N/A |
| Sept 21 | 12,821 | 0.90 | ${ }^{0.93642}$ | 0.81 | 0.99 |  | N/A | N/A | N/A | 3.528 | 2.563 | N/A | 2.492 | 3.050 | 2.687 | 3.245 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.739 | 3.297 | N/A |  |
| Nov 21 | 16,778 | 1.31 | 1.36226 | 1.18 | 0.13 |  | N/A | N/A | 3.392 | N/A | N/A | N/A | 2.914 | 3.471 | 3.109 | 3.666 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.161 | 3.718 | N/A |  |
| Jan 22 | 12,92 | 1.58 | 1.62224 | 1.47 | 0.11 |  | N/A | N/A | N/A | N/A | 3.257 | N/A | 3.187 | 3.741 | 3.381 | 3.935 | N/A | 3.633 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.432 | 3.986 | 3.096 | N/A |
| Mar 22 | 17,27 | 2.30 | 2.38859 | 1.93 | 0.37 |  | N/A | n/A | 4.401 | N/A | N/A | N/A | 3.928 | 4.480 | 4.121 | 4.673 | 3.820 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 4.172 | N/A | N/A | N/A |
| May 22 | 20,358 | 3.39 | ${ }_{3.51524}$ | 3.01 | 0.38 |  | - | N/A | N/A | N/A | N/A | N/A | 5.387 | 5.583 | 5.228 | 5.774 | 4.931 | 5.477 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | NA | 128 | N/A |
| July 22 |  | 3.43 | 3.56775 | 3.01 | 042 |  | N/A | N/A | N/A | N/A | 5.149 | N/A | N/A | 5.626 | 5.271 | 5817 | 4.974 |  | N/A | N/A | N/A | N/A | N/A | Na | N/A | N/A | N/A | N/A |  |  |
| Sept 22 | 15,202 | 3.78 | 3.91809 | 3.38 | 0.40 |  | N/A | N/A | N/A | N/A | N/A | N/A | 5.438 | N/A | 5.629 | 6.174 | 5.332 | 5.877 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.39 | 5.894 |
| 20-vear Debentures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Jan } 20}$ | ${ }^{113,379}$ | ${ }^{2.32}$ | ${ }^{2.36123}$ | ${ }_{1}^{1.89}$ | ${ }^{0.43}$ |  | ${ }_{4}^{4.106}$ | 4.567 | 4.039 | 4.499 | ${ }^{3.703}$ | ${ }^{4.163}$ | ${ }^{3.644}$ | 4.105 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }^{3.646}$ | N/A | N/A | N/A | N/A | N/A |
| Feb 20 | 87,102 | 2.07 | 2.10736 | 1.66 | 0.41 |  | 3.854 | 4.315 | 3.887 | 4.247 | ${ }^{3.450}$ | 3.911 | 3.392 | 3.852 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.883 | 3.944 | 3.394 | N/A | N/A | N/A | N/A | N/A |
| Mar 20 | 111,375 | 1.49 | 1.51808 | 0.94 | 0.55 |  | 3.272 | 3.735 | 3.204 | 3.667 | 2.866 | 3.329 | 2.808 | 3.270 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.900 | N/A | 2.810 | N/A | N/A | N/A | N/A | N/A |
| April 20 | ${ }^{141,823}$ | 1.64 | ${ }^{1.67056}$ | 0.75 | 0.89 |  | 3.425 | 3.887 | 3.357 | 3.819 | 3.019 | 3.881 | 2.960 | 3.423 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.515 | 2.962 | N/A | N/A | N/A | N/A | N/A |
| May 20 | 127,470 | 1.37 | 1.39601 | 0.69 | 0.68 |  | 3.153 | N/A | 3.085 | 3.548 | 2.746 | 3.209 | 2.688 | 3.151 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.780 | N/A | 2.689 | N/A | N/A | N/A | N/A | N/A |
| Jun 20 | 162,340 | 1.21 | 1.23325 | 0.67 | 0.54 |  | 2.994 | 3.458 | 2.926 | 3.390 | 2.587 | 3.051 | 2.528 | 2.992 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.530 | 2.994 | N/A | N/A | N/A |  |
