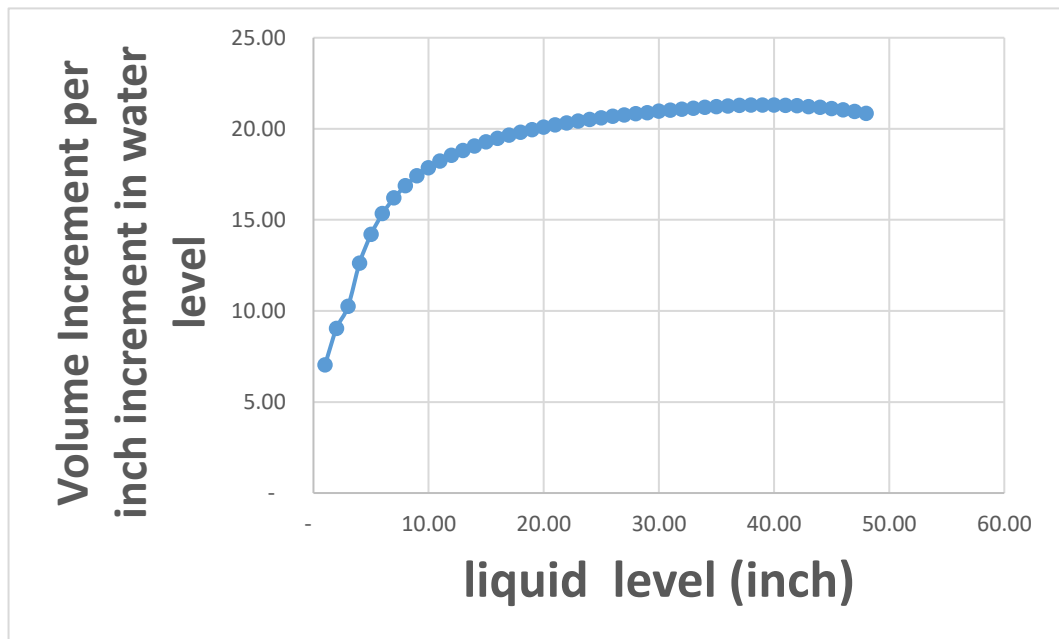
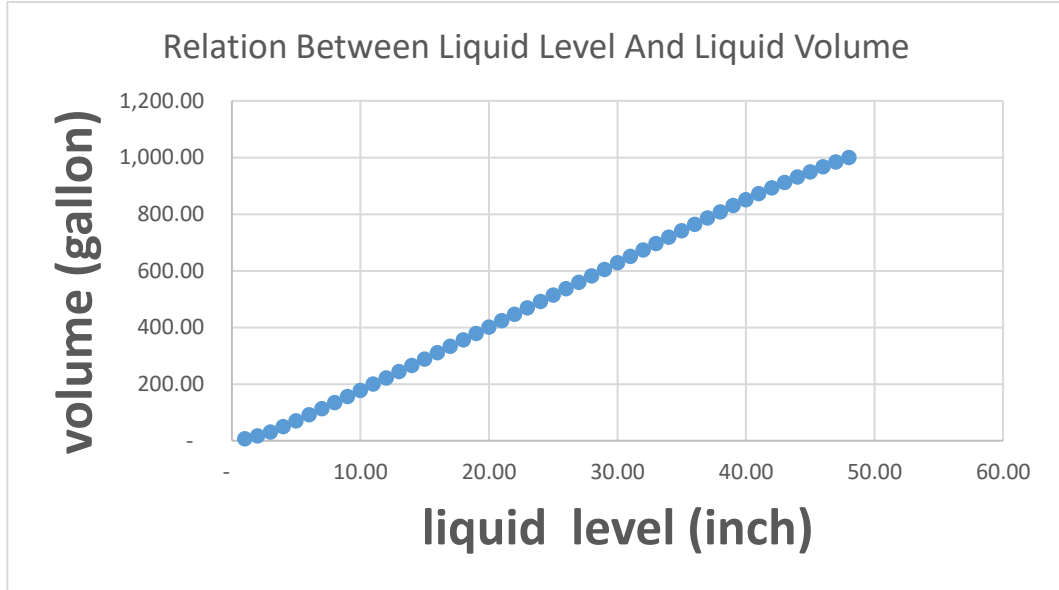


