**Section 671.APPENDIX B Theis Equation Using Available Data**

If pump test data is available for an unconfined/confined unconsolidated or non-fractured bedrock aquifer the lateral radius of influence can be calculated as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| r | = | the square root of | uTt |
| 2693S |

Where:

|  |  |  |
| --- | --- | --- |
| r | = | radius of influence (feet) |
| t | = | time well is pumped under normal operational conditions (minutes) |
| S | = | aquifer storativity or specific yield (dimensionless) |
| T | = | transmissivity (gallons per day per foot) |
| u | = | = is a dimensionless parameter related to the well function |

|  |  |  |
| --- | --- | --- |
| W(u) | = | T(ho - h) |
| 114.6Q |

Where:

|  |  |  |
| --- | --- | --- |
| W(u) | = | well function, the well function is calculated and u is obtained from Table A. |
| ho - h | = | drawdown in the piezometer or observation well (feet) |
| Q | = | production well discharge rate under normal operational conditions (gallons per minute) |