| July 20 | 121,029 | 1.03 | 1.05033 | 0.64 | ${ }^{0.39}$ |  | 2.812 | 3.277 | 2.744 | 3.209 | 2.405 | 2.869 | ${ }^{2} 2.346$ | 2.810 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Aug 20 | 101,964 | 0.90 | ${ }^{0.91764}$ | 0.51 | 0.39 |  | 2.680 | ${ }^{3.145}$ | 2.612 | 3.077 | 2.272 | 2.737 | 2.214 | 2.678 | N/A | N/A | N/A | N/A | N/A | n/A | N/A | N/A | N/A | N/A | 2.215 | N/A | N/A | N/A | N/A | N/A |
| Sept 20 | 344,162 | 1.05 | 1.07039 | 0.71 | ${ }^{0.34}$ |  | 2.833 | 3.298 | 2.765 | 3.229 | 2.425 | 2.890 | 2.366 | 2.831 | N/A | N/A | N/A | n/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.368 | ${ }^{2.833}$ | N/A | N/A | N/A | N/A |
| Oct 20 | 23,92 | 1.08 | 1.10090 | 0.78 | 0.30 |  | N/A | 3.326 | 2.794 | 3.258 | 2.454 | 2.919 | 2.396 | 2.860 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.398 | N3 | N/A | N/A | N/A | N/A |
| Nov 20 | 46,133 | 1.05 | 1.07034 | 0.77 | 0.28 |  | N/A | 3.294 | 2.762 | 3.226 | 2.423 | 2.887 | 2.364 | 2.828 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.366 | 2.830 | N/A | N/A | N/A |  |
| Dec 20 | 79,404 | 1.11 | 1.13145 | 0.94 | 0.17 |  | 2.893 | N/A | 2.825 | 3.290 | 2.885 | 2.950 | 2.427 | 2.891 | 2.589 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.428 | N/A | 2.632 | N/A | N/A | N/A |
| Jan 21 | 50,211 | ${ }^{1.118}$ | ${ }_{1}^{1.20277}$ | 1.08 | ${ }^{0.10}$ |  | 2.962 3024 | 3.426 | 2.894 | ${ }_{3}^{3.358}$ | 2.55 | 3.019 3 2081 | 2.496 | 2.960 | 2.658 | ${ }_{3}^{3.122}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.498 <br> 2560 | N/A |  | N/A | N/A |  |
| $\underset{\text { Feb 21 }}{\text { Mar } 21}$ | co,207 <br> 50,071 | 1.24 1.52 1 | 1.26377 1.54858 1 | 1.15 1.54 1 | 0.09 0.002 |  |  | ${ }^{\text {N/A }}$ | ${ }_{3}^{2.956}$ | 3.420 <br> 3,700 | 2.187 2 |  | 2.558 2840 2 | ${ }_{\text {3 }}^{3.022} \mathrm{~N} / \mathrm{A}$ | 2.720 <br> 3.002 | 3.185 | N/A | N/A | N/A | N/A | ${ }_{\text {N/A }}^{\text {N/A }}$ | N/A | N/A | N/A | ${ }_{\text {2 }}$ 2.560 | ${ }^{3.024}$ N/A |  |  | N/A | N/A |
| Mar 21 <br> April 12 | ${ }_{\substack{57,071 \\ 59,73}}^{\text {cos }}$ | 1.52 <br> 1.54 | 1.54858 1.56902 | 1.54 <br> 1.64 | -0.02 -0.10 |  | 3.305 | ${ }_{3}^{3.768}$ | ${ }_{3.256}^{3.237}$ | 3.700 3.719 | 2.899 2.918 | ${ }_{\substack{3.362 \\ 3.381}}^{\text {a }}$ | 2.840 2.859 | N/A | 3.002 3.021 | 3.4.84 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |  | N/A | 3.045 <br> 3.064 | ${ }_{3.527}^{\text {N/A }}$ | N/A | N/A |
| May 21 | 63,399 | 1.37 | 1.36601 | 1.56 | -0.19 |  | 3.152 | N/A | 3.084 | 3.547 | 2.746 | 3.209 | 2.887 | 3.150 | 2.849 | 3.312 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.689 | N/A | 2.892 | N/A | N/A | N/A |
| June 21 | 70,55 | 1.29 | ${ }^{1.31461}$ | 1.49 | -0.20 |  | 3.074 | 3.538 | 3.006 | 3.470 | 2.667 | 3.131 | 2.608 | 3.072 | 2.770 | 3.234 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |  | N/A |  |  | N/A |  |