## SEPTIC TANK CALCULATIONS, SIZE 1000G

The table will contain values for the volume of each inch of liquid in the tank, so the rate of increase in volume will be found for each inch of height.

| Water Level at 1" Increments | Liquid Volume Inside Tank (inch ^3) | Liquid Volume Inside Tank (gallon) | Volume Increment Per Inch in Water Level |
|------------------------------|-------------------------------------|------------------------------------|--|
| 1                            | 1,625.00                            | 7.03                               | 7.03                                     |
| 2                            | 4,175.00                            | 18.07                              | 9.04                                     |
| 3                            | 7,098.00                            | 30.73                              | 10.24                                    |
| 4                            | 11,653.00                           | 50.45                              | 12.61                                    |
| 5                            | 16,401.00                           | 71                                 | 14.2                                     |
| 6                            | 21,263.00                           | 92.05                              | 15.34                                    |
| 7                            | 26,200.00                           | 113.42                             | 16.2                                     |
| 8                            | 31,181.00                           | 134.98                             | 16.87                                    |
| 9                            | 36,194.00                           | 156.68                             | 17.41                                    |
| 10                           | 41,230.00                           | 178.48                             | 17.85                                    |
| 11                           | 46,292.00                           | 200.4                              | 18.22                                    |
| 12                           | 51,380.00                           | 222.42                             | 18.54                                    |
| 13                           | 56,488.00                           | 244.54                             | 18.81                                    |
| 14                           | 61,607.00                           | 266.7                              | 19.05                                    |
| 15                           | 66,768.00                           | 289.04                             | 19.27                                    |
| 16                           | 71,937.00                           | 311.42                             | 19.46                                    |
| 17                           | 77,126.00                           | 333.88                             | 19.64                                    |
| 18                           | 82,332.00                           | 356.42                             | 19.8                                     |
| 19                           | 87,556.00                           | 379.03                             | 19.95                                    |
| 20                           | 92,791.00                           | 401.69                             | 20.08                                    |
| 21                           | 98,025.00                           | 424.35                             | 20.21                                    |
| 22                           | 103,258.00                          | 447                                | 20.32                                    |
| 23                           | 108,491.00                          | 469.66                             | 20.42                                    |
| 24                           | 113,724.00                          | 492.31                             | 20.51                                    |

| Water Level at 1" Increments | Liquid Volume Inside Tank (inch ^3) | Liquid Volume Inside Tank (gallon) | Volume Increment Per Inch in Water Level |
|------------------------------|-------------------------------------|------------------------------------|--|
| 25                           | 118,956.00                          | 514.96                             | 20.6                                     |
| 26                           | 124,187.00                          | 537.61                             | 20.68                                    |
| 27                           | 129,418.00                          | 560.25                             | 20.75                                    |
| 28                           | 134,652.00                          | 582.91                             | 20.82                                    |
| 29                           | 139,907.00                          | 605.66                             | 20.88                                    |
| 30                           | 145,227.00                          | 628.69                             | 20.96                                    |
| 31                           | 150,546.00                          | 651.71                             | 21.02                                    |
| 32                           | 155,799.00                          | 674.45                             | 21.08                                    |
| 33                           | 161,037.00                          | 697.13                             | 21.13                                    |
| 34                           | 166,272.00                          | 719.79                             | 21.17                                    |
| 35                           | 171,493.00                          | 742.39                             | 21.21                                    |
| 36                           | 176,680.00                          | 764.85                             | 21.25                                    |
| 37                           | 181,811.00                          | 787.06                             | 21.27                                    |
| 38                           | 186,877.00                          | 808.99                             | 21.29                                    |
| 39                           | 191,863.00                          | 830.58                             | 21.3                                     |
| 40                           | 196,762.00                          | 851.78                             | 21.29                                    |
| 41                           | 201,558.00                          | 872.55                             | 21.28                                    |
| 42                           | 206,228.00                          | 892.76                             | 21.26                                    |
| 43                           | 210,761.00                          | 912.39                             | 21.22                                    |
| 44                           | 215,165.00                          | 931.45                             | 21.17                                    |
| 45                           | 219,410.00                          | 949.83                             | 21.11                                    |
| 46                           | 223,487.00                          | 967.48                             | 21.03                                    |
| 47                           | 227,391.00                          | 984.38                             | 20.94                                    |
| 48                           | 231,124.00                          | 1,000.54                           | 20.84                                    |



