EXHIBIT
HUMAN AND COMPUTER DISCOVERY OF PASSWORDS

| Number of <br> Characters | Possible <br> Combinations | Time needed <br> for a person <br> to try all | Time needed <br> for a computer <br> to try all |
| :--- | :--- | :--- | :--- |
| 1 | 36 | 6 minutes | .000036 second |
| 2 | 1,300 | 4 hours | .00130 second |
| 3 | 47,000 | 6 days | .04 second |
| 4 | $1,700,000$ | 6 months | 2 seconds |
| 5 | $60,000,000$ | 20 years | 60 seconds |
| 10 | $3,700,000,000,000,000$ | $>999$ million | 118 years |
|  |  | years |  |

* Characters include the letters $A$ to $Z$ and numbers 0 to 9.
* Human discovery assumes 1 try every 10 seconds.
* Computer discovery assumes 1 million tries per second.