| Jul | 90.067 | 1.22 | ${ }^{1.24338}$ | 1.29 | -0.07 |  | , | N/A | 2.934 | 3.398 | 2.596 | 3.059 | 2.537 | 3.001 | 2.699 | 3.163 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.742 | 3.206 |  |  |
| Aug 21 | ${ }^{68,384}$ | 1.27 | 1.29425 | 1.20 | 0.07 |  | N/A | 3.515 | 2.983 | N/A | 2.645 | 3.108 | 2.586 | 3.049 | 2.748 | 3.211 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.791 | 3.255 | N/A |  |
| Sept 21 | ${ }^{83,523}$ | 1.38 | ${ }^{1.40620}$ | ${ }^{1.33}$ | 0.05 |  | ${ }^{3.164}$ | 3.627 | 3.096 | N/A | 2.757 | N/A | 2.698 | 3.162 | 2.860 | 3.324 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.903 | 3.367 | N/A | N/A |
| Oct 21 | 71,529 | ${ }^{1.54}$ | 1.55884 <br> 15996 | ${ }_{1}^{1.56}$ | ${ }^{-0.02}$ |  | ${ }_{3}^{3.323}$ | N/A | ${ }_{3}^{3.255}$ | ${ }_{3}^{3.718}$ | 2.917 | ${ }^{3.380}$ | 2.859 | ${ }^{3.331}$ | 3.021 | 3.483 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.063 3 | 3538 | N/A | N/A |
| Nov 21 | ${ }^{96,582}$ | ${ }^{1.55}$ | ${ }^{1.57906}$ | 1.50 | ${ }^{0.05}$ |  | ${ }^{3.335}$ | N/A | 3.267 | 3.730 | 2.929 | 3.392 | 2.870 | ${ }^{3.333}$ | 3.032 | 3.495 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.075 | 3.538 | N/A | N/A |
| Dec 21 | ${ }^{68,395}$ | ${ }^{1.65}$ | 1.18871 | 1.48 | 0.17 |  | 3.435 | N/A | 3.367 | N/A | 3.029 | 3.991 | 2.970 | 3.433 | 3.132 | 3.595 | 2.880 | 3.343 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }^{3.175}$ | 3.638 | 2.894 | N/A |
| Jan 22 | ${ }^{62,330}$ | 1.84 | ${ }^{1.877372}$ | 1.73 | ${ }^{0.11}$ |  | ${ }^{3.624}$ | N/A | N/A | 4.017 | N/A | N/A | 3.160 | 3.622 | 3.322 | 3.783 | 3.070 | 3.532 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }^{3.365}$ | N/A | 3.085 | N/A |
| Feb 22 | ${ }^{69,462}$ | 2.22 | 2.25968 | 1.99 | 0.23 |  | N/A | N/A | 3.939 | 4.400 | 3.602 | 4.063 | 3.544 | 4.005 | 3.705 | 4.166 | 3.454 | 3.925 | N/A | N/A | N/A | N/A | N/ | N/A | N/A | N/A | 3.748 | N/A |  |  |
| Mar 22 | 75,60 | 2.53 | 2.57423 | 2.00 | 0.53 |  | 4.317 | N/A | 4.250 | N/A | 3.914 | N/A | 3.856 | N/A | 4.017 | 4.476 |  | 4.226 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 4.059 | N/A | 3.780 |  |
| April 22 | 94,133 | ${ }^{3.38}$ | ${ }^{3.43547}$ | 2.65 | ${ }^{0.73}$ |  | N/A | N/A | 5.100 | 5.557 | 4.766 | N/A | 4.709 | N/A | 4.868 | 5.325 | 4.620 | 5.076 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 4.911 | 5.367 | 4.634 | N/A |
| May 22 | (10238 | 3.82 | ${ }^{3.888065}$ | 3.04 | ${ }^{0.78}$ |  | N/A | N/A | ${ }_{5}^{5.539}$ | ¢ | 5.207 | 5.662 | 5.149 | 5.604 | ${ }^{5.309}$ | ${ }^{5} 5.764$ | 5.061 | ${ }_{5}^{5.516}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.351 5 5 | 5.806 | 5.075 | N/A |
| June 22 | 100,238 | 3.89 | ${ }^{3.95163}$ | ${ }^{3.04}$ | 0.85 |  | N/A | N/A | ${ }_{5}^{5.511}$ | 6.067 | 5.279 | N/A | 5.221 | 5.676 | 5.380 | ${ }_{5}^{5.836}$ | 5.132 | ${ }_{5}^{5.588}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{5}^{5.423}$ | N/A | 5.146 | ${ }_{5}^{5.602}$ |