# Septic Tank Calculations



Average Increment in Volume Per Inch = 19.1 Gallons

The volume of water was calculated from the point it reached one inch high in the tank, utilizing the SolidWorks program. Following this initial calculation, the water height was increased by one inch at each step, and the volume was recalculated until reaching the tank's maximum capacity. Subsequently, a correlation was established between the water level in the tank and its corresponding volume.

Additionally, the amount of volume increase per one-inch rise in water level was determined, allowing for the derivation of the average increase in tank water volume for each inch rise in water level. Furthermore, another correlation was drawn between the increment per inch in tank water height and the volume of water within the tank.

**SEPTIC TANK CALCULATIONS, SIZE 1500G**

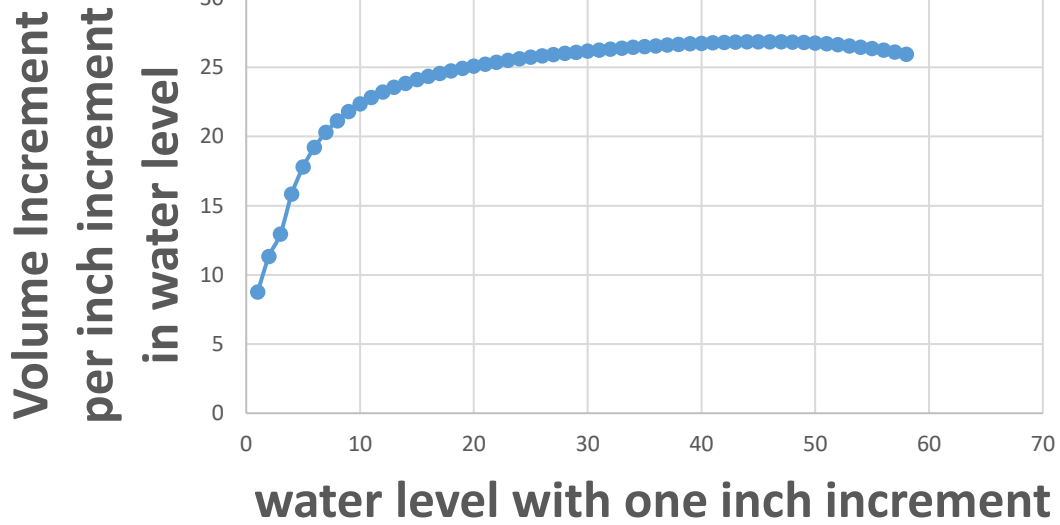
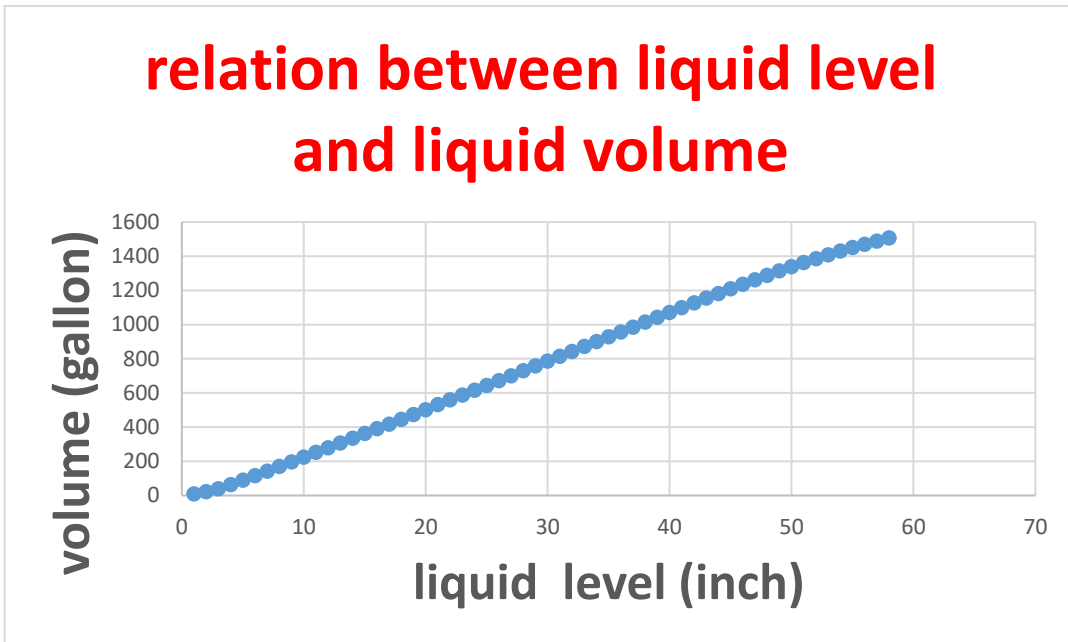
## SEPTIC TANK CALCULATIONS, SIZE 1500G