| July 22 | 70,315 | 3.81 | 3.87069 | 2.96 | 0.85 |  | 5.597 | N/A | 5.530 | N/A | 5.198 | N/A | 5.140 | 5.595 | 5.299 | 5.755 | 5.051 | 5.507 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{5} 5.342$ | N/A | 5.065 | 5.521 |
| Aug 22 | 79,827 | 3.65 | 3.7888 | 2.82 | ${ }^{0.83}$ |  | 5.439 | N/A | 5.372 | N/A | 5.039 | n/A | 4.981 | 5.437 | 5.141 | 5.597 | 4.892 | 5.349 | n/A | n/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.183 | N/A | 4.906 | 5.363 |
| Sept 22 | 52,60 | 4.10 | 4.16385 | 3.26 | 0.84 |  | N/A | N/A | N/A | N/A | 5.889 | N/A | 5.431 | N/A | 5.590 | 6.045 | 5.343 | 5.797 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.357 | 5.811 |
| Oct 22 | 50,24 | 4.89 | 4.96167 | 3.84 | 1.05 |  | N/A | N/A | 6.610 | N/A | 6.279 | N/A | 6.222 | N/A | 6.380 | 6.832 | 6.134 | 6.586 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6.148 |  |
| 25-Year Debentures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\substack{\text { Jan } 20 \\ \text { Feb } 20}}$ | ${ }^{2072125}$ | 2.45 | 2.48308 <br> 223024 | ${ }_{1.89}^{1.89}$ | - 0.56 |  | N/A | N/A | ${ }_{\text {a }}^{4.093}$ | 4.535 | ${ }^{3.770}$ | ${ }_{\text {4,212 }}^{4.212}$ | 3.714 <br> 3063 | ${ }_{4}^{4.156}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.802 351 | N/A | ${ }^{3.716}$ | 4.158 | N/A | N/A | N/A |  |
| Feb 20 Mar 20 | ${ }_{\text {256,694 }}^{192791}$ | 2.20 1.62 | 2.23024 1.64346 | 1.66 0.94 | 0.54 <br> 0.68 |  | N/A | N/A | 3.842 <br> 3.261 | 4.284 | ${ }^{3.519}$ | 3.961 | 3.463 2.881 | ${ }_{3}^{3.905}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.551 2.969 | 3.993 | 3.885 | ${ }_{\text {cher }}^{\text {N/A }}$ | N/A | N/A | N/A | N/A |
| April 20 | 279,385 | 1.77 | 1.79534 | 0.75 | 1.02 |  | N/A | N/A | 3.413 | 3.857 | 3.089 | 3.532 | 3.032 | 3.476 | N/A | N/A |  |  | N/A | N/A | N/A | N/A | 3.121 | N/A | ${ }_{3.034}$ | 3.478 |  | N/A | N/A |  |
| May 20 | 265, 265 | 1.50 | 1.52196 | 0.69 | 0.81 |  | N/A | N/A | 3.142 | 3.586 | 2.817 | 3.262 | 2.761 | 3.205 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.849 | N/A | 2.763 | 3.207 | N/A | N/A | N/A | N/A |
| June 20 | -331,334 | 1.34 | ${ }^{1.35995}$ | ${ }^{0.67}$ | 0.67 |  | N/A | N/A | 2.983 | 3.429 | 2.658 | 3.103 | 2.602 | 3.047 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.603 | 3.049 | N/A | N/A | N/A | N/A |
| July 20 | 258,237 | ${ }^{1.15}$ | ${ }^{1.16770}$ | 0.64 | 0.51 |  | N/A | N/A | 2.792 | 3.238 | 2.467 | 2.913 | 2.410 | 2.856 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.412 | 2.858 | N/A | N/A | N/A | N/A |
| Aug 20 | 272,805 | 1.01 | 1.02546 | 0.51 | 0.50 |  | N/A | N/A | 2.651 | 3.097 | 2.325 | 2.771 | 2.269 | 2.715 | N/A | N/A | N/A | N/A | N/A | n/A | N/A | N/A | N/A | N/A | 2.271 | 2.717 | N/A | N/A | N/A | N/A |
| Sept 20 | 900,950 | 1.15 | ${ }^{1.16739}$ | ${ }^{0.71}$ | ${ }^{0.44}$ |  | N/A | N/A | 2.793 | 3.239 | 2.467 | 2.913 | 2.410 | ${ }^{2.856}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.499 | N/A | 2.412 | 2.858 | N/A | N/A | N/A | N/A |
| Oct 20 | 100,646 | ${ }^{1.17}$ | 1.18764 | 0.78 | 0.39 |  | N/A | N/A | 2.812 | N/A | 2.886 | 2.932 | 2.430 | 2.876 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.432 | 2.877 | N/A | N/A | N/A |  |
| Nov 20 | 188,435 | ${ }^{1.14}$ | ${ }^{1.15721}$ | 0.77 | 0.37 |  | N/A | N/A | 2.781 | N/A | 2.455 | 2.901 | 2.399 | 2.844 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.401 | 2.846 | N/A | N/A | N/A | N/A |
| ${ }_{\substack{\text { Dec 20 } \\ \text { Jan } 21}}$ | ${ }_{\text {239, }}^{27,688}$ | 1.21 1.28 | li.22819 ${ }_{1}^{1.29911}$ | 0.94 <br> 1.08 | 0.27 0.20 |  | N/A | N/A | ${ }_{2.922}^{2.853}$ | ${ }_{3.367}^{3.299}$ | ${ }_{2.597}^{2.527}$ | ${ }_{3.042}^{2.973}$ | ${ }_{2.540}^{2.471}$ | ${ }_{2}^{2.985}$ | ${ }_{2}^{2.696}$ | ${ }_{3.141}^{3.072}$ |  | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{2.542}^{2.473}$ | ${ }_{2}^{2.987}$ | ${ }_{2.737}^{2.668}$ | ${ }_{3.182}^{\text {N/A }}$ | N/A |  |
| Feb 21 | 355,019 | 1.34 | 1.36001 | 1.15 | 0.19 |  | N/A | N/A | 2.983 | 3.429 | 2.658 | 3.103 | 2.602 | 3.047 | 2.757 | 3.203 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.603 | 3.049 | 2.79 | 3.244 | N/A | N/A |
| Mar 21 | 287,904 | ${ }^{1.63}$ | 1.65364 | 1.54 | 0.99 |  | N/A | N/A | 3.274 | N/A | 2.949 | 3.393 | 2.893 | 3.337 | 3.048 | 3.992 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.894 | N/A | 3.889 | N/A | N/A | N/A |
| April 21 | 382,699 | ${ }^{1.65}$ | 1.158402 | ${ }^{1.154}$ | 0.02 |  | N/A | N/A | ${ }^{3.303}$ | 3.747 | 2.978 | 3.422 | 2.922 | 3.366 | 3.077 | ${ }^{3.521}$ | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.924 | 3.368 | ${ }^{3.118}$ | ${ }^{3.562}$ | N/A |  |
| May 21 | 400,692 | 1.52 | ${ }^{1.54221}$ | 1.56 | -0.04 |  | N/A | N/A | ${ }^{3.162}$ | N/A | 2.837 | 3.281 | 2.781 | 3.225 | 2.936 | 3.380 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{2}^{2.783}$ | N/A | 2.977 | ${ }^{3.422}$ | N/A | N/A |
| Jun 21 | 494,897 | 1.47 | 1.49161 | 1.49 | -0.02 |  | N/A | N/A | 3.113 | N/A | 2.788 | 3.233 | 2.732 | 3.177 | 2.887 | 3.332 | N/A | n/a | N/A | N/A | N/A | N/A | N/A | N/A | 2.734 | N/A | 2.929 | 3.374 | N/A | N/A |
| ${ }^{\text {July }}$ 21 | 392,288 | 1.40 | ${ }^{1.42068}$ | 1.29 | 0.11 |  | N/A | N/A | 3.042 | N/A | 2.717 | ${ }^{3.162}$ | 2.661 | ${ }^{3.106}$ | 2.817 | 3.261 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2.663 | N/A | 2.858 | 3.303 | N/A | N/A |
| ${ }_{\text {A Aug } 21}^{\text {Sept } 21}$ | 396,375 | 1.45 1.56 1 | 1.47133 1.58273 | ${ }_{1}^{1.23} 1$ | - $\begin{aligned} & 0.25 \\ & 0.23\end{aligned}$ |  | N/A N/A | N/A | ${ }_{3.203}^{3.091}$ | N/A | ${ }_{2}^{2.8787}$ | ${ }_{3.323}^{3.211}$ | ${ }_{2}^{2.782}$ | 3.155 <br> 3.266 | 2.866 2.97 | ${ }_{3}^{3.310}$ |  | N/A |  | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{\text {cher }}^{\substack{\text { N/A } \\ 3.268}}$ |  |  |  |  |