The table will contain values for the volume of each inch of liquid in the tank, so the rate of increase in volume will be found for each inch of height.

| Water Level at 1" Increments | Liquid Volume Inside Tank (inch ^3) | Liquid Volume Inside Tank (gallon) | Volume Increment Per Inch in Water Level |
|------------------------------|-------------------------------------|------------------------------------|--|
| 1                            | 2026                                | 8.770562773                        | 8.770562773                              |
| 2                            | 5240                                | 22.68398269                        | 11.34199134                              |
| 3                            | 8972                                | 38.83982685                        | 12.94660895                              |
| 4                            | 14636                               | 63.35930737                        | 15.83982684                              |
| 5                            | 20568                               | 89.03896106                        | 17.80779221                              |
| 6                            | 26642                               | 115.3333334                        | 19.22222223                              |
| 7                            | 32848                               | 142.1991342                        | 20.31416203                              |
| 8                            | 39089                               | 169.2164503                        | 21.15205628                              |
| 9                            | 45371                               | 196.4112555                        | 21.82347283                              |
| 10                           | 51681                               | 223.7272728                        | 22.37272728                              |
| 11                           | 58017                               | 251.1558442                        | 22.83234947                              |
| 12                           | 64379                               | 278.6969698                        | 23.22474748                              |
| 13                           | 70762                               | 306.3290044                        | 23.56376957                              |
| 14                           | 77167                               | 334.0562771                        | 23.86116265                              |
| 15                           | 83592                               | 361.87013                          | 24.12467533                              |
| 16                           | 90034                               | 389.7575758                        | 24.35984849                              |
| 17                           | 96491                               | 417.7099568                        | 24.57117393                              |
| 18                           | 102965                              | 445.7359308                        | 24.76310727                              |
| 19                           | 109454                              | 473.8268399                        | 24.93825473                              |
| 20                           | 115956                              | 501.9740261                        | 25.0987013                               |
| 21                           | 122470                              | 530.1731603                        | 25.24634097                              |
| 22                           | 128991                              | 558.4025975                        | 25.38193625                              |
| 23                           | 135530                              | 586.7099568                        | 25.50912856                              |
| 24                           | 142077                              | 615.0519482                        | 25.62716451                              |
| 25                           | 148631                              | 643.4242426                        | 25.7369697                               |
| 26                           | 155190                              | 671.818182                         | 25.83916085                              |
| 27                           | 161753                              | 700.2294374                        | 25.93442361                              |
| 28                           | 168313                              | 728.6277058                        | 26.02241806                              |
| 29                           | 174867                              | 757.0000002                        | 26.10344828                              |