| Oct 21 | 408,179 | 1.74 | 1.76496 | 1.56 | 0.18 |  | N/A | N/A | 3.382 | 3.826 | 3.058 | 3.502 | 3.002 | 3.445 | 3.157 | 3.601 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.198 | 3.642 | N/A | N/A |
| Nov21 | 517,789 | 1.75 | 1.75517 | 1.50 | 0.25 |  | N/A | N/A | 3.394 | 3.838 | 3.069 | 3.513 | 3.013 | 3.457 | 3.168 | 3.612 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 3.015 | N/A | 3.210 | 3.654 | N/A | N/A |
| Dec 21 | 435,708 | ${ }^{1.85}$ | ${ }^{1.87631}$ | 1.48 | 0.37 |  | N/A | N/A | N/A | N/A | ${ }^{3.169}$ | 3.612 | 3.113 | 3.556 | 3.268 | 3.711 | 3.026 | 3.470 | N/A | N/A | N/A | N/A | N/A | N/A | ${ }^{3.115}$ | N/A | ${ }^{3.309}$ | 3.753 | 3.040 | N/A |
| Jan 22 | 37,608 | 2.04 | 2.06849 | 1.73 | 0.31 |  | N/A | N/A | 3.682 | 4.125 | 3.358 | 3.801 | 3.302 | 3.745 | 3.457 | 3.900 | 3.216 | 3.659 | n/A | N/A | N/A | N/A | N/A | N/A | 3.304 | N/A | 3.498 | 3.941 | 3.230 | 3.672 |
| Feb 22 | ${ }^{453,820}$ | 2.42 | 2.45266 | 1.99 | ${ }^{0.43}$ |  | N/A | N/A | 4.063 | , | 3.740 | 4.182 | 3.684 | 4.126 | 3.839 | 4.281 | 3.598 |  | N/A | N/A | N/A | , | N/A | N/A |  | 碞 |  |  |  | 4.054 |
| Mar 22 | 518,023 | 2.75 | 2.78601 | 2.00 | 0.75 |  | N/A | N/A | N/ | 4.834 | 4.071 | 4.512 | 4.015 | 4.456 | 4.169 | 4.510 | 3.929 |  | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 4.2 | 4.551 | 3.943 |  |
|  | ${ }_{\text {c }}^{588,787}$ | 3.50 3.94 | 3.54268 3.98600 | 2.65 3.04 | 0.85 0.90 |  | N/A | N/A | N/5/8 | N/A | 4.821 5.260 5 | 5.259 <br> 5.697 | ${ }_{5.204}^{4.75}$ | 5.5 | ${ }_{5}^{4.957}$ | 5.7.394 | ${ }_{\text {4.119 }}^{4.880}$ | 5118 | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{5.206}^{\text {N/A }}$ | N/A | 598 |  |  | ${ }_{5}^{5.532} 5$ |
| June 22 | 720,567 | 4.01 | 4.05664 | 3.04 | 0.97 |  | N/A | N/A | 5.651 | N/A | 5.331 | 5.768 | 5.276 | 5.713 | 5.429 | 5.86 | 5.191 | 5.628 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | ${ }_{5.469}$ | 5.907 | 5.204 |  |
| July 22 | 507,976 | 3.93 | 3.9759 | 2.96 | 0.97 |  | N/A | N/A | N/A | N/A | 5.250 | 5.688 | 5.195 | 5.632 | 5.348 | 5.885 | 5.110 | 5.547 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.389 | N/A | 5.123 | 5.561 |
| ${ }_{\text {Aug } 22}$ | ${ }^{612,245}$ | 3.80 | 3.84514 | 2.82 | 0.98 |  | N/A | N/A | 5.442 | N/A | ${ }_{5} 5122$ | 5.560 | 5.066 | 5.504 | 5.219 | 5.658 | 4.981 | 5.419 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.260 | N/A | 4.994 | 5.432 |
| Spt 22 | 468,908 | 4.26 | 30832 | ${ }_{3} 3.26$ | 1.00 |  | N/A | N/A | N/A | N/A | 5.581 | 6.017 | 5.525 | 5.962 | 5.678 | 6.115 | 5.440 6.219 | 5.87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 5.71 | N/A | 5.45 |  |
|  |  |  | 5.0293 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