| Water Level at 1" Increments | Liquid Volume Inside Tank (inch ^3) | Liquid Volume Inside Tank (gallon) | Volume Increment Per Inch in Water Level |
|------------------------------|-------------------------------------|------------------------------------|--|
| 30                           | 181430                              | 785.4112556                        | 26.18037519                              |
| 31                           | 188002                              | 813.861472                         | 26.25359587                              |
| 32                           | 194628                              | 842.5454547                        | 26.32954546                              |
| 33                           | 201248                              | 871.2034634                        | 26.40010495                              |
| 34                           | 207823                              | 899.6666669                        | 26.46078432                              |
| 35                           | 214384                              | 928.0692643                        | 26.51626469                              |
| 36                           | 220938                              | 956.4415587                        | 26.56782107                              |
| 37                           | 227495                              | 984.8268401                        | 26.61694162                              |
| 38                           | 234070                              | 1013.290044                        | 26.66552746                              |
| 39                           | 240622                              | 1041.65368                         | 26.70906872                              |
| 40                           | 247162                              | 1069.965368                        | 26.74913421                              |
| 41                           | 253677                              | 1098.168831                        | 26.78460564                              |
| 42                           | 260158                              | 1126.225108                        | 26.81488354                              |
| 43                           | 266587                              | 1154.056277                        | 26.83851808                              |
| 44                           | 272948                              | 1181.593074                        | 26.85438804                              |
| 45                           | 279246                              | 1208.857143                        | 26.86349207                              |
| 46                           | 285458                              | 1235.748918                        | 26.86410691                              |
| 47                           | 291552                              | 1262.12987                         | 26.85382703                              |
| 48                           | 297556                              | 1288.121212                        | 26.83585859                              |
| 49                           | 303428                              | 1313.541126                        | 26.80696175                              |
| 50                           | 309123                              | 1338.194806                        | 26.76389611                              |
| 51                           | 314669                              | 1362.203464                        | 26.70987183                              |
| 52                           | 320051                              | 1385.502165                        | 26.6442724                               |
| 53                           | 325249                              | 1408.004329                        | 26.56611942                              |
| 54                           | 330228                              | 1429.558442                        | 26.47330448                              |
| 55                           | 334987                              | 1450.160173                        | 26.36654861                              |
| 56                           | 339538                              | 1469.861472                        | 26.24752629                              |
| 57                           | 343836                              | 1488.467533                        | 26.11346549                              |
| 58                           | 347834                              | 1505.774892                        | 25.96163607                              |

## relation between liquid level and liquid volume



# Septic Tank Calculations



## Average Increment in Volume Per Inch = 24.4 Gallons

The volume of water was calculated from the point it reached one inch high in the tank, utilizing the SolidWorks program. Following this initial calculation, the water height was increased by one inch at each step, and the volume was recalculated until reaching the tank's maximum capacity. Subsequently, a correlation was established between the water level in the tank and its corresponding volume.

Additionally, the amount of volume increase per one-inch rise in water level was determined, allowing for the derivation of the average increase in tank water volume for each inch rise in water level. Furthermore, another correlation was drawn between the increment per inch in tank water height and the volume of water within the tank.